

Gender Stereotypes and Self-Efficacy on Learning Outcomes and Perceived Academic Performance of Office Technology and Management Students in Public Polytechnics, South-west, Nigeria

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Chapter One

Introduction

1.1. Background to the Study

Learning outcome is a critical issue of concern in higher education. The quality and success of any educational programme is determined by the quality of its products, the students, which borders on the quality of learning outcomes expressed through knowledge and competence demonstrated by these students. Educational programmes in Nigerian polytechnics are designed to produce high quality manpower to boost the socio-economic and technological development of the nation. Thus, the need to achieving required learning outcomes in the polytechnic students is a serious issue of concern.

Learning outcomes refer to the personal changes or benefits that follow as a result of learning. Learning outcomes are the processes of students' interacting with the learning environment to upgrade their behaviour. It is often associated with how far

students comprehend the learning resources given by the instructors. Learning outcomes are concerned with changes in behaviour of students and in the level of their comprehension as a result of learning experience(s). They are direct statements that describe knowledge, skills and attitudes that students are expected to reliably demonstrate after a specific learning experience. Students of any successful educational programme should be able to exhibit and demonstrate evidences of comprehension and skill acquisitions that result in change in behaviour.

In current educational discourse, learning outcome is one of the concepts that have obtained a central place. A functional and successful educational system is measured by the quality of products of educational programme which in turn can be assessed by the learning outcomes and academic performance of the learners. As it is, the development of a nation is largely dependent on the quality of its educational system which will determine the quality of human resources that will be responsible for socio-economic and technological development of the nation. Achieving high level of learning outcomes in educational programmes is important for production of high-quality human resources who will effectively manage offices of both public and private organisations for national development.

Importance of achieving required learning outcomes in higher education students is firmly becoming an international norm. Evidently, many countries all over the world place high premium on ensuring that their higher educational programmes achieve desired learning outcomes in the learners¹. Learning outcomes were previously being considered a passing trend that is being commonly ignored by

faculty members and administrators. Internationally, learning outcomes were seen strictly as the purview of education faculty but now appear to be within the scope of all higher education and representative of the larger transition to student-centred learning². In Portugal, achieving learning outcomes in students of higher education was considered a common challenge for European educational institutions. Thus, they developed a conceptual model/map that will allow the nation to better realise how learning outcomes are conceptualized with a view to identifying what knowledge and competences higher education institutions in Portugal intend to promote in their students².

A notable variation in students' experiences and learning outcomes noticed across and within higher institutions in Ethiopia also posed a serious challenge to successful educational programmes³. Higher education in the UK placed higher premium on students' learning outcomes by establishing Qualifications Framework for HE, programme specifications and institutional audit that pushed higher education sector towards learning outcome approach⁴. The focus was on moving higher education from content-based curriculum to a more student-centred approach that used learning outcomes to evaluate quality of content.

Like other countries in the world, Nigeria recognizes education in general and higher education in particular as critical for socio-economic development, hence, the need to ensure high quality higher educational programmes through learner-centred educational processes that enhance attainment of learning outcomes in the learners. However, it appears higher educational programmes in Nigeria, especially Office

Technology and Management is lagging behind in this as reflected in the quality of graduates injected into the society on yearly basis. Achieving required learning outcomes in the students of Office Technology and Management programme becomes critical for quality educational process and for socio-economic development of the nation.

Learning outcomes have three dimensions; cognitive, affective and psychomotor skills. Cognitive learning outcomes refer to recognition of knowledge and the development of intellectual abilities and skills⁵. Knowledge outcomes may focus general content or domain-specific knowledge. Affective and psychomotor learning outcomes are non-cognitive outcomes. Non-cognitive learning outcomes are concerned with outcomes such as change in attitude/behaviour, ability of students to express knowledge gained in solving problems, having initiatives and demonstration of practical competencies and skills⁶. Learning outcomes are thus considered as expressions of knowledge that students were able to acquire after being involved in a learning process. It involves expression of skills and capabilities, competence and achievements that students were able to demonstrate during and after certain learning experiences. The roles of Office Technology and Management education programme, an academic programme designed to replace old Secretarial Studies in polytechnics in Nigeria, in developing students' skills, knowledge and competence that will lead to national development cannot be under-estimated.

As stated in the literature, measures of learning outcomes include expression of knowledge acquired, demonstration of competence/skill, and change in learners'

attitude, as a result of specific learning experiences^{1,2}. Expression of knowledge belongs to cognitive learning domain referring to level of comprehension. OTM students are expected to express and demonstrate considerably high level of comprehension and understanding of the learning materials as provided in the prescribed courses and subjects. Similarly, the students are expected to comfortably demonstrate very high practical skills and competence. This relates to the capabilities of physical, practical and psychomotor skills in the psychomotor learning domain. Learners' attitude refers to change in orientation toward concept and item. It is a relatively enduring organisation of beliefs and opinion around a disposition. Learners' attitudes explain students' perception of learning outcomes⁷. Learners' attitude belongs to the affective domain which is inferred from expression of interest, class engagement (attendance and participation), motivation, values and emotional sets of biases.

Although these learning outcomes are expected from the OTM students, it however, appears that there are certain problems relating to OTM students' attitudes, professional competencies and expression of relevant knowledge. Many Office Technology and Management students appear to be displaying lack of interest and motivation towards achieving academic excellence and professional competence through avoidance behaviour. Preliminary investigations showed that some students in OTM programme avoid classes, and those who attend mostly do not participate well in class discourse. Indifferent attitudes of the students towards the value and worth of OTM programme affect class engagement and suggest emotional biases

which may negatively impact their perceived academic performance and by extension, their grades (academic performance).

Similarly, many of these OTM students in public polytechnics in the South-west seem to lack expected level of professional competencies as being demonstrated through their inability to professionally operate modern office equipment to produce different types of office documents to meet with professional standards. All these indicate deficiency in attainment of required learning outcomes. Although the literature revealed three measures of learning outcomes, this study adopted expression of knowledge (cognitive outcomes) and expression of practical skills (psychomotor outcomes), as accurate measurement of level of learners' attitudes (affective outcome) in this type of study might be far reaching. However, learning outcomes of OTM students may not be studied in isolation, but can be viewed and studied in relation to perceived academic performance.

Perceived academic performance is the students' self-conception about their academic performance. It revolves around student's personal view about issues directly related to his/her academic achievement, and how well the student perceive him/herself academically. Perceived academic performance is the conception about own academic performance, otherwise known as academic self-concept. Academic performance is, however, viewed as having a multitude of perspectives which is responsible for the variations in its definition, so there is no consensus regarding its meaning and definition. Academic performance can be defined as the overview of students' educational achievements that may be expressed in terms of test or

examinations results. From literature, academic performance is viewed as the extent to which a student develops both academically and intellectually, and as the outcome of students' personal features as well as the environment⁸. It is being viewed in terms of higher grades and exam scores. Academic performance refers to the knowledge gained by the students after a certain period of exposure to learning experiences.

Academic performance, like learning outcome, is something immensely significant for anyone concerned about quality of education⁹. Researchers have measured academic performance of students through the previous year's results or scores of a particular subject, test outcomes, marks by teachers, and continuous assessment or examinations results. Scores and Grade Point Average (GPA) has been assumed to have a direct connection with the general acumen and career potential of individuals. As a result of this, scores and GPA are considered as standard measures of academic performance of students. So, scores and GPA are major yardsticks for measuring academic performance that permeate the body of existing literature^{9,10,11}. Academic performance of students has been observed to be highly correlated with perceived academic performance.

Perceived academic performance has been referred to as academic self-concept, which can be measure through academic culture of the learners and behaviours expressed through academic efforts¹². Academic culture refers to the general norms and attitudes. Perceived academic performance can also be measured by the

learners' behaviour in relations to their academic pursuit and the efforts expended towards academic achievements.

It has been observed that perception and self-concept of students about their academic performance have high correlation with actual academic performance. The better the perceived academic performance the better the actual performance expressed through examination scores and GPA. Also, the better the academic performance, the better the prospects of developing quality manpower who will contribute to the socio-economic development of the nation. For development of quality manpower to manage business offices, academic performance of students of Office Technology and Management should be above average. But there appears to be a consistent decline in the level of academic performance of OTM students in public polytechnics.

Preliminary investigations showed that the number of OTM students graduating with distinctions has considerably reduced, cumulating from consistently low examination scores, and larger percentage of the students graduating with grades that can be categorized as 'below average'. The perceived decline in academic performance of OTM students in the polytechnics poses a threat to securing good jobs after graduation and thus increasing the rate of unemployment in the society. The few ones who are able to secure job experience difficulties in career progression as a result of deficiency in demonstration of practical professional competence and skills. The problem has not only increased rate of graduate unemployment but also hamper quality living for the graduates and their possible many dependants.

In countries such as Denmark, Netherlands and Cambodia, achieving academic excellence by students through high academic performance is considered foremost motive of academic institutions^{11,13,14}. High academic performance of higher education students portends development of quality manpower who will contribute to socio-economic development of the nations¹¹. The importance of achieving sound and high academic performance by higher education students, especially Office Technology and Management students, cannot be over-emphasized for developing countries like Nigeria.

A number of factors may be influencing both learning outcomes and perceived academic performance of Office Technology and Management students in the polytechnics. These factors may include gender stereotype and self-efficacy. Gender is considered one of grouped personal characteristics associated with learning outcomes of students in addition to age¹⁵.

Gender stereotype is concerned with the general belief about the characteristics and behaviour of individuals based on their sexes. It refers to widely shared collective representations that linked gender groups with certain roles and attributes. There is the collective and common belief that learning outcomes vary based on gender and that women/ladies seem to work less hard than men. It was also believed that there is generally a considerable variation in academic performance of male and female students, and most times in favour of males^{16,17}. The literature shows a common traditional stereotype in Jordan, and possibly in Nigeria, that some demanding careers such as Medicine, Engineering, Pharmacy, and etcetera are almost males' job

while softer majors such as education social sciences, (including office management career), languages and the likes are for females.

Decades back, there have been deeply-held but largely unproven old beliefs that disciplines in art and social sciences like office management profession is feminine^{18,19}. Some previous studies relates gender stereotype to learning and academic performances in fields such as mathematics, but it is yet unclear how such stereotypical gender issue can influence learning outcomes and academic performance of Office Technology and Management students^{15,20,21}. Study conducted on social historical investigation feminized office work and affirmed that office work has been the largest and fastest growing female occupation since the 20th century, with little or no significant difference in the 21st century.

Gender stereotype can be implicit or explicit. Implicit gender stereotypes are indirect and automatically activated from individual's sub-consciousness, while explicit gender stereotypes are more outwardly salient. People are usually conscious and aware of explicit stereotypical beliefs and attitudes. Explicit gender stereotype can be personal (self-conception and attribution) or societal (attributions from people in the society). Personal and societal explicit gender stereotype can be measured directly through the use of Likert scales where respondents compare abilities, competence or career of gender-based groups directly. Societal attributions and views of gender roles influence individuals' perceptions of themselves. Christening Office Technology and Management (secretarial) profession feminine career may likely have negative impact on male students who found themselves enrolled in the

course. This negative stereotypes and misattribution can shape individual's development by influencing perceptions of their abilities both in academic and athletic domains²². This, subsequently may affect self-efficacy of such male students negatively which in turn may influence their learning outcomes and academic performance.

Although, examining both implicit and explicit gender stereotypes can aid understanding of overarching development of stereotypes, measuring implicit gender stereotype may be difficult as it manifest through non-verbal, indirect attitudes as trigger factors are activated. Hence, explicit gender stereotypes that can be measured through self-reporting and observation are being adopted for this study.

Apart from gender stereotype, self-efficacy is believed to be another factor that may likely influence learning outcomes and perceived academic performance of Office Technology and Management students in the Polytechnics in South-west, Nigeria. It is assumed that when students of higher education, especially students of Office Technology and Management have greater sense of self-efficacy, they will be able to hold the grip of their learning activities leading to attainment of expected learning outcomes and higher academic performances.

Self-efficacy is an individual's belief about his or her capabilities to produce the desired outcomes. The term self-efficacy could be used interchangeably with self-confidence, which is the degree to which an individual believes he or she can be successful. Students' perceived self-efficacy is believed to be influential on the students' level of performance and the amount of efforts put into performing the

chosen tasks. Self-efficacy determines how people feel and is intrinsically motivated to behave. A strong sense of self-efficacy would normally enhance the sense of accomplishment and well-being.

Self-efficacy expectations vary in strength. It is believed that individuals with stronger self-efficacy would be more likely to be committed to and persistent in exploring new tasks and activities that would lead to new behaviours. Such individuals would be able to persist in those behaviours until success is achieved²³. Strength refers to the resoluteness of a person's conviction that he or she can perform successfully a behaviour in question. Self-efficacy can be measured in terms of an individual's sense of self-efficacy. The individual estimates the certainty of the belief they have that they can successfully carry out a task and achieve certain goals. Apart from strength of sense of self-efficacy, self-efficacy can be measured along two other major dimensions which are generality and magnitude. 'Generality' refers to the extent to which a success or failure experience influences self-efficacy expectancy in a limited, behaviourally specific manner or in a more general sense. The magnitude of self-efficacy borders on competence efficacy. It is the level at which an individual perceives him/herself capable of competently demonstrating certain behaviour and performing certain task. Thus, Bandura states that an analysis of self-efficacy expectancy requires a detailed assessment of magnitude, generality, and strength^{24,25,26}.

Office Technology and Management students' learning outcomes and academic performance may be related to the magnitude of the students' self-efficacy. It is

assumed that students with high level of self-efficacy would be highly motivated to participate in all learning activities with positive attitudes that would readily enhance learning, influence learning outcomes and boost academic performance. The strength of self-efficacy is also considered possible determinants of students' learning outcomes and academic performance. Strength of self-efficacy is about resoluteness of a person's conviction that he or she can perform successfully a behaviour in question. It was observed that most OTM students lack resilient attributes to overcome difficulties associated with academic achievements and acquisition of some professional office/secretarial skills such as shorthand writing skills, keyboarding skills, electronic record management skills and ICT skills among others. Probably, if gender identity threat and stereotype are dealt with and students' self-efficacy is stronger and at higher level, achieving required learning outcomes and high academic performance in OTM students will be easier.

In view of the above, the study sought to investigate whether gender issues such as gender identity and stereotype, and self-efficacy will determine the learning outcomes and perceived academic performance of students of Office Technology and Management in public polytechnics in South-west, Nigeria.

1.2. Statement of the Problem

Learning outcomes of OTM students are significant indicators of the quality of the programme in public polytechnics. Preliminary investigations revealed that demonstration of practical skills by OTM students is ebbing, signaling deficiency in the attainment of required learning outcomes, and that the rate of academic

performance of OTM students is consistently declining. As a result, some graduates of OTM programmes remained unemployed for years after graduation, and the few employed ones cannot competently manage modern ICT-driven offices, causing some organisation to employ non-professional office managers. This, if unchecked, may negatively affect the image of OTM programme as a viable discipline and students' enrolment into the programme, and also increase the rate of graduate unemployment among others. Some factors considered to possibly be affecting attainment of required learning outcomes and perceived academic performance of OTM students include gender stereotype and self-efficacy. It is assumed that handling gender stereotype threat relating to office profession and boosting the level and strength of self-efficacy of the students will have possible positive influence on learning outcomes and perceived academic performance of the students. Previous studies have been carried out on learning outcomes and their determinants^{2,8,9,10,27}. Studies have also been conducted on factors influencing academic performance of higher education students^{8,28,29}. Influence of students' engagement, self-esteem and learning-related emotions on learning outcomes and academic performance have been extensively determined in the literature^{3,8,26,28,29}. However, there appears to be a gap in the literature with regard to studies on the influence of gender stereotype and self-efficacy on learning outcomes and academic performance of Office Technology and Management students. Hence the study sought to address the influence of gender issues and students' self-efficacy on learning outcomes and perceived academic performance of OTM students in public Polytechnics, in South-west, Nigeria.

1.3. Aim and Objectives of the Study

The aim of this study was to investigate the influence of gender issues and self-efficacy on learning outcomes and perceived academic performance of Office Technology and Management students in public polytechnics in South-west, Nigeria.

The objectives of the study were to:

- i. identify the levels of learning outcomes (knowledge and skills) and perceived academic performance of the OTM students in public Polytechnics in South-west, Nigeria;
- ii. identify the gender stereotypes relating to OTM students in public Polytechnics in South-west, Nigeria;
- iii. identify level of self-efficacy of OTM students in the Polytechnics in public South-west, Nigeria;
- iv. examine the influence of gender stereotype on learning outcomes and perceived academic performance of OTM students in public Polytechnics in South-west, Nigeria;
- v. examine the influence of self-efficacy on learning outcomes and perceived academic performance of OTM students in public Polytechnics in South-west, Nigeria;
- vi. determine the combined influence of gender stereotype and self-efficacy on learning outcomes of OTM students in public polytechnics in South-west, Nigeria; and
- vii. determine the combined influence of gender stereotype and self-efficacy on perceived academic performance of OTM students in public polytechnics in South-west, Nigeria.

1.4. Research Questions

1. What is the level of learning outcomes (knowledge and skills) in OTM students in public Polytechnics in South-west, Nigeria?
2. What is the level of perceived academic performance of OTM students in public Polytechnics in South-west, Nigeria?
3. What are the gender stereotypes relating to OTM students in public polytechnics in South-west, Nigeria?
4. What is the level of self-efficacy of OTM students in public Polytechnics in the South-west, Nigeria?

1.5. Hypotheses

H₀₁ - There will be no significant influence of gender stereotypes on learning outcomes of OTM students in public Polytechnics in South-west, Nigeria

H₀₂ - There will be no significant influence of gender stereotypes on perceived academic performance of OTM students in public Polytechnics in South-west, Nigeria

H₀₃ – There will be no significant influence of self-efficacy on learning outcomes of OTM students in public Polytechnics in South-west, Nigeria.

H₀₄ – There will be no significant influence of self-efficacy on perceived academic performance of OTM students in public Polytechnics in South-west, Nigeria.

H₀₅ – There will be no significant combined influence of gender stereotypes and self-efficacy on learning outcomes of OTM students in public polytechnics in South-west, Nigeria.

H₀₆ – There will be no significant combined influence of gender stereotypes and self-efficacy on perceived academic performance of OTM students in public polytechnics in South-west, Nigeria.

1.6. Significance of the Study

Findings of this study would be beneficial to several stakeholders who include the students, employers of labour, educational policy makers, future researchers and the society at large. The results of this study would reveal to the students the influence of self-efficacy expectation on their academic performance and the importance of developing high level of self-efficacy in order to achieve high academic performance necessary to be gainfully employed. Students would gain understanding into influence of gender stereotype endorsement on attaining required learning outcomes for professional competence. This will help the students to develop resilient spirit, which will help them to be committed to attaining required learning outcomes and achieving higher academic performance. This will also give them competitive advantage in the labour market, make them effective as office manager and enhance their career ladder progression.

The results of this study would also be beneficial to employers of labour. The finding of the study would provide insight for the employers of labour which will mitigate gender-bias and stereotypical beliefs regarding office profession as feminist one. The results will enhance provision of academically qualified and professionally competent office managers (Office Technology and Management graduates) into the labour market. Management of business organisations, both private and public, in

search of qualified and competent graduates to join their workforce will be able to have access to a pool of qualified and competent office managers to choose from.

Policy makers responsible for deciding on accreditation issues and resource allocation for educational programmes in the Polytechnics, like National Board for Technical Education (NBTE) will gain insights into the link between high academic performance and self-efficacy of Office Technology and Management students. The study would further reveal to these policy makers the relevance of students' self-efficacy to attaining required learning outcomes as evidence of successful educational programme. This will afford the policy makers the opportunity of making decisions and policies that will enhance the level and strength of students' self-efficacy in order to enhance academic performances. This will subsequently reduce the number of dropouts and enhance quality of living in the society.

This study would be of benefits to future researchers. The study would provide additional literature on the relationship between gender stereotypes, students' learning outcomes and perceived academic performance of Office Technology and Management students. It would also build up body of existing literature on influence of self-efficacy on students' learning outcomes and perceived academic performance, especially amidst Office Technology and Management students where dearth previous studies has been observed.

This study would be beneficial to the society at large. The findings of the study will enhance attainment of learning outcomes and higher academic performance of OTM

students. This will be of benefit to the society which has interest in higher education preparing their students to participate in increasingly knowledge-based economies.

1.7. Scope of the Study

This study focused on influence of gender stereotypes and self-efficacy on learning outcomes and perceived academic performance of OTM students in public polytechnics in South-west, Nigeria. Implicit and explicit gender stereotypes were considered. The measures of self-efficacy adapted from Bandura Self-efficacy theory were magnitude and strength of efficacy. Learning outcomes were measured with expression of knowledge and expression of skills/competence. Also, the perceived academic performance were measured by students' academic culture and behaviour. The study covered public polytechnics in the six states of South-west geo-political zone of Nigeria, i.e. Oyo, Ogun, Osun, Lagos, Ondo, and Ekiti states.

All the polytechnics offering Office Technology and Management in the South-west (Federal and State-owned) were covered. They are The Polytechnic, Ibadan, Oyo State; Adeseun Ogundoyin Polytechnic, Eruwa, Oyo State; Federal Polytechnic, Ado-Ekiti, Ekiti State; Osun State Polytechnic, Iree, Osun State; Federal Polytechnic, Ede, Osun State; Rufus Giwa Polytechnic, Owo, Ondo State; Federal Polytechnic, Ilaro, Ogun State; Moshood Abiola Polytechnic, Abeokuta, Ogun State; Lagos State Polytechnic, Lagos State; and Yaba College of Technology, Lagos State. The respondents will comprise of ND II, HND I and HND II students of Office Technology and Management in these institutions must have completed at least two academic semesters to be able to provide required information for the study.

1.8. Limitation of the Study

The study measured perceived academic performance of the students because actual academic performance could not be measured since retrieving data on CGPA and actual examination scores of the student was difficult. Also, the researcher was unable to collect data on implicit type of gender stereotypes which requires experimental tests because the study employed descriptive design of survey type. These limitations notwithstanding, the researcher was able to collect reliable data (through valid and reliable instrument) on all the variables of the study which makes the results of data analysis reliable.

1.9. Operational Definition of Terms

Learning Outcomes: These are checklists of what Office Technology and Management programme is expected to achieve in the learners. They define what OTM students should be able to know, do and demonstrate as a result of the learning experience(s) and within a given time. The learning outcomes covered in this study are expression of cognitive knowledge and psychomotor skills.

Expression of Knowledge: This refers to the knowledge expressed by OTM students during and after at least two semesters of learning experiences during the course of study in Office Technology and Management.

Expression of Skills: This is demonstration of professional office skills acquired by OTM students during and after a learning session. It relates to the students' capabilities of physical, practical and psychomotor skills.

Perceived Academic Performance: This is the OTM students' perception about their academic performances. It refers to self-conception of students on their academic performance which can be reflected in the learner's behaviour and academic culture.

Learner's Behaviour: This refers to actions and efforts that OTM students are engaged in that enable them to access learning productively.

Academic Culture: This refers to the norms of school life of OTM students in relation to academic work that can reflect their academic performance.

Gender Stereotypes: In this study, gender stereotypes will focus personal explicit gender stereotypes and societal explicit gender stereotypes of the OTM students.

Personal Explicit Gender Stereotype: OTM students' personal consciousness and view of stereotypical attribution on office management profession in relation to gender.

Societal Explicit Gender Stereotype: OTM students' view about stereotypical attributions that exist in the society on office management profession in relation to gender.

Self-efficacy: This refers to OTM student's belief in him/herself about personal capabilities and aptitudes to produce the required learning outcomes and achieve high academic success. Self-efficacy varies in magnitude/level and strength.

Magnitude of Efficacy: This borders on the level at which an OTM student perceive him/herself capable of demonstrating required behaviour, and performing certain tasks as evidence of attainment of learning outcomes.

Strength of Efficacy: This refers to the resoluteness and firmness of OTM students' conviction that they can successfully demonstrate attainment of required learning outcomes and achieve high academic success in the programme.

OTM Programme: Office Technology and Management (OTM) programme is an academic programme designed to replace old Secretarial Studies in line with the revolutionary demands of technological changes. Its graduates are expected to fit into the contemporary office for effective management.

OTM Students: These are the students formally enrolled in Office Technology and Management programmes in the public polytechnics, in South-west, Nigeria. In this study, they consist of students in National Diploma I, Higher National Diploma I and Higher National Diploma II students.

Endnotes

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Chapter Two

Literature Review

This chapter reviews literature relevant to the study. The chapter dwells on conceptual review, theories relevant to the study, and review of empirical studies about connections between learning outcomes, perceived academic performance, gender and self-efficacy. The review is organized under the following sub-headings:

2.1. Conceptual Review

- 2.1.1. Learning Outcomes
- 2.1.2. Perceived Academic Performance
- 2.1.3. Gender Stereotypes
- 2.1.4. Self-Efficacy

2.2. Theoretical Framework

- 2.2.1. Bloom's Taxonomy of Learning Theory
- 2.2.2. Motivational Systems Theory
- 2.2.3. Social Role Theory
- 2.2.4. Self-Efficacy Theory

2.3. Review of Empirical Studies

- 2.3.1. Gender Stereotypes and Learning Outcome
- 2.3.2. Gender Stereotypes and Perceived Academic Performance
- 2.3.3. Self-Efficacy and Learning Outcomes
- 2.3.4. Self-Efficacy and Perceived Academic Performance
- 2.3.5. Gender Stereotypes, Self-Efficacy and Learning Outcomes
- 2.3.6. Gender Stereotypes, Self-Efficacy and Perceived Academic Performance

2.4. Conceptual Framework

2.5. Summary of Gaps in Literature Reviewed

2.1. Conceptual Review

2.1.1. Learning Outcomes

Learning is defined as a process that brings together personal and environmental experiences and influences for acquiring, enriching or modifying one's knowledge, skills, values, attitudes, behaviour and worldviews¹. Learning outcomes are descriptions of specific knowledge, skills and expertise that learners are expected to gain from learning activities. They are concerned with the gains and achievements from learning engagements, which include what the learners can do, and demonstrate and the level at which the expected performance is completed. Outcomes describe what the student actually achieves, as opposed to what the institution intends to teach. Learning outcomes are essentially what learner ends up with, whether intended or not, after some form of learning engagement. Learning outcomes has been defined as something that can be observed, demonstrated and measured².

The term learning outcomes has its origins in outcomes-based education, a model of educational structuring that involves the clear and explicit identification, statement and assessment of student learning². Learning outcome is an ability that can be done, a value or an outcome after gaining understanding and learning experience and showing the level of ability in the realm of knowledge, skills and attitudes. According to Bloom, effective learning outcomes can be measured in the realm of knowledge levels, skill levels and behaviour or attitudes. Outcomes-based education systems organise curricula around explicit and detailed student outcome statements. These statements describe what the learner is expected to

know, understand and/or be able to demonstrate at the end of a learning period. Outcomes-based approaches are most frequently used in secondary schooling, however, in higher education, outcomes-based approaches were first introduced in the USA, Australia, New Zealand and the United Kingdom, but more recently also in other OECD countries². Once HEIs have specified expected student outcomes explicitly and in a measurable way, comparative assessment of learning outcomes becomes feasible.

Learning outcomes can be classified into cognitive and non-cognitive. Cognitive learning outcomes refer to the recall or recognition of knowledge and the development of intellectual abilities and skills. Broadly defined, cognitive learning outcomes range from domain-specific knowledge to the most general of reasoning and problem-solving skills³. A typical approach to the measurement of outcome is to ask students to assess their learning outcomes on a range of different variables which can often be subsumed under different dimensions (e.g. knowledge, general competence and skills)⁴. Knowledge outcome involves the remembering, either by recognition or recall, of ideas, materials or phenomena. Assessments of knowledge outcomes may focus on either general content knowledge or more domain-specific knowledge. General content knowledge pertains to core curriculum content considered to be very essential. It is generally expected that all students should acquire a body of such essential knowledge for evidence of quality educational system. Assessing general content knowledge cuts across courses, programmes and institutions, and these can be useful to evaluate success of educational programmes and institutions.

Domain-specific knowledge outcomes refer to acquired knowledge in a particular field and discipline. Assessments of domain-specific knowledge outcomes are useful particularly for comparing learning quality in a specific field across different institutions. Undergraduates have the opportunity to concentrate on coursework within a specific academic field and area of specialization. This is considered one of the most serious parts of tertiary education which is expected to make students advance in their major area of specialization. It was observed that most tertiary education students make the greatest gains in those domains that are consistent with their major area of studies. It can thus be argued that tertiary education institutions should be primarily concerned and held accountable for the knowledge and competence that their students acquire in their major fields².

Cognitive skills outcomes are based on complex processes of thinking, such as verbal and quantitative reasoning, critical thinking, problem-solving and evaluation of new ideas among others. Generic skills follow general pattern and they transcend disciplines. Generic skills are transferable between disciplines and not directly pinned to a particular one. These generic cognitive skills allow students to be operational in a number of new situations as they can be applied multidisciplinary. Generic cognitive skills outcomes can be measure using tests that are based on application rather than on knowledge, which focus students' ability to solve problems intellectually. Yet, there are some doubts as to whether such outcomes can really be connected to the university experience. Although higher education institutions often emphasise the transmission of generic skills in

their overall missions and objectives, it was noted that such skills are rarely explicit parts of course curricula of various programmes³.

Non-cognitive learning outcomes refer to changes in beliefs and the development of certain values. Mission statements of higher educational institutions would often include non-cognitive elements. Non-cognitive learning outcomes may be developed through classroom instruction as well as out-of-class activities that are organised by the institutions as co-curricular activities such as counselling, clubbing, athletics and other related activities. Studies on non-cognitive learning outcomes often focus on the presence or absence of certain identity development including psychosocial development, attitudes and values. Psychosocial development includes aspects of self-development relating to self-esteem. Attitudes and values are closely interrelated and often confused. However, attitudes are beliefs that are focused on a specific object, while values are generalized standards that surpass attitudes. Attitudinal and value outcomes may include social responsibility, motivation for learning and understanding of diversity.

Learning outcomes are seen as a function of students' active engagement with the learning opportunities being presented by the educational institution. The study of non-cognitive learning outcomes of higher education is considered more complicated than that of cognitive outcomes. The links between values and beliefs on the one hand and observable activities and behaviours on the other are not clearly established.² There is little evidence that values and beliefs can be

demonstrated and measured by using behavioural data. Therefore, non-cognitive outcomes are generally measured indirectly, through questionnaires and surveys, including student self-reports and faculty and employer surveys. Such indirect measures are based on individual perceptions as much as on facts. A more general model of learning outcomes which emphasized competence is defined as the ability to meet demands and carry out task successfully and efficiently. This competence lies in a mix of action, knowledge, values and goals in changing settings. Students' learning outcomes could therefore be defined and observed in the context of competence and actual performance tasks. This would thus be assessed through indirect measures using surveys and questionnaires seeking students' opinion and ratings on their own knowledge and skills.

Learning outcomes have also been considered to be associated with the approaches students adopt in their study, either surface or deep. While surface approach has been linked with retention of vast quantities of information that are soon forgotten, deep approaches are more closely associated with relational or extended learning outcomes in terms of qualitative measures, i.e. measures of understanding⁵. Learning outcomes focus on the essential, transferable learning that can be observed and assessed in courses and programmes. They support the attributes of an ideal graduate of a course programme, and are reflective of disciplinary contexts. A useful framework provided by KSAs for thinking about and describing the essential learning consists of: Knowledge - the types of thinking you want your students to act upon or the concepts, facts, and theories you want them to acquire; Skills - the skills you want your students to be able to

perform at a given level; and Attitudes - the feelings, values, appreciations, motivations, or priorities of your discipline or profession you want to stimulate in your students⁶.

The growing attention being given to intended learning outcome has made adequate measurement imperative⁷. Measurements of learning outcomes can involve direct testing and indirect measures. Direct measures involve testing mastery of learning content and skills which are indicators of knowledge and skill attainments. Direct measures are visible evidences of exactly what the students have learned by use of standardized test. Measures that do not involve direct testing rely instead on student reporting, where students are asked to rate the degree to which the educational programme has had an impact on their learning outcomes. Such measures assess opinions or attitudes towards learning, which are indicators of perception of knowledge, and skills attainments. Indirect measures are therefore data from survey of retention rates, graduations rates, number of students progressing, among others. Some surveys, such as the CEQ (Australia) and the NSSE (USA), ask students to rate the degree to which the Higher Education Institutes had an impact on their learning outcomes. It is not acceptable to determine a student's achievement of course learning outcomes on the basis of the final grade obtained in the course alone, which represents the aggregation of too many factors⁸.

Learning outcome, as an ability that can be done and an outcome after gaining understanding and learning experience, according to Bloom, can be measured in

the realm of knowledge levels, skill levels and behaviour or attitudes⁹. A typical approach to the measurement of learning outcomes, therefore is to ask students content-specific questions to assess their learning outcomes on a range of different variables which can often be subsumed under the dimensions of knowledge, skills, and attitudes^{5,7}.

Content-specific learning outcomes in Office Technology and Management programme are guiding tools on the desired results expected in the learners after prescribed period of learning activities. They are stated in specific and measurable forms and written to serve as check on whether OTM programme is perfectly designed and conducted to achieve desired results. Office Technology and Management (OTM) is the new nomenclature for secretarial studies. It is an academic programme in the Nigerian polytechnics designed to replace former Secretarial Studies to reflect the new drive in information and communication technology and the technological realities of the modern electronic office. Thus, the change in name of the programme was as a result of the review of the curriculum by the National Board for Technical Education (NBTE) in 2004 in order to make the secretarial studies programme to be more Information and Communication Technology (ICT) compliant. The curriculum was therefore expanded to include courses that could prepare students with appropriate office skills and competences to manage office technologies in line with the present-day ICT, and also prepare students for gainful employment in office occupations. This new design was seen as paving way for more employment opportunities in the ever-expanding secretarial profession¹⁰. Learning outcomes in Office Technology

and Management programmes are comprehensively stated in the curriculum specifications for the programme and extract relevant to this study are discussed in this section.

Office Technology and Management programme, like all other programmes in the polytechnics, is sub-divided into two: National Diploma and Higher National Diploma, with each having specified expected learning outcomes. The course curriculum was classified under four main components⁹. These include: General studies/education, Foundation courses, Professional course, and Supervised Industrial Work Experience Scheme (SIWES)⁹.

The general education courses include Citizenship Education, Communication, Social Psychology, Literary and Oral Composition all of which accounts for not more than 15% of the contact hours of the programme. The foundation courses include courses in Economics, Business Mathematics, Accounting, Nigeria Labour Law, Human Capital Management and Entrepreneurship which account for between 10 and 15% of the contact hours. The professional courses, which are the core courses that give the students theoretical and practical skill for effective secretarial practice include ICT I & II, ICT Office Applications I & II, Modern Office Technology, Office Practice, Desktop Publishing, Webpage Design, Shorthand and Record Management. These account for 60-70% of contact hours of each semester. SIWES, the fourth component of OTM curriculum is designed to be taken during the long vacation following the end of the second semester of the first year^{11,12}.

There are specific learning outcomes of the professional courses which highlights the expected knowledge, competencies and skills to be attained at the end of the specific learning experiences. These specific learning outcomes are subdivided into theoretical and practical contents. They are stated based on weeks of instructions. However, there are general objectives and learning outcomes expected at the completion of each course specification at the end of the semester. Learning outcomes of some of the professional courses for both National Diploma and Higher National Diploma programmes as specified in the curriculum are thus highlighted^{5,6}.

For National Diploma students, after two semesters of offering Shorthand I & II, (OTM 111 & OTM 121), the students are expected to have developed positive attitudes and interest in shorthand writing, be able to write shorthand outlines and passages dictated based on Pitman shorthand system, and be able to apply typewriting skills to produce mailable documents from shorthand outlines.²⁷ General learning outcomes expected in OTM students after, at least two semesters of offering Keyboarding courses (OTM 112, OTM 122) include mastery of the keyboard, demonstration of knowledge of various types of headings, various types of letters, and ability to use various types of display methods. Other expected outcomes include demonstration of competence in typing meeting documents and inter-office memoranda, among others. It is expected that the students should be able to type with 98% accuracy. Mastery of the keyboard is indicated through touch typing, i.e. ability to type without looking at the keyboard. The mastery and

demonstration of these keyboarding skills have become necessary for office managers' effectiveness in the contemporary world of work¹³.

Learning outcomes expected in OTM students after teaching/learning experiences in ICT I include ability to identify main components of the computer, show knowledge of various operating systems available and apply health and safety principles while working with/operating the computers (This also include ability to arrange workstations in a way to avoid fatigue and injuries). The expected learning outcomes also include ability to load Microsoft Word and make use of the application software to produce different office documents, demonstrate competence in electronic file/folder management, among others. In a similar vein, it is expected of OTM students after ICT II to be able to effectively operate a spreadsheet software for calculations, using formulae; preparation of charts and graphs, among other. OTM student, after ICT II learning experiences, should be able to demonstrate knowledge of presentation packages like Microsoft PowerPoint, and acquisition of e-mail management skills⁵.

After teaching and learning sessions in Modern Office Technology (OTM124), Office Technology and Management students are expected to be able to identify various types of modern office equipment/machines, demonstrate knowledge of usage and advantages of using these equipment for office work, and be aware of problems associated with usage of the modern office equipment with the possible solutions. Similarly, learning experiences in Office Practice I & II (OTM 114 & OTM 214) are expected to produce some specific professional learning outcomes

in the students. The expected learning outcomes include knowledge of the uses of various mail-room equipment; knowledge of common office terms, acronyms and abbreviations (such as quorum, kiv, u.f.s., p.a, and etcetera). Learners are also expected to demonstrate competence in composing correspondence as well as understand different types of meetings and various ways of conveyance. Another specific expected learning outcome after Office Practice I & II is demonstration of knowledge of secretary's role before, during and after a meeting.

In Higher National Diploma, learning outcomes of courses like Shorthand IV (OTM311), Advanced Transcription (OTM411), ICT Office Application I & II (OTM313 & OTM322), as well as Advanced Desktop Publishing (OTM415) consolidate the learning outcomes expected to have been attained at National Diploma level. It is expected that HND students will be able to demonstrate the acquired skills, knowledge and competence at a very much higher degree after teaching/learning experiences at HND level. However, courses like Database Management System (OTM413) and Management Information System (OTM423) highlight expected learning outcomes in HND OTM students to include expression of knowledge of different types of file, file organisation methods, ability to create and manage database using DBase Wizard, and organizing a database. In Achieving desired and expected learning outcomes in Office Technology and Management students, especially in the professional courses, is pivotal to graduates' effectiveness in managing the modern electronic-driven office.

The grand objective of Office Technology and Management programme is to achieve learning outcomes, especially in the professional courses, with a minimum of between 95% and 98% outcomes accuracy¹¹. The expectations on attainment of learning outcomes of Office Technology and Management students in professional courses is thus at a very high level.

2.1.2. Perceived Academic Performance

Perceived academic performance is defined as students' conception about their school achievements and academic grades. It refers to students' personal view about their academic performance. Perceived academic performance refers to the extent to which students perceive themselves to be achieving their educational goals, which directly reflects actual academic performance. The primary objective of teaching/learning process is for students to learn academic content of a particular subject. The attainment of academic excellence in students through better academic performance is foremost motive of any academic institution¹⁴. Success of academic programmes and institutions is measured by the level of students' academic performance. In order to ascertain whether students are achieving required academic knowledge, students are to be assessed and their performances summarized into grades. In order to measure academic achievement, educators use different types of assessment which is a continuous process that brings valuable information about the learning process. A cumulative grade point average (CGPA) serves as indicator of overall academic performance¹⁵. Based on the GPA, students can be classified as low, moderate and high performers

Academic performance is sometimes discussed in relation to academic success. Academic success is one of the most widely used constructs in educational research and assessment within higher education. It refers to acquisition of specific knowledge and skills demonstrated at the completion of a course which is measured by test scores, grades and GPA¹⁶. Academic success is further defined in a broader sense. The success of a student academically is defined as academic achievement that captures the quality of students' academic performance in terms of course grades and GPA, acquisition of desired knowledge, skills and competencies, and attainment of educational outcomes with post-college performance¹⁴. The framework for examining academic success based on Astin's Inputs-Environments-Outcomes (I-E-O) Model considered demographic characteristics like age and gender, family backgrounds and students' previous social/academic experiences as inputs that have direct effect on academic success. Academic success is also viewed as a function of the environment and outcome. The environment includes policies, cultures and experiences that a student encounter in the college while outcomes consists of students' knowledge, skills, attitudes and behaviour as they exist after college¹⁰.

As highlighted by the I-E-O model, a number of factors can be linked to academic performance. Such factors include demographic characteristics like age and gender, self-esteem, social ties/interactions, students' participation in sporting activities, academic climate, class attendance, as well as teacher engagement and student motivation among others^{10,17,18}. Also, many personality traits were found to be linked to academic success. Conscientiousness and neuroticism are

considered to have strong positive and negative correlational influence on academic performance respectively. It is, however believed that perceiving oneself to be capable will trigger thoroughness and hard work which will positively influence academic performance.

Similarly, persons with neuroticism trait are generally people with high anxiety and fear. This may likely be resulting from low self-efficacy, and may thus have effect on academic performance of a student⁷. However, where students' grades and CGPA are not easily assessable, and non-cognitive measure is considered more relevant, academic performance of students are measured by perceived academic performance (PAP). A students' perceived academic performance has been found to reflect their actual academic performance¹⁹. Perceived academic performance refers to self-report by students on their academic achievement. It is often linked with academic self-concept which refers to individuals' knowledge and perceptions about themselves in achieving academic goals. It is rating of academic performance alternative to CGPA.

Perceived academic performance have been measured differently by different authors. A study conducted on motivational style and actual perceived academic performance of secondary school students in Hong Kong measured perceived academic performance using questionnaire that asked the respondents to rate their own academic performance in the past year on a four-point Likert-type scales²⁰. The students rated themselves on the rating scales of very poor – 1, poor – 2, which were converted to low perceived academic performance; and good -3, very

good -4, which were converted to high PAP¹⁸. Some researchers who conducted studies on perceived academic performance employed a single-item survey questionnaire to measure PAP^{21,22}. The single-item measure asked student to rate their overall academic performance as: “failing,” “below average,” “average,” or “above average”¹⁹.

Another study on weight perception, academic performance, and psychological factors in Chinese Adolescents measured academic performance with two-item survey questionnaire²³. Two items were used to assess students’ grade point average (GPA) and perceived academic performance. The first item asked students to rate their usual academic performance at their current school or the last school where they received grades. Options for their responses included mostly A’s, or 90 or more points, or superior; mostly B’s, or 80-89 points, or very good; mostly C’s, or 70-79 points, or average; mostly D’s, or 60-69 points, or below average; and mostly F’s, or below 60 points, or failing. These GPA responses, it was noted, were not obtained from the Chinese national exams, so they were considered not appropriate to make a direct comparison of GPAs among students from different schools in different cities. With the second item, each student was asked to make comparison between his/her academic performance and those of their classmates. Response options for this rating were in 5-point Likert-type which included very poor - 1, poor - 2, average -3, good - 4, and excellent – 5. Similarly, perceived academic performance, in another study, was measured and assessed with academic performance subscale that comprised 3 items that required students to show the level of their agreement with items rating

how good they perceive themselves in terms of school work and getting good grades²⁴. Study on “relationship between perceived academic performance, depression, anxiety, and stress: Gender differences” measured perceived academic performance using 5-item scale. Items such as “I meet the official performance requirements expected of a student”, “I perform tasks that are expected of me”, and “My performance is beyond demands” are included in the scale with 7-point response option ranging from 1 (don not agree at all) to 7 (very strongly agree)¹⁹.

In another study conducted on influence of counselling services on perceived academic performance of secondary school students in Lagos State, aspects of perceived academic performance measured include: coping with academic task, making adequate preparation for exams, avoiding behaviour that can mar academic success (like class avoidance, low class engagement etcetera), effective time management, emotional stability during examinations, prompt completion and submission of assignment, etcetera²⁵. In a previous study, there are three broad justifications for evaluating personality traits as predictors of academic performance. It was first suggested that behavioural tendencies that are student-related factors like personality traits such as perseverance, talkativeness, dominance and conscientiousness, can have influence on academic achievement²⁶.

Also, it was argued that although cognitive ability reflects what an individual can do, personality traits reflect what an individual will do. The third justification was based on the argument that personality traits may be especially relevant for predicting academic performance of post-secondary student because measures of cognitive ability might lose their predictive power at the higher level of

education.⁸ Measuring academic performance through non-cognitive measure is considered more relevant in tertiary education where greater emphasis is placed on continuous assessment method including class attendance and participation.

Perceived academic performance has also being linked with academic self-concept which has been described as individuals' knowledge and perceptions about themselves on achieving goals in academic situations²⁷. It is self-perceived academic performance. The literature established that students' actual overall academic performance are direct reflections of their general academic self-concept and perceptions, and that positive self-perception of competence leads to positive outcomes, which include good academic performance²⁸. Self-perceived academic competence has been positively correlated to actual academic performance. Thus, academic self-concept, was viewed as a measure of perceived academic performance. Academic self-concept is multidimensional and could be based on domain-specific perceptions. It assesses how students perceive and feel about their overall academic abilities because researches have shown academic self-concept as perceived academic performance and as good predictor of actual academic performance^{27,29,30}.

2.1.3. Gender Stereotypes

Gender stereotypes are generalizations about what men and women are like. Gender and sex are terms that are often used interchangeably even though there is a little distinction in their meanings. Most people think that sex and gender are usually highly correlated. Sex refers to biological characteristics while gender

refers to an individual's concept of self as male or female based on social categorization. Gender, rather than sex, is used to refer to social grouping of people, and sometimes there are women who display psychological features associated with men and vice-versa³¹. It is a concept consisting of the psychological attributes associated with particular cultural conception about each sex. Issues relating to gender are concerns and aspects relating to male and female sexes in the society, the way they interrelate, and different actions or policies based on sexual differentiation. These include way of interrelation, differences in access to and use of resources, differences in activities, and societal norms relating to gender.

Issues on gender range from gender equality, gender bias/discrimination, gender identity, to gender stereotype, among others. Gender equality could be viewed as the state of equal ease of access to resources and opportunities despite differences in sexuality. Gender equality rests on achieving parity in terms of access to resources and having equal representation of both male and female in education, politics or other areas on the notion of 'sameness'³². Formal equality measures numerical gaps between male and females, and provides mechanism for equal treatment and equal opportunity for males and females. Gender equality could be measured with sex-role egalitarian scale that classified sex-role domain into marital roles, parental roles, employment roles, social-interpersonal-heterosexual roles and educational roles. These role categories, however, are not intended to represent independent aspects of life. Gender equality thus rests on commitment

to non-discrimination and is achieved with elimination of bias, discrimination and gender-based stereotypes.

Gender discrimination may result from societal and personal gender-based stereotypes. It refers to making a distinction in favour of or against a person that would not ordinarily have occurred if the person had been of a different sex or displayed different gender characteristics. Gender discrimination could be direct or indirect. It could be in form of harassment or victimization on the basis of sex. Overcoming gender discrimination and achieving gender equality requires understanding social construction of gender identity. Gender identity is an individual's internal sense of being a woman/female, a man/male, and/or a non-binary gender. It is used widely and loosely in reference to one's general sense of self, and one's feelings and ideas about oneself in relation to being a male, female, transgendered or agendered.

It is sometimes assumed that our identity comes from the expectations attached to the social roles that we occupy, and which we then internalise, so that it is formed through the process of socialization. Gender identity is viewed as part of a person's broader concept of his or her personal identity which develops as a result of social influences. The conception of gender identity intimately related to perceived gender-based roles that can result from stereotypical views³³. It derives from construct referring to the general sense or feelings of belonging to either masculine gender, feminine gender, neither or both. Almost all gender issues relate to gender-based stereotype developed overtime.

Gender stereotype is one major gender issue that may likely relate to higher education students' performance. Stereotyping involves categorizing information based on simple categories such as gender roles. Stereotyping reflect society's segregation of men and women based on prescribed roles³⁴. Gender stereotype refers to over generalization about the attributes, behaviours and characteristics of individuals based on gender. It refers to a fixed idea or set of characteristics attributed to members of a group based on gender. Gender stereotype develops from childhood when parents create and maintain distinctions through differential treatment based on sexes. This gender stereotype has developed to be an underpinning factor in circumstances such as career choice and recruitment³⁵.

Some gender stereotype scales consider items such as 'a man should never back down in the face of trouble' which emphasises the belief that men are more resilient and they may likely work harder to achieve success²⁵. Certain fields of study such as Science, Technology, Engineering and Mathematics (STEM) were considered high-status profession where females are not encouraged to aspire. These fields are considered to require more physical strength, high cognitive efforts and very high intelligence, and males are considered to be physically stronger and more intelligent to fit into such disciplines. On the other hand, females who are considered less intelligent and physically weak are encouraged to pursue arts, social sciences (like Office Management) and nursing³⁶. Gender segregation in the workplace based on stereotypical beliefs reveals that more than ninety percent (90%) of people in occupations such as secretary, dental hygienist,

family child-care provider, receptionists, stenography and early childhood teachers were women as recorded by the US Department of Labour³⁵.

There is also the stereotypical belief that males are breadwinners of the family and should be involve in disciplines that assures high salaries like STEM and not in arts, social sciences, and nursing, among others³⁵. Gender stereotype is believed to be capable of shaping individual's perception and attitude as well as influencing students' classroom experience and academic performance. Gender stereotype was also considered on a four-dimension scale of transphobia, masculinity, patriarchy and femininity³⁷. From the literature, a 23-item gender stereotype scale was developed based on Indian culture.

Gender stereotype and bias in some professions and careers has been noticed by some researchers. In public relations (PR), although it was observed that women were entering the assumed male-dominated profession at a much faster rate in the last two decades, yet issues with pay gap, glass ceiling and mentoring persist³⁸. This generated the fear that the increasing number of women in the PR profession would drive down salaries of practitioners as women were considered to be more naturally involved in less-prestigious and low-paying jobs. It was noted that men have long dominated professional areas such as medicine, law, engineering and finance, while women have been clustered in teaching, nursing, secretarial, and other 'caring' professions. The interest on influence of gender on PR career choices indicated that gender is becoming an issue in some professional settings including secretarial/office profession.

Researches on stereotype threat have shown that it can occur regardless of objective prejudice that may be in an environment. An individual can feel threatened by personal or societal stereotypical belief³⁹. In most known societies, gender is central to division of labour as some tasks are classified as ‘men’s work’ and some others considered being strictly for women. While analyzing the percentage of women in different types of occupations and professions in Britain, Clerical and related occupation ranked second with 72% women in the profession next to catering, hairdressing and other personal service that have 82% women⁴⁰. A recent study similarly showed stereotypical belief about ICT-based professions (of which OTM profession is considered one) suggesting masculine stereotypical portrayals⁴¹.

The most common measures of gender stereotypes are implicit and explicit stereotypes.⁴² Implicit gender stereotype can be viewed as introspectively unidentified or inaccurately identified traces of past experience that mediate attributions of qualities to members of social groups based on gender. It is concerned with unconscious use of social attributes in social judgment. It involves self-evaluative threat that appear when an individual is at risk of confirming a negative stereotype about him or herself. Implicit gender stereotype is concerned with inner fear of stigmatization on the basis of gender, and the inner fear that one can be judged or treated stereotypically. Activation of negative implicit stereotype is viewed as being capable of harming a person’s self-worth, self-concept and hinder positive behaviour. Implicit gender stereotypes can predict decisions and discriminatory behaviour of the person holding these

biases⁴³. Oftentimes, implicit gender stereotypes are displayed through non-verbal behaviours, difficult to identify, and are thus mostly measured using experimental tests such as Rorschach inkblot test and Implicit Association Test^{39,42,43,44}.

Explicit gender stereotypes are consciously endorsed intentional and somehow controllable thoughts and beliefs. Explicit gender stereotypes are known to the subjects and can be observed by an outsider. Determining presence of explicit gender stereotypes can be by direct measurement through self-reporting and/or observations. Explicit stereotypes are dynamic and can change over time. Explicit gender stereotypes can be personal or societal. Explicit personal gender stereotype measures individual's conscious endorsement of gender-based stereotypical beliefs, while explicit societal gender stereotype is concerned with stereotypical attributions prevalent in the society³⁹.

Some decades back, office management work was classified as feminist profession - "Feminized white-collar occupations". The office experience after the World War II created a very wide range of vacancies especially in office management as a result of increased volume of office work. Although the evidence that office work has been the largest and fastest growing female occupation in the twentieth century was somehow confusing and sometimes contradictory,⁴⁵ it was noted that the entire business community shared the assumption that women were and would remain subordinate to men in both the paid employment and in social relationships²⁴.

In the United States, it was observed that women enact many of the nurturing and services activities that sustain organisations, communities, and families⁴⁶. The study of women who work in secretarial positions confirmed that women's propensity to participate in activities of service and assistant is natural. Secretarial and office management work is thus viewed as a distinctive occupational group because it is a highly gender segregated occupation⁴⁶.

Although there are recent arguments that secretarial/office management profession is feminine⁴⁷, there was historical evidence that men dominated secretarial jobs since the late 1880s. It was only in the 1930s that women started to dominate the profession which was as a result of industrial revolution and invention of typewriters⁴. The profession became more feminist as secretarial training schools admit more females and vast number of men enlisted in the army and were not readily available for office employment. Women were also considered to be more conscientious and better able to keep office confidential matters.

Also, secretarial and office jobs became less economically viable and women who were considered cheaper labour would readily fix in³². Secretaries and office managers are also classified within the 'administrative support' sector and are rarely recognized or compensated for their other numerous performances in the public service which may likely hamper their morale and negatively influence interest of men in the profession³¹. Office management/secretarial profession is as such categorized as traditionally female-dominated occupation that shows "a

decline in opportunities for progression up a career ladder, associated with the flattening of the organisational hierarchies³². As a result, the role of gender in students' vocational choice cannot be underplayed.

Cultural roles expectations of males and females are clearly defined in most societal settings. There are indications of relationship between gender and occupational aspirations, preferences and choices. "In the Nigerian society, boys and girls often undergo different socialization experiences and they tend to learn different gender roles and behaviour patterns and hence develop different interests"⁴⁸. There are strong indications of the significance of gender as a factor in career choice among young people in Nigeria. By implication, there is tendency that sex of a young adult will have to do with his or her career preference and choice as it was observed that female students would naturally be inclined to go for careers that are feminist in nature (like nursing, catering, and secretarial jobs) while their male counterparts would naturally opt for careers that are masculine in nature (like engineering, medicine, and architecture, among others).

Secretaries, especially the contemporary ones trained with ICT-based curriculum, irrespective of their gender and where they work, are required to possess electronic records and modern technology skills in order to cope with the increasing use of electronic information technologies⁴⁹. This implies gender is not expected to continue to be an issue when considering Office Management as a career, nor is it expected to have impact on the commitment to learning and

academic achievement of Office Technology and Management students. This, however, needs empirical proof.

2.1.4. Self-Efficacy

Self-efficacy refers to an individual's belief in his/her own abilities as it pertains to dealing with certain situations. It is defined as the belief in one's capabilities to organize and execute a course of action required to manage prospective situation⁵⁰. Self-efficacy also refers to perceived capabilities to learn or perform actions at designated levels and is an important construct that can influence choices, efforts, persistence and achievement⁵¹. Self-efficacy plays a major role in how an individual will approach certain tasks, goals and challenges alongside of achieving the goals. The earliest self-efficacy research was carried out in therapeutic context with clients who showed extreme fears like snake phobias. Study and application of self-efficacy has been carried out in diverse contexts globally^{52,53,54}.

Measuring self-efficacy can be based upon Bandura's socio-cognitive theory. According to the theory, self-efficacy beliefs differ on three dimensions: (a) level or magnitude which borders on particular level of task difficulty, (b) strength dimension which revolves around the certainty and conviction of capability of successfully performing a particular level of task difficulty, and (c) generality, which is the extent to which magnitude and strength beliefs generalize across tasks and situations. Restrictive words of Bandura in the theory, "given situational demands," gave self-efficacy a narrow focus, and most researchers

therefore have limited their researches and studies to the magnitude and strength dimensions⁵⁵. An individual with strong self-efficacy will view challenging situation as another task to be mastered, develop deeper interest in it, and tend to form a stronger sense of commitment to the task and activity. On the other hand, and individual with low self-efficacy might try to avoid challenging tasks, believing that the task is difficult and beyond his personal control and capabilities. Such an individual will tend to focus on negative outcomes and failures with tendency to quickly lose confidence³⁵.

Four sources were identified for self-efficacy: Mastery experiences, social modeling, social persuasion, and psychological responses. Mastery of one's own experiences is believed to be a trigger for developing strong sense of efficacy. Mastery of experience is gained in overcoming obstacles through perseverant effort. And when a person experiences difficulties and setbacks and learns to overcome, he becomes resilient to achieve success⁵⁶. The more an individual successfully perform a task, the stronger the sense of self-efficacy. Similarly, seeing other people successfully completing a task can also stimulate self-efficacy. When a person sees people of similar status and capability like him successfully completing a seemingly difficult task, belief in one's ability and capability is stimulated. Also, persuasion from the social environment in form of compliments and encouragements can help and individual to overcome self-doubt and develop strong belief in self to be able to successfully complete the task. This spurs the individual to give a task his best effort, leading to success.

Varying self-efficacy scales exist ranging from General Self-efficacy Scale (GSES), to more specific self-efficacy scales. A General Self-Efficacy Scale (GSES) designed by Bandura for people of ages 12 and above focused assessing perceived self-efficacy at it pertains to adaptation abilities and coping scale for both stressful events and daily activities. This measured self-efficacy in terms of the ability of an individual to adapt and successfully cope with stressful activities in order to achieve desired goals⁴⁰.

Although, there are theoretical advancements and accumulation of empirical research on GSE, there are arguments that the utility of GSE is low for both theory and practice. Researchers questioned whether GSE is a construct quite distinct from self-esteem. It was further claimed that GSE measures have little or no relation to efficacy beliefs in particular domains and specific disciplines. The frequent failure observed in ability of GSE to predict behaviour in previous researched inspired by Bandura's social cognitive theory can be explained in terms of specificity matching. Although, both GSES and SSE (Specific Self-efficacy) scales denote beliefs about one's ability to achieve desired outcomes in differing contexts and scope, most previous researchers found that SSE predicts outcomes best as outcomes are often measured in highly specific manner⁴⁰.

Specific Self-efficacy scales include scales such as Children's Self-Efficacy Scale, Academic Self-Efficacy Scale for Students, Career Decision Self-Efficacy Scale, and Self-Efficacy Scale for Exercise among others. A Specific Self-efficacy scale that seems to be more relevant to academic achievement is Academic Self-

Efficacy Scale. In academic setting, one should measure academic self-efficacy rather than general self-efficacy⁹. Academic self-efficacy refers to personal judgments of one's capabilities to organize and execute courses of action to attain designated types of educational performances⁹. It is self-perceived capability to perform given academic task at a desired level. The Academic Self-Efficacy Scale for Students, is a tool for determining the relationship between academic performance and self-efficacy. This scale is mainly about students' opinion about what they can do to achieve success. Students with high self-efficacy are presumed to get better grades especially in more tasking disciplines like engineering and sciences⁶. Academic self-efficacy can be measured by indicative items such as "I am confident I will pass all exams this year"²⁷. Available research demonstrates that students with a strong sense of academic self-efficacy undertake more challenging tasks, expend greater effort accomplishing a given task, persist longer in the face of difficulties, engage in more effective self-regulatory strategies, process the learning material more deeply, have higher academic aspirations, are more mastery goal oriented, and report lower levels of anxiety than students with little confidence in their academic abilities.^{16,23} The implication is that academic self-efficacy is a strong predictor of academic performance.

Though, existing literature shows that most of the developed self-efficacy scales focus on sources of self-efficacy such as mastery experiences, vicarious experiences, social persuasion, some self-efficacy researchers explored concepts and variables that are primarily linked to self-efficacy such as self-regulated

learning (SRL), perceived control (PC), competence and persistence. Hence, an academic self-efficacy scale was developed with four sub-scales in the primary areas of SRL, PC, competence and persistence^{56,57}.

Self-regulated learning (SRL), one of the major constructs in the context of academic self-efficacy, refers to self-governing processes and self-belief that facilitate transformation of mental abilities into performance abilities. A student who is high in self-regulation can plan competently, and monitor his learning process in order to adjust his/her behaviour to what learning situations require for optimal performance. Perceived control (PC) is also referred to as internal locus of control. As one of the sub-components of self-efficacy, it explains why some people believe that rewards are the consequences of their own behaviour. People with internal locus of control believe they can alter their behaviour as they desire. People with high perceived control do not view whatever happen to them as fate, luck or by chance.

Competence, another sub-domain of self-efficacy consists of expectancy and capability beliefs. It bothers on the magnitude and level at which an individual perceive him/herself capable of competently demonstrating certain behaviour and performing certain task. Expectancy and capability beliefs have items that ask students on how well they will do in an academic area and how good a student rates himself in academic subjects compared to his/her classmates.

Persistence, on the other hand, is viewed as perseverance part of self-efficacy. It refers to the ability of a learner to continue in exhibiting and demonstrating goal-

oriented behaviour despite academic obstacles and negative academic experiences⁵⁶. This can be considered as highlighting the strength of academic self-efficacy of the students. Self-efficacy measurement is viewed as following a two-step approach: A subject notes on whether or not a candidate can perform a behaviour and indication of the strength on a 90-point certainty scale⁵⁸. The first step is to assess the magnitude of self-efficacy by summing the number of “can-do.” An easier way of measuring magnitude of self-efficacy might be to indicate the level of task in the hierarchy where a person first claims “cannot-do”²⁴. There are instances where distinction between performance expectation and outcome expectations were ignored and researchers simply build complex items that cover both beliefs to measure self-efficacy. Questions such as “How confident are you?”, “How persistent are you?” and the likes are used. Some studies on perceived academic self-efficacy and student learning have confirmed that perceived self-efficacy impacts on students' aspirations, levels of interest in academic pursuit, academic accomplishments and how well they prepare themselves for different occupational careers^{9,59}.

Self-efficacy is generally viewed as one of the strongest predictors of student's academic performance^{56,60}. It is a belief that he or she can accomplish whatever that individual is doing. Self-efficacy is the process from person to behaviour to outcome. Self-efficacy plays an important role in a student's engagement in the classroom. When facing need, students with high self-efficacy tend to manifest high help seeking behaviour; whereas students with low self-efficacy are more reluctant to seek help. Also, in predicting desirable educational outcome,

academic self-efficacy has greater effect or influence on students' ability than academic self-concept.

2.2. Theoretical Framework

2.2.1. Bloom's Taxonomy of Learning Theory

Bloom's taxonomy of learning is a learning classification system originally published in 1956 by a team of cognitive psychologist at the University of Chicago. The taxonomy of learning was named after Benjamin Bloom (1913-1999), the team's chairman. Bloom's taxonomy distinguishes learning into different levels by identifying three domains of learning and educational activities: Cognitive domain, affective domain, and psychomotor domain⁴.

Cognitive domain related learning to knowledge or intellectual skills. This aims at developing the mental skills and the acquisition of knowledge of the individual. Cognitive domain encompasses six original categories: knowledge, comprehension, application, analysis, synthesis, and evaluation^{60,61}. Knowledge is concerned with the ability of learners to recall information, facts or ideas that were learnt. Comprehension is the demonstration of understanding. It is concerned with learners' ability to understand meaning of what is known. Application shows the ability of the students in using what is known in new situation, while analysis category aims at differentiating facts and opinions. Synthesis category is concerned with the ability to assemble information together to form a cohesive idea, and evaluation is the ability of the students to develop judgments about the importance of concepts learnt.

The revised categories of cognitive learning are remembering, understanding, applying, analyzing, evaluating and creating⁶⁰. Remembering involves retrieving prior knowledge from memory and using it to aid current understanding. Using strategies to draw conclusions from current information refers to the understanding category. This involves summarizing and interpreting ideas, both oral and written. Applying is concerned with implementing procedure for learning, while analyzing entails dividing information into meaningful parts that are relevant to overall learning goal. Evaluating includes critiquing and assessing information based on learning criteria, and lastly, creating, which involves organizing learning ideas into new structure(s) to form coherent understanding pattern.

Cognitive learning domain is generally related to knowledge and intellectual skills. The learning outcomes relating to cognitive domain are measured in expression of knowledge, from simple recognition and memory to complex problem solving and evaluation⁷. Learning, in this domain is understood as the acquisition of knowledge, and thus outcome of the learning processes in cognitive domain can be measured as expression of knowledge acquired which is considered the base for all other learning of skills and abilities.

The affective learning domain is related to attitudes, feelings and emotions of the individual after a specific learning experience(s). The categories of affective domain include receiving phenomena; responding to phenomena; valuing; organisation; and characterization⁴⁹. The sub domain of receiving phenomena

creates the awareness of feelings and emotions as well as the ability to utilize selected attention. It involves willingness and listening attentively during learning sessions. Responding to phenomena, on the other hand involves active participation on the part of the learners during class and group discussion. Valuing and organisation is based on the internalization of a set of specified values, and organisation of the values into priorities. This can be assessed with the need to value one's academic work as against social relationships. Characterization sub-domain of affective learning explains the ability to internalize values and allowing them to control one's behaviour. Learning outcomes in this domain emphasise learners' attitudes with regards to attentiveness, class participation and engagement, and motivation resulting from high value placed on academic work.

The third major domain of learning based on Bloom's taxonomy is psychomotor domain. Psychomotor learning includes physical movement, and use of motor skills. The sub-domains of psychomotor include perception, set, guided response, mechanism, complex overt response, adaptation; and origination. Psychomotor learning involves readiness to apply mental, physical and emotions to acquire relevant skills. It involves achieving adequacy of performance through practicing. Complex overt response includes skillful and proficient performance of motor acts. Learning outcomes in psychomotor learning domain emphasise creating new patterns to fit a particular situation or specific problem based on highly developed skills⁶².

The relevance of Bloom's taxonomy of learning theory to this study can be deduced from the original hierarchy of learning outcomes that were categorized into cognitive (Knowledge), affective (attitude), and psychomotor (skills)⁶³. The OTM students, after specified learning experiences, are expected to have acquired certain knowledge and intellectual skills, and demonstrate understanding of basic concepts of the learning process. Learning outcomes of OTM students relating to cognitive domain can thus be measured in expression of knowledge and intellectual skills. Learning outcomes expected of OTM students in affective learning domain will also be related to the students' attitudes, feelings and emotions. This could be measured through the students' willingness to learn, attentiveness during learning sessions, and active participation during class and group discussions. In psychomotor learning domain, the OTM students would be achieving desired learning outcomes if they are able to apply mental, physical and motor skills to create new patterns for solving office management problems.

2.2.2. Motivation Systems Theory

Motivation Systems Theory was propounded by Martin Ford, in 1992. It is a composite theory that identifies the major elements of motivation that can result in achievement and success. The theory posits that motivation involves interactions between personal goals of an individual, perceptions of one's capability (Capability beliefs/personal agency beliefs), feelings or emotional arousal processes that help one to mobilize and deploy energy, and perceptions of environmental support (context beliefs)⁶⁴.

Martin Ford's motivational systems theory proposed a simple mathematical formula that attempts to represent its focus on an individual as a unit of analysis embedded in the biological, social, and environmental contexts that are crucial to development:

$$\text{Achievement} = \frac{(\text{Motivation} \times \text{Skill}) \times \text{Responsive Environment}}{\text{Biological Structure}}$$

The formula proposes that actual "achievement and competence are the results of a motivated, skillful, and biologically capable person interacting with a responsive environment"⁶⁵. The formula suggests that in any behaviour that will lead to achievement and/or success, there are some prerequisites such as motivation needed to initiate effort; skills necessary to execute required pattern of activity; biological structure and functioning to support operations of motivation and skill components; and cooperation of a responsive environment that will facilitate progress towards the goal.

Motivational Systems Theory further identifies three main elements of motivation referred to as personal goals, emotions and personal agency beliefs (which include contextual beliefs) as shown in the formula below:

$$\text{Motivation} = \text{Goals} \times \text{Personal Agency Beliefs}$$

The formula showed motivation as an outcome of interactions between personal goals, emotion (perception of one's capabilities), and personal agency beliefs (contextual beliefs/perception of environmental support). According to the theory, personal goals represent the achievement target of an individual. The

theorist developed taxonomy of twenty four goals, arranged in six categories including affective, cognitive, subjective organisation, self-assertive social relationship, integrative social relationship, and task goals. Some of these goals, (affective, cognitive, and self-assertive social relationship) may be associated with academic achievement and individual self-determination. Capability and context beliefs are personal evaluation of whether one has what it takes to attain the goal and whether one's environment will support the goal attainment. These involve one's perceptions of personal skill and competence, perception of available resources, and perception of social support⁶⁶.

According the motivational systems theory, achievement is the consequence of motivation, and motivation involves interactions between personal goals, perception of own skill/capability, perception of environmental support/context beliefs, and emotional arousal processes⁶⁵. Goals, perception on personal capability and confidence, and perception of available resources (Context beliefs) set the stage for emotional arousal, which is a subjective state that reveals extent of success or failure anticipated in relation to the target goal(s).

In relation to this study, the actual academic performance (the achievement) will be the outcome of interactions between motivation, skills, biological structure, and responsive environment. Motivation, on the other hand, results from interaction of personal goals, emotions i.e. perception relating to psychological observations that could otherwise be referred to as academic culture, and personal agency beliefs (which include capability beliefs or perception relating to personal

academic efforts and behaviour). By inference, perceived academic performance could be considered in the light of personal goals, psychological observations and academic culture of the students, and perception relating to personal behaviour and academic efforts.

2.2.3. Social Role Theory (Eagly, 1987)

Social Role Theory is a gender stereotype theory propounded by Alice Eagly (1987). It is a theory in social psychology that frames the differences between men and women as a result of social and biological influences. The theory argues that widely shared gender stereotypes develop from the gender division of labour characterizing a society⁶⁷. Eagly's social role theory proposes that socialization, gender stereotypes, gender roles, and physical differences all interact to influence behaviours of both men and women. It was observed that gender stereotype and gender roles are key concept in Eagly's theory. The theory posits that people learn gender stereotype from correspondence bias that describes inclinations about certain dispositions based on behaviours hitherto observed⁶⁸. Men's greater participation in paid positions of higher status and power dominating the western world is creating stereotype along gender line. The disproportionate assignments of nurturing and caring roles to women have also created stereotypes associating agency with men and communion with women. This stereotype generally associates weakness, emotionality, and accommodating with women and strength, nationality and assertiveness with men.

Also, the division of labour based on gender gives men and women differentiated skills. The theory posits that when gender stereotypes are salient in a group as a result of mixed sex membership, stereotypes shape behaviour directly through the expectations members form for one another's behaviour. When a task or context is culturally associated with one gender, stereotypes will shape behaviour of individuals in the social group⁵⁷. However, the theory posits that when group members enact social roles that are more tightly linked to the context rather than gender, such as manager-employee relationship in the workplace, these roles control behaviours rather than gender stereotypes. It was, however propounded that in situations where gender stereotypes do not control behaviour, men and women may still act slightly differently due to their gender-differentiated-skills.

Social role theory has a broad scope that applies to interaction in all contexts and addresses assertive, power related behaviours as well as supportive or feeling related behaviours (called socio-emotional behaviours). The explanations offered by the theory are not highly specific or detailed, however. The theory predicts that women will generally act more communally, in mutual or/and social relationship, and less instrumentally than men in the same context. These differences will be highly pronounced when gender is highly significant in the situation.

The relevance of this theory to the study is in its proposition that gender stereotype influence division of labour. And that people behave in accordance to social expectations for their gender. By implication, the stereotypical beliefs in

the society that suggest gender-based role expectations in office profession will likely influence behaviours of Office Technology and Management students which will subsequently influence their learning and academic achievements. Observations suggest that stereotypical belief about Office Technology and Management profession as feminine may likely influence students' learning outcomes and perceived academic performance.

As a result of the stereotypical beliefs, male and female students' learning outcomes and perceived academic performance may be negatively or positively influenced respectively. In a similar vein, the workplace gender stereotype that generally associate weakness, emotionality, and accommodating with women and strength, nationality and assertiveness with men may suggest that male students will generally work harder and as a result may achieve higher learning outcomes and academic performance than their female counterparts.

2.2.4. Self-Efficacy Theory

The theory of self-efficacy was developed from Bandura's work in 1977 and continued to apply to a variety of educational settings. According to self-efficacy theory, self-efficacy expectations, which refer to beliefs about one's ability to successfully perform a given task or behaviour, are important mediators of behaviour and behaviour change. Expectations of personal efficacy are hypothesized to influence one's choice of behavioural settings and activities, as well as how much effort will be expended and how long⁶⁹. The theory posits that individuals, who hold a low sense of self-efficacy for accomplishing a task may

avoid it and those with higher sense of self-efficacy will participate more readily, work harder and persist longer even when they encountered difficulties. Theory of self-efficacy affirms that things like psychotherapy and behavioural changes both operate through a common mechanism, the change or alteration of someone's individual expectations. Bandura postulated that there are two types of expectancies that exert a powerful influence on behaviour. These are expectancies related to outcome and self-efficacy expectancy. In Bandura's view, self-efficacy expectations are very powerful determinates of behavioural changes as an individual's expectations will determine the initial decision to perform the behaviour in the first instance^{70,71}.

Furthermore, Self-efficacy theory maintains that all behavioural and psychological change occurs through alteration of an individual's sense of personal mastery or efficacy. As posited by theory of self-efficacy, a person can hold both outcome expectancy and self-efficacy expectancy which are concerned with mastery or coping. Outcome expectancy refer to the belief that a given behaviour will or will not lead to a given outcome while self-efficacy expectancy is the person's belief that he or she is or is not capable of performing the behaviour(s) in question. Self-efficacy expectancy is assumed to have the most powerful influence on initiation of a behaviour as well as persistence in the face of difficulties, frustration or even failure. Assessments of self-efficacy expectancies overtime are being held to be the best predictors of behavioural initiation and persistence^{72,73,74}.

In learning situation, students acquire information about self-efficacy expectancies from four different sources which are: their previous performances, vicarious/observational experiences, verbal persuasion, and emotional or physiological arousal. It is assumed that these four sources differ in the influential power over self-efficacy expectancies. Students' own previous performances either of success or failure exert the most powerful influence on self-efficacy expectancies. Previous successes raise level of self-efficacy and failure lowers it. It was observed that once a strong self-efficacy is developed, failure may no longer have as much impact.

Knowledge of others through observations called vicarious experiences ranked second in influence over self-efficacy expectancies. Effects of vicarious experiences depend on factors such as perceived similarity between the model and the observer, number and variety of models, and perceived power of models. Both verbal persuasion and emotional arousal are less potent sources of self-efficacy expectancies. Persuasion information received verbally from people on the basis of expertness, trustworthiness, and attractiveness has weaker effect on level and strength of self-efficacy. Emotional arousal affects self-efficacy when people associate aversive emotional states such as anxiety with poor behavioural performance, incompetence, and failure. Thus, awareness about unpleasant emotional arousal will likely influence self-efficacy negatively and lead to doubt in behavioural competence^{47,45}.

Self-efficacy expectancies are viewed as varying along three dimensions of generality, strength, and magnitude^{47,75}. Bandura states that analyses of self-efficacy expectancies require a detailed assessment of magnitude, generality, and strength. "Generality" refers to the extent to which a success or failure experience influences self-efficacy expectancy in a limited, behaviourally specific manner or in a more general sense. Some experiences create mastery expectations, while some others instill a more generalized sense of efficacy which extends beyond the specific situation.

Also, efficacy expectations vary in strength. "Strength" of self-efficacy refers to the resoluteness, firmness and insistence of a person's conviction that he or she can perform successfully behaviour in question leading to resistance to disconfirming experience. The strength of a person's convictions in his/her own capability to succeed in a given task is likely to affect whether he/she will even try to engage with such task and cope with given challenging situations arising from completing the task. Weak efficacy expectations are easily extinguishable by unexpected negative experiences, while individuals with strong efficacy expectations will persevere and be resilient despite disconfirming experiences.

Self-efficacy expectations thus influence choice of behavioural settings. Similarly, people fear and tend to avoid threatening situations which they believe exceed their capability and coping skills, whereas they get involved in activities and behave assuredly when they judge themselves capable of handling situations that would otherwise be challenging and intimidating^{47,48}.

Efficacy expectations also differ in magnitude. "Magnitude" of self-efficacy, in a hierarchy of behaviours, refers to the number of behavioural "steps" a person believes himself capable of performing successfully⁷⁶. When tasks are ordered in level of difficulty, efficacy expectations of different individuals may be limited to simpler tasks, extend to moderately difficult tasks, or include the most difficult task.

The self-efficacy theory is based on the principal assumption that "psychological procedures, whatever their form, serve as means of creating and strengthening expectations of personal efficacy"⁴⁸. In this analysis, efficacy expectations are distinguished from response-outcome expectancies. The assumption is that the magnitude and strength of efficacy expectation, which is the conviction of one's capability to undertake an action/task, will influence a person to exhibit required behaviour. Outcome expectation, on the other hand is one's estimation that a particular behaviour will lead to certain desired outcomes. But if a person has doubts about whether he/she has the capabilities to perform the necessary behaviour, such information about expected outcomes would not influence behaviour. It is thus assumed that expectations of personal/self-efficacy affect both initiation of and persistence of coping with a particular behaviour. It is the strength of one's conviction about his/her own efficacy that will affect whether he/she will perform certain behaviour and persistently cope even in difficult situations. This persistence will eventually lead to desired outcome.

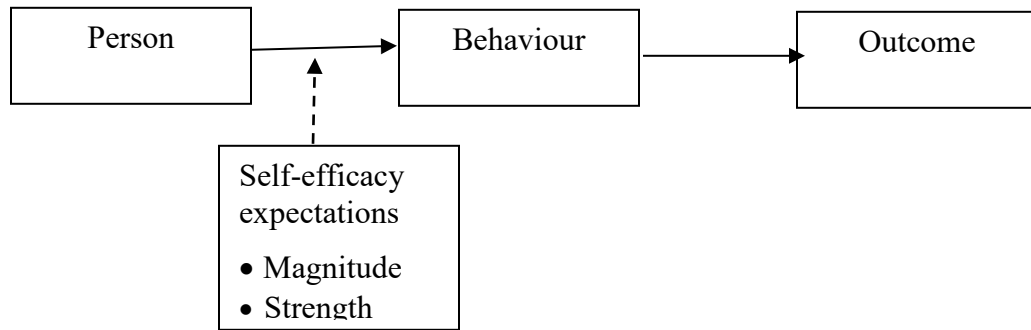


Fig. 2.1. Self-Efficacy Model⁷⁷

Self-efficacy theory maintains that all behavioural and psychological change occurs through alteration of an individual's sense of personal mastery or efficacy. The theory posits that the magnitude, strength and generality of efficacy expectations of an individual will influence his behaviour that with subsequently determine an outcome. An individual, who hold a low sense of self-efficacy for accomplishing a task may avoid it and those with higher sense of self-efficacy will participate more readily, work harder and persist longer even when they encountered difficulties. According to this self-efficacy theory of Bandura, the higher the level (magnitude) of self-efficacy expectations, the greater are the reductions in defensive and avoidance behaviour. When the level of self-efficacy is high, motivation to participate and work harder to achieve success is high.

By implication, when the level of self-efficacy of Office Technology and Management students in the Polytechnics in South-west, Nigeria is on the low side, they will likely involve themselves in class avoidance and show low class engagement leading to failure and lower rate of academic success. On the other hand, high level of self-efficacy will motivate students' class engagement,

participation and commitment which are all good predictors of high academic performance as well as attainment of required learning outcomes. The theory also depicts probability of successful performance of any given task as a function of strength of self-efficacy. Strength of self-efficacy refers to the resoluteness of a person's conviction that he or she can perform successfully a certain behaviour or task. The strength of a person's convictions in his/her own capability to succeed in a given task is likely to affect whether he/she will be engaged with such task and cope with challenging situations arising from completing the task. This means strength of self-efficacy of students of Office Technology and Management in the Polytechnics in South-west, Nigeria will determine achievement of academic success in form of high academic performance as well as attainment of required learning outcomes.

Extension of Bandura's self-efficacy theory is viewed in social cognitive theory. It is a psychological perspective on human functioning that emphasises the critical role played by the social environment on motivation, learning, and self-regulation⁷⁷. There are diverse theoretical perspectives of social cognitive theory. Earlier views that emphasized the importance of motivation and social variables in human behaviour were often labelled 'social learning theories.' This included two prominent variables: expectancy and reinforcement value. Expectancy was defined as an individual's belief about the likelihood that a particular reinforcement would occur following a certain behaviour, and reinforcement value s how much an individual desired a particular outcome relative to other likely outcomes. The social cognitive theory proposed by Bandura (1986, 1997,

and 2001) is one of the prominent ones. Social cognitive theory by Bandura has seen wide applicability within psychological disciplines, as well as in other fields such as education, business, and health. The predictions of this theory have been tested in many research studies in diverse contexts.

Bandura's earlier social learning theory emphasized the importance of observational (vicarious) learning, or learning that occurs in the absence of obvious performance by the learner. Bandura postulated that attending to a model, cognitively retaining samples from the model, and being able to produce the modeled behaviour lead to observational learning. The initial publication of an article on self-efficacy by Bandura in 1977 and the later book publication of 1986 were the two major developments that served to integrate personal influences prominently into Bandura's theory⁷⁸. It was in the second book publication of 1986, where he formulated the conceptual framework of triadic reciprocity, or reciprocal interactions between three sets of influences: behavioural; environmental; and personal.

In this dynamic conceptualization, motivational processes are personal influences that are ever changing, which affect behaviours and environments, and are also affected by them. Personal processes comprise of social comparisons through models, self-efficacy, outcome expectations and attributions among others. These will affect and be affected by behavioural processes reflected in choice of activities, efforts and persistence. Similarly, environmental processes reflected through social models, standards, rewards and opportunities for self-evaluation

influence both personal processes and behavioural processes as is also being influenced by the duo. A learner who feels competent about performing well academically will readily engage in activities that will help his learning like class attendance, attending to instructions, expending efforts and persisting with the efforts even in difficult situations. Also, expectancy values are important motivational process. Values refer to perceived importance or usefulness of learning.

Social cognitive theory postulates that people's actions reflect their values. Students are motivated to achieve when they perceive their goals to be aligned with the outcomes that are important to them. Perceived self-efficacy occupies a crucial role in the structure of social cognitive theory. Efficacy beliefs affect adaptation and change and it is partly on the basis of efficacy beliefs that people choose what challenges to undertake, how much effort to expend in the endeavor, how long to persevere in the face of obstacles and failures⁷⁰. The likelihood that people will act on the outcomes expectations from future performance will depend on their beliefs on whether or not they can perform those acts. A strong sense of efficacy reduces vulnerability to stress and depression and strengthens resiliency in the face of adversity.

Bandura's social cognitive theory recognizes and emphasizes self-efficacy as a motivational process that influences learning. Self-efficacy, which results from self-reflection that is both evaluative and goal oriented, is a key internal motivational process in social cognitive theory. Self-efficacy and social

comparisons are motivational processes which are types of personal processes that influence actions and behaviours. According to the theory, learners who feel efficacious about learning are apt to engage in cognitive and behavioural activities that improve their learning.

Self-efficacy is also considered to be influenced by certain processes resulting from the different sources like vicarious experiences, forms of social persuasion and emotional indexes. By implication, self-efficacy of OTM students in the polytechnics can be influenced by social persuasion and emotional indexes that may result from institutional influence leading to enrolment into the programme as alternative to their preferred choice. As learners work and expend efforts on learning activities, they acquire some feedback from self and from others (which may include the teachers or colleagues), and positive feedback substantiate their self-efficacy. When this happens, it influences learning outcomes and academic performances.

2.3. Review of Empirical Studies

2.3.1. Gender Stereotypes and Learning Outcome

A study was carried out on explicit and implicit activation of gender stereotypes additively impair soccer performance and learning in women⁷⁹. The study was carried out to investigate the impact of explicit and implicit gender stereotypes on women's soccer performance and learning using 60 women. The study employed experimental design with four groups in 2 x 2 design: Explicit/Implicit group (ES/IS), Explicit group (ES), Implicit group (IS), and control group. Implicit

gender stereotype activation was introduced to the IS group, while explicit gender stereotype activation was introduced to the ES group, while the control group performed without gender stereotype activations. Data collection took place on a soccer field with performance scores on a number of ball touches. The pre-test, practice and retention data were analysed using analysis of variance (ANOVA), and hypotheses tested at .05 alpha level.

The results of the study showed that performances and learning of the women in both ES and IS groups were additively impaired by explicit and implicit gender stereotype activations. The ES/IS group showed lower performance, while ES and IS groups showed worse performance compared with the control group performance⁸⁰. The study, like the current research, investigated influence of gender stereotypes on acquisition of motor skills (soccer performance), but unlike the current study, the method was experimental, and the subjects of study was quite distinct in from student of Office Technology and Management in the polytechnics, in Nigeria. The study also did not explore learning outcomes in terms of expression of knowledge acquired after a specific learning experience.

A similar study was carried out to provide estimation of the effect of stereotype threat on women's performance in sport⁸⁰. The study was a quantitative review which employed a meta-analytic technique. Studies were collected using online databases. Studies that reported objective measure of performance and differences in stereotype threat were included. The meta-analysis was conducted on 21 published article, 1 Doctoral dissertations, and 2 unpublished studies from

authors that gave personal communication. The meta-analysis showed a medium effect of gender stereotype threat manipulation on women's sport performance. The effect of stereotype threat was significantly higher in the sporting activities generally perceived to be masculine.

A conceptual study that was based on review of literature was carried out by Tabassun and Nayak. The study reviewed impact of gender stereotypes on women's career progression from a managerial perspective⁸¹. The study used discourse analysis to identify ways in which gender stereotypes influence women's career progression by selecting and synthesizing existing literature on causes and consequences of gender stereotyping on women's career progressions. Different antecedents of gender stereotyping in South Asia were identified as individual factors, cognitive factors, family factors, socio-cultural factors, and organisational factors.

Another study related gender stereotypes with reading outcomes in students. The study examine the associations between reading-related gender stereotypes and students reading learning outcomes and achievement⁸². The sample for the study consisted of 1,508 students of drawn from federal state of Schhleswig-Holstein, Germany. Data were collected at two time points through questionnaire and reading achievement test. Multilevel analyses were used for data analysis. Analyses yielded that there was a relationship between students' gender stereotypes and their reading outcomes with girls experiencing positive effects

over boys. The study also revealed that males' reading outcomes were negatively related to gender stereotypes of classmates.

Study on gender stereotype endorsement and achievement-related outcomes was carried out to by another author. The study investigate the relationship between gender stereotype endorsement that male students have stronger mathematical abilities than females and that females have stronger verbal abilities than males, and academic learning outcomes. The study drawn sample of 762 grade 6 and 8 Canadian students from 14 public schools around Montreal, Canada. Questionnaire was used for data collection. Descriptive statistics and path analysis were used for data analysis. The study found that competence beliefs and task value partially mediate the relationship between gender stereotype and learning outcomes expressed in grades. The study supported the hypothesis that gender stereotype endorsement predicts school learning outcomes in the grades 6 and 8 Canadian students⁸³.

In another study, impact of stereotype threat on women's learning outcomes in mathematics were investigated. The study investigated if sexist nonverbal behaviour of male instructor could activate stereotype threats among women in virtual classroom. The study adopted experimental design using 89 female undergraduate students randomly selected from a private university. Two-way ANOVA was used for data analysis. The study found that dominant sexist behaviours may activate gender stereotype threat, and that gender stereotype threats can undermine learning outcome of students in virtual classroom⁸⁴.

Negative impact of gender stereotype threat on performances was investigated by Marries et al. The study summarized two research studies on the gender gap. The first study compared the gap on the conceptual survey of electricity and magnetism (CSEM) in introductory courses that primarily used lecture-based instruction with courses that make use of evidence-based active engagement (EBAE) strategies. The second study focused on stereotype threat associated with gender stereotypes in physics and its impact on students' performance in CSEM. The study particularly investigated the extent to which agreeing with a gender stereotype correlates with performance in CSEM. The study found, among others, that female students who agree with the stereotype perform significantly worse than those who disagree with the stereotype⁸⁵.

Another gender-based study was carried out among engineering undergraduate students in the United States. The aim of the study was to examine how women of color students self-assess their learning outcomes compared to white women in engineering undergraduate programmes. Multi-institutional data set survey instrument called Student Experience in the Research University (SERU) was used to collect data from 2,104 women engineering students sampled across 18 universities in the autumn of 2015 and spring of 2016. Learning outcomes were measured along four dimensions of critical thinking skills, communication skills, professional skills and research skills. The study was conducted via online survey. The study ran a series of ordinary least squares regression to estimate the effect of women students' race on learning outcomes. The study found, among others, that three college experience measures have significant and positive effects on women

engineering students' critical thinking skills regardless of race⁸⁶. Although the study of learning outcomes in the research is gender-based, direct influence of gender stereotypes on learning outcomes was not explored. This will be the focus of the current study.

Gee conducted a study on relating gender equality with learning outcomes and academic achievements of boys and girls in Bangladesh. The study analyzed data collected on a sample of 1,203 children across 201 SHIKHON schools in the three regions of Bangladesh. A 56-item assessment tool set forth by United Nations Educational, Scientific and Cultural Organization (UNESCO) was used for data collection. Descriptive statistics and multiple ordinary least squares (OLS) regression model and hierarchical linear models (HLM) were used for data analysis. The analysis revealed that males slightly outperform the females in terms of total score but the estimates are not statistically significant⁸⁷.

In other words, the study presented strong correlational evidence that gender is not significantly associated with learning outcomes and achievements. The empirical evidence that girls with equal learning opportunities have equal learning outcomes remains limited and somehow inconclusive. This study is similar to the current research in its concern on influence of gender on learning outcomes, the study however, differ because the current study will investigate gender-related stereotypes and their influence on learning outcomes of students.

In a study conducted to examine the interactions of self-efficacy, intrinsic and extrinsic goal orientations, and meta cognitive strategies and their impact on

student performance in a CSI course, Lishinski *et al*, examined significance of gender differences in the relationships between the constructs and learning outcomes⁸⁸. One of the objectives of the study was to find whether there are gender differences in the ways that self-efficacy affect performance in Computer Science (CSI). The study examined the gender gap in the interaction between self-efficacy and learning outcomes. The study was conducted amidst 346 students in a CSI course at a Midwestern University. Students were given online survey to collect data and grade data obtained from exams after a period of tutoring. Descriptive statistics and path analysis model were used for data analysis. The study found, among others, that there were significant differences in the self-efficacy feedback loop by gender⁸⁸. Female students are more prone to internalize early failures by revising their self-efficacy beliefs which may discourage them from continuing to engage with the programme and so learning outcomes are negatively affected.

Another study on gender differences in learning outcomes from the college experiences of engineering students was carried out to explore how curricular emphases, instructional approaches, and co-curricular participation affect learning outcomes differently by gender⁸⁹. Nationally representative weighted survey sample of 4,901 students in 120 United States engineering programmes during the spring and summer terms formed the population of the study. Data were collected through survey and analysed with the use of hierarchical linear modeling. Also, multi-level regression approach was used to test for the interacting effect between gender and college students' experiences on learning outcomes. The study found

that women self-reported lower fundamental and design skills dimension of learning outcomes than men, but higher communication skills dimension. The study reported a statistically significant interacting effect of gender on students' self-reported learning outcomes⁸⁹. The study, however was carried out amidst engineering students of universities in a foreign context and may require replication in Nigeria settings and in polytechnics.

Gender differences in learning outcomes of college students at Buraimi University College were investigated by Malik and Coldwell-Neilson. The study was carried out to report gender differences in an introductory programme learning outcomes with the use of new teaching and learning approach⁹⁰. One hundred and eighteen students at Buraimi University College participated in the survey. Final grades of female and male students over two semesters before and after introducing the new approach were compared. The results show that female students performed better in high achiever category while male students performed slightly better in the medium and low achiever categories in the final exam. The comparison of mean values of male and female students' grades shows there is no statistically significant difference between the mean values of male and female students' final exam grades⁹⁰. The study aimed at exploring interactions between gender and learning outcomes, but students' grades, indicating academic performance, were measured instead of measuring expected learning outcomes in the introductory programme.

2.3.2. Gender Stereotypes and Perceived Academic Performance

There are volumes of literature on various factors that affect academic performance of students at different educational levels. These factors range from student motivation, quality of previous education, socio-cultural background and personal characteristics, among others. Some studies, however, tried to link academic performance of students to gender with a view that issues relating to gender of student may likely be a factor determining student's academic performance.

Study on implicit and explicit gender stereotypes predicting women's performance was carried out⁴⁴. The study investigated whether women's negotiation performance was predicted by their negotiation counterparts' implicit and explicit gender stereotypes. Eighty three (83) women recruited from an introductory psychology course at a U. S. university participated the study, and data collection was conducted in female-male and female-female dyads with focal participants as women. The study employed mixed method of experimental and survey.

Implicit gender stereotypes were measured using sequential priming task adapted from literature, while explicit gender stereotypes were measure using established scales. Participants were also involved in negotiation task and performance. Both descriptive statistics and correlation coefficient were uses for data analysis. The findings of the study suggest that regardless of women's power role in negotiation, their low performance is predicted by the male counterparts' gender stereotypes.

Another study on gender stereotypes on college students' academic performance', the influence and contribution of ethnic identities and gender stigma (negative stereotype) to academic performance and Grade Point Average (GPA) of college students were investigated. A total of 1,122 undergraduate students of a Southern State university were used for the study. The study employed Two-Way ANOVA for data analysis. Gender were defined in two levels (males and females) because no gay, lesbian, bisexual, and transgender individuals were reported in the dataset. The results revealed that students' academic performance (GPA scores) were statistically influenced by gender. It revealed that female college students' academic performance was significantly higher than the males' but GPA scores were not influenced by ethnicity or the interaction between gender and ethnicity⁹¹.

Another study was conducted to examine the relationship of academic performance with gender, the Big Five traits of personality, and academic motivation was carried out in a cross-cultural context. The study examined gender differences, personality traits, academic performance, and motivation in Ukrainian and Polish students' in physical education. A brief version of the International Personality Item Pool and Academic Motivation Scale were used for data collection in addition with the Grade Point Average. The results show that gender was a moderator in the relationship between conscientiousness and academic achievement. It was concluded that women are more motivated regarding academic achievements than men⁹². The study unlike the current study was carried out in Poland and Ukraine and amidst Physical Education

undergraduates. The current study would be conducted among Office Technology and Management students in the polytechnics in Southwest, Nigeria.

Study examining how sexualized gender stereotypes predict girls' academic self-efficacy and motivation across middle school was carried out. The study adopted survey design. The study included 77 ethnically diverse girls from four public middle schools. The longitudinal study spreads through two years; Time 1 and Time 2, involving girls at their seventh grade and eighth grade. PROCESS macro for SPSS was used for analysis. The study found that endorsement of sexualized gender stereotypes in the seventh grade negatively predicted mastery goal orientation, and that girls' endorsement of gender stereotypes predicted lower academic self-efficacy. By implication, gender stereotypes endorsement has negative influence on academic self-efficacy and mastery of goals, which have direct impact on academic performance of the students⁹³.

Another study was carried out on self-esteem, self-efficacy and academic performance among adolescents. One of the objectives of the study was to determine the relationship between self-esteem, self-efficacy and academic performance. The study adopted ex-post factor design and was carried out among 355 adolescents comprising 175 females and 180 males selected from English Medium School using convenient sampling method. Survey scales were used to collect data on self-esteem and self-efficacy, while students' academic performance were obtained from quarterly average marks and annual examinations. The study employed t-test and ANOVA for data analysis to find a

significant difference in self-efficacy, self-esteem and academic performance. Pearson's correlation was used to assess the relationship between the variables among the participants. The results revealed a significant difference in self-efficacy ($p < 0.05$), self-esteem ($p < 0.05$) and academic performance ($p < 0.01$) with respect to gender. The study found a significant positive relationship between self-esteem, self-efficacy and academic performance⁹⁴.

In a study conducted by Tellhed, Bjorklund, and Kallio Strand, the predictive power of gender stereotypes on students' interest in technical education was examined. The study was carried out to investigate students' gender stereotyping of technology and caregiving and whether these stereotypes relate to their interest in pursuing a tech-focused education³⁹. The study examined the differences in the strength of implicit and explicit gender stereotypes for technology and caregiving. Eight hundred and seventy-three (873) middle school students in the south of Sweden participated in the study with 51% boys and 48% girls. Implicit Association Test (IAT) was adapted to measure implicit associations among gender, technology and caregiving, while survey that captured awareness of current gender skewness in occupations was used for explicit gender stereotype measures. Descriptive statistics were used for the IAT. Data were analysed in R version 4.0.5. Moderation analyses to test Hypotheses were conducted using multiple regression. The results showed that students tended to strongly implicitly associated technology with men and caregiving with women. And that students showed strong societal gender stereotypes, reflecting the belief that men have stronger technical ability than women and that women have better

caregiving ability than men³⁹. This study, like the current study examined gender stereotypes alongside societal and personal explicit stereotypical belief. It, however, did not examine joint influence of gender stereotypes and self-efficacy on students' academic abilities and learning outcomes. This would be the focus of the current study.

A study was carried out to examine the influence of gender on self-efficacy of EFL (English as Foreign Language) learners in the flipped classroom model. Flipped classroom is one of the innovative learning models for enhancing learning outcomes and academic success. Experimental research design was employed. Fifty-eight (58) learners were randomly assigned to experimental and control group. Data for both experimental and control group were collected with two instruments (Learners Proficiency and Self-Efficacy scales) at pre-treatment and post-treatment stages. While paired sample t-test and independent t-test were used for data analysis. The results show that female learners in the experimental group were found to have greater improvements in leaning experience as a result of greater improvements in self-efficacy than their male counterparts⁹⁵. The study is similar to the current research in its concern about interactions between gender, self-efficacy and academic success. However, direct influence of gender on academic performance was not comprehensively explored.

In another study by Bonnot and Krauth-Gruber, direct influence of gender stereotypes on academic performance was explored⁹⁶. The study was carried out in two phases. Study 1 aimed at ensuring that heightened feelings of system

dependency would increase participants' motivation. Also, study 2 was designed to test that participants' academic performance will be biased in stereotype-consistent way when motivated to rationalize social arrangements. Study 2 was conducted amidst 104 economics and management students from French Universities to test that men and women would mostly exhibit stereotype-consistent performance when their feelings of dependency on the social system were enhanced. The study used quantitative design. Academic performance tasks (Maths and verbal tasks) were taken from entrance examination of ESSEC-Business school. ANOVA and correlation coefficient were used for data analysis. The results of the study showed that women performed less well than men in math domains, but better in verbal domains in high system-dependency condition. But in low system-dependency condition, men's and women's performance was equivalent. Study 2 revealed that participants' perception of their performance largely followed the same pattern, and that gender stereotype effect appeared in low system-dependency condition for women⁹⁶. This study is similar to the current research in its interest in gender stereotype and academic performance, however, its methods in measuring the two variables as well as the population involved differ considerably.

2.3.3. Self-Efficacy and Learning Outcomes

A recent study was conducted on the effect of student self-efficacy on learning outcomes in a business simulation mobile game, a quasi-experimental design was

employed⁹⁸. The study aimed at exploring the influence of student self-efficacy on learning outcomes. It explored factors that influence students' self-efficacy regarding engagement and learning outcomes in a business simulation game course and compared the difference between hierarchical and general teaching methods. Questionnaire was administered to 126 students in business simulation game course at Zhongshan Institute, University of Electronic Science and Technology of China. Data were analysed with paired samples tests and linear regression.

The study found that student self-efficacy, engagement and learning outcomes were significantly higher with hierarchical method than with general teaching method. It was also found that self-efficacy did not have direct effect on learning outcomes, but indirectly by mediating the effect of engagement with the general teaching method. With the hierarchical teaching method, self-efficacy was found to directly and significantly affect learning outcomes⁹⁷. The study, like the current research explored the effect of self-efficacy on students' learning outcomes, but the study could not cover wide range of respondents as a result of quasi-experimental research design employed. This current research will use survey design, covering wider range of respondents from different geographical locations. The current study will also, in addition to self-efficacy, investigated other variables like gender stereotypes that may likely influence learning outcomes.

A study was conducted to find the impact of computer self-efficacy on learning outcomes of students in Mathematics. The study was carried out at SMP in Makassar to measure the self-efficacy of computer skills on students' learning outcomes and interactions in mathematics subjects. The study adopted quantitative approach in quasi experimental design. The study took 64 students as the subject of research from two junior high schools in Makassar City. Data were collected through the use of tests, questionnaires, observation and documentation. The data were analysed with descriptive statistics and two-way ANOVA to test the hypothesis. The study found that there was the interaction between computer-based tests with self-efficacy computer capabilities which had the most correlation with a positive relationship. Self-efficacy of computer skills greatly influenced learning outcomes. This study is similar to the current research in relating self-efficacy with learning outcomes. However, it only focused on ICT self-efficacy and was also carried out amidst junior secondary school students, a population with characteristics quite different from higher education students in general and OTM students in particular⁹⁸. The present study will thus investigate academic self-efficacy as it affect learning outcomes of Office Technology and Management students in the polytechnics.

In another study by Maggie, Barbara, and Young, effect of student self-efficacy and perceptions of the instructor on learning outcomes was investigated⁹⁹. In the study, relationships between student interest, self-efficacy and perception of instructor as independent variables with a set of learning outcomes as dependent variable were explored. Data were collected from students in an introductory

undergraduate operations management course in a public, urban university in the Midwest region of the United States. They are mostly business students. A total of 315 usable questionnaires were used for data analysis. Two-tailed t-test and multiple regressions were methods of data analysis employed with the aid of SPSS 22.0 for windows. The study found that academic self-efficacy has significant effect on knowledge gain and skill development⁹⁹. In other words, perceived learning outcomes are affected by students' interest and self-efficacy. The study, however, focused on cognitive learning and student satisfaction as aspects of learning outcomes, but did not investigate influence of self-efficacy on psychomotor learning. Also, the subjects of the study are quite distinct from Office Technology and Management students and the study was carried out in the United States.

In a study conducted in 2018 on the influence of self-efficacy and motivation on Biology learning outcomes of Senior High School students, Firmansyah et al aimed at finding the effect of self-efficacy and motivation on learning outcomes in Biology¹⁰⁰. The study was carried out amidst 144 purposively selected XI-grade high school students in Cilegon City, Banten, Indonesia. The study adopted survey method using quantitative-causal approach and path analysis. The correlation coefficient analysis showed that there is a significant positive correlation between self-efficacy and motivation.

Similarly, the results showed a positive and very significant correlation between self-efficacy and Biology learning outcomes. In path analysis, the study found

that there was a direct effect of self-efficacy on motivation and an indirect effect of self-efficacy on Biology learning outcomes through motivation¹⁰⁰. This study, although related self-efficacy with learning outcomes, did not consider influence of self-efficacy on academic performance. The study was also carried out amidst population who were neither higher education students nor office management students.

A research work assessing academic self-efficacy and learning outcomes in a Christian University was carried out in two sessions. The study aimed at examining the possible contributions of strengths assessment and academic self-efficacy to learning outcomes in a Christian University. The study was carried out in two sessions of one year apart amidst 528 students mostly of European descent in the first instance, and then 344 students. The study employed longitudinal correlational method. Test scores were used as measures of students learning potentials, while academic self-efficacy scale was used to collect data on students' self-efficacy. The test scores (ACT and SAT) were extracted from students' database. Descriptive statistics of frequency count, Mean and Standard Deviation were used for data analysis alongside multiple regression and correlation coefficient. The study found significant positive correlations between thinking and students' test scores, but significant negative correlations between impacting and GPA in both samples. It was also found that academic self-efficacy provided significant additional influence and information about GPA beyond college admissions scores alone⁷⁴.

Another study by Ikhsan, *et al.*, explored the determinants of students' perceived learning outcomes and satisfaction in BINUS online learning. In the study, self-motivation, among other factors, was investigated as a possible determinant of perceived learning outcomes of students. The study was conducted amidst a pool of 4,383 students of Business Management, Accounting, Information System, and Computer Science in 10 BINUS University Learning Center (BULC). A total of 400 students were sampled using disproportionate stratified random sampling. The study used questionnaire as data collection instrument, and data analysis done with Structural Equation Modeling (SEM) using Lisrel 8.7 programme. The results of analysis showed that self-motivation contributes determines learning outcomes and students' satisfaction¹⁰¹. This study is similar to the current research in that it considers factors that determine learning outcomes. It however, did not investigate self-motivation in relation to students' self-efficacy and the study was carried out amidst university students of varying disciplines, and not Office Technology and Management students in the polytechnics.

Study on the mediating effects of psychological capital and academic self-efficacy on learning outcomes of college freshmen was carried out to investigate the relationship between past and present learning experiences of the students. The study correlated academic self-efficacy and psychological capital of the students with their current learning engagement. The study was conducted using 634 first-time students in a teaching-oriented university in Northern Taiwan during the 2015/2016 academic year. The study employed longitudinal survey design, and the survey was administered through paper questionnaires at the beginning and

end of the participants first semester and first year. Academic self-efficacy was measured as a single factor structure comprising items such as “when I am engaging in academic activities, I am confident in my problem-solving.” Data were analysed using descriptive and inferential statistics, using SPSS version 21. Means, Standard Deviations, correlations and structural equation modeling (using AMOS version 21) were used. Confirmatory factor analysis was also used to validate the relationship between the variables and observed indicators in the measurement model. The results, among others, revealed that academic self-efficacy affects learning outcomes measured as learning engagement of the students¹⁰².

Another study was carried out to investigate the damage caused by low self-efficacy on women’s academic achievement in physics. The study was longitudinal and it surveyed 1,467 students in calculus-based physics courses. The study explored the extent to which self-efficacy is related to learning outcomes and academic performance of students measured in grades and test scores. Data were collected over the course of two years. Self-efficacy survey scale and conceptual survey of electricity and magnetism (CSEM) were used to collect data. Students’ course grades and test scores were also used as measure of learning outcome. Both descriptive and inferential statistics were used for data analysis. The results revealed that there is direct relationship between gender and test results, and that self-efficacy is positively related to students’ learning outcomes after controlling for their previous academic performance differences¹⁰³. The study is similar to the current study in relating self-efficacy to learning

outcomes, but differ in method employed. This study employed longitudinal method, while the current study employed survey method.

A study about self-efficacy and emotional quotient in mediating active learning effect on students' learning outcome was conducted by Kustyarini amidst 160 Indonesian Language and Literature Education students in East Java¹⁰⁴. The study aimed at analyzing the self-efficacy and emotional intelligence in mediating the effect of implementing active learning methods on learning outcomes of students. The study employed quantitative survey research method, and data were collected through survey questionnaire. The data collected were analysed using Structural Equation Modeling (SEM). The results revealed that there is indirect effect of active learning methods on students' learning outcomes through self-efficacy. This indicated that self-efficacy had mediating effect on how active learning methods affect learning outcomes of the students¹⁰⁴. This study investigated mediating effect of self-efficacy on learning outcomes, but did not investigate direct effect of self-efficacy on learning outcomes of students. The study was also conducted amidst students of Indonesia, with a distinct population parameters from Office Technology and Management students of polytechnics in Nigeria.

Another study by Rorimpandey and Midun that aimed at examining the effect of hybrid learning strategy and self-efficacy on learning outcomes was carried out with the title "Effect of Hybrid Learning Strategy and Self-Efficacy on Learning Outcomes." The study involved 124 elementary school teacher education

students at Manado State University, Indonesia. The study employed quasi-experimental research design with a non-equivalent factorial version 2 x 2 group design. Both control and experimental classes consisting 62 students each were given treatment. The instrument for data collection was both questionnaire to collect data on self-efficacy, and a test, to measure the learning outcomes of understanding and application concepts. Data analysis techniques used was Multivariate Analysis of Variance (MANOVA). The results showed that self-efficacy level of students has a significant effect on learning outcomes in understanding and applying concepts, among others¹⁰⁵.

In a similar study, differences of students' learning outcomes using the project-based learning and problem-based learning model in terms of self-efficacy was carried out. The study tried to determine the variations in learning outcomes of students in terms of self-efficacy while using project-based learning and problem-based learning models. The study employed quasi-experimental with 2 x 2 factorial design. The study was carried out using fifth-grade students of elementary school in Padang, Indonesia. Data for the study were collected through questionnaire and test. Data were analysed using two-way ANOVA. Data analysis results revealed that learning outcomes of students who had high self-efficacy were better than those with low self-efficacy, and that there was no interaction effect of the learning models and self-efficacy on students' learning outcomes¹⁰⁶. This study, unlike the current study which employed survey method, employed quasi-experimental method.

2.3.4. Self-Efficacy and Perceived Academic Performance

Several studies have been carried out in the past relating to student academic self-efficacy with academic performance. A study conducted on the relationships between academic self-efficacy, learning-related emotions, and meta cognitive learning strategies with academic performance in medical students was carried out by Hayat, Shateri, Amini, and Shokrpour¹⁰⁷. The study investigated the mediating effects of meta cognitive learning strategies and learning-related emotions in the relationship between academic self-efficacy and academic performance. The cross-sectional study was carried out amidst 279 medical students at Shiraz University of Medical Sciences in 2018-2019 academic year. Questionnaires were used for data collection and the data analysed using SPSS and Smart PLS3. The structural equation modeling revealed that students' self-efficacy has impact on the students' learning-related emotions and Meta cognitive learning strategies, which in turn affect the students' academic performance¹⁰⁷. This study, is similar to the current research in that it relates self-efficacy with academic performance, but it laid more emphasis on the mediating variables and it was also carried out in the university system amidst medical students.

In a longitudinal study, relationship between affective wellbeing, psychological wellbeing, self-efficacy and academic performance among first-year undergraduate students were explored. The study adopted longitudinal comparative prospective panel study, and was carried out among 200 undergraduate students from a traditional university in Chile. Instruments titled *Academic Situations Specific Perceived Self-efficacy Scale*, and *Self-perceived*

Academic Performance Scale, were used to collect data on students' self-efficacy and academic performance respectively. Descriptive, correlation and linear regression were used for data analysis. The study found, among others, that academic self-efficacy did not significantly predict perceived academic performance¹⁰⁸. This study is similar to the current study in relating self-efficacy with academic performance. It is however different in that it explored relationship of affective and psychological wellbeing alongside self-efficacy with academic performance. The current study will consider the influence of self-efficacy and gender stereotypes on perceived academic performance.

Another study was carried out to determine the specific aspects of school climate that are linked to academic performance and the degree to which resilience can mediate between the two²⁴. Seven hundred and thirty-one (731) students from 8 schools in the Basque Country, Spain participated in the study. Questionnaires were used for data collection. Both descriptive and correlational analyses were used for data analysis with the aid of SPSS v.25 and EQS v.6.2 (Multivariate Software). The results show that resilience mediates the relationship between school climate and perceived academic performance. Resilience has been identified as psychological factor relating to strength of individual's positive adaptation which enables one to persevere in difficult situation to achieve success. The study showed that students who perceived their relationship with their peers and teachers as positive are more likely to show greater resilience which will subsequently influence perceived academic performance²⁴.

Another study on the effect of learning motivation, self-Efficacy, and blended learning on students' achievement in the industrial revolution 4.0" was conducted to analyse the effect of learning motivation, self-efficacy and blended learning on academic achievements of students. The study adopted descriptive-analytic method. The population of the study consisted of 120 students of Public High School, in Padang. Data were collected from 92 students sampled for the study using simple random sampling. Partial Least Square Version 3.0 was used for data analysis. The results of the analysis showed that self-efficacy had no significant effect on students' academic achievement, among others¹⁰⁹.

The role of resilience and psychological well-being in school engagement and perceived academic performance was investigated in a study. The study aimed at examining the relationship between resilience, subjective well-being and academic achievements, i.e. school engagements and perceived academic performance. The study was conducted amidst 945 Secondary Education students sampled from Autonomous Region of the Basque Country consisting of 425 boys and 520 girls. Instruments used for data collection include a sub-scale of *Brief School Adjustment Scale (EBAE-10)* by Moral de la Rubia et al which comprised items measuring academic performance indicator. The sub-scale comprised three items including "I get good grades" and "I think I'm a good student." Pearson Correlation and regression analysis were used for data analysis. The study tested a structural model for analyzing the effects of resilience and subjective well-being on school engagement and perceived performance¹¹⁰.

The study found that resilience and psychological well-being have direct positive influence on school engagement but indirect influence on perceived academic performance. The study revealed those students with higher levels of psychological well-being and who feel more able to cope with adversities are prompted to be more engaged at school and consequently have a better perception of their academic performance.¹¹⁰ Although this study focused on influence of resilience which is an aspect of self-efficacy on perceived academic performance as a dependent variable, it did not investigate students' self-efficacy in the dimensions of level and strength and its influence on the perceived academic performance of these students.

A study was carried out to investigate the mediating role of self-efficacy on the contribution of teacher support and parental monitoring to academic performance. A total of 419 adolescents consisting of 201 males and 218 females in the ninth grade participated in the study. Questionnaires were used to collect data over three years between 2016 and 2018. The study employed structural equation modeling to test the hypothesized longitudinal relations between the variables of the study. The results revealed that teacher support and parental monitoring have direct and positive effect on motivation and self-efficacy, which in turn positively impacted academic performance of the adolescents¹¹¹.

Honicke conducted a study on the influence of academic self-efficacy on academic performance using systematic review method. The study was carried out by integrating 12 years of research on the relationship between academic self-

efficacy and university students' academic performance¹¹². Relevant online databases for studies investigating academic self-efficacy and academic performance in university population published between September, 2003 and April, 2015 were searched out. Fifty-nine papers were reviewed and it was found that academic self-efficacy moderately correlated with academic performance. The study, however, found several mediating and moderating factors which may necessitate further research into complex interaction between self-efficacy and academic performance.

Another study was conducted exploring the influence of perseverant grit and self-efficacy on children's academic success¹¹³. The study aimed at examining the U.S. elementary and middle school students' perseverance of effort and self-efficacy and their predictive influence on students' academic achievements. Two thousand, four hundred and thirty students across schools were used for the study. Survey questionnaire and standard tests were used for data collection. Data were analysed using Structural Equation Modeling (SEM). The study reported that self-efficacy was positively related to academic success. And that self-efficacy has a complete mediation effect on the relationship between grit and academic success. This study, though similar to the current study in relating self-efficacy to academic success/performance, it did not explore learning outcomes and academic performance as separate dependent variables that can be influenced by self-efficacy.

Study conducted on influence of counselling services on perceived academic performance of secondary school students in Lagos State was carried out using descriptive survey design. The study was carried out using 240 SSS student selected through multi-stage sampling technique. Data were collected through administration of questionnaire, and t-test and ANOVA statistics were used to test the hypotheses at 0.05 level of significance. The study found that counseling services have significant influence on the perceived academic performance of the SSS students²⁵. Counselling services can be viewed as belonging to social persuasion source of self-efficacy. Persuasion from the social environment in form of compliments and encouragements (as in counseling) can help an individual to overcome self-doubt and develop strong belief in self to be capable of achieving success, which will influence academic performance. The study however, was carried out among secondary school students.

A study was conducted to determine the extent to which student engagement correlate with academic performance of students at Partido State University. The study adopted descriptive correlational method, using teacher-made questionnaire to collect data on student engagement, while general weighted average for two semesters officially accessed from the university registry were used to determine the academic performance of the respondents. Three hundred and five students (305) purposively selected took part in the study. Data were analysed using mean, ranking, Pearson moment correlation, and multiple regression. The study found that student engagement (behavioural, emotional and cognitive engagements) were positively correlated to the academic performance of the students¹¹⁴.

Predictive role of the interplay of self-efficacy and trait emotional intelligence on perceived academic performance was conducted to investigate factors that contributed towards perceived academic performance. The study employed survey design by exploring the impact of trait emotional intelligence and self-efficacy on perceived academic performance and how their relationship is moderated by socio-demographic variables. 500 graduate and undergraduate students in private sector universities participated in the study. Data were collected through survey questionnaires. Correlation and regression analysis were used for data analysis. The results show that self-efficacy can explain 11.9% of variation in perceived academic performance, while trait emotional intelligence can explain 7.8% of the variation in perceived academic performance. The study concludes that trait emotional intelligence and self-efficacy separately and jointly predict perceived academic performance in higher education students²⁸. The study however, used general self-efficacy scale, and the study population consists of graduate and undergraduate students of a private sector university not identified.

2.3.5. Gender Stereotype, Self-Efficacy and Learning Outcomes

A study by Sari, Sigit, and Adisyahputra on the effect of self-efficacy, gender, habits of mind on cognitive learning outcomes of high school student on Biology

subject, Indonesia' was conducted¹¹⁵. The study used ex-post facto research method and was conducted amidst 92 XI MIPA student of Dharma East Jakarta in 2016/2017 academic year. Questionnaire was used to collect data on the independent variables while scores of cognitive learning outcomes were obtained from Year End Assessment. Data were analysed with both descriptive and inferential statistics of Mean, Standard Deviation and ANOVA.

The analysis results revealed that self-efficacy did not affect the Biology subject learning but gender was found to affect cognitive learning outcomes. The study showed that there was no interaction between self-efficacy and gender in affecting learning outcomes, neither was there any interaction between self-efficacy and habit of mind. The study however, showed that habit of mind and gender had interacting influence on learning outcomes. The study concluded that there was no effect of self-efficacy on cognitive learning outcome in Biology subject, but gender and habits of mind had effects on the learning outcomes¹¹⁵.

Another study investigated the grade level and gender differences in attitudes towards chemistry (ACT), self-efficacy (SE), and learning experiences (LE) of pre-service chemistry teachers. The study was conducted amidst 191 pre-service chemistry teachers using cross-sectional survey. Data were collected with the use of questionnaire and interview. MANOVA test was carried out for quantitative data analysis while Patton was used for qualitative data analysis. The study found, among others, that ATC level of male pre-service teachers were higher than that

of their female counterparts, likewise the SE level. Female pre-service teacher, however were found to have the highest mean scores in learning experiences¹¹⁶.

Study on effect of gender, self-efficacy and interest on perception of learning environment and outcomes was carried out. The study collected motivational survey data at the beginning and end of the semester for two consecutive semesters. Six motivational constructs were included in the survey instrument. One thousand, two hundred and nineteen (1,219) students who participated in the postsurvey tests were considered. Structural equation modelling (SEM) was used which was considered to be able to provide better estimation with the more completed outcome data. The study found that female students' physics self-efficacy and interest are lower than those of male students. The analysis also revealed that decrease in self-efficacy and interest, mediated by learning environment, predicted students' physics identity¹¹⁷.

Another study was carried out to investigate the extent to which self-efficacy, gender and other external attributions predicted learning outcomes of students in English as a Foreign Language (EFL). Forty-two (42) students, consisting of 19 males and 23 females in a Norwegian upper secondary school participated in the study. Questionnaire was used for data collection on the independent variables including self-efficacy, while learning outcomes were measured through a language proficiency test. Hence, the study employed mixed approach for data collection. Mediation analysis and multiple regression were used for data analysis. The results of the analysis revealed that participants' writing self-efficacy and

attributions to specifically literature statistically, significantly, and positively predicted learning outcome in productive vocabulary of EFL. The study further showed that receptive and productive extramural English (EE) do not mediate in the relationship between self-efficacy and learning outcomes, among others¹¹⁸. Although, this study, like the current research related self-efficacy and gender to learning outcomes, the focus was more on self-efficacy and learning outcomes in English as a Foreign Language. The influence of gender on learning outcomes was less emphasized. This will be covered in the present research.

2.3.6. Gender Stereotypes, Self-Efficacy and Perceived Academic Performance

Studies combining gender stereotypes and self-efficacy and their influence on perceived academic performance are relatively scarce in the existing body of literature. Most studies consulted explored gender differences and self-efficacy, and their effects on academic achievements.

Study on the influence of technology acceptance, academic self-efficacy, and gender on academic achievement through online tutoring was conducted by Hanham, Lee and Teo to examine the difference in students' self-efficacy and academic performance based on gender¹¹⁹. Three hundred and sixty-five undergraduate students of a university in Sydney, Australia who were current users of an online tutoring service, were used for the study. Data were collected through online survey questionnaire, and data analysis employed Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM) and Multi-group

Analyses (MGA) using IBM SPSS version 26. The study reported significant differences between males and females regarding average scores, with females scoring higher than males. It was further reported that academic self-efficacy positively influence academic achievement¹¹⁹.

Another study relating academic performance, self-efficacy and gender was titled 'Online and Face-to-face Classroom Multitasking and Academic Performance: Moderated Mediation with Self-efficacy for Self-regulated Learning and Gender.' The study investigated indirect effects of multitasking on academic performance through self-efficacy for self-regulated learning in males and females. Paper-based survey was used for data collection. Self-reported GPA for academic performance was used. Participants were 278 students at a public Midwestern University. Descriptive statistics and Simple Mediation Analysis in PROCESS were used for data analysis with the aid of SPSS for Mac Version 23.00. The study showed that self-regulated learning fully mediated the relationship between multitasking and GPA of students. It was further reported that female students with higher levels of self-regulated learning experience limited impact of online multitasking on their GPA which resulted in better academic performance¹²⁰.

A study was conducted to investigate academic self-efficacy and academic performance of undergraduate students in relation to gender. Descriptive method of correlational design was adopted. The study was conducted amidst undergraduate students enrolled in Arts, Commerce and Science streams of education at Panchayat Degree College, Bargah, Odisha, India. One hundred and

twenty (120) students, comprising 60 females and 60 males were sampled for the study using stratified random sampling technique. Data were collected with the use of survey scales and previous academic scores were obtained. Data collected were analysed with the use of Z-score, t-test, Pearson's coefficient of correlation, and Analysis of Variance (ANOVA).

The results of the analysis revealed that academic self-efficacy and academic performance of the students were positively and significantly correlated at 0.01 level of significance. The study further revealed that academic self-efficacy has significant influence on academic performance of the undergraduate students. It was also found that interaction between self-efficacy and gender does not have significant influence on academic performance¹²¹. This study is similar to the current research because it related self-efficacy and academic performance with gender, but influence of gender stereotypes on perceived or actual academic performance was not explored, neither did the study investigated how students' self-efficacy can influence their academic performance. These are the concerns of the current research.

In another study, age and gender differences in online behaviour, self-efficacy, and academic performance of adult learners were compared on self-efficacy improvement and academic performance in an online environment. Data were obtained from 81 masters' degree students of a mid-sized university in the northwestern region of the United States between fall 2004 and spring 2005. Two-way Multivariate analysis of variance (MANOVA) was used to test the

hypotheses. The study revealed significant age effect on self-efficacy improvement and significant gender effects on both self-efficacy and academic performance¹²².

A study was carried out on relationship between self-efficacy, academic achievement and gender in analytical chemistry at Debre Markos College of Teacher Education (DMCTE). The study was carried out by Tenaw to investigate the level of self-efficacy and academic achievement of student of DMCTE and to identify the differences that exist based on gender¹²³. The study employed quantitative method. One hundred, 100 students of DMCTE completed the adapted survey scales for the study and participated in the achievement test used for data collection. Descriptive statistics of mean, frequency count and Standard Deviation, and inferential statistics of t-test were used for data analysis.

The study found that there was no significant difference in the self-efficacy level of male and female students, and a statistical difference in the academic achievement of both male and female students. The study also found that female and male students' achievement and self-efficacy are positively correlated¹²³. The study, like the current research, correlated gender and self-efficacy with academic performance, but stereotypical area of gender and its influence on academic performance was not covered. The study also did not investigate how students' self-efficacy and gender stereotypes can influence students' learning outcomes. These are the concerns of the current research.

Similar study was also conducted to investigate the prediction of academic resilience, which concerns learners' behaviour aspect of perceived academic performance, through academic, social and emotional self-efficacy and gender. The study was carried out amidst 346 adolescents consisting of 227 girls and 119 boys. Survey scales were used to collect data and the data were analysed using simple t-test, Pearson correlation and multiple linear regression analysis techniques. The study found, among others, that gender and self-efficacy (academic, social and emotional) jointly accounted for 49% of variance in academic resilience¹²⁴. This study is similar to the current study in investigating how self-efficacy and gender predict academic resilience. The study however, did not explore other aspects of perceived academic performance such as academic culture, nor does it investigated the influence of gender-based stereotypical beliefs on academic performance. These are the concerns of the current study.

2.4. Conceptual Model

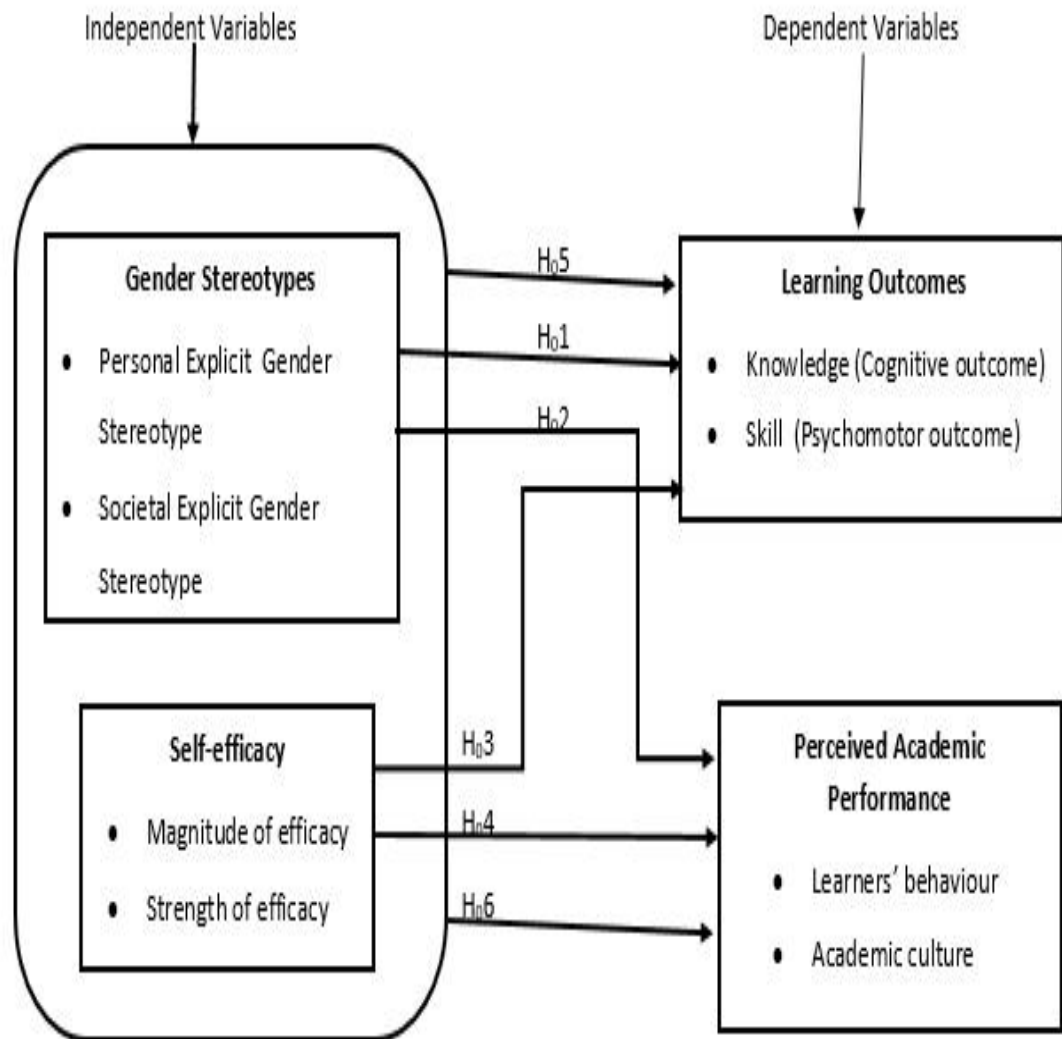


Figure 2.2
Source: Researcher's Fieldwork, 2023

The conceptual model in *Figure 2.2* shows four major variables: Gender Stereotypes (GS), Self-Efficacy (SE), Learning Outcomes (LO) and Perceived Academic Performance (PAP). The study consists of two independent and two dependent variables. Learning Outcomes and Perceived Academic Performance are the dependent variables while Gender Stereotypes and Self-Efficacy were

studied as independent variables that could possibly influence the dependent variables.

The first dependent variable, Learning Outcome, was measured along the dimensions of the two learning domains: Cognitive learning, measured as learners' expression of knowledge; and psychomotor learning, measured in expression of skills. These measures were adapted from Bloom's Taxonomy of Learning Theory^{50,51,52,53,54,55}. Similarly, measures adapted for PAP are learner's behaviour and academic culture. These measures were adapted from Motivational Systems Theory^{64,65,66,125}.

Measures of Gender Stereotypes considered relevant to the study are personal explicit gender stereotype and societal explicit gender stereotype. These are based on the literature and Social Role Theory by Alice Eagly, 1987^{37,39,42,43,44,68}. While measures to be adopted for Self-Efficacy are magnitude and strength of perceived self-efficacy from Bandura Self-Efficacy Theory, 1977^{71,76,77,126,127}.

2.5. Summary of Gaps in Literature Reviewed

The reviewed literature gave comprehensive understanding about the variables of the study. The review showed learning outcomes (LO) can be categorized alongside three learning domains of cognitive, affective and psychomotor learning indicated by students' demonstration of knowledge, change(s) in learners' attitudes, and demonstrations of skills after a period of learning experience (although the study is concerned only on leaning outcomes in the cognitive and

psychomotor domains). The review revealed perceived academic performance (PAP) by the students as crucial to successful educational programmes. From the review, gender stereotypes were shown as critical to LO and PAP, and self-efficacy was considered in the dimension of level and strength.

Theoretical review presented four theories relevant to the study. For learning outcomes, Bloom's Taxonomy of Learning; Motivational System Theory was reviewed for perceived academic performance; Social Role Theory was reviewed on gender stereotypes; and Self-Efficacy Theory developed by Bandura 1977 was also reviewed for the study.

The review of empirical studies showed that studies examining influence of gender stereotypes on learning outcomes were still very scarce. Also, based on the available reports, gender difference in learning outcomes was inconclusive as studies showed conflicting conclusions. On influence of gender on perceived academic performance of students, the review showed that reports on influence of gender on academic performance vary based on subjects and in fact studies that focused gender stereotypes and perceived academic performance are rarely available. The mixed results make study on gender and academic performance inconclusive, hence, this study will consider whether perceived academic performance of Office Technology and Management students will be influence by stereotypical views relating to the gender of the OTM students. The review of literature also showed that most studies relating self-efficacy, learning outcomes

and academic performance reported direct and indirect influence of self-efficacy on students' learning outcomes and academic performance.

Although there were several studies relating gender and self-efficacy to learning outcomes, some others relating gender and/or self-efficacy with academic performance, studies considering the influence of both gender stereotypes and self-efficacy on learning outcomes and perceived academic performance seems lacking. It was also noticed that most studies available for review were carried out in context quite different from what obtains in South-west, Nigeria like in United State, Indonesia, Hong Kong etcetera. Few studies conducted in Nigeria were carried out amidst secondary school students. Likewise, studies on learning outcomes and academic performance of OTM students in public polytechnics in Nigeria are still very scarce. Therefore, this study will investigate gender stereotypes and self-efficacy and their influences on learning outcomes and perceived academic performance of Office Technology and Management students in public polytechnics in South-west, Nigeria.

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Chapter Three

Methodology

This chapter presents the methodology employed in this study. This consists of the research design, the population of the study, sample and sampling technique, description of research instrument, validity and reliability of the research instrument, and administration of research instrument, as well as method of data analysis.

3.1. Research Design

The study adopted survey research type. Data were collected from the students of the department of Office Technology of Management in public polytechnics in South-west Nigeria. This design was considered appropriate because it enabled the students to individually and independently respond to items on the questionnaire regarding their self-efficacy, extent of attaining learning outcomes, and how they perceive their academic performance. The research design was also considered appropriate for study of population that is relatively large and that covered wide geographical area. It enabled the researcher to gather a wide range of data in a flexible and at a cost-effective way.

3.2. Population of the Study

The population of the study consisted of two thousand, three hundred and twenty-seven (2,327) OTM students of public polytechnics in the South-west who have spent at least two academic semesters in the Polytechnics (i.e. ND II, HND I, and HND II students during 2022/2023 academic session). This was based on the

assumption that they would be able to provide relevant information on the variables of the study (Self-efficacy, learning outcomes and perceived academic performance). The polytechnics covered are: The Polytechnic, Ibadan, Oyo State; Adeseun Ogundoyin Polytechnic, Eruwa, Oyo State; Federal Polytechnic, Ado-Ekiti, Ekiti State; Federal Polytechnic, Ede, Osun State; Osun State Polytechnic, Iree, Osun State; Rufus Giwa Polytechnic, Owo; Federal Polytechnic, Ilaro, and Moshood Abiola Polytechnic, Abeokuta, Ogun State; Lagos State Polytechnic, Lagos State; Yaba College of Technology, Yaba, Lagos State.

Table 3.1: Population of the Study

S/N	Polytechnic	ND II	HND I	HND II	Total
1.	The Polytechnic, Ibadan,	65	70	75	210
2.	Adeseun Ogundoyin Polytechnic, Eruwa,	61	24	31	116
3.	Federal Polytechnic, Ado-Ekiti	65	96	60	221
4.	Osun State Polytechnic, Iree	115	97	95	307
5.	Federal Polytechnic, Ede	105	85	96	286
6.	Rufus Giwa Polytechnic, Owo	57	65	85	207
7.	Federal Polytechnic, Ilaro	73	95	73	241
8.	Moshood Abiola Polytechnic, Abeokuta	40	53	16	109
9.	Lagos State Polytechnic, Lagos	89	86	86	261
10.	Yaba College of Technology, Lagos	163	108	98	369
	Total	833	779	715	2,327

Source: Departmental Offices of OTM programme in the Public Polytechnics, Southwest, Nigeria

3.3. Sample and Sampling Techniques

The sample size for the study was 341 OTM students. The study employed proportionate stratified sampling technique to select 341 sample size that were

determined with the use of Taro Yamane's sample size determination technique

(Yamane formula: $n = \frac{N}{1+N(e)^2}$) as shown below:

Where n = Sample size, e = Level of significance, N = Population size, and 1 = Constant value

A total population size of two thousand, three hundred and twenty-seven (2,327) was used to obtain the sample size of three hundred and forty-one (341) from ten (10) polytechnics offering Office Technology and Management in the South-west at 0.05 level of significance as shown below;

$$n = 2,327 / 1 + 2,327(0.05)^2$$

$$n = 2,327 / 1 + 2,327(0.0025)$$

$$n = 2,327 / 1 + 5.8175$$

$$n \approx \underline{341}$$

Bowley's proportional allocation technique (Bowley's formula: $n_h = \frac{n[n]}{N}$) was used to allocate sample size for each polytechnic. Each polytechnic sample size was calculated with Bowley's formula as shown below;

$$n_h = \frac{n[n]}{N}$$

Where n_h = the number of units allocated to each institution.

n = The total sample size.

(n) = The number of student in each institution.

N = The population size

$$\begin{aligned} n_{h1} &= 341(210)/2,327 \\ &= 71,610/2,327 \\ &= \underline{31} \end{aligned}$$

$$\begin{aligned} n_{h2} &= 341(116)/2,327 \\ &= 39,556/2,327 \\ &= \underline{17} \end{aligned}$$

$$\begin{aligned} n_{h3} &= 341(221)/2,327 \\ &= 75,361/2,327 \\ &= \underline{33} \end{aligned}$$

$$\begin{aligned}n_{h4} &= 341(307)/2,327 \\ &= 104,687/2,327 \\ &= \underline{45}\end{aligned}$$

$$\begin{aligned}n_{h5} &= 341(286)/2,327 \\ &= 97,526/2,327 \\ &= \underline{42}\end{aligned}$$

$$\begin{aligned}n_{h6} &= 341(207)/2,327 \\ &= 70,587/2,327 \\ &= \underline{30}\end{aligned}$$

$$\begin{aligned}n_{h7} &= 341(241)/2,327 \\ &= 82,181/2,327 \\ &= \underline{35}\end{aligned}$$

$$\begin{aligned}n_{h8} &= 341(109)/2,327 \\ &= 37,169/2,327 \\ &= \underline{16}\end{aligned}$$

$$\begin{aligned}n_{h9} &= 341(261)/2,327 \\ &= 89,001/2,327 \\ &= \underline{38}\end{aligned}$$

$$\begin{aligned}n_{h10} &= 341(369)/2,327 \\ &= 125,829/2,327 \\ &= \underline{54}\end{aligned}$$

Respondents from each level determined according to its proportionate percentage in the sample size are shown in Table 3.2 below. These were randomly selected for the study.

Table 3.2: Sample Size

S/N	Polytechnic	ND II	HND I	HND II	Total
1.	The Polytechnic, Ibadan,	10	10	11	31
2.	Adeseun Ogundoyin Polytechnic, Eruwa,	9	3	5	17
3.	Federal Polytechnic, Ado-Ekiti	10	14	9	33
4.	Osun State Polytechnic, Iree	17	14	14	45
5.	Federal Polytechnic, Ede	16	12	14	42
6.	Federal Polytechnic, Owo	8	10	12	30
7.	Federal Polytechnic, Ilaro	11	13	11	35
8.	Moshood Abiola Polytechnic, Abeokuta	6	8	2	16
9.	Lagos State Polytechnic, Lagos	14	12	12	38
10.	Yaba College of Technology, Lagos	24	16	14	54
	Total	125	112	104	341

Source: Researcher (2023)

3.4. Description of the Research Instrument

Questionnaire was the only research instrument used. It was considered suitable for collecting data for survey research from a wide range of respondents. The questionnaire, tagged LOPAPGISES, has five sections categorized as follow:

Section A: This section consisted of items for collecting demographic data from the respondents.

Section B: The section, tagged OTMS-LOS (Office Technology and Management Students' Learning Outcome Scale) consisted of 18 items measuring learning outcomes (Knowledge and Skills) of OTM students. The learning outcomes items were adapted from Revised Learning Indicators Scale (RLIS) by

Frymier and Houser, and OTM Curriculum Specifications^{1,2}. The 9-item RLIS yielded Cronbach reliability result of .85. Relevant items from the RLIS were regrouped into knowledge (cognitive learning outcome) and Skills (Psychomotor learning outcome) subscales. Some content-specific learning outcomes relating to professional competence from OTM Curriculum Specifications like “I can competently type meeting documents using Microsoft Word Office application”, were incorporated into ‘skills/competence’ domain of the instrument. The response format in the 18-item learning outcome scale used 4-point Likert type of Very High Level (VHL) = 4, High Level (HL) = 3, Low Level (LL) = 2, and Very Low Level (VLL) = 1.

Section C: This section consisted of items measuring Perceived Academic Performance of the Office Technology and Management students. The 15-item scale measuring learner’s behaviour and academic culture was adapted from existing literature^{3,4,5}. The items were structured in 4-point Likert type rating with response options of Very High Level (VHL) = 4, High Level (HL) = 3, Low Level (LL) = 2, and Very Low Level (VLL) = 1.

Section D: This section, tagged Gender Stereotype Scale was used to measure personal explicit and societal explicit gender stereotypes of OTM students. The 10-item scale structured in 4-point Likert type rating was adapted from Nurlu’s gender stereotype scale developed to measure teacher’s gender stereotypes towards Mathematics⁶. The scale consisted of two 17-item subscales for boys and girls, with Cronbach Alpha values of .884 and .910 respectively. Items such as

“Compare to boys, girls are seen as more competent in Mathematics by their parents” and “Girls are expected more than boys to do well in Mathematics by their parent” were adapted to read “Females are considered to be more competent in office skills by employers than males” and “Female secretaries are considered to be more professionally competent than males”. Response options range from ‘Strongly Agree’ (SA) =4, Agree (A) = 3, Disagree (D) = 2, to Strongly Disagree (SD) = 1

Section E: Self-Efficacy Scale (SES) was adapted from Academic Self-Efficacy Scale (ASES-FJHS) by Dullas to measure the OTM students’ self-efficacy⁷. ASES-FJHS consisted of 51 items sub-divided into four sub-scales of Perceived Control (12 items), Competence (15 items), Persistence (15 items) and Self-regulated Learning (9 items). The Competence and Persistence sub-domains of the instrument, with Cronbach reliability results of 0.853 and 0.918 respectively, and which indicate magnitude and strength of students’ self-efficacy were adapted. A 20-item Self Efficacy Scale consisting of two sub-measures of magnitude of perceived competence and strength of persistence, 10 items for each sub-measure, was used. The items were structured on 4-point Likert design of Very High Level (VHL) = 4, High Level (HL) = 3, Low Level (LL) = 2, and Very Low Level (VLL) = 1. The instrument consisted of items such as “I can perform very well in any field I get into”, “I am convinced that I can master the concepts and topics taught in my class”, “Despite discouragement from peers, I still continue to study hard”, and “Even if there are many obstacles, I can continue to learn” etcetera.

3.5. Validity of the Research Instrument

The instrument was subjected to content and face validity. The researcher's supervisor, department's research committee, and other research experts in the field of Office Information and Management reviewed the instrument to ensure it can adequately measure the intended variables and that it aligns with the relevant literature. The experts' critique, suggestions and recommendations on the instrument were incorporated in making the final copy of the instrument. Appropriate corrections were made before the administration of the instruments.

3.6. Reliability of the Research Instrument

The adapted scales were subjected to reliability test to check the internal consistency of the items measuring each variable of the study. The reliability test was done through pilot study. Thirty (30) copies of the instrument were administered to Office Technology and Management students of Federal Polytechnic, Offa, Kwara State, which was not part of the study area. Data obtained were subjected to Cronbach Alpha reliability test which yielded reliability coefficients as presented in Table 3.3.

Table 3.3: Instruments' Reliability Results

<i>Scale</i>	<i>n</i>	<i>Cronbach Alpha</i>
Learning Outcome	18	.921
Perceived Academic Performance	14	.848
Gender Stereotype	10	.784
Self-Efficacy	20	.780

Source: Researcher's Field Survey (2023)

The reliability test results as presented in Table 3.3 showed sufficient reliability values that satisfy the rule of thumb for internal consistency with all the values >0.70 .

3.7. Administration of Instrument and Method of Data Collection

Letter of introduction was obtained from the Department of Information Management, Lead City University to obtain permission to conduct the survey on OTM students of the selected public polytechnics in South-west, Nigeria. Four trained research assistants were used which enhanced ease of access to the respondents and increased the return rate of questionnaires from the respondents. Three hundred and forty-one (341) copies of the questionnaire were administered to and were all retrieved back from the OTM students in the public polytechnics in South-west, Nigeria.

3.8. Method of Data Analysis

Primary data collected through the use of questionnaires were analysed with both descriptive and inferential statistics. Descriptive statistics were used to describe the data in terms of frequency distribution, percentage, and mean of responses about the variables, thereby answering the research questions. Mean ratings of 3.51 – 4.00 were considered Very High Level/Strongly Agree; the mean ratings of 2.51 - 3.50 were interpreted Very High Level/Agree; the mean ratings of 1.51 - 2.50 were interpreted Low Level/Disagree; while the mean ratings of 1.00 - 1.50 were interpreted Very Low Level/Strongly Disagree in accordance with previous scholars^{8,9}. The inferential statistics (regression analysis) were used to test the

formulated hypotheses in the introductory chapter of the study. The hypotheses were tested using regression analysis to establish whether gender stereotypes and self-efficacy significantly influence learning outcomes and perceived academic performance of OTM students. All the hypotheses were tested at 0.05 level of significance.

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Endnotes

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Chapter Four

Results and Discussion of Findings

This chapter presents the results of data analysis and the interpretation of the results. The analysis was guided by the specific objectives and the hypotheses that were formulated in the introductory aspect of the study. The first part consists of presentation of descriptive analysis in tables, while the second part presents results of inferential statistics and test of hypotheses.

Table 4.1: Response Rate

	Frequency	Percentage (%)
Returned and used for analysis	334	97.95
Returned but not used for analysis	07	2.05
Not returned	Nil	Nil
Total number of questionnaire distributed	341	100

Source: Researcher's Field Survey (2023)

Table 4.1 showed that 334 copies of questionnaire distributed, representing 97.95% were returned and used for data analysis in the study. Seven (07), representing 2.05% were returned but not used for data analysis because of some invalid responses. The table revealed that all 341 questionnaire distributed, representing 100% were returned.

4.1. Demographic Analysis

Table 4.2: Demographic Data

Variable	Category	Frequency	Percentage (%)
Sex	Male	125	37.4
	Female	309	62.6
		334	100
Age	Below 18	10	3.0
	18-25	208	62.3
	26-30	92	27.5
	Above 30	24	7.2
		334	100
Class Level	ND II	121	36.3
	HND I	111	33.2
	HND II	102	30.5
		334	100
Institution	The Polytechnic, Ibadan	29	8.7
	Adeseun Ogundoyin Polytechnic, Eruwa	17	5.1
	Federal Polytechnic, Ado-Ekiti	31	9.3
	Osun State Polytechnic, Iree	45	13.5
	Federal Polytechnic, Ede	41	12.3
	Rufus Giwa Polytechnic, Owo	30	9.0
	Federal Polytechnic, Ilaro	35	10.5
	Moshood Abiola Polytechnic, Abeokuta	16	4.8
	Lagos State Polytechnic, Lagos	38	11.4
	Yaba College of Technology, Yaba, Lagos	52	15.6
		334	100

Source: Researcher's Field Survey (2023)

The Table 4.2 above showed sex distribution of the respondents to consists of 125 males representing 37.4% and 309 females, representing 62.6%. This indicated that most of the Office Technology and Management students sampled for the study were females. This implies that Office Technology and Management may be female dominated discipline. The table also showed that only 10 respondents representing 3% were below 18 years of age, 208 representing 62.3% were between 18 and 25 years, while 92, representing 27.2% were between 26 and 30 years. Those above 30 years of age are 24, representing 7.2%. This implies that majority of the respondents were of matured age above 18 years and their responses could be adjudged reliable.

Table 4.2 also showed that the respondents in the class level of National Diploma II (ND II) were 121, representing 36.3% of the total responses used for analysis, those in Higher National Diploma I (HND I) were 111, representing 33.2%, while those in Higher National Diploma II (HND II) were 102, representing 30.5%. This showed that each of the class levels has fair representation in the sample distribution. Respondents' distribution by institutions, as shown in Table 5, indicated that total responses from The Polytechnic, Ibadan was 29, representing 8.7%; from Adeseun Ogundoyin Polytechnic, Eruwa, was 17, representing 5.1%; the respondents from Federal Polytechnic, Ado-Ekiti were 31, representing 9.3%; total responses from Osun State Polytechnic, Iree was 45, representing 13.5%; Federal Polytechnic, Ede has 41 respondents representing 12.3%; while respondents from Rufus Giwa Polytechnic, Owo, were 30, representing 9%. The distribution in the table also showed that there were 35 responses, representing

10.5% from Federal Polytechnic, Ilaro; 16 responses from Moshood Abiola Polytechnic, Abeokuta, representing 4.8%; 38 responses representing 11.4% were from Lagos State Polytechnic, Lagos; while responses from Yaba College of Technology, Lagos were 52, representing 15.6%. All the polytechnics offering Office Technology and Management in the South-west, Nigeria were adequately represented based on the proportion of the students in each institution in the total population.

4.2. Presentation of Data

4.2.1. Analysis of Research Questions

In answering the Research Questions, mean ratings of 3.51 – 4.00 were interpreted Very High Level/Strongly Agree; 2.51 - 3.50 = High Level/Agree; 1.51 - 2.50 = Low Level/Disagree; while 1.00 - 1.50 = Very Low Level/Strongly Disagree^{1,2}.

Research Question One: What is the level of learning outcomes (knowledge and skills) in OTM students in public Polytechnics in South-west, Nigeria?

Table 4.3: Mean Responses on Level of Learning Outcomes in OTM Students in Public Polytechnics in South-west, Nigeria

S/N		Mean	SD
	Knowledge		
1.	I explain course content to other students.	2.80	.899
2.	I volunteer my opinion in class.	2.68	.902
3.	I feel I have learned a lot in the class to be professionally competent	2.65	.805
4.	I think about the course content outside the class.	2.72	.770
5.	I can compete favourably with students from private polytechnics	2.86	.888
6.	I have knowledge of usage of modern office equipment	2.96	.839
7.	I am aware of problems associated with usage of modern office equipment	2.78	.695
8.	I have knowledge of troubleshooting to find solution to problems associated with usage of modern office equipment	2.50	.961
9.	I know the meaning of common office terms and abbreviations like k.i.v., u.f.s., p.a. etc.	2.59	.811
10.	I know the roles of office managers/secretaries before, during and after a meeting	2.95	.712
		2.75	
	Skills		
11.	I practice skills learnt in the class when I am outside the class	2.92	.777
12.	I see connections between the course content and my career goals.	2.75	.845
13.	I compare the information from this class with other things I have learned.	2.76	.919
14.	I can effectively operate office equipment to produce mailable documents	2.87	.788
15.	I can load any office application programme on the computer	2.50	.890
16.	I can produce error-free documents using Microsoft Word	2.55	.985
17.	I am capable of electronic file management and organisations	2.56	.863
18.	I am able to use different Office Applications for different office documents	2.83	.934
		2.71	
	Grand Mean	2.73	

Source: Researcher's Field Survey (2023)

Table 4.3 showed that the Office Technology and Management students can explain course content to other students at a high level with the mean response of 2.80. The mean response of 2.68 and 2.65 respectively indicated a high level at which the students volunteer opinion in class and do have feeling of being professionally competent as a result of learning experiences. The table also revealed mean response of 2.72 showing that students think about what they have learnt when outside the classroom at a high level. The table revealed that OTM students can favourably compete with students of private polytechnics at a high level with mean response of 2.86. Mean response of 2.96 indicated that the students have knowledge of usage of modern office equipment at a high level. On learning outcome relating to awareness of problems associated with usage of modern office equipment, the result indicated a high level awareness with 2.78 mean. However, learning outcomes relating to knowledge of troubleshooting to find solution to problems associated with usage of modern office equipment was at a low level with the mean response of 2.50. Results on the table showed mean responses of 2.59 and 2.95 respectively indicating that OTM students have knowledge of common office terms/abbreviations, and that they know the roles of office managers/secretaries before, during and after a meeting at a high level.

The results in Table 4.3 revealed mean responses of 2.92 indicating high level at which OTM student practice skills learnt in the class, 2.75 indicating high level at which the students see connections between course contents they are exposed to and their career goals, and 2.76 which also indicated that the students can compare information from the class with other things learnt at a high level. The

mean response of 2.87 also indicated a high level at which OTM students can effectively operate office equipment to produce mailable documents. Also, results in the table showed that OTM students can produce error-free documents using Microsoft Word at a high level with mean of 2.55, capable of electronic file management with mean 2.56, and use different Office Applications for different office documents with 2.83 indicating high level learning outcomes. The results however, revealed low level skill outcomes on loading office application programmes on the computer.

From the table, the total mean of knowledge outcome showed 2.75 and that of skills outcome showed 2.71, indicating that both knowledge and skills outcome of OTM students' learning are at high levels. The grand mean of 2.73 also indicated that the level of learning outcomes (Knowledge and Skills) in public polytechnic OTM students relatively at high level.

Although the total means of learning outcomes sub-variables and the grand mean showed high level of learning outcomes in OTM students, the result revealed low level of outcomes in a number of items relating to usage of office equipment, knowledge of common office terms, usage of office application software, and slightly above average in production of error-free documents and electronic file management. This showed deficiency in attainment of required very high level of learning outcomes by OTM students in key and more important professional knowledge and skills for effective office management.

Research Question Two: What is the level of perceived academic performance of OTM students in public Polytechnics in South-west, Nigeria?

Table 4.4: Mean Responses on Level of Perceived Academic Performance of OTM Students in Public Polytechnics in South-west, Nigeria

S/N		Mean	SD
Learners' Behaviour			
1.	I pay attention during lectures	3.09	.671
2.	I usually ask questions in class	2.46	.837
3.	I promptly complete and submit assignments	2.89	.832
4.	I frequently participate in class task to achieve my academic goal	2.96	.785
5.	I often respond to questions from the teachers in class	2.79	.859
6.	I study hard for my tests	2.68	.807
7.	I can honestly say that I am really doing my best to achieve academic success	2.97	.786
8.	I always make adequate preparation for examinations	2.81	.881
		2.83	
Academic Culture			
9.	I cope well with academic task/rigours	2.72	.734
10.	I dislike disturbances in the classroom	2.74	.799
11.	I enjoy academic stability through the semesters	2.62	.685
12.	I can easily handle examination phobia	2.54	.982
13.	I always express the desire to obtain good grades	2.75	.863
14.	I find learning really interesting	2.64	.858
		2.66	
Grand Mean		2.74	

Source: Researcher's Field Survey (2023)

From the results presented in Table 4.4 above, concerning learners' behaviour aspect of perceived academic performance, mean response of 3.09 showed OTM students pay attention during lectures at a high level. Mean response of 2.46 indicated low level at which the students participate in the class through asking

questions. The level at which OTM students in public polytechnics in South-west promptly complete and submit assignments is also high with the mean response of 2.89. The table revealed that the students' participation in class tasks towards academic achieving was at a high level with the mean response of 2.96. Mean responses of 2.79 and 2.68 showed that OTM students often respond to questions in class and do study hard for their tests at a high level respectively. Respondents' mean scores of 2.97 and 2.81 respectively revealed that students do their best to achieve academic success and that preparations for examinations by the students are both at high levels.

Results on level of academic culture of the Office Technology and Management students in the study showed overall high level with mean response of 2.66. From the table, OTM students cope well with academic rigours, they dislike disturbances in the classroom, and enjoy academic stability through the semesters at a high level with the mean responses of 2.72, 2.74 and 2.62 respectively. The results showed mean of 2.54 indicating high level at which OTM students handle examination phobia. It was also shown from the table that the respondents express the desires to obtain good grades at high level with mean of 2.75, and that they find learning really interesting at a high level with mean response of 2.64.

The results in the Table 4.4 showed a total mean of 2.83 for learner's behaviour aspect of perceived academic performance. This indicated that learner's behaviour of the respondents is at a high level. Similarly, the total mean of 2.66 for academic culture of the OTM students indicated a high level performance, this

however, is slightly above average. The table indicated a grand mean of 2.77 revealing overall high level of perceived academic performance of Office Technology and Management students in public polytechnics in South-west, Nigeria. The results imply that the students exhibit attitudes favourable for high academic achievement and that their cultural way of school life in relation to academic achievement is at a high level in their opinion and perception.

Despite this relatively high level of perceived academic performance, it could be noted that the academic culture of the students is just slightly above average

Research Question Three: What are the gender stereotypes relating to OTM students in public polytechnics in South-west, Nigeria?

Table 4.5: Mean Responses on Gender Stereotypes of OTM Students in Public Polytechnics in South-west, Nigeria

S/N		Mean	SD
Personal explicit stereotypes			
1.	Office management profession is more suitable for females than for males,	2.97	1.069
2.	Female OTM students easily increase their performances in secretarial skilled courses like shorthand, keyboarding and ICT Office Application than male students.	3.07	.917
3.	Female OTM students are more likely to believe they can be successful in office management career.	3.18	.779
4.	Females OTM students are more interested in careers that are communal (dealing with people) such as office management than their male counterparts	3.09	.772
5.	Females are more comfortable with learning office management skills than males	2.72	1.053
		3.00	

Societal Explicit Stereotypes

6. Females are seen to be more competent in office skill by employers than males	3.31	.884
7. Females are more popular as secretaries and office managers than males	3.17	.712
8. Employers believe females are more suited to work as secretaries and office managers than males	3.21	.887
9. Female are encouraged by people to choose career in secretarial and office management area than males	3.15	.889
10. Females secretaries are usually expected to do well professionally than males by both teachers and employers	2.85	.936
Grand Mean	3.13	3.06

Source: Researcher's Field Survey (2023)

Results in Table 4.5 showed a mean response of 2.97 indicating that the respondents agreed that office management profession is more suitable for females than for males. Mean response of 3.07 also revealed that the Office Technology and Management agreed that female OTM students easily increase their performance in secretarial skilled courses like Shorthand, Keyboarding and ICT Office Application than their male counterparts. The results revealed mean response of 3.18, indicating that the respondents agreed that female OTM students are more likely to believe they can be successful in office management career. The mean response of 3.09 also showed that the respondents agreed that female students are more interested in careers that are communal such as office management than their male counterparts. The table also showed a mean response of 2.72, indicating respondents' agreement to the fact that females are more comfortable with learning office management skills than males. The total mean

of 3.00 showed that the respondents agreed with the existing personal explicit stereotypical beliefs in relation to office technology and management profession.

Table 4.5 further revealed that Office Technology and Management students in the study agreed to the societal explicit stereotypical belief that employers consider females to be more competent in office skill with the mean response of 3.31. This implies that the respondents also may likely believe that female students in Office Technology and Management are more professionally competent when it comes to demonstration of office skills. Mean responses of 3.17 and 3.21 respectively indicate that the respondents agreed with societal stereotypical beliefs that females are more popular as secretaries/office managers, and that they are more suited to work as secretaries and office managers than males. The results also showed a mean response of 3.15, indicating respondents' agreement with societal explicit stereotype that encourage females to choose career in secretarial and office management profession. The table also revealed a mean response of 2.85, which implies that the Office Technology and Management students agreed with the stereotypical belief that female secretaries are usually expected by both teachers and employers to do well professionally than their male counterparts.

Results in Table 4.5 further revealed a total means of 3.00 for personal explicit stereotypes and 3.13 for societal explicit stereotypes. This showed respondents' agreement with both personal and societal explicit stereotypical beliefs about office management profession. The grand mean of 3.06 also indicated overall

agreement with the explicit stereotypical beliefs on office management as feminine profession. This showed that the suspicion of gender stereotype endorsements amidst the Office Technology and Management students is empirically substantiated.

Research Question Four: What is the level of self-efficacy of OTM students in public Polytechnics in the South-west, Nigeria?

Table 4.6: Mean Responses on Level of Self-Efficacy of OTM Students in Public Polytechnics in South-west, Nigeria

S/N		Mean	SD
Magnitude of Self-Efficacy			
1.	In whatever I do, I strive to attain excellence.	3.05	.831
2.	I can perform very well in any field I get into.	2.92	.822
3.	During exams, I do not feel anxious because I know I can pass the test with high marks	2.98	.816
4.	On the spot recitations does not make me nervous because I can answer them well	2.82	.772
5.	I am convinced that I can master the concepts and topics taught in my class	2.68	.860
6.	Compared with my classmates, I think that I am a better academic performer	2.54	.868
7.	I can get good grades in my written works.	2.72	.833
8.	I can pass my quarterly assessment such as periodical test.	2.66	.865
9.	I am competent to pass all my subjects	2.76	.655
10.	I believe I can get high marks because I deserve it	2.66	.841
		2.77	
Strength of Self-Efficacy			
11.	Despite discouragement from peers, I can still continue to study hard	2.99	.657
12.	In spite of pressures in school, I can continue to maintain my good grades	2.71	.762
13.	When I am having a hard time understanding the lesson,	2.80	.741

	I never stop trying		
14.	Regardless of obstacles, I can keep moving toward my success	2.55	.843
15.	I can try really hard to get through the most difficult subject.	2.84	.712
16.	I can persistently solve problems with regards to my academic subjects.	2.71	.762
17.	I consistently figure out how to do the most difficult class works	2.60	.772
18.	Even if there are many obstacles, I can continue to learn	2.75	.706
19.	I can persistently work to pass all subjects	2.57	.873
20.	Despite obstacles, I am capable of accomplishing my performance goal in my academics	2.82	.724
		2.73	
	Grand Mean	2.75	

Source: Researcher's Field Survey (2023)

Concerning the level of self-efficacy of the Office Technology and Management students, Table 4.6 presented the results that showed that the level at which the OTM students strive to attain excellence in whatever is done is high with the mean response of 3.05. The mean responses of 2.92 and 2.98 indicated that OTM students agreed that they can perform very well in any field, and that during exams, they have confident feelings that they can pass with high marks. Results from the table showed that OTM students agree that they do not have feelings of nervousness and are capable of handling on the spot recitations with the mean response of 2.82. The mean response of 2.68 also revealed that the level at which OTM students are convinced of their capability to master concepts and topics taught in class is high. The table also showed a mean response of 2.54 indicating slightly high level at which OTM students perceived themselves as being better academic performer, and the mean response of 2.72, also indicating high level at

which OTM students perceive themselves of being capable of getting good grades in their written works.

Results from the table also revealed a mean responses of 2.66 and 2.76, indicating high levels at which the respondents viewed themselves as being capable of passing their quarterly assessments such as periodical test, and also capable of competently passing all subjects. A mean response of 2.66 from the table revealed a high level at which the OTM students believe in their capability of getting high marks.

Regarding strength of self-efficacy of the Office Technology and Management students, the results of analysis in Table 9 showed a mean response of 2.99, indicating high level of persistent to study hard despite discouragement from peers. This implies that the OTM students under study have strong capability to be persistent in study while facing discouragements. The table also showed a mean response of 2.71, indicating that the strength of capability to maintain good grades in spite of school pressures is high in OTM students. It was also shown, by mean response of 2.80, that OTM students never stop trying when having hard times understanding certain lessons.

The table showed mean responses of 2.55 and 2.84, which fall within high level response, indicating that OTM students can keep moving toward success regardless of obstacles, and that they are capable of getting through the most difficult subjects. Mean responses of 2.71 and 2.60 shown on the table revealed that the respondents can persistently solve problems regarding their academic

subjects, and can consistently figure out how to do most difficult class works at high levels respectively. Also from the table, mean responses of 2.75, 2.57 and 2.82 respectively indicted that OTM students, at a high level, can continue to learn despite obstacles, persistently work to pass all subjects, and are capable of accomplishing their academic performance goals despite obstacles.

Table 4.6 further revealed a total means of 2.77 and 2.73 indicating that the magnitude and strength of self-efficacy of the OTM students in the study were both high. The table showed a grand mean of 2.75, indicating that the level of self-efficacy of Office Technology and Management students in the polytechnics under study was high. This implies that OTM students have relatively high confidence in their academic competence.

4.2.2. Test of Hypotheses

Hypothesis One: There will be no significant influence of gender stereotypes on learning outcomes of OTM students in public Polytechnics in South-west, Nigeria.

Table 4.7: Regression Analysis Showing Influence of Gender Stereotypes on Learning Outcomes of OTM Students in Public Polytechnics in South-west, Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	3.525	.137		25.715	.000
Gender Stereotypes	-.257	.044	-.307	-5.878	.000

R=.307; R²= .094; Adjusted R²=.092; F=34.553; P<0.05 (Significant)
Dependent variable: Learning Outcomes

Source: Researcher's SPSS Analysis Output (2023)

The following regression could be derived from Table 4.7:

$$y = a + b_1 X_1$$

Where

a = Constant (Other variables other than X₁)

b₁ = Regression weight coefficient

X₁ = Gender stereotype

The regression can be given as follows:

$$y = 3.525 + (-0.257)X_1$$

This implies that when all variables are held constant, gender stereotypes will be at the intercept which is 3.525. A unit increase in gender stereotypes will result in -0.257 increase in learning outcomes of the OTM students. This implies that increase in gender stereotypes will have negative influence on learning outcomes.

The regression result in Table 4.7 revealed R^2 of .094 showing that gender stereotypes will account for 9.4% variation in learning outcomes of the Office Technology and Management students in public polytechnics in South-west, Nigeria. The result showed F_{cal} as 34.553 and $P < 0.05$ (.000) indicating that the gender stereotypes is having significant, but negative, influence on learning outcomes of OTM students at 0.05 level of significance. Therefore, the null hypothesis one which states that there will be no significant influence of gender stereotypes on learning outcomes of OTM students in public polytechnics in South-west is not accepted.

Hypothesis Two: There will be no significant influence of gender stereotypes on perceived academic performance of OTM students in public Polytechnics in South-west, Nigeria

Table 4.8: Regression Analysis on the Influence of Gender Stereotypes on Perceived Academic Performance of OTM Students in Public Polytechnics in South-west, Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	3.314	.155		21.362	.000
Gender Stereotypes	-.180	.049	-.196	-3.635	.000

$R = .196$; $R^2 = .038$; Adjusted $R^2 = .035$; $F = 13.214$; $P < 0.05$ (Significant)
 Dependent Variable: Perceived Academic Performance

Source: Researcher's SPSS Analysis Output (2023)

The following regression could be derived from Table 4.8:

$$y = a + b_1 X_1$$

Where

a = Constant (Other variables other than X_1)

b_1 = Regression weight coefficient

X_1 = Gender stereotype

The regression can be given as follows:

$$y = 3.314 + (0.180)X_1$$

This implies that when all variables are held constant, gender stereotypes will be at the intercept which is 3.314. A unit increase in gender stereotypes will result in -0.180 increase in perceived academic performance of the OTM students. This implies that increase in gender stereotypes will have negative influence on perceived academic performance of the students.

The regression result in Table 4.8 revealed R^2 of .038 showing that gender stereotypes will account for 3.8% variation in perceived academic performance of the Office Technology and Management students in public polytechnics in South-west, Nigeria. The result showed F_{cal} as 13.214 and $P < 0.05$ (.000) indicating that the influence of gender stereotypes on perceived academic performance of OTM students is significant at 0.05 level. Therefore, the null hypothesis two which states that there will be no significant influence of gender stereotypes on perceived academic performance of OTM students in public polytechnics in South-west is not accepted.

Hypothesis Three: There will be no significant influence of self-efficacy on learning outcomes of OTM students in public Polytechnics in South-west, Nigeria.

Table 4.9: Regression Analysis on the influence of self-efficacy on learning outcomes of OTM Students in public Polytechnics in South-west, Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.606	.105		5.767	.000
Self-Efficacy	.773	.037	.749	20.622	.000

R= .749 ; R² = .562; Adjusted R² = .560; F= 425.281; P<0.05 (Significant)
 Dependent Variable: Learning Outcomes

Source: Researcher's SPSS Analysis Output (2023)

The following regression could be derived from Table 4.9:

$$y = a + b_1X_1$$

Where

a = Constant (Other variables other than X₁)

b₁ = Regression weight coefficient

X₁ = Self-Efficacy

The regression can be given as follows:

$$y = 0.606 + 0.773X_1$$

This implies that when all variables are held constant, self-efficacy will be at the intercept which is 0.606. A unit increase in self-efficacy will result in 0.773 increase in learning outcomes of the OTM students. This implies that increase in self-efficacy will have positive influence on learning outcomes of the students.

The regression result in Table 4.9 revealed R^2 of .562 showing that self-efficacy will account for 56.2% variation in learning outcomes of the Office Technology and Management students in public polytechnics in South-west, Nigeria. The result showed F_{cal} as 425.281 and $P < 0.05$ (.000) indicating that the influence of self-efficacy on learning outcomes of OTM students is significant at 0.05 level of significance. Therefore, the null hypothesis three which states that there will be no significant influence of self-efficacy on learning outcomes of OTM students in public polytechnics in South-west is not accepted.

Hypothesis Four: There will be no significant influence of self-efficacy on perceived academic performance of OTM students in public Polytechnics in South-west, Nigeria.

Table 4.10: Regression Analysis on the Influence of Self-Efficacy on Perceived Academic Performance of OTM Students in Public Polytechnics in South-west, Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.149	.095		1.561	.120
Self-Efficacy	.948	.034	.837	27.868	.000

$R = .837$; $R^2 = .701$; Adjusted $R^2 = .700$; $F = 776.636$; $P < 0.05$ (Significant)
 Dependent Variable: Perceived Academic Performance

Source: Researcher's SPSS Analysis Output (2023)

The following regression could be derived from Table 4.10:

$$y = a + b_1X_1$$

Where

a = Constant (Other variables other than X_1)

b_1 = Regression weight coefficient

X_1 = Self-efficacy

The regression can be given as follows:

$$y = 0.149 + 0.948X_1$$

This implies that when all variables are held constant, self-efficacy will be at the intercept which is 0.149. A unit increase in self-efficacy will result in 0.948 increase in perceived academic performance of the OTM students. This implies that increase in self-efficacy will have positive influence on perceived academic performance of the students.

The regression result in Table 4.10 revealed R^2 of .701 showing that self-efficacy will account for 70.1% variation in perceived academic performance of the Office Technology and Management students in public polytechnics in South-west, Nigeria. The result showed F_{cal} as 776.636 and $P < 0.05$ (.000) indicating that the influence of gender stereotypes on perceived academic performance of OTM students is significant at 0.05 level of significance. Therefore, the null hypothesis four which states that there will be no significant influence of self-efficacy on perceived academic performance of OTM students in public polytechnics in South-west is not accepted.

Hypothesis Five: There will be no significant combined influence of gender stereotypes and self-efficacy on learning outcomes of OTM students in public polytechnics in South-west, Nigeria.

Table 4.11: Regression Analysis on Combined Influence of Gender Stereotype and Self-Efficacy on Learning Outcomes of OTM Students in Public Polytechnics in South-west, Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	1.291	.137		9.417	.000
Gender Stereotype	-.203	.028	-.245	-7.142	.000
Self-Efficacy	.751	.035	.728	21.406	.000

R= .787 ; R² = .620; Adjusted R² = .618; F= 270.174; P<0.05 (Significant)
 Dependent Variable: Learning Outcomes

Source: Researcher's SPSS Analysis Output (2023)

The following regression could be derived from Table 4.11:

$$y = a + b_1X_1 + b_2X_2$$

Where

a = Constant (Other variables other than X₁, X₂)

b₁ = Regression weight coefficients (X₁, X₂)

X₁ = Gender stereotype

X₂ = Self-efficacy

The regression can be given as follows:

$$y = 1.291 + (0.203)X_1 + 0.751X_2$$

This implies that when all variables are held constant, gender stereotypes and self-efficacy will be at the intercept which is 1.291. A unit increase in gender stereotypes will results in -0.203 increase in learning outcomes of the OTM students, while a unit increase in self-efficacy will results in 0.751 increase in

learning outcomes. The implication is that increase in gender stereotypes will have negative influence while increase in self-efficacy will have positive influence on learning outcomes of Office Technology and Management students in the public polytechnics, in South-west, Nigeria. Of the two variables examined, self-efficacy has the highest relative influence ($\beta = 0.751$). However, gender stereotypes has significant negative influence ($\beta = -0.203$).

The regression result in Table 4.11 revealed Adjusted R^2 of .618 showing that gender stereotypes and self-efficacy will jointly account for 61.8% variation in learning outcomes of the Office Technology and Management students in public polytechnics in South-west, Nigeria. The result showed F_{cal} as 270.174 and $P < 0.05$ (.000) indicating that the combined influence of gender stereotypes and self-efficacy on learning outcomes of OTM students is significant at 0.05 level of significance. Therefore, the null hypothesis five which states that there will be no significant combined influence of gender stereotypes and self-efficacy on learning outcomes of OTM students in public polytechnics in South-west is not accepted.

Hypothesis Six: There will be no significant combined influence of gender stereotypes and self-efficacy on perceived academic performance of OTM students in public polytechnics in South-west, Nigeria.

Table 4.12: Regression Analysis on Combined Influence of Gender Stereotype and Self-Efficacy on Perceived Academic Performance of OTM Students in Public Polytechnics in South-west, Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	.530	.130		4.065	.000
Gender Stereotype	-.113	.027	-.123	-4.175	.000
Self-Efficacy	.935	.033	.826	28.071	.000

R= .846 ; R² = .716; Adjusted R² = .714; F= 416.248; P<0.05 (Significant)
Dependent Variable: Perceived Academic Performance

Source: Researcher's SPSS Analysis Output (2023)

The following regression could be derived from Table 4.12:

$$y = a + b_1X_1 + b_2X_2$$

Where

a = Constant (Other variables other than X₁, X₂)

b₁ = Regression weight coefficients (X₁, X₂)

X₁ = Gender stereotype

X₂ = Self-efficacy

The regression can be given as follows:

$$y = 0.530 + (0.113)X_1 + 0.935X_2$$

This implies that when all variables are held constant, gender stereotypes and self-efficacy will be at the intercept which is 1.291. A unit increase in gender stereotypes will result in -0.113 increase in perceived academic performance of the OTM students, while a unit increase in self-efficacy will result in 0.935 increase in learning outcomes. The implication is that increase in gender

stereotypes will have negative influence while increase in self-efficacy will have positive influence on learning outcomes of Office Technology and Management students in the public polytechnics, in South-west, Nigeria. Of the two variables examined, self-efficacy has the highest significant influence ($\beta = 0.935$) and gender stereotypes has significant negative influence ($\beta = -0.113$).

The regression result in Table 4.12 revealed R^2 of .714 showing that gender stereotypes and self-efficacy will jointly account for 71.4% variation in perceived academic performance of the Office Technology and Management students in public polytechnics in South-west, Nigeria. The result showed F_{cal} as 416.248 and $P < 0.05$ (.000) indicating that the combined influence of gender stereotypes and self-efficacy on perceived academic performance of OTM students is significant at 0.05 level of significance. Therefore, the null hypothesis six which states that there will be no significant combined influence of gender stereotypes and self-efficacy on perceived academic performance of OTM students in public polytechnics in South-west is not accepted.

4.3. Discussion of Findings

Findings regarding research question one on the level of learning outcomes of Office Technology and Management students revealed a high level. The results showed that the level at which learning outcomes are achieved in these students is moderately high. This is supported by opinions in previous studies that most tertiary education students attain high learning outcomes and make greatest gains in learning domains that are consistent with their major areas of studies³. This

should imply that Office Technology and Management students attain the required learning outcomes to a large extent, as its students can demonstrate mastery of office skills that is considered necessary for effectiveness as managers of the contemporary office. It could be noted, however, that in the general goals and objectives of the Office Technology and Management programme, students are expected to be able to demonstrate mastery of professional office knowledge and skills at a very high level. For instance, the NBTE specifications placed minimum of 95% and 98% learning outcomes on professional courses bothering on documents productions, minutes' managements, and manipulation of various office equipment and application software at all levels of the academic programme⁴.

Despite the seemingly high level of learning outcomes reported, therefore, the Office Technology and Management students are still expected to demonstrate acquisition and mastery of professional knowledge and skills necessary for managing the contemporary offices at a very high level. Serious business organisations may not afford the risk of leaving the management of internal and external correspondences into the hands of office managers who are prone to more than 5% errors. In other words, the seemingly high level of learning outcomes is not high enough for effective office management, hence need for improvement.

Regarding research question two, the results showed that the perceived academic performance of the Office Technology and Management students is high. This

finding is supported by the findings in Mateos, Fernandez-Zabala, Palacios, and Diaz-de-Cerio's study relating school climate with perceived academic performance of Secondary School Students in Spain⁵. This implies that the level of academic culture and learning behaviour of OTM students is relatively high, and that if this expectedly transforms into actual academic performance, the manpower that OTM programme will be injecting into the labour market will be of relatively high quality.

Although the perceived academic performance of the OTM students is at high level, it could be observed that the academic culture of the students is slightly above average and the level at which the students participate in class was low, craving improvement. Also, since perceived academic performance has been observed to have high correlation with actual academic performance, the overall result of high PAP indicates that the actual academic performance of the OTM students should be high. This, on one hand, seems to contradict the observation from preliminary investigations which showed low academic performance of the students. And on the other hand, confirms the initial suspicions that number of OTM students graduating with distinctions has considerably reduced, though not below average. These may then raise question on the reliability of the assertion that PAP has high correlation with actual academic performance and may thus require further empirical verification.

Results on research question three, identifying the gender stereotypes relating to office management showed the Office Technology and Management students

agree that personal explicit and societal explicit gender stereotypes endorsements exist in office management. The finding is supported by previous study on students' math and science gender stereotypes which reported that gender stereotypes exists among parents, teachers and the adolescent students in relation to career choice in mathematics and science⁶. This implies that the initial suspicion of gender-based stereotypical endorsement in office management profession really exists, and most students, both male and female, agree to the gender-based stereotypical beliefs about office management profession. This may raise issues on whether influence of this stereotypical endorsement on learning outcomes differ between male and female students.

On the level of self-efficacy of the Office Technology and Management students, the results showed the students' self-efficacy level is high. This finding is supported by previous study on self-efficacy beliefs of university students which reported that students in most research groupings showed high level of self-efficacy strength in learning outcomes relating to information retrieval⁷. It could thus be deduced that most students in Office Technology and Management programme in public polytechnics in South-west, Nigeria averagely perceive themselves as being capable of achieving required learning outcomes and academic excellence.

Regarding hypothesis one, testing the influence of gender stereotypes on learning outcomes, the results of the findings revealed that gender stereotypes has significant but negative influence on learning outcomes of the Office Technology

and Management students in public polytechnics in South-west, Nigeria. This finding agrees with the finding in an earlier study on gender stereotype endorsement and achievement-related outcomes. The study reported negative influence of explicit gender stereotypes on learning outcomes of students⁸. The negative significant influence of gender stereotypes of learning outcomes also conforms with the findings of previous studies that showed low performance of respondents as a result of explicit gender stereotypes and that learning outcomes could be negatively related to gender stereotypes^{9,10}.

The implication of this finding is that minimizing and/or eradicating gender stereotype beliefs and endorsements relating to office technology and management profession will have positive effect on the learning outcomes of the students. For the learning outcomes in OTM students to be improved, both personal and societal explicit gender stereotypes endorsement have to be abated.

The hypothesis testing the influence of gender stereotypes on perceived academic performance of Office Technology and Management students in the polytechnics revealed a significant influence. The results revealed a significant influence of explicit gender stereotypes on perceived academic performance of the students.

This finding corroborate existing reports in the literature that academic performance is statistically influence by gender stereotypes^{11,12}. These studies reported that gender stereotypes have significant influence on performance of students. However, the negative coefficient of determination of gender stereotypes on perceived academic performance was earlier reported in a study

that found that effect of gender stereotypes generally appears low on performance, and where significant it is often negative influence on academic performance, especially of women¹³.

It could be inferred from the findings that gender-based stereotypical beliefs should not be encouraged or upheld especially as it relates to academic performance and professional career choices. Endorsement of stereotypical beliefs about office profession explicitly by the society and the students would have negative impact on academic performance of students in Office Management and Technology discipline.

The findings on the hypothesis testing the influence of self-efficacy on learning outcomes revealed that self-efficacy has statistically significant positive influence on learning outcomes of Office Technology and Management students in public polytechnics in South-west, Nigeria. This finding corroborated some previous research reports in the body of existing empirical literature. A previous study found that computer self-efficacy greatly influenced learning outcomes of students in Mathematics¹⁴. The study also reported positive relationship and interaction between learning outcomes in computer-based tests and self-efficacy capabilities of the students. Also, another study supporting the findings of this study was conducted on effect of self-efficacy on learning outcomes, and found that there exists a significant positive correlation between self-efficacy and learning outcomes of high school Indonesia students in biology¹⁵. Another study that supported the findings of this study correlated academic self-efficacy and

psychological capital of the students with their current learning outcomes. It reported a significant positive influence of academic self-efficacy on learning outcomes of university undergraduates in Northern Taiwan.

However, one of very few studies that contradict the findings of this study was conducted to explore the influence of student self-efficacy on learning outcomes. The study reported that self-efficacy did not have direct effect on learning outcomes, but indirectly by mediating the effect of engagement with the general teaching method¹⁶. By implication, to improve learning outcomes of Office Technology and Management students, expending efforts at improving the self-efficacy level of the students might be a worthy step in the right direction.

Hypothesis four results for the influence of self-efficacy on perceived academic performance of Office Technology and Management students in the public polytechnics in South-west, Nigeria, revealed that self-efficacy has a significant positive influence on perceived academic performance. Some of the previous empirical studies reported results that contradict this finding. A study was carried out to find relationship between academic self-efficacy and perceived academic performance of undergraduate students from a traditional university in Chile. The study reported that academic self-efficacy did not significantly predict perceived academic performance of the students¹⁷. Also, a study was conducted to analyse the effect of learning motivation, self-efficacy and blended learning on academic achievements of public high school students in Padang. The study found that self-efficacy has no significant effect on students' academic achievement¹⁸. The

findings of this study, however, found support in the existing empirical literature. A study on influence of academic self-efficacy on academic performance was carried out using a systematic review. The study explore relationship between academic self-efficacy and university students' academic performance. From the review, the study reported that academic self-efficacy moderately correlated with academic performance of the university students¹⁹. Similarly, another study carried out to find relationship between academic self-efficacy, learning-related emotions, and meta cognitive learning strategies with academic performance of medical students at Shiraz University of Medical Sciences reported positive mediating effect of self-efficacy on academic performance²⁰.

The results of hypothesis five, testing the combined influence of gender stereotypes and self-efficacy on learning outcomes revealed a significant influence. Although, there was a dearth of empirical studies exploring combined effect of gender stereotypes and self-efficacy on leaning outcomes, there was a study conducted to find the effect self-efficacy, gender and habits of mind on learning outcomes of High School students in Biology. The study reported no interacting effect of self-efficacy and gender on learning outcomes of the students²¹. This shows the finding on this hypothesis may be relatively new as empirical studies reporting similar findings are scarce. The results indicated that even with high self-efficacy having very high significant influence on learning outcomes, the existence of gender stereotypes will also intercept to have significant influence on the students' learning.

Hypothesis six tested the combined influence of gender stereotypes and self-efficacy on perceived academic performance of the Office Technology and Management students in public polytechnics in South-west, Nigeria. The results showed a significant influence of combination of gender stereotypes and self-efficacy on perceived academic performance of the students. This finding found support in the literature as a previous study on the influence of technology acceptance, academic self-efficacy and gender on academic achievement reported that both gender and self-efficacy have significant influence on academic achievements of undergraduate students of a university in Sydney, Australia²². The finding of this study was also supported by another study conducted to investigate the prediction of academic resilience through academic, social and emotional self-efficacy and gender reported that self-efficacy and gender jointly accounted for 49% of variance in academic resilience²³. This finding, similar to the findings of hypothesis five, showed the importance of improving level and strength of self-efficacy of the OTM students, and deactivating gender-based stereotypical beliefs in Office Technology and Management students for optimal academic performance.

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Chapter Five

Conclusion

This chapter presents summary of findings and conclusions, provides useful recommendations, contributions to knowledge, and suggestions for further studies.

5.1. Summary of Findings

The aim of this study was to investigate the influence of gender stereotypes and self-efficacy on learning outcomes and perceived academic performance of Office Technology and Management students in public polytechnics in South-west, Nigeria. The study identified the level of learning outcomes and perceived academic performance of the students; identified the gender stereotypes relating to OTM students in public polytechnics in South-west, Nigeria; and identified level of self-efficacy of the OTM students in the study. The study also examined the influence of gender stereotypes on learning outcomes and perceived academic performance; examined influence of self-efficacy on learning outcomes and perceived academic performance; and determined the combined influence of gender stereotypes and self-efficacy on learning outcomes and perceived academic performance.

The problem of the study was the perceived decline in learning outcomes and academic performance of the Office Technology and Management students. Four research questions were raised, and six null hypotheses were formulated and tested at 0.05 level of significance. Conceptual review was done in line with the

variables of the study, and review of empirical studies was also carried out to view findings of previous studies related to the problem and variables of the study. The study was anchored on Bloom's Taxonomy of Learning Theory published in 1956; Motivation Systems Theory propounded by Martin Ford, in 1992; Social Role Theory propounded by Alice Eagly, 1987; and Bandura Theory of Self-efficacy, 1977.

The study adopted survey research type. Population of the study consisted of two thousand, three hundred and twenty-seven (2,327) OTM students of public polytechnics in the South-west, Nigeria during 2022/2023 academic session. Proportionate stratified sampling technique was used to select 341 sample size that was determined with the use of Taro Yamane's sample size determination technique. A set of questionnaire tagged LOPAPGISES, with five sections was used for data collection. The instrument was administered by the researcher and three research assistants through personal contact. Both descriptive statistics (mean and Standard Deviation) and inferential statistics (regression analysis) were used for data analysis. All formulated hypotheses were tested at 0.05 level of significance. The finding of study could be summarized as follows:

1. The level of learning outcomes of Office Technology and Management students in public polytechnics in South-west, Nigeria, is high.
2. The level of perceived academic performance of Office Technology and Management students in public polytechnics in South-west, Nigeria, is high.

3. Personal explicit and societal explicit gender stereotypes relate to Office Technology and Management students in public polytechnics in South-west, Nigeria.
4. The magnitude and strength of self-efficacy of Office Technology and Management students in public polytechnics in South-west, Nigeria, is high.
5. There is significant negative influence of gender stereotypes on learning outcomes of OTM students in public polytechnics, in South-west, Nigeria.
6. There is a significant negative influence of gender stereotypes on perceived academic performance of OTM students in public polytechnics, in South-west, Nigeria.
7. There is a significant positive influence of self-efficacy on learning outcomes of OTM students in public polytechnics, in South-west, Nigeria.
8. There is a significant positive influence self-efficacy on perceived academic performance of OTM students in public polytechnics, in South-west, Nigeria.
9. There is a significant combined influence of gender stereotypes and self-efficacy on learning outcomes of OTM students in public polytechnics, in South-west, Nigeria.
10. There is a significant combined influence of gender stereotypes and self-efficacy on perceived academic performance of OTM students in public polytechnics, in South-west, Nigeria.

5.2. Conclusion

Achieving required learning outcomes in Office Technology and Management students is important for determining the quality of the educational programme. The level at which learning outcomes are attained determine the level of professionalism of the OTM students. Also, the level of perceived academic performance directly reflects the actual academic performance which has a lot to do with the quality of graduates injected into the labour market to manage the contemporary offices. A number of factors are capable of influencing the levels of learning outcomes and perceived academic performance of the OTM students, including gender-based stereotypical beliefs and self-efficacy of the students. Based on the findings of this study, it was concluded that explicit gender-stereotypes has correlation with learning outcomes and perceived academic performance, and that gender stereotypes has statistically significant negative influence on learning outcomes and perceived academic performance of OTM students in public polytechnics in South-west, Nigeria. It could also be concluded, from the findings, that self-efficacy has significant positive influence on learning outcomes and perceived academic performance of OTM students. This study also concludes that gender stereotypes and self-efficacy have combined significant influence on both learning outcomes and perceived academic performance of OTM students in public polytechnics in South-west, Nigeria.

5.3. Recommendations

Based on the findings and conclusion of this study, it could be recommended that:

1. Office Technology and Management students should be aware of negative influence of gender stereotypes on their academic performance and be wary of endorsement of any form of gender stereotypes relating to their profession.
2. Office Technology and Management students should redirect efforts towards boosting their self-efficacy level in order to experience boosts in attainment of very high level of learning outcomes required for professional competence.
3. Both students and lecturers of Office Technology and Management should target improving the level of students' self-efficacy for improved academic performance to be at competitive advantage in the labour market and to boost the image of OTM programme in terms of quality.
4. Employers of labour should avoid gender bias and stereotypical belief regarding office profession as such affects learning outcomes and perceived academic performance of students negatively.
5. Policy makers for Office Technology and Management programme, National Board for Technical Education, should be aware of the influence of students' self-efficacy on learning outcomes and make appropriate decisions and policies that will enhance the level of students' self-efficacy.

5.4. Contributions to Knowledge

This study offers significant contributions to knowledge by providing information on the levels of learning outcomes and perceived academic performance of Office Technology and Management students in public polytechnics in South-west,

Nigeria. The study provided information on the gender-based stereotypical beliefs relating to office management profession. The study showed that personal explicit and societal explicit gender stereotypes are stereotype endorsements related to office management professions. The study contributed to body of empirical literature on the influence of explicit gender stereotypes on learning outcomes and perceived academic performance of students, and the influence of self-efficacy on students' learning outcomes and PAP.

Theoretically, the findings of the study strengthened the proposition of Alice Eagly's social role theory that gender stereotypes influences behaviours. The findings of this study that showed positive significant influence of self-efficacy on learning outcomes and perceived academic performance contributes to theoretical knowledge that high sense of self-efficacy will enhance hard work and persistence towards achieving success. The findings of the study strengthened Bandura's Self-efficacy Theory that postulated that self-efficacy expectations are powerful determinates of behavioural changes in a person towards achieving desired outcome/success.

Also, the conceptual model for this study offers conceptual contribution to knowledge as it presented interactions between two dependent variables (learning outcomes and perceived academic performance) and two independent variables (gender stereotypes and self-efficacy). This could be adapted by future researchers. It also provided literature on the combined influence of gender stereotypes and self-efficacy on both learning outcomes and perceived academic

performance of Office Technology and Management students in public polytechnics which hitherto has been relatively scarce in the existing body of literature.

The study significantly contribute to knowledge by providing practical information for students, teachers, employers of labour and policy makers on ways of improving learning outcomes and boosting perceived academic performance of Office Technology and Management students in public polytechnics in South-west, Nigeria.

5.5. Suggested Areas for Further Research

1. This study investigated explicit type of gender stereotypes and how it influenced learning outcomes and perceived academic performance of Office Technology and Management students, further studies could be carried out to cover implicit type of gender stereotypes and how it influences learning outcomes and academic performance of students.
2. The study explored influence of self-efficacy on learning outcomes and perceived academic performance of the polytechnic students, but did not consider what may likely influence self-efficacy of the students. Further studies may, therefore, consider factors that can develop and influence self-efficacy of polytechnic students including students of Office Technology and management.
3. The current study employed descriptive research of survey type to determine the levels of learning outcomes and perceived academic

performance of the students, future researcher may employ experimental research design to measure learning outcomes and actual academic performance of OTM students.

4. This study was also carried out OTM students in the public polytechnics in South-west, Nigeria, further studies may be carried out in both public and private polytechnics for comparative analysis and may include other disciplines other than Office Technology and Management.

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Appendix I

Lead City University, Ibadan
Faculty of Communication and Information Sciences (FCIS)
Department of Information Management

Office Technology and Management Students' Learning Outcomes, Perceived Academic Performance, Gender Issues and Self-Efficacy Scale (LOPAPGISES)

Dear Respondent,

I am a Post-graduate student of the above-named institution gathering data for the purpose of academic research on the topic “Gender Stereotypes and Self-Efficacy on Learning Outcomes and Perceived Academic Performance of Office Technology and Management Students in Public Polytechnics, South-west, Nigeria.” I solicit your optimum cooperation and sincerity in responding to the questionnaire items. Please note that your responses will be kept confidential as they will be used for academic purposes only.

Thank you.

OLUDELE, Lydia Yemisi
Researcher

Section A:

Demographic Information

Sex: Male (), Female ()

Age: Below 18 (), 18 – 25 (), 26 – 30 (), Above 30 ()

Educational Level: ND II (), HND I () and HND II ()

Name of

Institution:

...

SECTION B: Students' Learning Outcomes

Please tick (✓) the appropriate choice that indicates your opinion on the level at which the under-listed learning outcomes occur:

Very High Level (VHL), High Level (HL), Low Level (LL), Very Low Level (VLL)

S/N	Items	VHL	HL	LL	VLL
<i>Expression of Knowledge (Cognitive learning outcome)</i>					
1.	I explain course content to other students.				
2.	I volunteer my opinion in class.				
3.	I feel I have learned a lot in the class to be professionally competent				
4.	I think about the course content outside the class.				
5.	I can compete favourably with students from private polytechnics				
6.	I have knowledge of usage of modern office equipment				
7.	I am aware of problems associated with usage of modern office equipment				
8.	I have knowledge of troubleshooting to find solution to problems associated with usage of modern office equipment				
9.	I know the meaning of common office terms and abbreviations like k.i.v., u.f.s., p.a. etc.				
10.	I know the roles of office managers/secretaries before, during and after a meeting				
<i>Expression of Skills (Psychomotor learning outcome)</i>					
11.	I practice skills learnt in the class when I am outside the class				
12.	I see connections between the course content and my career goals.				

13.	I compare the information from this class with other things I have learned.				
14.	I can effectively operate office equipment to produce mailable documents				
15.	I can load any office application programme on the computer				
16.	I can produce error-free documents using Microsoft Word				
17.	I am capable of electronic file management and organisations				
18.	I am able to use different Office Applications for different office documents				

SECTION C: Perceived Academic Performance Scale (PAPS)

Please tick the appropriate choice that indicates your opinion on the following:

Very High Level (VHL), High Level (HL), Low Level (LL), Very Low Level (VLL)

S/N	Items	VHL	HL	LL	VLL
<i>Learner's behaviour (Actions/academic efforts)</i>					
1.	I pay attention during lectures				
2.	I usually ask questions in class				
3.	I promptly complete and submit assignments				
4.	I frequently participate in class task to achieve my academic goal				
5.	I often respond to questions from the teachers in class				
6.	I study hard for my tests				
7.	I can honestly say that I am really doing my best to achieve academic success				
8.	I always make adequate preparation for examinations				
<i>Academic culture (psychological/emotional observations)</i>					
9.	I cope well with academic task/rigours				
10.	I dislike disturbances in the classroom				
11.	I enjoy academic stability through the semesters				
12.	I can easily handle examination phobia				
13.	I always express the desire to obtain good grades				
14.	I find learning really interesting				

SECTION D: Gender Stereotypes Scale

Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

S/N		SA	A	D	SD
Personal Explicit Gender Stereotype					
1.	Office management profession is more suitable for females than for males,				
2.	Female OTM students easily increase their performances				

	in secretarial skilled courses like shorthand, keyboarding and ICT Office Application than male students.				
3.	Female OTM students are more likely to believe they can be successful in office management career.				
4.	Females OTM students are more interested in careers that are communal (dealing with people) such as office management than their male counterparts				
5.	Females are more comfortable with learning office management skills than males				
Societal Explicit Gender Stereotype					
6.	Females are seen to be more competent in office skill by employers than males				
7.	Females are more popular as secretaries and office managers than males				
8.	Employers believe females are more suited to work as secretaries and office managers than males				
9.	Female are encouraged by people to choose career in secretarial and office management area than males				
10.	Females secretaries are usually expected to do well professionally than males by both teachers and employers				

SECTION E: Self-Efficacy Scale (SES)

Very High Level (VHL), High Level (HL), Low Level (LL), Very Low Level (VLL)

S/N	Items	VHL	HL	LL	VLL
<i>Magnitude of Self-Efficacy (Competence)</i>					
1.	In whatever I do, I strive to attain excellence.				
2.	I can perform very well in any field I get into.				
3.	During exams, I do not feel anxious because I know I can pass the test with high marks				
4.	On the spot recitations does not make me nervous because I can answer them well				
5.	I am convinced that I can master the concepts and topics taught in my class				
6.	Compared with my classmates, I think that I am a better academic performer				
7.	I can get good grades in my written works.				
8.	I can pass my quarterly assessment such as periodical test.				
9.	I am competent to pass all my subjects				
10.	I believe I can get high marks because I deserve it				
<i>Strength of Self-Efficacy (Persistence)</i>					
11.	Despite discouragement from peers, I can still continue to study hard				

12.	In spite of pressures in school, I can continue to maintain my good grades				
13.	When I am having a hard time understanding the lesson, I never stop trying				
14.	Regardless of obstacles, I can keep moving toward my success				
15.	I can try really hard to get through the most difficult subject.				
16.	I can persistently solve problems with regards to my academic subjects.				
17.	I consistently figure out how to do the most difficult class works				
18.	Even if there are many obstacles, I can continue to learn				
19.	I can persistently work to pass all subjects				
20.	Despite obstacles, I am capable of accomplishing my performance goal in my academics				

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Appendix II
Proportionate Distribution of Sample Size

Class Percentage in the Population

S/N	Polytechnic	ND II	%	HND I	%	HND II	%	Total	%
1.	The Polytechnic, Ibadan,	65	31%	70	33%	75	36%	210	100
2.	Adeseun Ogundoyin Polytechnic, Eruwa,	61	52%	24	21%	31	27%	116	100
3.	Federal Polytechnic, Ado-Ekiti	65	30%	96	43%	60	27%	221	100
4.	Osun State Polytechnic, Iree	115	37%	97	32%	95	31%	307	100
5.	Federal Polytechnic, Ede	105	37%	85	30%	96	33%	286	100
6.	Rufus Giwa Polytechnic, Owo	57	27%	65	32%	85	41%	207	100
7.	Federal Polytechnic, Ilaro	73	30%	95	40%	73	30%	241	100
8.	Moshood Abiola Polytechnic, Abeokuta	40	37%	53	49%	16	14%	109	100
9.	Lagos State Polytechnic, Lagos	89	34%	86	33%	86	33%	261	100
10.	Yaba College of Technology, Lagos	163	44%	108	29%	98	27%	369	100
	Total	833	36%	779	33%	715	31%	2,327	100%

Source: Researcher's Fieldwork, 2023

Proportionate allocation of sample by class percentage

S/N	Polytechnic	ND II	%	HND I	%	HND II	%	Total	%
1.	The Polytechnic, Ibadan,	10	31%	10	33%	11	36%	31	100%
2.	Adeseun Ogundoyin Polytechnic, Eruwa,	9	52%	3	21%	5	27%	17	100%
3.	Federal Polytechnic, Ado-Ekiti	10	30%	14	43%	9	27%	33	100%
4.	Osun State Polytechnic, Iree	17	37%	14	32%	14	31%	45	100%
5.	Federal Polytechnic, Ede	16	37%	12	30%	14	33%	42	100%
6.	Federal Polytechnic, Owo	8	27%	10	32%	12	41%	30	100%
7.	Federal Polytechnic, Ilaro	11	30%	13	40%	11	30%	35	100%
8.	Moshood Abiola Polytechnic, Abeokuta	6	37%	8	49%	2	14%	16	100%
9.	Lagos State Polytechnic, Lagos	14	34%	12	33%	12	33%	38	100%
10.	Yaba College of Technology, Lagos	24	44%	16	29%	14	27%	54	100%
Total		125	37%	112	33%	104	30%	341	100%

Source: Researcher's Fieldwork, 2023

Appendix III

SPSS Data Analysis Output

Bio-Data Frequencies

Statistics

		Sex	Age	Class level	Institution
N	Valid	334	334	334	334
	Missing	0	0	0	0

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	125	37.4	37.4	37.4
	Female	209	62.6	62.6	100.0
Total		334	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 18	10	3.0	3.0	3.0
	18-25	208	62.3	62.3	65.3
	26-30	92	27.5	27.5	92.8
	Above 30	24	7.2	7.2	100.0
	Total	334	100.0	100.0	

Institution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The Polytechnic, Ibadan	29	8.7	8.7	8.7
	Adeseun Ogundoyin Poly, Eruwa	17	5.1	5.1	13.8
	Federal Poly, Ado-EKiti	31	9.3	9.3	23.1
	Osun State Poly, Iree	45	13.5	13.5	36.5
	Federal Poly, Ede	41	12.3	12.3	48.8
	Rufus Giwa, Owo	30	9.0	9.0	57.8
	Federal Poly, Ilaro	35	10.5	10.5	68.3
	MAPOLY, Abeokuta	16	4.8	4.8	73.1
	LASPOTECH	38	11.4	11.4	84.4
	YabaTech, Lagos	52	15.6	15.6	100.0
	Total	334	100.0	100.0	

Class level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NDII	121	36.2	36.2	36.2
	HNDI	111	33.2	33.2	69.5
	HNDII	102	30.5	30.5	100.0
	Total	334	100.0	100.0	

Descriptive Analysis

Descriptive Statistics (Learning Outcomes)

	N	Mean	Std. Deviation
LO, Knowledge 1	334	2.80	.899
LO, Knowledge 2	334	2.68	.902
LO, Knowledge 3	334	2.65	.805
LO, Knowledge 4	334	2.72	.770
LO, Knowledge 5	334	2.86	.888
LO, Knowledge 6	334	2.96	.839
LO, Knowledge 7	334	2.78	.695
LO, Knowledge 8	334	2.51	.961
LO, Knowledge 9	334	2.59	.811
LO, Knowledge 10	334	2.95	.712
Total Mean		2.75	
LO, Skills 11	334	2.92	.777
LO, Skill 12	334	2.75	.845
LO, Skills 13	334	2.76	.919
LO, Skills 14	334	2.87	.788
LO, Skills 15	334	2.50	.890
LO, Skills 16	334	2.55	.895
LO, Skills 17	334	2.56	.863
LO, Skills 18	334	2.83	.934
Total Mean		2.71	
Grand Mean		2.73	
Valid N (listwise)	334		

Descriptive Statistics (Perceived Academic Performance)

	N	Mean	Std. Deviation
PAP Learners' behaviour 1	334	3.09	.671
PAP Learners' behaviour 2	334	2.46	.837
PAP Learners' behaviour 3	334	2.89	.832
PAP Learners' behaviour 4	334	2.96	.785
PAP Learners' behaviour 5	334	2.79	.859
PAP Learners' behaviour 6	334	2.68	.807
PAP Learners' behaviour 7	334	2.97	.786
PAP Learners' behaviour 8	334	2.81	.881
Total Mean		2.83	
PAP Academic Culture 9	334	2.72	.734
PAP Academic Culture 10	334	2.74	.799
PAP Academic Culture 11	334	2.62	.685
PAP Academic Culture 12	334	2.54	.982
PAP Academic Culture 13	334	2.75	.863
PAP Academic Culture 14	334	2.64	.858
Total Mean		2.66	
Grand Mean		2.74	
Valid N (listwise)	334		

Descriptive Statistics (Gender Stereotypes)

	N	Mean	Std. Deviation
GS, Personal Explicit 1	334	2.97	1.069
GS, Personal Explicit 2	334	3.07	.916
GS, Personal Explicit 3	334	3.18	.779
GS, Personal Explicit 4	334	3.09	.772
GS, Personal Explicit 5	334	2.72	1.053
		3.00	
GS, Societal Explicit 6	334	3.31	.884
GS, Societal Explicit 7	334	3.17	.712
GS, Societal Explicit 8	334	3.21	.887
GS, Societal Explicit 9	334	3.15	.889
GS, Societal Explicit 10	334	2.85	.936
		3.13	
Grand Mean		3.06	
Valid N (listwise)	334		

Descriptive Statistics (Self-Efficacy)

	N	Mean	Std. Deviation
Magnitude of Self-efficacy 1	334	3.05	.831
Magnitude of Self-efficacy 2	334	2.92	.822
Magnitude of Self-efficacy 3	334	2.98	.816
Magnitude of Self-efficacy 4	334	2.82	.772
Magnitude of Self-efficacy 5	334	2.68	.860
Magnitude of Self-efficacy 6	334	2.54	.868
Magnitude of Self-efficacy 7	334	2.72	.833
Magnitude of Self-efficacy 8	334	2.66	.865
Magnitude of Self-efficacy 9	334	2.76	.655
Magnitude of Self-efficacy 10	334	2.66	.841
		2.77	
Strength of Self-efficacy 11	334	2.99	.657
Strength of Self-efficacy 12	334	2.71	.715
Strength of Self-efficacy 13	334	2.80	.741
Strength of Self-efficacy 14	334	2.55	.843
Strength of Self-efficacy 15	334	2.84	.712
Strength of Self-efficacy 16	334	2.71	.762
Strength of Self-efficacy 17	334	2.60	.772
Strength of Self-efficacy 18	334	2.75	.706
Strength of Self-efficacy 19	334	2.57	.873
Strength of Self-efficacy 20	334	2.82	.724
		2.73	
Grand Mean		2.75	
Valid N (listwise)	334		

Regression Statistics

Gender Stereotypes on Learning Outcomes

Variables Entered/Removed^a

Model	Variables Entered/Removed		Method
	Variables Entered	Variables Removed	
1	GenderStereotype ^b		Enter

a. Dependent Variable: LearningOutcomes

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.307 ^a	.094	.092	.49621

a. Predictors: (Constant), GenderStereotype

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.508	1	8.508	34.553	.000 ^b
	Residual	81.748	332	.246		
	Total	90.256	333			

a. Dependent Variable: LearningOutcomes

b. Predictors: (Constant), GenderStereotype

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.525	.137		25.715	.000
	GenderStereotype	-.257	.044	-.307	-5.878	.000

a. Dependent Variable: LearningOutcomes

Gender Stereotypes on Perceived Academic Performance

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	GenderStereotype ^b	.	Enter

a. Dependent Variable: PAP

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.196 ^a	.038	.035	.56158

a. Predictors: (Constant), GenderStereotype

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.167	1	4.167	13.214	.000 ^b
	Residual	104.704	332	.315		
	Total	108.871	333			

a. Dependent Variable: PAP

b. Predictors: (Constant), GenderStereotype

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.314	.155		21.362	.000
	GenderStereotype	-.180	.049	-.196	-3.635	.000

a. Dependent Variable: PAP

Self-Efficacy on Learning Outcomes

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SelfEfficacy ^b	.	Enter

a. Dependent Variable: LearningOutcomes

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.749 ^a	.562	.560	.34523

a. Predictors: (Constant), SelfEfficacy

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	50.687	1	50.687	425.281	.000 ^b
	Residual	39.569	332	.119		
	Total	90.256	333			

a. Dependent Variable: LearningOutcomes

b. Predictors: (Constant), SelfEfficacy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.606	.105		5.767	.000
	SelfEfficacy	.773	.037	.749	20.622	.000

a. Dependent Variable: LearningOutcomes

Self-Efficacy on Perceived Academic Performance

Variables Entered/Removed^a

Model	Variables Entered	Variables	
		Removed	Method
1	SelfEfficacy ^b	.	Enter

a. Dependent Variable: PAP

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837 ^a	.701	.700	.31337

a. Predictors: (Constant), SelfEfficacy

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76.268	1	76.268	776.636	.000 ^b
	Residual	32.603	332	.098		
	Total	108.871	333			

a. Dependent Variable: PAP

b. Predictors: (Constant), SelfEfficacy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
		1	(Constant)	.149		
	SelfEfficacy	.948	.034	.837	27.868	.000

a. Dependent Variable: PAP

Gender Stereotypes, Self-Efficacy on Learning Outcomes

Variables Entered/Removed^a

Model	Variables Entered/Removed ^a		Method
	Variables Entered	Variables Removed	
1	GenderStereotype, SelfEfficacy ^b		Enter

a. Dependent Variable: LearningOutcomes

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.787 ^a	.620	.618	.32184

a. Predictors: (Constant), GenderStereotype, SelfEfficacy

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55.970	2	27.985	270.174	.000 ^b
	Residual	34.286	331	.104		
	Total	90.256	333			

a. Dependent Variable: LearningOutcomes

b. Predictors: (Constant), GenderStereotype, SelfEfficacy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.291	.137		9.417	.000
	SelfEfficacy	.751	.035	.728	21.406	.000
	GenderStereotype	-.203	.028	-.243	-7.142	.000

a. Dependent Variable: LearningOutcomes

Gender Stereotypes, Self-Efficacy on Perceived Academic Performance

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SelfEfficacy, GenderStereotype ^b		Enter

a. Dependent Variable: PAP

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.846 ^a	.716	.714	.30590

a. Predictors: (Constant), SelfEfficacy, GenderStereotype

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.899	2	38.949	416.248	.000 ^b
	Residual	30.973	331	.094		
	Total	108.871	333			

a. Dependent Variable: PAP

b. Predictors: (Constant), SelfEfficacy, GenderStereotype

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.530	.130		4.065	.000
	GenderStereotype	-.113	.027	-.123	-4.175	.000
	SelfEfficacy	.935	.033	.826	28.071	.000

a. Dependent Variable: PAP

Bio Data

A. Personal Data

Name:	OLUDELE Lydia Yemisi
Sex:	Female
Date of Birth:	3 rd October, 1970
Marital Status:	Married
State of Origin:	Oyo State
Local Government:	ATISBO
Nationality:	Nigeria
Religion:	Christianity
Discipline:	Office Management/Business Education
Place of Work:	Osun State Polytechnic, Iree, Osun State
Number of Children:	3
Ages of Children:	25, 22, 10 Years
Address:	Pastorium, First Baptist Church, Oke-Owode Street, Ikirun, Osun State
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B. Institutions Attended with Dates

Lead City University, Ibadan, Oyo State	2009-2011, 2020 till date
Olabisi Onabanjo University, Ago-Iwoye, Ogun State	2012 – 2015
National Open University of Nigeria, Abuja	2009-2010; 2016-2020
Usman Dan Fodiyyo University, Sokoto	2006-2007
The Polytechnic, Ibadan, Oyo State	1995-1997
Progressive Sec. Grammar School, Tede, Oyo State	1982-1987

Academic Qualifications with Dates

PhD Office Information Management	In-view
M.Ed Business Education (OTM Option)	2015

M.Sc Business Administration (OTM Option)	2011
B.Sc Entrepreneurship & Business Management	2020
PGD Information Technology	2010
PGD Education	2007
HND (Secretarial Administration)	1997
West African School Certificate (WASC)	1987

C. Work Experiences with Dates

Lecturer, Osun State Polytechnic, Iree, Osun State	2006 till date
Confidential Secretary, Osun State Polytechnic, Iree	2001 – 2006
Confidential Secretary, International Oxygen Industry Ltd., Oregun, Lagos.	1999 – 2000
Confidential Secretary, Bartels Nigeria Ltd, Jimeta, Yola, Adamawa State (NYSC)	1997 – 1998

D. Awards and Fellowship - Nil

E. Membership

- Member, National Institute of Office Administrators and Information Managers (NIOAIM).
- Member, Association of Business Educators of Nigeria (MABEN)
- Member, Nigerian Institute of Management (MNIM)

F. Publications

Bello, G. A., **Oludele, L. Y.**, Dosunmu, J. O. & Alao, K. O. *Role of entrepreneurship education in the reduction of unemployment among graduates in Osun State.* **Living Spring Journal**, 1(1), 2023, pp.96-115.

Oke, J. O. & **Oludele, L. Y.** *Availability and utilization of paperless technology among staff of technical colleges in Osun State, Nigeria.* **Journal of Contemporary Issues and Thought**, 13(2), 2023, pp.23-31.

- Adenekan, T. E. & **Oludele, L. Y.** *Digital technology and paperless office management in the polytechnics in Osun State, Nigeria.* **Uniosun International Journal of Business Administration (UIJBA)**, 6(1), 2022, pp.73-82.
- Oke, J. O. & **Oludele, L. Y.** *Utilization of paperless technology as predictor of staff performance in technical colleges in Osun State, Nigeria.* **Online Journal for TVET Practitioners**, 7(1), 2022, pp.41-48. <https://doi.org/10..30880/ojtp.2022.07.01.005>
- Ezeani, N. S. & **Oludele, L. Y.** *Digital competencies as correlate of secretarial personnel efficiency in Osun State Polytechnic, Iree.* **Nigerian Journal of Business Education (NIGJBED)**, 9(3), 2022, pp.126-133.
- Ezeani, N. S. & **Oludele, L. Y.** *Executives' appraisal of professional competence of Office Technology and Management graduates in Osun State Polytechnic, Iree.* **International Business Education Journal**, 14(2), 2021, pp.1-12. <https://doi.org/10.37134/ivej.vol14.2.1.2021>
- Oludele, L. Y.** & Bello, G. A. *Compliance to office ethical standards as panacea to corruption in the public service.* **Ede Journal of Business (EJOB)**, 8(1), 2021, pp.108-116.
- Bello, G. A. & **Oludele, L. Y.** *Effectiveness of business education in achieving national development.* **Ede Journal of Business (EJOB)**, 8(1), 2021, pp.157-166.
- Banjo, A. O. & **Oludele L. Y.** *Technical and vocational education and training as a tool for creating a production-oriented economy in Nigeria.* **Journal of Women in Technical Education and Employment (JOWITED)**, The Federal Polytechnic Ilaro Chapter. 1(1), 2020, pp.199-205.
- Ogundipe, T. J., **Oludele, L. Y.** & Ademiluyi, A. B. *Employers' perception of employability skills needed by Office Technology and Management graduates.* **International Journal of Media, Security and Development (IJMSD)**, 6(1&2), 2020, pp.121-128.
- Ademiluyi, A. B, Dosunmu, J. O. & **Oludele, L. Y.** *Entrepreneurship education as an instrument of poverty alleviation, national security and sustainable development.* **Journal of Women in Technical Education and Employment (JOWITED)**, 7(1), 2019, pp.79-88.
- Oludele, L. Y.**, Akande, R. A. & Ademiluyi A. B. *Entrepreneurship education: Viable tool for addressing insecurity situation in Nigeria.* **Journal of Women in Technical Education and Employment (JOWITED)**, 7(1), 2019, pp.62-69.

Bello, G. A., **Oludele, L. Y.** & Ademiluyi, A. B. *Challenges associated with implementation of Office Technology and Management curriculum in Osun State Polytechnic, Iree.* **International Journal of Business and Workplace Education (INJBWED)**, 1(2), 2017, pp.131-150.

Oguntimehin, Y. A. & **Oludele, L. Y.** *Personnel's Perception of Continued Relevance of Shorthand and Typewriting Skills to Office Management in Osun State-owned Tertiary Institutions.* **British Journal of Education**, 5(3), 2017, pp.60 – 68.

Oludele, L. Y., Bello, G. A., Agwatu, C. O., & Folorunso, I. O. *Office Technology and Management curriculum and the challenge of professionalism in contemporary secretarial practice.* **International Journal of Business and Workplace Education (INJBWED)**, 1(2), 2017, pp.53-71.

Bello, G. A., **Oludele, L. Y.** & Ademiluyi, A. B. *Influence of ICT on teaching and learning process in Nigerian education.* **Nigerian Journal of Business Education**, 3(1), 2016, pp.189-197.

Folorunsho, I. O. & **Oludele, L. Y.** *Alternative sources of funding ICT resources for Office Technology and Management programme in polytechnics in Osun State.* **Journal of Professional Secretaries and Office Administrators**, 22(1), 2014, pp.266 – 276.

Oludele, L. Y. & Dosunmu, J. O. *Effective curriculum implementation: pathway to quality assurance in Office Technology and Management.* **Association of Business Educators of Nigeria, Book of Readings**, 3(1). 2013, pp.41 – 45.

Oludele, L. Y. *Integrating information and communication technology in the training of professional secretaries: Issues and prospects.* **Educational Periscope**, 2. 2008, pp.21 – 32.

Oludele, L. Y. *Secretarial education as instrument of self-reliance and nation building.* **Journal of Business Education (JOBE)**, 3(1), 2007, pp.346 – 355.

G. Major Conferences Attended with Dates

1st Conference of National Institute of Office Administrators and Information Managers (NIOAIM) at International Conference Centre, Lead City University, Toll Gate Area Ibadan, Oyo State between 7th and 10th February, 2022.

33rd Annual National Conference of Association of Business Educators of Nigeria (ABEN), Kogi State Polytechnic, Lokoja, October 13-15, 2021.

18th Annual National Conference (Virtual) of School of Business Studies, Federal Polytechnic, Ede, held between 2nd and 4th September, 2020.

1st National Conference of Women in Technical Education and Employment (WITED), Ilaro Chapter held at International Conference Centre FPI between 13th and 16th August, 2019.

7th WITED National Conference held at Federal Polytechnic, Nekede, Owerri, Imo State between 13th and 16th March, 2018.

International Conference of the Institute of Business and Office Administrators of Nigeria held at Assembly Hall, The Ibarapa Polytechnic, Eruwa, Oyo State, between 9th and 11th August, 2017.

OTM Conference of Institute of Business and Office Administrators of Nigeria at the Polytechnic, Ibadan, Oyo State. September 7 – 8, 2016.

Annual National Conference of Faculty of Information and Communication Technology, Osun State Polytechnic, Iree, September 7-11, 2015.

27th Annual National Conference of Association of Business Educators of Nigeria (ABEN) held at ETF Lecture Theater, Osun State Polytechnic, Iree, October 12-16, 2015.

1st International Multidisciplinary Conference, Centre for Gender Studies, Auchi Polytechnic, Auchi, Edo State. March 10 – 13, 2014.

Three-day Workshop on Computer Science/Information Technology Research and Development, Nigeria Computer Society, held at Obafemi Awolowo University, Ile-Ife, Osun State between March 4-6, 2014.

24th Annual National Conference of Association of Business Educators of Nigeria (ABEN) at Federal Polytechnic, Nekede, Owerri, Imo State. 16th – 20th October, 2012.

22nd Annual National Conference of the Association of Business Educators of Nigeria (ABEN) at Federal College of Education, Osiele-Abeokuta, Ogun State. October 12-16, 2010.

8th Annual National Conference of Nigerian Association of Educationists for National Development (NAEND), at Osun State Polytechnic, Iree, February 6-8, 2007.

H. Referees

1. Dr. O. Olaniran,
Former Rector,
Osun State Polytechnic,
Iree, Osun State.
2. Prof. N. S. Ezeani.
Faculty of Education,
Ekiti State University
Ado Ekiti.
3. Prof. Y. A. Oguntimehin
Faculty of Education
Olabisi Onabanjo University,
Ago-Iwoye
Ogun State.



Signature

7rd November, 2023

Date

Do Not Copy, Lead City University, Nigeria

The University Compliance Certification

This is to certify that this Thesis written by **Lydia Yemisi OLUDELE** with Matriculation No. **LCU/PG/001987** in the department of Information Management of the Faculty of Communication and Information Sciences, Lead City University, Ibadan is in full compliance with the approved University format and style.

Signature

Date

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