

**IMPACT OF PERSONALITY TRAITS AND INTELLIGENCE ON ACADEMIC
ACHIEVEMENT AMONG NCE STUDENTS OF FEDERAL COLLEGES OF
EDUCATION IN NORTH- WEST, NIGERIA**

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DEDICATION

This Dissertation is dedicated to my Parents Alhaji Hassan Idris, (late), Hajiya Shema'u and my entire family members.

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Alhamdulillah, Alhamdulillah, Alhamdulillah, for his favor and bounty that complete the good deeds, the most gracious the most merciful. I seek the almighty Allah's refuge from vanities and sins I commit. May Allah continue to shower his blessing upon his servant and messenger Muhammad peace be upon him, his companions and all the members of his progeny to the day of resurrection. May Allah also continue to shower his blessings upon my parents, teachers at all levels and my entire progeny.

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LIST OF ABBREVIATIONS	PAGE
FCEs.....	Federal Colleges of Education.
NCE.....	Nigeria Certificate in Education.
BFPTI.....	Big Five Personality Traits Inventory.
MII.....	Multiple Intelligence Inventory.
CGPA.....	Cumulative Grade Point Average.
AA.....	Academic Achievement.
Ho.....	Null Hypotheses.

Operational Definitions of Terms:-

Personality Traits:- Means Agreeableness, Conscientiousness, Extroversion, Neuroticism and Openness to experience as measured by UC Berkeley Big Five Personality Inventory

Intelligence: Linguistic, Mathematical, Kinesthetic, Musical, Interpersonal, Intrapersonal and Spatial Intelligence as measured by Sheila Halasz Multiple Intelligence Inventory

Academic Achievement:- NCE111 Result as measured by Cumulative Grade Point Average(CGPA) for 2016/2017 Academic Session

ABSTRACT

This study investigated the impact of personality traits and intelligence on academic achievement among NCE students of Federal Colleges of Education, (FCEs) North-West, Nigeria. Seven research objectives with their corresponding research questions and hypotheses were formulated to guide the study; an Expost-facto was used as a research design. The population consisted of 16426 out of which 370 were sampled as advised by Research advisors (2006) while multi- stage sampling was employed as sampling technique. An adapted version of U. C Berkeley big five personality inventory (BFPTI) together with a multiple intelligence inventories (MII) were used as data collection instruments, the (BFPTI) has original validity of $r.783$. while the second instrument has original validity index of $r.773$. The researcher revalidated the instruments via a pilot test carried out on 50 sample, thus content/construct validity of the Instruments were re obtained, $r.0.86$ and $r.0.71$ respectively, while the reliability index obtained via Cronbach's alpha is $.754$ (BFPTI) and $.717$ for the (MII). Cumulative grade point average of (CGPA) was used to assess academic achievement (AA). The data collected was analyzed via PPMC, T- test and Anova. Hypotheses one to five looked for relationship between (AA) with each components of the (BFPTI), while hypotheses six and seven determined the gender differences on intelligence, as well as difference on intelligence among the students of (FCEs) under study respectively. The findings revealed that five out of the seven hypotheses have no significant relationship with AA, while two remaining null hypotheses were rejected, on these bases It was therefore concluded that extraversion out of the big five components has significant relationship with (AA) while the findings on the remaining four components revealed that they are not significantly related with (AA). The study also conclude that there is a significant difference on intelligence between the gender, and also found that there is no significant difference on intelligence among the students of (FCEs) under study. Based on these findings it's recommended that students should be guided to seek admission to higher institutions in the areas that will commiserate with their personality and intelligence types. Government and the colleges' administrators should re assess the infrastructural facilities and teachers quality to ensure uniform standard and optimum output among the FCEs, a dedicated help desk centre for attending students with low AA, should be established by colleges to enable the students channel their academic challenges for guidance. Emphasis on gender equality should be encouraged in the colleges through extra curricula activities that will carry both male and female together.

Chapter One

INTRODUCTION

1.1 Back ground to the study

The insatiable desire of educational psychologists over the years to see that learning is taking place in a seamless and stress free situations that can culminate to excellent academic achievement made them to propose number of theories on intelligence and personality, their postulations (theories) made attempt to provide an insight about human behaviors, feelings, and actions among others, they are also meant to serve as a guide for all the stakeholders in education(Parent, Teachers, Administrators, students psychologist and counsellors) to have better understanding about the students who are the focal point of learning for optimum academic achievement. Theories Like that of intelligence and personality all contended that students must not be over burden unnecessarily, hence the need to consider the individual peculiarity in terms of intelligence and personality for better academic achievement.

This research is set out to investigate the impact of personality traits and intelligence on academic achievement among NCE students of selected Federal Colleges of Education in North –West Geo Political Zone Nigeria. The researcher developed interest to undertake this work from the personal experiences of what is happening in our society with regards to prevalence of low academic achievement among students particularly in higher institutions of learning. Even though, there has been a dramatic increase in the students' enrolment to various institutions of learning which is supposed to manifest positive development on the students' personality dispositions and high intellectual ability, but unfortunately, the low level of students mental abilities as well as low academic

achievement are increasing, in fact this has been of enormous concern to the parents, teachers, government and the entire community at large. In addition to this, the researcher observed that the situation look like the government and parental investment in education for sound personality formation, and academic excellence for youth have failed and turn out to yield otherwise; this concern among other things is also part of the motivating factor that triggers for this study.

The researcher also observed that too much emphasis has been placed on the Academic Achievement of the Students by Parent and Teachers to the extent this emphasis is creating anxiety, fear, depression and unnecessary pressure on the students which also affect students mental processing and abilities to attain high academic achievement. parents now a day in their quest to help their Children to get lucrative job after graduating from higher Schools are in fun of choosing/ selecting areas of study for their children without paying due considerations to the personality and intelligence types of the children. This lead to inappropriate placement of students which can create learning difficulties poor academic achievement and in some circumstances drop out from studies. They also believe that children must pass and score higher grade in their academic achievement or examination, while on the other hand the theories of intelligence (such as the multiple intelligence theory) explained to us that intelligence is not only the ability to do well in written examination or test

In the light of the above the researcher opines that some parent and teachers don't appreciate that there are different types and measures of mental abilities beyond just passing an examination; for instance, some students may be good in other areas rather than the area of reading, writing or calculation which are normally determined by

outcome of the students' examination. Psychologists like Gardner, McKenzie argued that some people do have artistic intelligence and therefore need not necessarily force to understand math or any long essay, while some is an entrepreneur who doesn't care about English or history. All the stakeholders in the system of education believe that if students did not get top marks after classroom examination that student is not great, and has no self confidence and determination, we also look at the failure in examination or low academic achievement like something that takes away the talent and dreams of students, which in reality is not actually the case as the common Adages says "examination is not the true test of knowledge' this implies that students should be guided/ allowed to make choices when it comes to the area of specialization as the they are likely to make choices that will commiserate with their intelligence and personality types.

This observation has also been buttressed by Padma's (2000) while he opines that:-

The world is becoming more and more competitive, quality of performance has become the key factor for personal progress, parents desires their children to climb the ladder of performance to as high level as possible, the desire for a high level of achievement and general educational system itself, in fact it appear as if the whole system of education revolves around the academic achievement of students, though various other outcomes are also expected from the system. (p. 2).

From the review of the above, it can be inferred that, other areas of human intelligence and talent such as the spatial intelligence, bodily and kinesthetic intelligence among others which are expected to be developed in the students by the educational system have been neglected due to too much emphasis on academic achievement. Many Stake holders in our society seems to have forgotten that for all-round development of

individual all aspects of development physical, social, moral, intellectual and psychological must be accorded serious attention and equal importance, while emphasis on one aspect to the detriment of others will yield nothing rather than producing half baked Individual who may eventually become troublesome and disastrous to the society. This is the current situation in Nigeria, and hence the need of research in this area with a view to outline and delineate on the importance of taking into cognizance the students' personality and intelligence types and their relationship with academic achievement in Nigerian context in general and among the Students of Federal Colleges of Education in the North- West, Nigeria.

1.2 Statement of the Problem

Academic achievement remains instrumental to the overall development of students in particular and to the National development at large. This factor is therefore a very important aspect that attracts attention at all levels of education. In Nigeria's educational system academic achievement remains the yardstick for students' progression in terms of promotion or and demotion, it is also a yardstick for effective and quality instruction and also a means for determining level of student's mental ability and the quality of his education, as well as the quality of the entire educational system of the nation at large. These importance of academic achievement notwithstanding, it is obvious that academic achievement of students has been fallen down below standard over the years, For instance academic achievement for students of Federal College of Education Zaria revealed that in 2014 the percentage of students who graduated was 58% while 46% had graduated in 2015, thus depicts a down ward trend on the students academic achievement, therefore the question remains on the factors that impact on the academic

achievement. It is a known fact in psychology that number of factors determines the levels of students' academic achievement, and a lot of researches have been conducted on academic achievement at various levels of education. However of all the studies carried out, to the best knowledge of the researcher little attention has been given to personality and intelligence in relation to the academic achievement of NCE students in the North West Federal Colleges of Education.

The researcher observed that most of the previous studies in these areas like the one conducted by Muhammad (2006) and Garba (2010) focused on the University students. Hence the need to bridge this gap and augment the work of those researchers who have conducted such studies on some University students in the North- West, Nigeria by cascading the study to Federal Colleges of Education in this area.

In addition to this, there is also the need of comparative research that will determine the differences on intelligence between male and female students among the NCE students of Federal Colleges of Education in the North –West Geo Political Zone as the researcher could not lay his hand on any of this type of study. Hence the need to extend the frontier of knowledge in this regards.

The divergent nature of Federal Colleges of Education as a multi cultural, religious and ethnic society which housed young adults with different upbringing in terms of personality formation, training, perception and thinking among others also gives a room for the researcher to cover and assess intelligence and academic achievement of students who are from various cultural background and parental upbringing. Hence a unique gap to cover by this research.

The researcher also desired to extend the frontier of knowledge by studying the Impact of Two independent psychological constructs (Personality and Intelligence) simultaneously in relation to the students' academic achievement among the students Federal Colleges of Education in the North-West, Nigeria. Many researchers have previously treated these constructs in relation to academic achievement separately. Hence the need to expand the literature in personality, intelligence in relation to academic achievement in this approach.

Additionally the researcher has not been able to lay hand on any literature that looked into the recent parental attitudes of choosing or rather imposing area of specializations on their children without considering the personality and intelligence types of the students, this over the years have not only affected the parental , governmental and students' desire to attain higher academic achievement but also affected the desire of producing intelligent and productive citizens who will not only positively, but efficiently contribute to the attainment of national goal after undergoing School . Thus signifies a huge failure in relation to one of the nations' general objectives as enshrined in the Revised National Policy on Education (NPE 2013) which stated "Education is an instrument for national development." Hence the need of research to delineate on need for considering the personality and intelligence types of students for excellent academic achievement, which can eventually lead to the attainment of the above national goal.

Whatever is obtainable in terms of poor academic achievement in our institutions of learning, it is a general concordance that institutions of learning are meant for effective personality formation and transformation and also saddle with the responsibility of inculcating knowledge and develop mental ability of individual so that they attain higher

academic excellence and become useful members to the society and world at large. Based on the Problems stated above, the major concern and focus of this research are to add knowledge by looking and studying the myopic academic capabilities being displayed by the students of Federal Colleges of Education in the North- West, Nigeria from purely Psychological Perspective, which was done in the context of personality and intelligence constructs in relation to the students' academic achievement , and to also establish whether there are variations on intelligence and academic achievement among the NCE students of the area under study; that is to explore whether there is difference on intelligence and academic achievement among the students. This in addition to the researcher's desires to find out the gender differences on intelligence and academic achievement between male and female students of the Federal Colleges of Education in the North-West, Nigeria.

1.3 Objectives of the Study

The following research objectives have developed to guide the study

1. To find out the relationship between agreeableness and academic achievement among the NCE students of Federal Colleges of Education in the North-west, Nigeria.
2. To find out the relationship between conscientiousness and academic achievement among the NCE students of Federal Colleges of Education in the North-west, Nigeria.
3. To find out the relationship between extraversion and academic achievement among the NCE student of Federal Colleges of Education in the North-west, Nigeria.
4. To find out the relationship between neuroticism and academic achievement among the NCE students of Federal Colleges of Education in the North-west, Nigeria.

5. To find out the relationship between openness to experience and academic achievement among the NCE students of Federal Colleges of Education in the North-west, Nigeria.
6. To find out difference on intelligence between male and female students of Federal Colleges of Education in the North-west, Nigeria
7. To find out difference on Intelligence among the students of Federal Colleges of Education in the North-west, Nigeria

1.4 Research Questions

The following research questions have been formulated in line with the research objectives:

- 1 Is there any relationship between agreeableness and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria?
- 2 Is there any relationship between conscientiousness and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria?
- 3 Is there any relationship between extraversion and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria?
- 4 Is there any relationship between Neuroticism and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria?
- 5 Is there any relationship between openness to experience and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria?

6. Is there any difference on intelligence between Male and Female Students of Federal Colleges of Education in the North-West, Nigeria?

7. Is there any difference of intelligence among the students of Federal Colleges of Education in North-West, Nigeria?

1.5 Hypotheses

The following research hypotheses have been drawn and tested at 0.05 level of significance:

Ho₁ There is no significant relationship between agreeableness and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria.

Ho₂ There is no significant relationship between conscientiousness and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria

Ho₃ There is no significant relationship between Extraversion and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria

Ho₄ There is no significant relationship between Neuroticism and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria

Ho₅ There is no significant relationship between openness to experience and academic achievement among NCE students of Federal Colleges of Education in the North-West, Nigeria

Ho₆ there is no significant difference on intelligence between male and female students of Federal Colleges of Education in the North-West, Nigeria

Ho₇. There is no significant difference on intelligence among the students of various Colleges of Education in the North-West, Nigeria

1.6 Significance of the Study

The findings of this research is of enormous importance to educational practices, theories and policy making, in fact it is relevant to all the stakeholders in the educational sector, namely, the school administrators, parent, teachers, students, counsellors and the psychologists, however in a more specific terms the study will be relevant to them as follows.:-

The school administrators of our high institutions of learning would immensely benefit from this research because it has provided with issues related to choosing area of specialization of students because the findings, will influence the administrators of the Institution to provide admission criteria or select candidate in line with mental abilities and personality traits to commensurate with their areas of specialization, thus will promote academic excellence, reduce stress and dropout as well as poor academic achievement.

Parent on the other hand will equally benefit from the findings of this work as they will get to know and have deeper understanding about the intelligence / personality types of their children and the variations of individual on intelligence and personality traits and the antecedents' educational implication or its relationship with academic achievement.

The research will also help students to understand their personality as well as their intelligence types or mental ability they possessed which are very consequential to their academic achievement; this will assist them to make necessary adjustment in the areas of their weakness for better academic achievement

Teachers who misunderstand some students due to certain personality traits and differences on intelligence could have enough guide to understand them fully from the findings of this work ,this misunderstanding normally lead to under achievement of students as highlighted by Johnson (2000) that:

“Certain personality traits and global learning styles were placing students in across-wind with traditional teachers and class room environments, and these factors were contributing to under achievement in academic performance”(P.7)

Psychologists could also benefit from this research as it further explored the Psychometric Properties of the big five personality traits and intelligence as an additional index to their global acceptability and applicability, this could add value to stability and credibility of Theories on this two important areas of psychology.

The school counsellors could also benefit immensely from this research if they are to discharge their duty efficiently, hence deductive findings and suggestions from this study could provide them with basic information about students’ personality type different intelligence of students’ mental abilities and their consequences on students’ academic achievement. Thus could make their work of counselling meaningful and efficient as they deal with issues that borders around personality, intelligence, and underachievement of students on daily basis.

1.7 Scope and Delimitation of the Study

This study specifically targeted 2016/2017 NCE 111 Students from the selected Federal Colleges of Education in the North Western Region of Nigeria, since their Cumulative Grade Point Average (CGPA) can easily be obtained by the researcher. The research also aimed at exploring the components of big five personality traits Theory (extroversion, agreeableness, openness to experience, neuroticism and conscientiousness) despite the fact that there are a lot of traits theories of personality. Intelligence in this study has been confined to multiple intelligence points of view, (Linguistic, Mathematical, Bodily and Kinesthetic, Musical, Interpersonal, Intrapersonal and Spatial Intelligence). Thus this research is not considering the view of other theories of intelligence like the General factor / Unitary Theory of intelligence which sharply contradict the view of Howard Gardner's theory of multiple intelligence.

The researcher on the other hand excluded NCE two and one students because the researcher intended to use the cumulative grade point average (CGPA) of students for some years of studies which NCE one students for example don't have as they are newly admitted to the colleges under study. It is worth noting that the sample of the study did not include post graduate and the under graduate students, notwithstanding that some of the Federal Colleges of Education offer degree programme and Post graduate diploma in education.

Chapter Two

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter is devoted to the review of literature that relates either directly or indirectly to the topic, it has been presented on the following sub headings:-

Conceptual frame work, (provided the meaning of personality, intelligence, and academic achievement.), Theoretical frame work delineates on theories and empirical studied that are related to the variables of the topic thus; theories of personality and intelligence, were discussed.

2.2 Conceptual Framework

2.2.1 Personality

Studies of Personality has a very long History, it started long from the Ancient era of Greece and Spartan Scholars such as Plato, Aristotle, Descartes and Machiavelli among numerous other philosophers and writers who explored human personality in their Books, many of their work revealed compelling insight in to the human psychology. In the same vein modern theorists of personality to a large extent echo the theories set forth by the earlier Thinkers.

Conceptualization of the term personality could fill an entire Book with elegant divergent definitions, most would bear the family resemblance to one another, but no two would be completely concordant, the question is how a term that is used by professionals and lay men on daily basis not has a standard definition? Perhaps the variation exists for that very reason.

According to Datti, Adam and Sanusi (2015) “the term Personality is derived from a Latin word “Persona” Meaning a “MASK”. The origin of the word goes back to the Ancient Greek Actors where they use to wear Mask in playing a Drama to hide their Identity in order to represent a different character.” (P.55) Personality is a thing of quality that is possessed by all of us; we can paste labels such as -Fine, Good or Poor and a host of other similar characteristics of individual. Remarks like look at that young man, what a fine personality he has, or she has such a fine personality implies that personality is qualitative in nature. Psychologically the concept of personality goes further deeper than mere physical appearance or outward behavior as it comprehends in addition to the above innate tendencies of human being. Below are few definitions of Personality from various experts.

Encyclopedia Americana defines personality as “the sum patterns of thinking, feeling and behavior that are characteristics of a person.”An oxford dictionary of psychology (2009) defines personality as “The sum of total of the behavior and mental characteristics that are distinctive of an individual.”Slavin (2006) opines that personality is a pattern of enduring distinctive thoughts, emotions, and behavior that characterized the way individual adapt to the world.

Watson the father of behaviorism viewed personality on the basis of behavioral perspectives and concluded that Personality is the sum of activities that can be described by actual observations over a long enough period of time to give reliable information. (Watson 1970; pp .78) However, Mangal (2012) criticized Watson view where he argues that he tried to make the word personality synonymous with the consistent behavior patterns of individual and this however reflected a narrow meaning of personality.

Morton (1929) attempted to offer a broader view by accepting both the role of environmental and hereditary factors in constituting what is termed as personality in his word Personality is the sum of total biological innate disposition, impulses, tendencies and the dispositions and tendencies acquired by experiences” Mangal (2012) also criticized Morton’s position on the ground that it does not present an integrated and organizational view of personality, they argued that personality cannot be described by merely summing up the various element involved in it, and if this definition is accepted it would be like describing a house as only collection of bricks.

He further maintained “The inability of various existing definitions to describe personality in acceptable term, led Allport to engage in trying to discover some useful definitions after evaluating forty nine such definitions, he concluded.“Personality is a dynamic organization within the individual of those psycho- physical systems that determine his unique adjustment to his environment.” (Allpot, 1948:pp.28,49.)

In spite of Allport’s effort to offer a comprehensive definition of personality, Cattell (1973) argued that Allport view suffered some serious defect in emphasizing the dynamic organization within the individual, he seems to view personality as somewhat different from individual residing within him, rather than as an integrated unity of mind and body, he added that personality to them is like something put into the individual like water is put into a jug and it takes shape of the jug. It’s against this background that he further opines “Personality is that which permit a prediction of what a Person will do in a given situation”.

Weeknight, Wright and Luciano (2008) defined personality as “An individual’s unique constellation of consistent behavioral Traits, “Magnitude (2004) explains that “Personality is an individual’s habitual way of thinking, feeling, perceiving and reaction to the world “

On the other hand Eysenck (1971) says” Personality is the more or less stable and enduring organization of a person’s character, temperament, intellect and physique which determine his unique adjustment to the environment.”

In an effort to digest Eysenck view Mangal (2012) explained

“Eysenck has very strong point, in its favor: first, it tries to provide Personality with Physiological base and give balanced consideration to the role of heredity and environment in building the personality. Secondly it gives a complete picture of human behavior by involving all of its integration and organization of the behavioral characteristics. Finally it aims at making personality somewhat measurable and assessable, thus giving it scientific base.

Farrington and Jolliffe (2001) defined personality traits as “persistent underlying tendencies to behave in a particular situation.” Reveille (2013) viewed personality traits as the coherent pattern of affect, cognition and desire (goals) as they leads behavior.’ From Reveille point of view we caninfer that personality trait comprised of series of affects such as the attitude and habit of individual as well as his cognition which consists of the ability of one to analyze synthesize and evaluate a given situation, that culminate to his reaction for satisfying his desire.

Fromm (1974) maintained that personality trait is the totality of individual physical qualities which includes temperament, one's mode of reaction and character and two objects of one's reaction. Thus personality consists of observable behaviour, and is also intrinsic. Cartwright (1979) aligned the term to the psycho-analytical theory propounded by Sigmund Freud, personality trait is made of three major system –“Id,” Ego” and Super –ego as the human behaviour is the product of interaction among these system.

Schiever and Weintraub as cited by Lawal (2016) made the following assumption about personality

- a. Personality is not just an accumulation of a bit and pieces, it has organization.
- b. Personality does not just lie there; it is active with processes of some sort
- c. Personality is a psychological concept, but it is tied to the physical body.
- d. Personality is a causal force that helps determine how a person relates to the world.
- e. Personality shows up in patterns- reoccurrence and consistencies
- f. Personality is displayed not just one way but many ways, in behavior, thought and feelings.

2.2.2 Determinants of Personality

Every individual has certain endowment that helps him to develop his Personality as he grows and interacts with his environment. Hassan (2015) outlined five factors that influence personality development.

1. Home

The foundation for Personality is unquestionably set in the home, the extent to which Individual get interact with his Family and others is likely to provide the most powerful formative influence on personality development, beside the hereditary factor the home is the major factor for accelerating or retarding all aspect of human development. A good home gives sense of security, love and mutual respect, acceptance and sharing responsibility, feeling proud of one's parent among other things. The contribution of the family in shaping individual personality starts from the infancy period through which an individual get socialized as explained by Mussen (1974) that family socialization is the

“Process by which an individual infant acquires from the enormous wide range of behavioral potential that are open to him at birth those behaviors that are customary and accepted according to the standard of his family and It usually starts with mother and later on other members, family plays influential role in shaping an individual personality.”

2. Cultural Factor

Culture is traditionally considered as the major determinant of an individual personality. The culture largely determines what a person is and what a person learn .thus the culture within which a person is brought up is very important determinant of persons' behaviour. Culture is complex of these- belief, values, and techniques for dealing with the environment which are shared among contemporaries and transmitted by one generation to the next. Each culture expects and trains its members to behave in the way that is acceptable to the group

An individual that is forced to move about with his parents from one environment to the other is bound to come in contact with new culture which influences his personality formation. Such individual is likely to have more exposure with regard to his relationship with people as well as his reactions to his environment.

3. Love and Independence

These are very significant in shaping the self-reliance of an individual as well as his self-confidence and esteem, a rejected individual have the feeling of insecurity, nervousness, and other neurotic tendencies, while on the other hand a loved Individual develop the feeling of Concern, Sympathy and Care for others.

4. Life Crisis

Tragedies and events like death of parents, serious illness, failure or success in Life and so on affect the personality formation of an individual. Moreover, many psychological researches like the one conducted by Bahago, (2017) maintained that crisis such as broken home, death of the parent and separations have tremendous impact on personality formation.

5. School

School play important role in providing objective basis from which an individual can find his bearing and assess his potentialities. Teachers also influence the student's personality by being friendly, impartial and democratic, all these cumulate to the formation of one Personality in Life. In fact the ultimate aim of learning as a more or less permanent change in behaviour in an individual signifies the impact of school in determine the personality formation of a person

2.2.3 Intelligence

Individual differs from one another in their ability to understand complex idea, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning to overcome obstacles by taking thought. Although these individual differences can be substantial, they are never entirely consistent; a given Person's intellectual performance will vary on different domain as judged by different criteria. The concept of Intelligence has been discussed before the time of Ancient Greek, but the scientific approach to the concept really began with the work of Alfred Binet and Theodore Simon in 1904.

Attempt has been made by both contemporary and ancient psychologists to conceptualize the term intelligence, yet none of such conceptualizations has fully define the term in an acceptable way to all., indeed when two dozen prominent scholars were asked to define the term intelligence they give two dozen somewhat different definitions to the term, this is because each scholar view the term differently based on certain considerations to some criteria. For example while some scholars view intelligence from cultural point of view, some view it from behavioral perspective while others view it from genetic perspective, in fact some may even view it from the individual's ability to perform well on intelligence test and in school.

Mangal (2012) view intelligence from behavioral dimension, and opines that "In our day –to- day conversation we often comment that a particular individual is very intelligent or is not intelligent all such comment are based on our observation of performance or behavior of the individual concerned in comparison to others of his group" (pp. 279)

Oladele (1989) also maintained “Intelligence is inferred from behavior”.

Slavin (2006) while explaining the complexity of the term intelligence opines that

The biggest problem comes when we ask whether there is such thing as general aptitude in intelligence. Many people are terrific in calculus but could not write a good essay or paint good picture if their lives depend on it, some walk into a room full of strangers and immediately figure out the relationship and feelings among them, others may never learn this skills among them. Clearly individual vary in their aptitude for learning any specific types of knowledge, a hundred Students attending a lecture on a topic they know nothing about before and will all walk with different amount and kind of learning and aptitude for that particular topic , and that a particular teaching method is one important factor to explain these differences , the students who learn that most from lecture would be likely to learn very well from other lectures on similar topics , but would these students also learn the most if the lectures were on a different Topic or if the same materials were presented through hand on experience or in a small group? (pp.122)

2.2.4 Source/Origin of Intelligence

Origin or sources of intelligence have been debated for decades, some psychologists such as Herrnstein and Murray as reported by Slavin (2006) hold that intelligence is overwhelmingly a product of heredity – that individual intelligence is largely determined by that of their parent and that is set the day they are conceived.

Other scholars such as (Gordon and Bhattacharyya plomin¹ and Rafkin, as also cited by Slavin (2006) maintained:

“Intelligence is vehemently shaped mostly by factors in person’s social environment such as the amount a child is read and talked to” Other investigators where on neutral ground and agreed that both hereditary and environment play an important role in intelligence level of individual. Turkheinmer as cited by Slavin (2006) highlighted that “It is clear that children of high achieving parent are on the average more likely to be high achievers

but this due as much to the home environment created by high achieving parent as to genetics’

One important piece of evidence as regard the role of environment in shaping one’s intellectual ability is that - schooling itself clearly determine the level of individual’s intelligence. A review by Ceci (2007) found that, The experience of being in school has a strong and systematic impact on intelligence, for example a classic studies of Dutch Children who enter School late because of world war 11 show significant decline in intelligence, as a result all their intellectual ability increased when they finally entered School (Slavin 2006, pp.125).

In a nutshell, the origin of intelligence whether nature or nurtured, general or specific, intelligence is of many factors and these factors influences the amount individual is likely to learn in a given lesson or course. It is probably much less important than prior knowledge, meaning that the amount of the student’s experience before hand, but motivation and other qualities and nature of instruction are prominent in establishing one’s intelligence, furthermore intelligence does become important at the extreme as it is a critical issue in identifying students who have mental retardation or those who are gifted, but in the middle range where most students are fall other factors are equally important.

According to Journal of educational psychology as cited by Oxford Dictionary of Psychology (2009) Fourteen of the World leading authorities suggested different definations to the Intelligence some of them are as follows:-

‘The ability to carry abstract thinking (Lewis (1924) Looking at this definition one can infer that this Scholar view term “Intelligence as invisible or something that we cannot touch or see.” To him intelligence is about construct like reasoning, thinking, and others which are carried out by Brain, the short fall of this view is that it didn’t give much concern about motor and others physical skills such as bodily movement among others.

Another view on this concept has also been offered by one of the greatest Scholars in the area of human learning known as Edward Lee Thorndike who looked at intelligence as a power, he posits that intelligence is “The power of good response from the point of view of truth of fact” Thorndike’s definition of intelligence as a power to view truth of fact implies that intellect is a fact that came about through scientific procedure. Thus emphasizes that intelligence is scientific as the fact is also scientific.

“The capacity to inhibit an instinctive adjustment in the light of imaginably experienced trial and error and the volition capacity to realize the modified instinctive adjustment to overt behavior to the advantage of the individual as a social animal Thurston (1915)

‘The aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment’ Wechsler (1971) from the Wechsler’s view it can be deduced that intelligence involved both visible and invisible action of an individual in his effort to deal with his surrounding, meaning that individual is always striving to solve the problem around his environment and his capacity to do that effectively determine his level and type of intelligence.

Oladele in his Fundamental of Psychological Foundation (1989) presented the conceptualization of several authorities on the term intelligence as follows: Hamley

(1980) sees intelligence as “ability to classify material, find a name for a material, ordered the member of a class.” This definition also restricted the concept of intelligence to amore theoretical aspect of human brain, as it did not cover the comprehensive and multiple nature of intelligence. Alfred Binet emphasizes “Comprehension, invention, and censorship in intelligence”

Jadab (2016) define it as “An individual’s ability to perform the usual and expected activities of his age and culture” the above definition is guided by view of intelligent quotient which opines that an individual is regarded as having normal intelligence if he can really do or execute a task which other individual of his age can execute, Impliedly if an individual of Seven years cannot execute the task which most of his contemporary can do is regarded as having low intelligence. The scholar also tied intelligence with culture, signifying that what may be regarded as intelligence differs from culture to culture.

Guilford (1967) emphasizes” creativity in Intelligence, to him Intelligence consists of at least five different types of cognitive process or operations, namely “Recognition, Memory, Divergent Production, Convergent Production and Evaluation”.

Good says “Intelligence operationally is that which an intelligence can Measure.”(Oladele, 1989: P.60) in his Advanced Educational Psychology enshrined the following definitions from different scholars:-

Stern (2010) states “Intelligence is a general capacity to new requirements; it’s the general mental adaptability to new problem and condition of Life. Terman (1982) posits that. An individual is intelligent on proportion that he is able carry on an abstract Thinking. Wagnoon (1937) also view intelligence as the capacity to learn and adjust to

relatively new and changed conditions. Woodworth and Marquise (1948) says “Intelligence means intellect put to use, it is the use of intellectual abilities for handling a situation or accomplishing any task.” This implies that intelligence involved mental ability to learn and to understand things. Lawal (2011) defined intelligence as the ability to learn and quickness to comprehend. Boring (1989) contends that intelligence is the capacity to do well in an intelligence test as well as the ability to succeed in intellectual tasks

From the foregoing we can infer that several definitions do exist on the intelligence, but all of them if taken separately gives an incomplete picture of the term, however some agreement among the scholars views are- intelligence is the ability to learn, to deal with abstractions, to make adjustment to adapt to new situation or the ability to power or make appropriate responses to certain stimuli in a given situation. In view of the lacunae in the existing definitions Mangal (2012) came up with the somehow comprehensive conceptualization to the term.

“Intelligence is the aggregate or global capacity of an Individual to act purposefully, to think rationally, and to deal effectively with his environment”. Wechsler further provided some criteria for defining intelligent behavior in the context of four characteristics thus:

1. Intelligence involved awareness
2. Intelligence is goal directed
3. Intelligence has rationale
4. Intelligence has value.

Taking a cue from Wechsler's criteria, Stoddard (2011) argues:

“Intelligence is the ability to undertake activities that are difficult, complex, and abstract and which are adaptive to a goal and are done quickly, and which have social value and which lead to creation of something new and different”.

Notwithstanding, all these so called comprehensive definitions have also come under severe criticism due to differences in perception and opinion among psychologists. Terminology and language used in defining intelligence apart, some of the general concordance among the psychologists in defining the term are as follows:

- a. Intelligence must be understood as the mental capacity or mental energy available within an individual at a particular time in a particular situation
- b. This mental capacity helps him in the task of theoretical as well as practical manipulation of things, objects or event, present in his environment in order to adapt to or face new challenges and problems of his Life as successfully as possible.
- c. His capacity or the kind of mental energy available with him can be judged only in terms of the quality of his behavior.

Bearing all these factors in mind intelligence can be defined as

“A sort of mental energy in the form of mental or cognitive abilities available with individual which enable him to handle his environment in terms of adaptation to face novel situation as effectively as possible”.

(Mangal 2012 P.280)

2.2.5 Distribution of Intelligence

The distribution of Intelligence is not equal among all human being, “it resembles the pattern of distribution of wealth, health and similar other attributes or endowments, it is normal distribution that is grounded by definite principle which stated that majority of People are at the average, few very bright and some few very low” (Mangal 2012 p. 291.)

Wide Individual differences exist with regards to intelligence, even Identical twins or individual nurtured in identical environment are not endowed with equal mental energy, Intelligence not only vary from individual to individual but it also vary in the same individual, and from age to age and situation to situation. Psychologists believe that as the child grows in age, so does the intelligence, as proved by intelligence test. the question which now arises is at what age does this increase stops?, the age at which mental growth ceases varies from individual to individual, it however tend to stabilize after the age of ten and fully stabilized during the adolescence period.

2.2.6 Nature and Nurture Debate on Intelligence

Psychologists sharply argues that two important factors influences the level of individual mental energy, some opines that hereditary or genetic materials and code inherited from one's parent are solely responsible for ones intelligence, while on the contrast others reiterate that environment play more significant role in shaping one's mental ability .

Geneticists on this debate attached all importance to hereditary while environmentalist on the other hand accords all the credit to the individuals' surrounding with regards to mental ability. In support of their respective views both of them put forward the following experimental evidences to buttress their stand.

Geneticists maintained that in a study conducted by Jencks and Munsinger (2013) on theory of blood relation and family resemblance, the study demonstrates a positive correlation ranging from .40 to .50 between adopted children and their real parent in contrast to a very small correlation of .10 to .20 between the adopted children and adopted parents, leading to the conclusion that people closer to each other from the point of view of heredity potential have comparable intelligence.

Evidence was established by Bouchard and McGue (1984) where they provided the coefficient correlation on family resemblance and their comparison. The following results of their findings are stated hereunder:

S/no	Sample	Rho
1.	Identical Twins	0.86
2.	Parent and children	0.56
3.	Brothers and sisters	0.53
4.	Half Sibling	0.31
5.	Cousin	0.15

(Mangal 2012, P.292)

Additional studies on the role of hereditary to the mental energy via identical twins were conducted and positive correlations were obtained for instance:-

Wilson (2012) tried to test the intelligence of over 100 pairs of Twins on Wechsler scale of ages 4, 5, & 6 and found a strong correlation between the Intelligence of scores of Identical Twins in comparison to the scores of Fraternal Twins.

Bouchard (1987) also located number of identical twins who were separated from their parent only a few days after their birth, and reared in different homes and subjected them to intelligence test, the finding demonstrated a very high correlation in the intelligence scores of identical twins reared apart to almost the same degree as found in the case of

identical twins reared together. Moreover twins reared apart are found to resemble each other not only on intelligence but in other aspects of human personality –physical appearance, interest, aptitude, habit and mannerisms. In the light of the above, psychologists like Arthur and Jensen have taken firm stand that heredity decides everything about the observed human intelligence.

2.2.7 Environmentalists' Evidence on Intelligence

Gottfried (1984) conducted a research and established that, if the Children are subjected to certain forms of environmental Stimuli early in Life their intellectual development get adversely affected, similar conclusion were drawn in another study conducted by Sherman and Key (1932) in an unprivileged remote hilly area of USA and found that lack of language, training and school exposure accounted for very poor scores in the standardized intelligence test.

Environmentalists' further stressed their stand by arguing that when the children were provided with favorable environment situation in the form of appropriate adaptive homes, better schooling and learning facilities their performance is quite impressive in terms of Intellectual development. Schiff et al (1978) conducted a research in France in this study he compared the intelligence of children who had been adopted by parent belonging to higher socio economic status class with those of their siblings who had not been adopted, the average score of adopted children was 111 in comparison to the average scores of 95 of their siblings raised by their biological parents, the privileged environment may thus be said to be responsible for raising average intelligence scores difference for 16 points.

Other environmental factors that shape the intelligence of an individual as outlined by the National Teachers Institute NTI (2006) include:

- a. Age of the Individual:** Challenges over time render the mental ability of an Individual less effective in other words mental growth does not continue throughout one's Life, it begins to slow down on rate during the early teens and reach its peak somewhere in the middle twenties, thus the younger the individual when first rated the greater the error in predicting the second score from the first and the longer the period of time between the test the greater the error in predicting the second score from the first, hence intelligence though fairly constant for most individual can no longer be taught as completely fixed in value.
- b. Socio Economic Status:** High social class individual has the opportunity to greater cognitive challenges; he is exposed to so many activities, dealing with so many people and has access to other things like television, toys and other gadgets; however socio economic status is not as important as what the parent do to help the child.

2.2.8 Measurement of Intelligence

Mental energy is scientifically measured by a test known as intelligence tests which are considered to be the yardstick or means for determining the Intellectual ability, they are meant to measure achievement as well as ability of an individual.” A test of intelligence measures existing knowledge and skills independent of person's ability or potential for future achievement. Test on ability on the other hand measures a person's potential for feature achievement (Oladele1989 p. 67).

The first successful attempt to measure intelligence was that of Alfred Binet, a French Psychologist who was asked by the French government to investigate the causes of

retardation in schools of Paris in 1905. Binet identified through a sampling procedure the questions that would be solved easily by children.... Thus Alfred Binet developed concept of unit on mental age. Average mental age (MA) Scores correspond to chronological age (CA) that is to say the age determined from the date of birth. A bright individual's (MA) is above his chronological age, a dull individual has (MA) below his chronological age.

The index of brightness is the intelligence quotient (IQ) which indicates how an individual related to others of comparable age, on the Binet view IQ is the ratio of mental age to chronological age multiplies by 100. The IQ is calculated by formula hereunder:-

$$IQ = \frac{\text{Mental Age (MA)}}{\text{Chronological Age (CA)}} \times 100$$

Thus a child of 8 years who obtain a mental age of 10 years on Binet scale would be given scores of:

$$\begin{aligned} IQ &= \frac{10}{8} \times \frac{100}{1} \\ &= 1.2 \times 100 \\ &= 125 \end{aligned}$$

If (MA) lags behind CA the resulting IQ will be less than 100, if MA is above the CA the IQ will be above 100. Thus Alfred Binet is called the father of intelligence testing, his scale was later revised and named Stanford Binet scale, below is the revised version of Binets' intelligent quotient depicting the range of scores.

1Q Range of Scores	Verbal Description	Approximate % of people in each group
Above 130	Very superior	1
120-139	Superior	11
110-119	High Average	18
90-109	Average	46
80-89	Low average	15
70-79	Borderline	6
Below 70	Mentally Retarded	3

(Hilgard, 1975: P.405)

In view of the complexity about mental energy which is difficult to measure Glencoe (2010) argued “since intelligence is a concept or an abstraction rather than substance it cannot be measured in physical units like a length of cloth or temperament of the body” (p.352). Other types of test were developed by different experts in psychology, however inconsistency is very common with intelligence test despite its wide usage.

Lovell (2012) summed up the various comments of scholars about the inconsistency of Intelligence Test;

- a. No Intelligence Test is completely reliable since some changes in scores are likely to occur on re-testing.
- b. It is possible that test has been properly standardized at one age level but not in another.
- c. The degree of intellectual stimulation received from the environment varies from individual to individual, but to a particular child it usually but not always remains fairly constant.

- d. Children who show the greatest need of achievement who strive in competitive fashion and who are curious about nature show the greatest upward change in IQ since these activities facilitate the acquisition of skills assessed by IQ.
- e. Emotional maladjustment may affect intelligence and other psychological condition may bring about changes in IQ; and changes in physiological development may bring about changes in IQ.

2.2.9 Types of Intelligence Test

These are broadly categorized into three main groups namely

1. Intelligence test designed for infant, such as California Pre –school mental scale, Baly’s scale of infant development, Cattell’s development schedule, intelligence Test for Nigerian children by (Adana B.S University of Ilorin Nigeria, these Test are made up for measuring motor skills , and Sensory motor development such as building of tower of cube, gesture.
2. Test designed for older children such Stanford –Binet test of intelligence for children, Wechsler intelligence scale for children (WISC), California test for mental maturity (CTMM), Guidance test for selection in science technical and commercial courses designed by (WAEC).
3. Test designed for adult such Wechsler Adult Intelligence Scale,(WAIS) self scoring intelligence test (Olubunmi Akn, University of Benin Nigeria ,test of basic mathematics understanding (Osibodu B.M Obafemi Awolowo University,) Ile Ife, Nigeria), academic and management series by (WAEC), ID series for employment or promotion by (WAEC). In addition to these tests other psychologists, like

Walter Mckenzie, Sheila Halasz among others developed other inventories for assessing Intelligence.

From the foregoing discussion one can infer that intelligence must be an important issue to class room teachers, psychologist, parent and the entire community of any society since it is believed to be an important factor in predicting the academic achievement of students.

2. 2.10 Academic Achievement (AA)

The term academic achievement is often used interchangeably with academic Performance/ achievement which according to Hassan (2015) “Is the educational goal that is achieved by students, teacher or institution over a period of time. It is measured either by examinations or continuous assessment, and the goal may differ from an Individual or Institution to another.” Academic achievement according to the Cambridge University reporter (2003) “Is frequently defined in terms of examination performance” this implies that it is characterized by the overall performance in each year which culminates in grade point average (GPA)

Hassan (2015) further explained that individual differs in academic achievement due to differences in intelligence and personality factors. Other Psychologist postulates two important factors that affect academic achievement of students. Thus

Internal factors are those that are with or within the individual, while the external factors are the one around the individual or within his environment.

National Teachers Institute NTI, (2006) outlined the internal and external factors as follows;

- A. Age of the Individual:** - Age has been a crucial yardstick in determining the Academic Achievement of Individual therefore all academic activities must commensurate to the Age of the Learner, this was seriously emphasized by Swiss Psychologist, Piaget, and other scholars interested in Learning and Academic Achievement. Learning should progress from simple to complex as learners' age increases to enable him cope effectively.
- B. Self Concept of the Individual:** The idea about one's self and perception such as the way Individual see himself in terms of his ability to accomplish a task are very key in attaining academic achievement, individual who has high self confidence, passion and desire are always excellent when it comes to academic achievement while on the other hand those with defeated mind, fear and negative perceptions tend to engage in rebellion activities, juvenile delinquency and avoidance of school rather concentrating toward academic achievement.
- C. Ability of the Individual:** - Each individual possess a given level of ability. This factor can be expressed in various ways such as interest, aptitude, and achievement among others. Several other elements that work together to determine the nature of the individual's ability are to a considerable extent inherited, the belief is that person who is generally thought to be bright is not very likely to beget a dull person. conversely, a dull individual often give birth to dull off springs, therefore when child comes to school he carries with him all the hereditary factors that will determine how well or how badly he does, thus by extension affects the academic achievement of such persons. The external factors as listed by the NTI on the other hand include:-

A. Personal Characteristics of the Teacher: The kind of attitude that the teacher brings toward teaching is very important it is very evident that one cannot do what he doesn't like well. Therefore teacher need to love his job and the children he teaches, and this is one way in which the learner will believe in what he is doing, such love translate in to general love of school and what it stand for. Teacher is expected to show warmth, understanding, affection, and unconditional acceptance for all the children in his class, as absence of these hinders positive academic achievement of students.

B. Learning Environment:- This include the class room, the psychological environment, the immediate environment and the larger community, the physical setting of class room, libraries, laboratories and other places where teaching is taking place must to be very conducive, at the same time the atmosphere which the teacher will create between himself and students shall be conducive, and the child- children relationship shall be Free from harassment or bullying if the academic achievement is to be attained.

2.3 Theoretical Framework

In this section attempt was made to review various theoretical studies that are related to the topic or variable under study, review of such theories is considered very relevant as they served as the bed rock of this work. Consequently the following theories were reviewed

- a. Big five personality traits theory
- b. Cattle's theory of personality
- c. Guilford factors theory of intelligence
- d. Gardner theory of multiple intelligence

Below is an extensive review on the aforementioned theories:

2.3.1 Big Five Personality Trait Theory

Before the emergence of the big five personality theory number of personality theories were developed over the years by several psychologists, which include Allport (1937) who developed a small number specific traits that predominate personality and called them *central traits*, these traits became apparently a dominant force called the *cardinal traits* which are influenced by environment as an individual grows.

Another traits theory was also developed by Murrays (1973) who focused on basic need, he believe that these need were largely at the unconscious level. He opined that environmental forces are crucial in the display of the psychogenic needs; these forces according to Murray's view are referred to as "Press" which signifies the pressure they put on an Individual to act in a specific way. He further categorized the Press into two broad line thus:

- a. Alpha Press; and
- b. Beta Press

The Alpha Presses are the real environmental forces, while the Beta Presses are the forces that are merely perceived. Above are some of the Traits Theories that precede the emergence of the big five personality traits which emerged in (1963).

The theory was initially tagged *the Five Factor Model (FFM)* which was developed as a result of Norman's work who provide useful frame work for examining the relationship between personality construct and academic achievement.

The model is based on common language descriptors of personality, it is one of the widely examined theories which suggest five based model dimension used to describe human personality and Psych. These five factors were grouped together using a statistical technique called factor analysis.

The five factors have been defined as follows:-

- a. Agreeableness openness to experience
- b. Conscientiousness
- c. Extraversion
- d. Neuroticism
- e. Openness to experience

They are normally listed under the acronyms *OCEAN* or *CANOE* of personality. Positive Psychology program //Big five personality traits .com explains the five factors as follows:

a. Openness to Experience:

An individual with this trait has general appreciation for acts, emotions, adventures, unusual ideas, imaginations, curiosity and variety of experiences. People who are open to experience are intellectually curious, open to emotions, sensitive to beauty and willing to try new things. They tend to be explorers, when compared to close people, more creative and more aware of their feelings; they are also more likely to hold unconventional belief. The big five personality trait theory described openness to experience as the depth and complexity of an individual's mental life and experience, he tries to do new things, vulnerable to ability to think outside the box, common traits related to openness are

imaginative, insightful, varieties of interest, original, creative, curious, perceptive and complex/deep among others

Garba (2010 p:12) maintained that individual scoring high on this trait dimension demonstrates imaginations, innovativeness, and rules breaking. According to Lebowitz, (2006) an individual who is high in openness to experience is likely to be someone who has a love of learning , enjoy the arts, engages in career or hobby like meeting people

b. Conscientiousness:

An individual with this trait tends to show self discipline, act dutifully, and aim for achievement against measures or outside expectations. It is related to the way in which people control, regulate, and direct their Impulses. The big five theory view conscientious person as persistent, ambitious, thorough,, self disciplined, consistent, reliable, controlled, resourceful energetic, planner and hard working among other traits

“A conscientious person concentrates only on few couple of goals, and strives hard to achieve them, they are predisposed to be organized, exacting, discipline, dependable, methodical and purposeful” Garba (2010 p: 12)

c. Extraversion

This Individuals are characterized by breadth of activities they are usually sociable, talkative, and communicative as well as friendly, they are described as active, bold, assertive, exciting and stimulating, as opposed to close people who are characterized with no breadth of activities from external situation, and energy creation from external means, the trait is marked by pronounced engagement with

the external world. Extraverts enjoy interacting with people and are often perceived as full of energy, they tend to be enthusiastic, action oriented individuals, they possess high degree of visibility, like talk and assert themselves.

The theory looked at this factor as having two familiar ends of the spectrum- extroversion and introversion. It concerns with where an individual draws his energy and how he interact with others. In general extrovert recharge from interacting with others while introvert get tired from interacting with others and replenish their energy from solitude. The dominant features of extrovert include – sociability, energetic fun –loving, affection, friendly and socially confident

Agreeableness:

This trait reflects in individual who has concern for social harmony, they value getting along with others, they are generally considerate, kind, generous, trusting and trust worthy, helpful, and willing to compromise their interest for others, they strive for common understanding and maintain social affiliation, they possess high optimistic view of human nature. Disagreeable person on the other side place self interest above getting along with others, they are generally unconcerned with others' well being and are less likely to extend themselves for other people. Sometimes their skepticism about others' motives causes them to be suspicious, unfriendly, and uncooperative. This trait rests its construct on how you interact with others. The following characteristics fall under the umbrella of agreeableness are-, trusting, modest, humble patient moderate, tactful, polite, considerate, loyal cheerful and sensitive among others.

Neuroticism

This involved individuals' tendency to experience negative emotions, such as anger, anxiety and depression. Norris, Larson and Carciopp (2007) contend that "Neuroticism is interlinked with low tolerance for stress or aversive stimuli, those who score high in neuroticism are emotionally reactive and vulnerable to stress. They are more likely to interpret ordinary stimulus as threatening and minor frustration as hope less, as it tends to persist for unusually longer period of time which means they are often in a bad mood." The big five theory perceive this trait as having the following characters nervous, fearful, anxious, wary, timid, insecure, unstable and over sensitive. Lebowitz (2006) described them as individual "given to anxiety, sadness, worry and low self esteem, they may be temperamental or easily angered and tend to be self conscious and unsure of themselves"

Fiske, Gilbert and Linzey (2009) state "those who score high on neuroticism may display more skin conductance reactivity than those who score low on conscientiousness. These problems in emotional development can diminish the ability to think clearly, make decision, and cope effectively with stress" on the other hand individual who score low in neuroticism are less easily set up and are less emotionally reactive, they tend to be calm, emotionally stable and free from persistent negative feelings.

2.3.2 Cattell Traits theory of Personality

This is the most recent advanced theory of personality based on the trait approach, it has been developed in (1973) by Cattell, a born British American researcher. He viewed traits

as a structure of personality inferred from behavior in different situations and came up with four types of traits:

Common Traits: these are widely distributed in general population like honesty aggression and general cooperation.

Unique Traits: these traits are unique to a person such as temperamental traits and emotional reactions.

Surface Traits: they can be recognized by manifestation of behavior such as curiosity, dependability, and tactfulness.

Source Traits: these are the underlying structures or sources that determine behavior such as dominance, submission, and emotionality.

Cattell adopted factor analysis as a technique for this work.

Cattell began by attempting to make a complete list of all possible human behavior in (1946). He compiled a list of over 17000 Traits and by eliminating similarities and synonymous, reduced the list to 171 dictionary words with personality and called these Traits *elements*.

At second stage he ascertained how they are related. He found that each trait element has high correlation with some Traits and low with others. In this way he identified some 35 specific groups and called them *Surface traits*.

In his third stage he further analyzed these surface traits in terms of their interrelations and also eliminated those which were overlapping. The removal of such overlapping gave him the desired basic dimensions which he called *Source Traits* i.e. the real structural

influence underlying personality. In Cattell's fourth stage he established the 16 number of traits and use them to predict behavior employing what is called the specification equation.

He finally arrived at the 16 basic Sources of traits thorough the process of factor analysis and named them as *Factors*, he regarded these factors as the building blocks of personality that is to say the characteristics in terms of which ones personality can be described and measured. Mangal (2012,P. 403) provided a summary of these factors as in table 2.1:

2.1 CATTELL'S SIXTEEN PERSONALITY FACTOR INVENTORY (16PF)

Symbols	Trait dimensions/factors		Trait dimensions/factors
A	Reserved (detached, critical, aloof, stiff)	Vs	Outgoing (warm-hearted, easy-going, participating)
B	Less intelligence(concrete thinking)	Vs	More intelligence (abstract thinking, bright)
C	Affected by feelings (emotionality less stable, easily up set changeable)	Vs	Emotionally stable, (matured, faces reality, calm)
E	Submissive (mild, easily led, docile, accommodating)	Vs	Dominant (aggressive, stubborn, competitive)
F	Serious (sober, taciturn)	Vs	Happy –go-lucky (enthusiastic)
G	Expedient (disregards rules)	Vs	Conscientious (persistent, moralistic, staid)
H	Timid (shy, fear threat, sensitive)	Vs	Venturesome (uninhibited, socially bold)
I	Tough- minded (self-reliant, realistic)	Vs	Tender- hearted (sensitive, clinging, over protected)
L	Trusting (accepting conditions)	Vs	Suspicious (hard to fool)
M	Practical (down-to-earth concerns)	Vs	Imaginative (bohemian, absent- minded)
N	Forth right (unpretentious, genuine but socially clumsy)	Vs	Shrewd (socially, aware, astute)
O	Self assured (secured, placid, complacent)	Vs	Apprehensive, (self-critical, insecure, worrying, troubled)
Q1	Conservative (respecting traditional ideas)	Vs	Experimenting (liberal, free-thinking)
Q2	Group dependent (a joiner and a sound follower)	Vs	Self-sufficient, (resourceful, prefers own decision)
Q3	Uncontrolled (careless of social rules follows own urges)	Vs	Controlled (socially precise, exercising will power, compulsive)
Q4	Relaxed (tranquil, unfrustrted, composed)	Vs	Tense (frustrated, drive, over wrought)

He came up with the above 16 factors of personality by devising a personality inventory known as Cattell's Sixteen personality factor inventory(16PF) consisting of suitable multiple choice questions like.

I generally preferred who;

1. Somewhat Reserved.
2. Somewhat Outgoing.
3. Moderate

These theories were carefully considered for this research based on their comprehensiveness as they incorporate behavioral view, cognitive view, and humanistic views of personality.

2.3.3 Theories of Intelligence

Several theories have been formulated pertaining to the nature and components of intelligence. These theories as propagated by psychologists from time to time have tried to uncover the components or elements of intelligence.

Mangal (2012) in his effort to clarify the theories of intelligence has categorized them in to two broad groups. Thus;

- a. Factors theories of intelligence
- b. Cognitive Theory of intelligence

Factors theories of intelligence have the following theories under its umbrella.

2.2 A Factors theories of intelligence

S/No.	Name of the Theory	Name of Theorist
1.	Unitary or monarchical theory	Old and ancient
2.	Multi-factor/anarchical theory	E.L Thorndike
3.	Spearman's two factor theory	Spearman
4.	Group factor theory	L.L Thurston
5.	Sampling theory	G.H Thompson
6.	Vernon hierarchical theory	P.F Vernon

2.3 B. Cognitive theories of intelligence

S/No.	Name of the Theory	Name of the Theorist
1.	Cattell's and Horn theory	Cattell's and Horn
2.	Mental functioning theory	Jensen
3.	Campion and Brown theory	Campion and Brown
4.	Information processing theory	Sternberg
5.	Multiple Intelligence theory	Gardner

The researcher reviewed the two theories as the basis or bed rock of this work , each from one of the two extreme group or view of Intelligence, This is quite relevant as it will provide the basis for comparison and deeper understanding between their variations or different views on the term, consequently the researcher used Guilford theory of intelligence,(factor s theory) while multiple theory of intelligence by Gardner was used under the cognitive theories of intelligence, these theories were considered based on their comprehensiveness, groupings of factors and the extent to which they relate and explain the construct relation to the element or components of intelligence, and above all their congruence in the context of predicting academic achievement of students. However the researcher used the multiple intelligence to guide this work because of its stands point in which the theory looked at intelligence as multiple factor, thus it became imperative owing to the fact that the population of this study are generated from different areas of specializations

2.3.4 Guilford Factors Theory of Intelligence:

This theory was developed in (1961) by Guilford and his associates, while undertaking a work in the Psychological laboratory at the University of Southern California. They developed the model of intelligence on the basis of factors analytical research studies which comprised of number of intelligence tests, they concluded that every mental process of intellectual activity can be described in terms of three different basic parameters namely:

1. Operation (that is act of thinking)
2. Content (that is words and symbols)
3. Product (the idea)

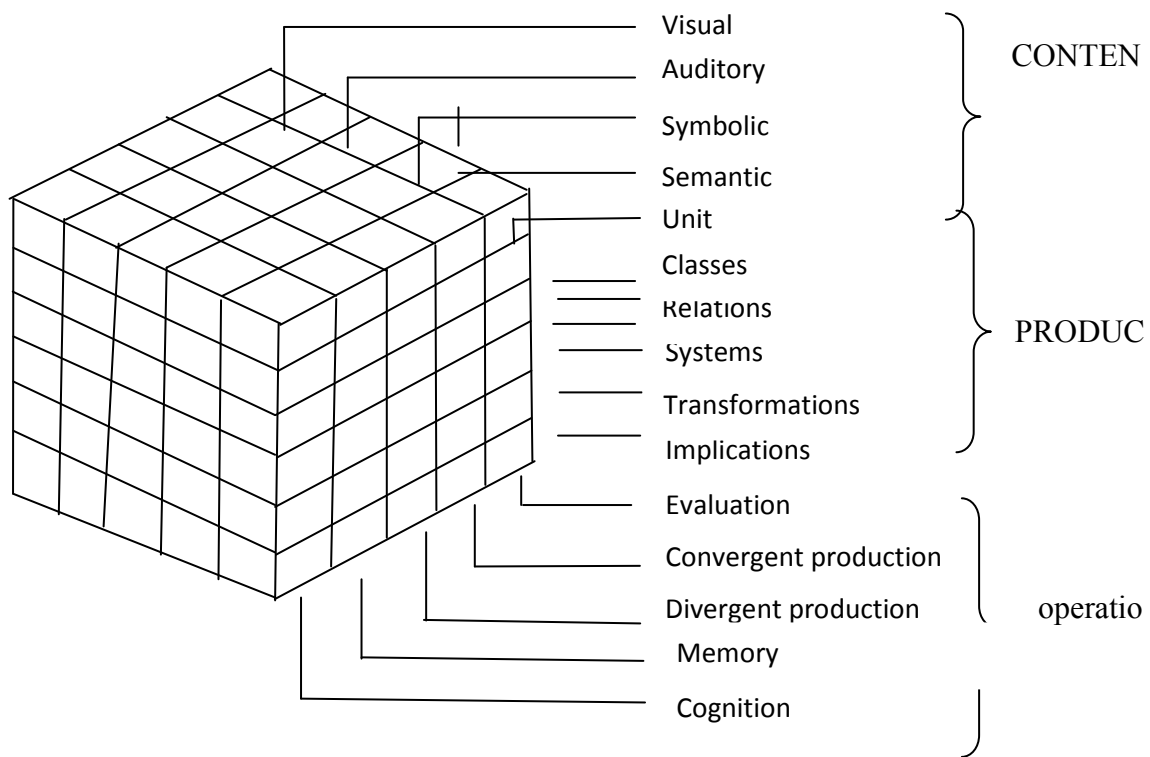
Each of these parameters (Operation, Content and Products), may be further sub divided into some specific Factors, as outlined in the table 2.4;

Table 2.4 Division of Intellectual activity and specific factors

Operation	Content	Product
Evaluation(E)	Figural factors (F)-(content)	Unit(U)
Convergent thinking	Material perceived(through senses)	Class(C)
(C)		
Divergent thinking (D)	Symbol (S)-(material in sign &symbol)	Relation (R)
Memory (M)	Semantics(M) –(material in the form of verbal meaning of ideas)	System (S)
Cognition (C)	Behavioral	Transformation (T)
		Implication (I)

However in Guilford research of (1967) he expanded the model of intellect to include one hundred and fifty factors by dividing the figural factors of content into two separate

categories (Visual and Auditory), this model consisting of 150 factors may be diagrammatically shown below;



Guilford's Model of the Structure of Intellect. (Mangal, 2012:p p. 284)

Above model can be viewed in terms of the three basic parameters (Content, Product and Operation) along with their division of a specific number of factors thus: $5 \times 5 \times 5 = 150$ factors in all, which may constitute human intelligence, each of these factor has a trigram symbol that is at least one factor from each category of the three parameters has to be presented in a specific intellectual activity on mental task. This can be exemplified as follows:

A child is asked to determine the days of the week on a particular date with the help of a calendar. This task involved operation like convergent thinking, Memory and cognition. In carrying out these operations he has to make use of content, in

this particular case, he will make use of semantics reading and understanding of printed words and figures indicating days and date of a particular month in the calendar by carrying out mental operation with the help of the content he will finally arrive at the product. The day of the week to which the date in question refers represent the factors known as relation .He may further transform and apply this knowledge to identify the days for contiguous date or vice versa.
(Mangal, 2012 p. 285)

2.3.5 Gardner's Theory of Multiple Intelligence;

Howard Gardner of Harvard University has propounded another unique theory of intelligence called theory of multiple intelligence. He initially presented it in his book in (1983). Through his new theory, Gardner's frame of mind challenge the notion of general intelligence (G) and then questioned the very basis of prevailing intelligence test by asking "how an individual's intellectual capacities could be captured in single measure of intelligence?". He tried to give a broad base to the concept of intelligence and its measurement by providing a multiple frame; he asserted that human intelligence can be better described as a set of an individual's multiple abilities, talents and mental skills related to a multiple number of domains of knowledge in a particular setting.

Gardner (1983) posited seven types of intelligence that are relatively independent of one another. Elaborating his pluralistic view of intelligence, he further concluded that there are seven independent types of intelligence that grow and develop differently in different People depending upon their hereditary characteristics or environmental experiences. This means that each intelligence is relatively autonomous intellectual potential which is capable of functioning independently of the other. These different types of intelligence have been named by Gardner as follows:

1. Linguistic Intelligence
2. Logical Intelligence
3. Spatial intelligence
4. Musical Intelligence
5. Bodily Intelligence
6. Intrapersonal intelligence
7. Inter Personal intelligence

1. Linguistic Intelligence:

This type of Intelligence is responsible for all kind of linguistic competence, abilities, talents, and skills available in human being, it has been further broken into components like syntax, semantic, and pragmatic as well as more school oriented skills such as writing, oral expressions and understanding, this is normally exhibited by professional like lawyers, lecturers and writers.

2. Logical Mathematic Intelligence:

This type of intelligence is responsible for all types of abilities, talents and skills in areas related to logic and mathematic, it can be further broken into compound like deductive reasoning, inductive reasoning, scientific thinking, solving of logical puzzles and calculation. It is normally exhibited by professionals like scientist and philosophers etc.

3. Spatial Intelligence

This type of intelligence deals with the abilities talents and skills involving representation and manipulation of spatial configurations and it is normally

exhibited by painters, carpenters, architectures, engineers, surveyors and mechanics.

4. Bodily Kinesthetic Intelligence:

This intelligence is responsible for all set of abilities, talents, and skills, involving using one's body or its various parts to perform skilful and purposeful movement. A child may be seen to demonstrate such intelligence in moving expressively in response to different musical and verbal stimuli or bending different body parts in organized way. Among the professionals with this traits are dancers' athletes and surgeons who may be seen to demonstrate high degree of bodily kinesthetic intelligence in their respective field.

5. Musical Intelligence:

This type of intelligence covers the abilities, talents and skills pertaining the field of music. It may be well demonstrated through sensitivity to pitch, melody, rhythm and tones composers and singing. It is visible in quite number of professionals like musician and composers

6. Intrapersonal Intelligence:

This type of intelligence consist of one's ability to enable him know himself, it include knowledge and understanding of one's cognitive strength, styles and mental functioning as well as one's feelings range of emotions and skills to utilize one's knowledge in practical situation, additionally intrapersonal intelligence on individual to understand his own self providing an insight in to his total behavior what he feel, thinks, or does, some psychologists called it the most private of the

intelligence that a person possess. This type of intelligence is exhibited by yogis, saints and masters.

7. Interpersonal Intelligence:

This aspect of intelligence is the counterparts in one's cognitive structure .it consist of the abilities to understand individual other than one Self, and one relation to others. In addition it include the ability to act productively based on understanding of others. The knowledge and understanding of others is the quality that is needed for social interactions in one's day-to-day Life. In our practical life this type of intelligence is visible among teachers, sale people, politician and religious leaders.

From the above explanation we can infer that this theory is quite relevant to this study due to its comprehensiveness as it has provided a broad view of human abilities in areas that are directly related to the domains of learning and also measures of academic achievement in our institutions of learning thus: linguistic, logic, mathematic, interpersonal as well as intra personal relationship. The researcher further appreciate that all the effort of stakeholders in education (Parent and Teachers) is geared toward the development of three domains of learning : cognitive, affective and psychomotor domains. The above Theory has comfortably covered these domains. Thus, making it very relevant for this research.

Another attractiveness of this theory is that it acknowledged that everybody is born with certain strength and weaknesses in each of the intelligence. Notwithstanding, all people are capable of developing greater proficiency in all of the Intelligence. This is relevant to the courses selection for students which has unquantifiable bearing in predicting

academic achievement of students as well as the role of the teacher as the enhancer / facilitator of students' intelligence.

2.4 Review OF Empirical Studies

When it comes to the discussion on academic achievement among students, Personality is an important factor- but certainly not the only, other factors like Intelligence, Motivation among others are equally important. It's against this backdrop that several researches were carried out in these crucial areas. A number of investigators obtained Positive correlation on the issues, while some obtained negative or insignificant relationship. Hereunder the researcher presents some of these studies.

2.4.1 Relationship between Big Five Personality Traits and Academic Achievement

Erik and Richard (2007) on big five personality and academic out comes, specifically used 87 sample via co relational design and maintained that openness among all the five traits was the strongest predictor on verbal scores while conscientiousness was the strongest predictor of both high school and college grade point average (GPA)

Murugeson and Jayavelu (2017) on the study titled influence of the big five personality traits, self efficacy academic achievement: role of gender. Used 667 population out of which 248 sample was drawn via proportionate sampling technique on B.Tech students in the university of national institute of technology, Tripchirappalli southern India, the breakdown of the sample was according to sex 65% male and 35% female, t-test was used to analyze the questionnaire and their findings revealed that the big five are not significantly related with academic achievement of female while male scored high on the questionnaire. Tomas and Adrian (2003) tried to find out to what extent and which

personality traits predict academic achievement, they conducted two longitudinal survey studies of two British University N=70 the studies revealed that out of the big five traits conscientiousness was found to predict high academic achievement over and above others while neuroticism was to impair academic achievement. Sagir and Knafo (2002) found that anxiety, depression as the component of neuroticism were found to hinder academic achievement, this finding was established on N=345 via an ex post facto design

Watson, (2002) found that GPA was most closely related to the conscientiousness facet of achievement striving ($r=.39$) and self discipline r . (36). He also used regression analysis on a sample of 316 in US, they found a divergent pattern of correlate for high school GPA, when they simultaneously entered the entire conscientious facet into multiple regression analysis, dutifulness emerged as the best predictor of high school grades, whereas the achievement –striving facet emerged as the only significant predictor of college grade. This finding seems to fit with report by Gough (2012) on distinction between achievement via conformance and achievement via independence setting which have been linked respectively, to high school and college achievement, further more based on Gough (2012) conceptualization of these two variables openness is expected in addition to conscientiousness to be linked to achievement, because those who high in openness tend to have an intellectual style that is well suited to context in which intellectual autonomy and creativity are rewarded. This prediction is consistent with Gray and Watson, finding that openness was significant positive predictors of college GPA

Johnson (2009) administered a questionnaire to their sample 123 and alpha reliability were .87 for extraversion, .79 for agreeableness, .81 for conscientiousness, .82 for neuroticism and .79 for openness to experience. Nofle and Robin(2010) conducted a

scholastic aptitude test (SAT) with three samples, with zero order correlations-, openness was a significant predictor of (SAT) verbal score across the all Samples, the overall multiple correlations with all variables entered in the equation were moderated to large ranging from .25 to .65., they further found that individual who increased in conscientiousness over the course of college have higher GPAs ($r=.22p .01$) this relation held even after controlling for mean levels of conscientiousness, agreeableness, neuroticism and openness were not significantly related to GPA ($r.16, .01$ to $.07, ns$) . in the same research their findings with the other set of sample was that academic effort was significantly associated with both conscientiousness ($r.37$ and $.35$ for sample 2 and 3 respectively) and college ($r.22$ and $.17$ for sample 2 and 3 respectively).

Similarly Costa & McCrae (2006) measure the big five personality traits in college –aged Individual, Participant responded to 60 statement using 5 Likert scale. there are five sub scale each containing 12 items that measure five different personality traits and they reported the following cronbah alpha co-efficient for each scale – openness to experience ($\alpha=.95$), conscientiousness ($\alpha=.89$) extraversion ($\alpha=.89$), agreeableness ($\alpha=.95$) and neuroticism ($\alpha=.91$). Goldberg and Saucier on their lexical research on the big five personality traits domain conceptualized the openness as intellect as emphasizing its connection to creativity, abstract thinking, depth of thought and other intellectual qualities, all these factors are said to be related to high academic achievement similarly early studies by Harrison Gough and his collaborators showed that Californian psychological inventory Scales related to conscientiousness predicted high levels of achievement in both high college and school, on the other hand Graziano (2013) found small medium association between grade and other personality traits like agreeableness.

In 245 sample in Rome. In (2004) Ridgell and Lansbury also found a significant correlation between agreeableness, emotional stability and academic achievement

Lee and Ashton (2006) use 208 –item Hexaco pi to correlate the big five traits and academic performance, they found that agreeableness =.89, for extraversion=.91, for conscientiousness =.87, for neuroticism and openness =.87 respectively. Implying that the factors have strong positive relationship with college achievement. Nofle and Robins in a longitudinal relationship between big five and students' GPA found that individuals who increased in conscientiousness over the course of college tended to have high GPAs ($r=.22$) while extraversion, agreeableness, neuroticism and openness were not significantly related to GPA (R s ranged from .06 to .07).

Digman (2009) reported a study on conscientiousness which was referred to as a will to achieve, because of its correlations with formal measure of educational achievement, it indicates that this Trait dimension is responsible for much of the variance in achievement, contrary to this, Karen; Liang and Qingfeng (2013) in a review of the effect of personality traits on ability and age among the 117 sample via comparative study reported that success is associated with introversion, but at primary level, success is related to stable (low neuroticism). study of children of age 11 – 13 revealed a Negative relationship between neuroticism and academic achievement, while child (2012) used 354 University sample and reported that both introversion and neuroticism are advantageous traits for university students' academic achievement because Introvert avoid social situations and enjoy bookish and abstract or conceptual pursuit and Neurotics have a high level of internal drive, however Digman (2009) found that

conscientious students are well organized, purposeful, and persistent and these characteristics are highly related to academic achievement.

In a study of factors that predict college students' GPA, Tross; harper; Oscher and Kneading (2000) looked at the three variables which are achievement, conscientiousness and resilience and high school GPA among 844 students, they found that only conscientiousness was significant in predicting success as defined by first semester GPA.

Research reported by Tomas and Andrian (2000) on the relationship between personality traits and examination performance shows that personality super traits especially conscientiousness (positively), extraversion and neuroticism (negatively) were significantly correlated with examination grades and found to account for around 15% variance in students' performance and similarly showed significant correlations between a small number of these traits (dutifulness and achievement striving) to correlate positively with academic achievement while anxiety and activity correlates negatively.

Haye (2003) opined that the measurement of individual talents has fundamental underpinnings in the general model of positive psychology at individual level is about positive personal traits. These traits include such things as capacity for love and vocation, courage, interpersonal skills, aesthetic sensibility, perseverance, foresightedness, originality future, mindedness, spirituality, high talent and wisdom positive psychology, in its most basic form is a Science that takes its Primary task as the undertaking of what makes Life Worth living (Seligman, and Csikszent Mihaji 2000). Komarrju and Korau (2005) on the relationship between the big five personality traits and individual differences in college students, academic motivation using neo five factor inventory,

(Costa and McCrea 2006) and the academic motivation inventory (AMI) Moen and Doyle (1977) revealed a complex pattern of significant relationship between the big five traits and the 16 sub-scales of AMI. Specifically, engagement was best explained by openness to experience and extraversion. Achievement was best explained by experience.

Blickle ; De Fruyt and Mervielde (2008) reported that conscientiousness is related to learning outcomes mediated by learning strategies. In the same vein Muhammad (2006) in a study on student's personality traits and academic performance using five factor model perspective among 120 undergraduate marketing students revealed that all personality traits except extraversion, positively and significantly predicted students' overall grade, whereas extraversion was positively related but not statistically significant, openness and neuroticism were more positively related to students' academic achievement and were found to be more important predictors of overall grade of the students than agreeableness and conscientiousness.

McKenzie (2014) correlated personality traits with success in higher education and found no clear-cut relationship between neuroticism and student's academic achievement. Padama (2007) found strong correlation between emotional stability, neuroticism, and academic success in a web based business course. Johnson maintained that, in a study of descriptors that compare high achievers with under achievers, it was found that high achievers were more introverted, abstract thinkers, emotionally stable, matured, able to face reality, serious, conscientious, moralistic, self assured, secure, self sufficient, resourcefulness, prefer their own decision, socially precise, realize, tranquil and composed. Thus signifies positive correlation between introvert and academic achievement, on the other hand he maintained that under achievers appear to be more

extraverted, warm kind ,willing to participate, concrete–thinkers, affected by feelings, enthusiastic, spontaneous, expensive, cheerful, expedient apprehensive, in secured, Self blaming group oriented, more willing to listening to others not bound by social rules.

Masgrave–marquart; Bromley and Dally (2011) in a study of relationship between personality and academic achievement among 186 high college students found significant positive correlation between GPA and conscientiousness, openness and neuroticism, while DeRead and Schouwembeurg found that extraversion, conscientiousness, openness to experience of the big five personality factors are educationally relevant. Furnex posited that Introversion becomes positively related to achievement as a function of changed work conditions. For instance when the change is made from high school to university. Finlayo observed that at early childhood period there was no significant relationship between introversion and achievement, but that during later childhood, towards adolescent, introvert achieve at a higher level.

Entwistle (2009) reviewed research studies involving extraversion scales developed by Cattell and Eysenck, and concluded that the result suggested a developmental trend in which academic success in the earlier School year associated with stable extraversion while success at university is linked with introversion.

Garba (2010) used an ex-post facto research design on 381 students from selected Federal University in North West Nigeria where he found a high positive correlation between two personality traits of conscientiousness $r=.091$ and neuroticism $r=.085$, on the contrary the correlation between agreeableness was found at $r=.013$, extraversion had $r=0.063$, while openness correlation was found $r=0.039$, thus signifies that some factors among the

big five traits have significant correlation with academic achievement while others do not have significant relationship

2.4.2 Personality Correlation with Intelligence

Joyce line and Indraneel (2008) opines that personality and intelligence have some common features for instance they both follow a relative stable pattern of Behavior through which an Individual life grows which is generally determined in different degree, additionally, they are both significant Predictors of various out comes such as educational achievement, occupational achievement and health, however the traditional view in psychology is that there is no meaningful relationship between intelligence and personality and they should therefore be studied as separate entities .

Intelligence is considered to be a cognitive process, while personality is recognized as being non cognitive and this implies that there is a great distinction between intelligence and personality. On the other hand other Psychologist argued that the distinction between cognitive and non cognitive is vague because almost all personality traits have cognitive attributes even though they are more obvious in some traits than the other. For example neuroticism is a personality concept but is also related to compulsive thinking about possible threat, while agreeableness is associated with understanding and considering the mental state of others.

Another issue with regard to the correlation or otherwise between personality and intelligence is that different methods are used to asses personality and intelligence, for instance, intelligence is normally measured by means of ability test, where as personality is usually measured or asses via questionnaire. Furthermore intelligence is considered to indicate Individual maximum Performance while personality is believed to reflect their

typical Behavior. This notwithstanding, multiple method can be used to assess intelligence and personality, for example questionnaire that require to be rated by self peer or observation can be used to measure Individual ability.

In spite the above arguments Mathew, (2015), maintained that intelligence and personality maintained that “Increasing number of studies have recently explored the relationship between the Big five personality traits and intelligence” below are some of the studies’ findings.

Vernon (2008) maintained that we investigated the relationship of the big five factor of intellect or openness to experience with the crystallized and fluid aspect of measured intelligence. Approximately 500 Participants completed the personality research form (PFR) and the multidimensional aptitude battery(MAB) and found that openness has strongest positive relationship with intelligence among the big five personality traits ($r = .06$) similarly Austin, Deary and Gibson (2007) established positive correlation between the big five and intelligence on the 234 Sample, using a survey design ($r = .03$) they all maintained that individual with high level of openness enjoy the experience of learning and prefer an Intellectually stimulating environment, therefore openness shows a significant association with intelligence.

Furthermore Deyoung, Quilty and Peterson (2007) tested 175 samples using standard measures of cognitive ability and a battery of tasks, they hinted that Previous instrument used to measure openness actually assesses two distinctive aspect. the first is intellect which reflect intellectual engagement and perceived intelligence and is marked by ideas, while the second is emotion which reflects the artistic and contemplative

qualities related to being engaged in sensation and perception and is marked by fantasy, aesthetics, feelings, and action. On this basis intellect was found to be associated with neural system of the working of the memory which is related to intelligence where as openness was no. Wainwright et al (2008) in a study of genetic behavior on 354 Sample maintained that Intellect is genetically closer to intelligence than openness.

The association between conscientiousness and intelligence is very complex, Individual with a lower level of Intelligence are always assumed to tend to behave in an orderly fashion and do extra work, which is related to being conscientious, in order to compensate for their lower level of cognitive ability. Rawlings and Skok (2015).

In (2004) a research was conducted by Bates and Rock ,where U test was used which consisted of Thirty Five students as sample and indicated that there is a very small but statistically significant positive correlation between extraversion and intelligence ($r=.08$) while another recent meta analysis of extraversion which comprised of 50 new studies reported similar correlation ($r=.05$) Bates and Rock (2004) used Raven's Matrices and found that extravert performs better with increasing auditory stimulation where as introvert performed best in silence. This result is consistent with Revella (2013). On the other hand others like Mathew (2015) argued that there are some moderating variables in the relationship between extravert and intelligence including differences in the Assessment Instruments and Samples' age as well as Sensory stimulation, for instance no meaningful correlation was found between extraversion and intelligence in the sample.

This trait has been found to have reliable negative association with intelligence ($r=.33$) by Ackerman (2011) He used an Expost- facto Research Design on 134 University Sample.

However, other researchers like Lahai and Edward have recently reported lower coefficient of ($r=.09$) for general mental ability and emotional stability. Judge et al (2007).

One of the reasons for this negative correlation between intelligence and neuroticism as reported by Zuckerman and Spielberger (2008) is test on anxiety which refers to the psychological distress experienced by individual prior to or during evaluation situation this is closely associated with neuroticism and has negative influence on individuals' performance in an [intelligence\(\$r=.23\$ \)](#). However in a longitudinal study conducted by Gow et al with sample of 356 in . (2005) neuroticism was found to influence Age related decline in intelligence and there is a small negative correlation between Neuroticism in the level of Intelligence ($r=.18$).

This trait has been found to have no significant association with intelligence in some researches, however some component of agreeableness has been found to relate to Intelligence. Ackerman and Heggested (2007) argued that aggression is negatively associated with intelligence ($r=-.20$) because intelligent people may experience more frustration which may lead to aggression, and aggression and intelligence may share some biological factors, in addition emotional perception and emotional facilitation which are component of agreeableness have found to be significantly correlated with intelligence this is may be because emotional perception and emotional intelligence are components of emotional intelligence and some researchers have found that emotional intelligence is a second stratum factor of intelligence.

With regards to correlation between intelligence and academic achievement, Azuka (2016) applied correlation survey design to investigate relationship between intelligence and academic achievement of secondary school students in Abuja Nigeria on mathematics and English achievement test N=1160. Pearson product moment correlation coefficient and t-test were used to analyze the data; the result indicated a significant relationship between intelligence and mathematical test and also positive r between male and female. In another study An ex post facto research design was employed by Janet and Ruth (2016) on 200 and 300 levels NCE students in south western Nigeria, N 1160 via stratified sampling technique their study revealed intelligence is a predictor of academic achievement $r=0.89$, the data was analyzed via multiple regression analysis

2.5 Summary and uniqueness of the study

From the various literature consulted by the researcher one can infer that, the researcher reviewed and offered various views given by different expert in the field/variables under study; thus the concepts of personality; concept of intelligence; as well as the concept of academic achievement. Under the concept of personality, apart from the numerous definitions of the term, the researcher reviewed the determinants of personality, such as home; hereditary; culture, school among others.

The concept of intelligence was also reviewed with an extensive attention to sources and origins of intelligence; distribution of intelligence; measurement of intelligence; types of intelligence tests as well as nature and nurture debate on the concept. Additionally, elaborate discussions on empirical studies from previous studies/researches that are related to the research variables were also presented.

On theoretical frame work, theories of personality by Cattell was reviewed, this is in addition to the big five theory of personality. Two theories of intelligence- Guilford's Theory (G Factor) and Gardner's multiple theories of intelligence were extensively delineated.

On the uniqueness, this research has a wider scope/coverage and is comprehensive, considering the fact that it covered two important psychological constructs that are normally treated separately in most of the studies.(Personality and Intelligence) in relation to academic achievement.

The researcher also investigated the gender difference on intelligence among the students of Federal Colleges of Education in North-West, Nigeria is also very unique to this work as most of the previous researches on personality; intelligence academic achievement do neglect the colleges under study . Thus investigation of gender issues on personality and intelligence in relation to students' academic achievement among the students of Federal Colleges of Education in the North-West, Nigeria is also another unique approach to the research on personality, intelligence and academic achievement of students as previous researchers paid little or no attention to these Federal Colleges of Education, and focused their work on Universities.

The desire of the researcher to provide an insight into the recent parental attitude of choosing areas of study for the students without due consideration to their personality and intelligence types is also a unique nature of this research work; as the researcher could not lay his hand on any work on this aspect, hence another gap to fill and also a uniqueness of this research work, this is in addition to the comparison made by the

researcher on the differences on intelligence among the students of various Federal Colleges of Education in the North-West, Nigeria.

Chapter Three

METHODOLOGY

3.1 Introduction

This chapter outlined and explained the general procedures adopted by the researcher in the process of conducting this research. Consequently, the chapter focused on the following aspects:- Research design, population and sample of the study, sample size, sampling Techniques, data collection instruments, validity and reliability of data collection instruments, data collection and data analysis procedures.

3.2 Research Design

An ex-post facto research design was used in the process of this study, this is because it is applicable in the research intended to investigate the effect of variables that cannot be studied via experimental design or variable that cannot be manipulated. Thus the researcher reported “what factors seem to be associated with certain occurrences, or conditions, or aspects of behaviour.” (Cooper and Schindler 2001 pp: 136)

The researcher in this study examined the relationship of the variable based on naturalistically occurred treatment rather than artificially manipulating or creating the treatment. In the same line, the design allowed the researcher to explain the condition, effect or fact that had already existed. This study therefore, is concerned with identifying the antecedent of a present condition (academic achievement) through collection of two set of data one which is active (academic achievement) and the others which are retrospective (Personality and Intelligence).

3.3 Population and Sample

3.3.1 Population of the Study

Population of the study covered 2016/2017 NCE three Students of Federal Colleges of Education in the North West Nigeria with exclusion of NCE one students who were the new entrance to the colleges and may not have taken any examination in the colleges that could enable the researcher obtain their CGPA for analysis. NCE two students were also not part of this research because they have at least two more semesters to write examination that will be added to their CGPA. The Federal Collages of Education in the study area comprised of Five Colleges namely:

TABLE 3.1 COLLEGES OF EDUCATION IN THE NORTH WEST NIGERIA

Federal College of Education Technical	Bichi	Kano state
Federal College of Education Kano		Kano state
Federal College of Education Tech. Gusau		Zamfara state
Federal College of Education Katsina		Katsina state
Federal College of Education Zaria		Kaduna state

Sample was subsequently drawn from some of these colleges for convenience and easy management of the data. The actual numbers of the population as obtained from the Academic Offices of various Colleges are stated on table 3.2

TABLE: - 3.2 POPULATION DISTRIBUTIONS

s/no	College	Total number of population NCE 111 (2016/2017)
1.	FCET Bichi	1800
2.	FCET Guasau	798
3.	FCE Kano	4937
4.	FCE Katsina	3907
5.	FCE Zaria	4983
Total		16426

Source: Colleges Academic Record Offices.

Homogeneously, most of the population shared a common back ground with regard to their age bracket and have successfully completed senior secondary schools and also passed their WAEC or NECO examination, they also obtained minimum admission requirement for admission to NCE program as prescribed by Joint admission and matriculation board (Jamb), or otherwise have passed the remedial transition examination from their institution of study. In the same vein the population cut across all the available courses offered within the selected Federal Colleges of Education. Heterogeneously, they however varied in socio-economic status as well as parental upbringing, they also varied in respect with the variables under study namely extraversion, agreeableness, conscientiousness, neuroticism and openness to experience, and they may also contrast each other in relation to their Intellectual ability, Exposure, Morality as well as their academic achievement.

It is worth noting that these Federal Colleges of Education are replica/true picture of Nigerian society with diverse ethnic, cultural and religious background. Based on these the researcher assumed that the above characteristics have given the population the required normality for population distribution

3.3.2 Sample Size

The sample for this study is precisely a portion or part of the population which the researcher used, thus sample for this research shares common characteristic with the entire population of the study, and therefore serves as representatives of the population. The sample size estimation was obtained in line with recommendation offered by research adviser (2006). Thus the sample size used was 370. Appendix

Table3.3 Frequency and Percentage of Sample Based on Gender and Collages:

S/NO	GENDER	FREQUENCY	PERCENTAGE
1	Male	237	64.1%
2	Female	133	35.9%
	COLLEGE		
3	FCEt Bichi	63	17%
4	FCE Katsina	135	36.5%
5	FCE Zaria	172	46.5%

The above table shows the frequency distributions and percentages of the respondents based on gender and colleges. It shows that the male respondents were 237 representing (64.1%) and 133 ditto (35.9%) for Female. The respondents from FCE Technical Bichi were 63 with (17%), the respondent Students from FCE Katsina were 135 ditto (30.5%) and the respondents students from FCE Zaria were 133 representing (46.5%).

3.3.3 Sampling Technique

Multi stage sampling technique was used by in the process of selecting the colleges, thus the researcher selected colleges under study based on the specializations of the colleges (FCEs Tech and FCEs Conventional). Thus out of the Five Federal Colleges of Education in the North West Nigeria, the researcher selected three colleges for this study (FCEs Tech=1 and FCEs conventional=2). Meaning that the researcher dropped one college from each of the cluster, this was carried out by the researcher via Hat and Draw technique, thus Federal college of education Katsina, Federal College of Education Zaria, and Federal College of Education Tech Bichi were picked from the draw, which means that Federal College of Education Tech Gusau and Federal college of education Kano were dropped, the researcher finally apply proportionate sampling technique in order to arrive at the required number of the sample, thus sample from the selected colleges were

drawn in line with their sizes or based on the number of students from each College, this was guided via proportionate sampling formula: $n = N \left(\frac{n_1}{N} \right)$

n= or stands for a sample size required,

n₁= or stands for population per school and

N= stands for total number of subjects.

Application of this formula gave the researcher the required sample from each College proportionately.

3.4 Data Collection Instruments

Data collection instruments in this research are categorized into three: 2016/2017 NCE 111 Cumulative grade point average for academic achievement, U C Berkeley Big Five Personality Inventory (BFPTI) and Sheila Halasz Multiple Intelligence Inventory (MII). These are explained in the subsequent sub headings.

3.4.1 Cumulative Grade Point Average (CGPA)

The Students' cumulative grades point average was obtained from the colleges' academic record offices. A Proforma was designed for easy identification of the students and is devoid of asking the students' personal information such as names, religion and ethnicity. To avoid bias and subjectivity only students' number was required on the proforma. The bench mark or standard of (CGPA) of the colleges of education under study is based on National Commission for colleges of education (NCCE), as stated below

0.01-2.49

2.5- 3.49

3.50-4.49

4.5 – 5.00

This is in accordance with the colleges guidelines for the award of various classes of NCE certificates. It is worth mentioning that, the data collected via this scale was on interval scale but it was converted to continuous scale via SPSS. This was very imperative in order to make all the variables on continuous scale (big five personality, multiple intelligence and the academic achievement)

3.4.2 U C Berkeley Big Five Personality Traits Inventory (BFPTI)

The second Inventory used by the researcher, was for measuring the personality variables, thus U C Berkeley (2000) Big Five Personality Inventory was used, this Instrument is a replica of the big five Personality traits namely : Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticisms. The Inventory has been retained with its 44 items, however the scale has been modified to Four Likert scale instead of the original version that has Five Likert scales. (Strongly agree at the extreme and denotes strong agreement = 4 while Strongly disagreed as lowest scores =1, Disagree=2 and Agree=3,) thus undecided was discarded by researcher to avoid redundancy as some respondents may tend to unjustifiably dump their responses on it. All the Statements in the Instrument were concerned with feelings and reactions of the respondents in a variety of situations. The tasks of the respondents were to indicate the strength of their agreement with each situation. This instrument has been used by number of researchers over the years and has been reported to have validity ranging from .773 to .803 while its reliability coefficient has been established via Cronbach's Alpha= .779 Sintok and Kedah (2014, p. 309). It is worth noting, that on the course of adapting the

instrument the following statement were amended for clarity and easy comprehending of the respondents

Table 3.4 Amendment Table (BFPTI)

Original version	Amended to
Is ingenious, a deep thinker	Clever, a deep thinker
Can be moody	Can be unapproachable and unfriendly
Can be tense	Can be rigid
Originality,	come up with new ideas

3.4.3 Halasz Multiple Intelligence Inventory (MII)

For measuring intelligence the researcher used Sheila Halasz multiple intelligence inventory, Halasz is a US base preschool consultant and expert in curriculum development, he developed the inventory based on Howard Gardner's multiple intelligence theory. The Inventory covered seven areas of multiple intelligence and was designed in a four Likert Scale. See appendix. The Instrument has also been adapted rather than adopted to meet the uniqueness of this study. In the course of adapting the instrument the following items were modified so that respondents can quickly understand and respond to them easily, thus averted ambiguity. The amendments made on the original version are presented 3.5

Table 3.5 Amendment Table (MII)

Original version	Amended to
I enjoy telling stories and jokes	I enjoy telling stories
I m a good speller	I hardly make spelling error
I play at least one sport	I play at least one game
I prefer group sport like baseball	I prefer group sport like foot ball

This instrument has been reported to have validity ranging from .793 to .916 while its reliability coefficient have been established via Cronbach's Alpha range from = 0.70 to 0.89.(Karim and Wong 2010, p.346).

3.5 Validation of Data Collection Instruments

3.5.1 Validity of the Instruments

To determine the validity of all adapted instruments: U C Berkeley big five personality inventory (2000) and Halasz multiple intelligence inventory, dual validation was carried out where both content and convergent validity were sought after subjecting the instruments to a pilot test on fifty randomly selected samples from Federal College of Education Kano.

3.5.2 Content Validity

On the content validity two specialists, one from educational psychology, and other from test and measurements unit were consulted, this is in addition to the initial research supervisors' input as well as the input of English specialist who ensured that the grammatical and other English rules for a standard or formal writing have been adhered to. The two instruments together with the research questions and hypotheses were availed to the validators by the researcher; their suggestions and advice were strictly adhered to,

before the final production of the original instruments. Face /content Validation of research instruments is very important, it is purported to establish the coverage, relevancy eligibility, appropriateness as well as capability of the instruments to achieve the purpose for which it has been constructed.

3.5.3 Convergent Validity

In addition to content validity the researcher further obtained the convergent validity of the two instruments by comparing each of the research instruments with another instrument that is measuring the same construct with the research instrument. Big five personality inventory was paired to Goldberg (1999) personality inventory, while the Halasz multiple intelligence inventory was compared with McKenzie (1999) multiple intelligence inventory. The results of the convergent validity of the two instruments after administering them to the sample were process through SPSS via Pearson product moment correlation co-efficient. Table 3.6 and 3.7 show the results.

Table 3.6 Convergent Validity of U C Berkeley Big Five Personality Inventory VS Goldberg Personality Inventory

Pearson correlation	U C Berkeley personality Invent	GoldbergePersonality Invent
Items	r	
44	0.86	0.79

Table 3.7 Convergent Validity of Halasz Multiple Intelligence Inventory VS Walter Mckenzie Multiple Intelligence Inventory

Pearson correlation	Halasz Multiple Intel. Invent	McKenzie Multiple Intel. Invent
Items	r	
56	0.717	0.712

Results of table 3.7, showed significant correlations between the big five personality inventory and the Goldberg personality inventory (both measuring the Personality construct). Furthermore a significant positive relationship was also obtained in respect of Halasz Multiple intelligence Inventory and McKenzie Multiple intelligence (both measuring the intelligence construct)

The researcher found it necessary to established the above validity in view of the fact that convergent validity is a one way through which validation of constructs like personality and intelligence can best be established, as convergent validity refers “to the degree to which two measures of a construct that theoretically should be related are in fact related” Ahmad (2017). Array, Jacob & Sorensen (2006) reiterated that “Convergent validity is the relationship between a test scores and other measures intended to assess similar construct.” A successful evaluation of convergent validity signifies that an instrument of a construct (in this case Halasz multiple intelligence) is significantly correlated with other instrument designed to measure theoretically the same construct, (in this case McKenzie multiple intelligence inventory)

3.5.4 Reliability of the Instruments

The reliability coefficient of the instruments were obtained and analyzed as follows:

3.5.5 Reliability of U C Berkeley Big Five Personality Inventory

This instrument is divided into five sub scales (Extraversion, Openness to Experience, Conscientiousness, Neuroticism and Agreeableness) they were scored in a four Likert scale thus the instrument is considered to be polytomous and one-dimensional in nature since it is aimed at measuring single trait with number of sections. Consequently, the researcher established the reliability of internal consistency which is aimed at ascertaining that all the properties of several data sets are related and to also estimate intra scale reliability in terms of the items variation. Cronbach's alpha is the most commonly used when assessing the internal consistency of a polytomous questionnaire that is made up of multiple Likert scale and items. The reliability of the whole scale as well as that of each sub scale in the instrument were reported respectively, after administering the instrument to the 50 samples that were not part of the sample of the main work, thereafter the researcher processed the data through Cronbach's alpha via SPSS, as follows

Table 3.8 Global Reliability index depicting Internal Consistency for U C Berkeley personality Inventory

Cronbach's alpha	N	items
.754	50	48

Table 3.9 Reliability index depicting Internal Consistency for U C Berkeley personality Inventory sub scales

Items	Personality Traits	Cronbach's Alpha
10	Agreeableness	.840
09	Conscientiousness	.831
07	Extraversion	.731
11	Neuroticism	.796
09	Openness to experience	.758

3.5.6 Multiple Intelligence Scale

The procedure applied above was also employed in establishing the reliability of this instrument, since they have common features (designed in a four Likert scale, and divided into sub scales. Consequently, the researcher also established the reliability of internal consistency, which is aimed at ascertaining that all the properties of several data sets are related and to also estimate intra scale reliability in terms of the items variation. The instrument was also administered to the 50 sample who were not part of the sample of main work thereafter the researcher used Cronbach's alpha to establish the instruments' reliability. Federal College of Education Kano which was exempted from the study was used for the pilot testing below is the Sammy of pilot testing on the above instruments

Table 3.10 Global Reliability index depicting Internal Consistency for Halasz Multiple Intelligence Inventory

Cronbach's alpha	N	Items
.707	50	56

Table 3.11 Reliability Index Depicting Internal Consistency for Multiple Intelligence Inventory sub scales

Items	Halasz Multiple Intelligence	Cronbach's Alpha
08	Verbal/Linguistic Intelligence	.701
08	Logical/ Mathematical Intelligence	.690
08	Visual/ Spatial Intelligence	.803
08	Bodily/Kinesthetic Intelligence	.744
08	Musical Intelligence	.783
08	Interpersonal Intelligence	.771
08	Intrapersonal Intelligence	.729

Cohen (2011) view that Cronbach's alpha scale greater than .070 is acceptable for internal consistency of an instrument. Based on the above assertion the instruments are also regarded valid and reliable, thus, the researcher used them for the main study.

3.6 Data Collection Procedure

The success of any research work depends on the researcher's ability to gain access to data that will extend the frontier of knowledge and at the same time help the researcher to achieve the research objectives. Before going to the field the researcher solicited for an introductory letter from the department of education Bayero University Kano, this letter was presented to the various authorities of colleges of education under study by the researcher for granting access to the sample. The researcher administered the instruments in person to the selected sample after their education lecture hours, (a compulsory course for all students) through the assistance of research assistant; the researcher deemed it necessary to engage the research assistant to attain efficiency and control of the respondents who filled and returned the instruments instantly in the presence of the researcher. This enabled the researcher maximized the return rate and also cleared on the spot any possible/unforeseen difficulty associated with instruments to the respondents. However it is worth noting that prior to the administration of the instruments, all the necessary due process and ethical consideration for seeking approval from the colleges authority were adhered to.

As a result of the supports and cooperation accorded by the research assistant the researcher was able to retrieve all the three hundred and seventy instruments administered to the respondents.

3.7 Data Analysis Procedure

The researcher analyzed the data collected from the field via Pearson Product Moment correlation Co efficient (r), t-test and analysis of variance (ANOVA). The first statistical tool dealt with hypotheses one to five which the researcher analyzed via Pearson

Product Moment Correlation Co-efficient statistical tool (r) as they deal with establishing relationship between personality traits and the academic achievement, as a correlation tool is normally used on the two variables in which change in one; in this case personality (independent variable) is accompanied by a corresponding change in the other variable in this case academic achievement (dependent variable).

The researcher also employed t-test and Anova to test hypotheses six and seven that looked for differences respectively. t-test was used to test hypothesis that looked for differences on gender and intelligence (between Male and Female) students of Federal Colleges of Education. It is a very useful statistical package for analyzing simple comparison between two independent variables, it is also used when the researcher has two separate groups of individual for example male and female as in the case of hypothesis five in this study, thus participants or sample for a t test in one group are independent to the participants on the other group.

Analysis of variance is very effective statistical tool when dealing with normal population, it also facilitate effective comparison or establishing variability in particular group and or between the groups as well as how do means of different groups compares within the group.

Chapter Four

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents the analysis of data collected from the field on the impact of personality traits and intelligence on academic achievement among NCE students of federal colleges of education, North-West Nigeria. Frequency and percentages were used to present the demographic information of the respondents; Pearson Product Moment Correlation (r) was used to test hypotheses one to five while t- test and Analysis of variance (ANOVA) were used to test the null hypotheses six and seven respectively. The chapter further presents the result of the analysis in a tabular form, summary of the findings of the study as well as an extensive discussion on the findings using relevant literature.

4.2 Data Analysis

The data collected from the field to assess the Impact of Personality Traits and Intelligence on Academic Achievement among NCE Students of Federal Colleges of Education, North-West Nigeria were analyzed and presented below. The Big Five Personality factors were separated by the researcher in order to establish the dominant traits for each respondent, table 4. 1 contained the frequency and percentage for each traits total equals to 370.

Table 4.1 Depicting the differential extent per personality trait

Traits	frequency	percentage	Valid percentage
Agreeableness	101	27.3	27.3
Conscientious	60	16.2	16.2
Extraversion	60	16.2	16.2
Neuroticism	96	25.9	25.9
Openness to exp	53	14.3	14.3
Total		100	100

Table 4.1 indicated that the frequency of agreeable trait out of 370 respondents' has 101 responses equals to 27 % while openness to experience has the lowest frequency of 53 respondents which is 14. 3 percent conscientiousness and extraversion have 60 respondents respectively, equivalents to 16.2 percent for each of them, while Neuroticism has 96 respondents ditto 25.9 percent .this implies that the frequency for each trait was used in analyzing the data and testing the hypotheses.

4.3 Hypotheses Testing

The seven research hypotheses formulated in chapter one were analyzed below in order to achieve the objectives of the study..

Hypothesis One: There is no significant relationship between Agreeableness and academic achievement among NCE Students of Federal Colleges of Education in North –West, Nigeria .Table 4.2 provided the correlation matrix between agreeableness and academic achievement of the sample under study.

Table 4.2: Correlation Coefficient ‘r’ of Agreeableness and Academic Achievement among NCE Students:

Variables	N	r	P-value (2-tailed)
Agreeableness	101	.120	.233
Academic Achievement	101		

Table 4.2 above reveals the correlation coefficient 'r' between agreeableness and academic achievement among NCE students of North-West, Nigeria as $r(0.120)$ and p-value of (0.233) at 0.05 level of significance. Thus $P(0.233)$ greater than 0.5 level of significance. Based on the above table it is evident that the null hypothesis which says there is no significant relationship between agreeableness and academic achievement among NCE students of Federal Colleges of Education in North-West, Nigeria is retained. That is to say agreeableness does not correlate with academic achievement among the NCE students of Federal colleges of education in the North-west Nigeria.

Hypothesis Two: There is no significant relationship between Conscientiousness and Academic Achievement among NCE Students of Federal Colleges of Education North-West, Nigeria. Table 4.3 showed the correlation matrix between conscientiousness and academic achievement of the sample under study.

Table 4.3: Correlation Coefficient 'r' of Conscientiousness and Academic Achievement among NCE Students:

Variables	N	r	P-value (2-tailed)
Conscientiousness	60	-.247	.057
Academic Achievement	60		

Table 4.3 above presents that the correlation coefficient 'r' between conscientiousness and academic achievement among NCE students of North-West, Nigeria as $-.247$ and p-value of $.057$ at 0.05 level of significance. It can be inferred from the table that p-value 0.900 is greater than a 0.05 level of significant.

This implies that the null hypothesis which says there is no significant relationship between conscientiousness and academic achievement among NCE students of Federal Colleges of Education North-West Nigeria is retained. The result affirmed that conscientiousness does not correlate with academic achievement among the NCE students of Federal colleges of education in the North-west, Nigeria.

Hypothesis Three: There is no significant relationship between extraversion and academic achievement among the NCE students of Federal Colleges of Education in North-West, Nigeria. Table 4.4 contained the correlation analysis between extraversion and academic achievement of students.

Table 4.4: Correlation Coefficient ‘r’ of Extraversion and Academic Achievement among NCE Students:

Variables	N	r	P-value (2-tailed)
Extraversion	60	.690	.022
Academic Achievement	60		

The result of (r) presented in table 4.4 above, reveals that the correlation coefficient ‘r’ between extraversion and academic achievement among NCE students of Federal Colleges of Education North-West, Nigeria is .247 and p-value of .022 less than 0.05 level of significance. Consequently, the null hypothesis which says there is no significant relationship between extraversion and academic achievement among the NCE students of Federal Colleges of Education North-West, Nigeria is rejected. This shows that extraversion correlate with academic achievement among NCE students of Federal Colleges of Education in the North-west, Nigeria. Thus the higher level of extraversion of

students the higher will be his/her academic achievement, and the lower the level of students' extraversion the lower his or her academic achievement. Based on the above table the above hypothesis is rejected.

Hypothesis Four: There is no significant relationship between neuroticism and academic achievement among NCE students of federal colleges of education in North-West, Nigeria. Table 4.5 provided the correlation matrix between Neuroticism and academic achievement of the sample under study

Table 4.5: Correlation Coefficient 'r' of Neuroticism and Academic Achievement among NCE Students:

Variables	N	r	P-value (2-tailed)
Neuroticism	96	.028	.790
Academic Achievement	96		

Table 4.5 above indicates that the correlation coefficient 'r' between neuroticism and academic achievement among NCE students of North-West, Nigeria. The p-value 0.790 greater than 0.05 level of significance. This implies that the null hypothesis which says there is no significant relationship between neuroticism and academic achievement among NCE students of Federal Colleges of Education North-West, Nigeria is retained. Meaning that, neuroticism does not correlate with academic achievement among NCE students in the North-west, Nigeria.

Hypothesis Five: There is no significant relationship between Openness to Experience and Academic Achievement among the NCE Students of Federal Colleges of Education

North-West, Nigeria. Table 4.6 provided the correlation matrix between neuroticism and academic achievement of the sample under study

Table 4.6: Correlation Coefficient ‘r’ of Openness to Experience and Academic Achievement among NCE Students:

Variables	N	r	P-Value
Openness to Experience	53	-.130	0.352
Academic Achievement	53		

Table 4.6 reveals that the correlation coefficient “r” between openness to experience and academic achievement among NCE Students of federal Colleges of Education North West , Nigeria is -.130 and p-value of 0.352. Thus p-value 0.352 greater than 0.05 level of significance. Based on the above the finding implies that since the p-value is greater than the level of significance the null hypothesis which states no significant relationship between openness to experience and academic achievement among NCE students of federal colleges of education North West Nigeria is hereby retained.

Hypothesis Six: There is no significant difference on Intelligence between male and female NCE students of Federal Colleges of Education in North –West, Nigeria. Table 4.7 depicts the t test analysis on intelligence and academic achievement of the sample under study

Table 4.7 T-test analysis on difference on Intelligence between Male and Female NCE Students of Federal Colleges of Education in the North-West

Gender	N	Mean	SD	Df	t-value	P-Value (2-tailed)
Male	237	21.84	2.66	368	2.832	0.005
Female	133	20.98	2.76			

Table 4.7 above shows t-test analysis on the Intelligence between male and female NCE students of Federal Colleges of Education in North-west, Nigeria. It shows that the t-value is 2.832, the test is significance at 0.05 level of significance, 368 degree of freedom and p-value of 0.005 as such since the p-value is less than level of significance, the null hypothesis which stated that, there is no significance difference on the level of intelligence is rejected. Therefore, this reveals that, there is significance difference on the Intelligence between male and female NCE students of Federal Colleges of Education in North-west in Nigeria the mean from table indicate that male are more intelligence than the female having the mean of 21.84 more than the 20.98 obtained for the female. Table 4.8 provided the analysis of variance on intelligence and academic achievement among the colleges of education under study.

Table 4.8 Analysis of Variance (ANOVA) on difference on intelligence among NCE Students of Federal Colleges of Federal Colleges of Education in North- West

Source	Sum of square	Df	Mean square	F	p-value
Between Groups	7.489	2	3.744	0.460	0.632
Within Groups	2990.622	367	8.149		
Total	2998.111	369			

Table 4.8 above shows analysis of variance (Anova) on the difference on intelligence among NCE Students of Federal Colleges of Education. The F value is 0.460 and p-value of 0.632 was obtained which is higher than 0.05 level of significant. This analysis shows that, the null hypothesis which says there is no significant difference on intelligence among NCE Students of Federal Colleges of Education in North-West, Nigeria is retained and maintained that, there is no significance difference on the Intelligence among NCE Students in the North-West Federal Colleges of Education.

4.4 Summary of the Findings

The following are the summary of the research findings:

1. There is no significant relationship between agreeableness and academic achievement among NCE students of Federal colleges of education in North-West, Nigeria.
2. There is no significant relationship between conscientiousness and academic achievement among NCE students of Federal colleges of education in North-West, Nigeria.
3. There is a significant relationship between Extraversion and academic achievement among NCE students of Federal colleges of education in North-West, Nigeria.
4. There is no significant relationship between Neuroticism and academic achievement among NCE students of Federal Colleges of Education in North-West, Nigeria.
5. There is no significant relationship between Openness to Experience and academic achievement among NCE students of Federal Colleges of Education in North-West, Nigeria.
6. There is significant difference on Intelligence between Male and Female NCE Students of Federal Colleges of Education in the North-West, Nigeria
7. There is no significant difference on Intelligence among NCE students of Federal Colleges of Education in the North-West, Nigeria.

4.5 Discussion of the Findings

The primary objective of this study was to determine the Impact of Personality Traits and Intelligence on Academic Achievement among the NCE Students of Federal Colleges of Education in the North- Western part of Nigeria. The seven null hypotheses developed and analyzed above by the researcher, revealed the following findings.

The first finding of this study revealed that there is no significant relationship between agreeableness and Academic Achievement among NCE Students of Federal Colleges of Education in North-West Nigeria. P value 0.233 greater than 0.05 level of significance, this means that the null hypothesis is retained , and the study maintains that there is no significant relationship between agreeableness and academic achievement among NCE students of Federal Colleges of Education in North-West Nigeria. Agreeableness reflects on individuals who are considerate and kind to almost every one, prefer routine work, have few artistic interest. Such individuals are always willing to compromise their interest for others; they are also not assertive and often quite. Looking at these features of agreeableness it can be said that the finding of this study which maintained no significant relationship between agreeableness and academic achievement is in order because features like quietness, lack of artistic interest non assertiveness among others are likely to have no significant relationship with academic achievement.

Based on the foregoing findings, the researcher made some comparisons with relevant findings of other researchers in order to establish whether the findings of this study corroborates with findings of other studies in the same area or otherwise. This study maintained that there is no significant relationship between agreeableness and academic achievement among the students of Federal Colleges of Education in the North- West-

Nigeria thus this findings is in line with findings of Oscher and Kneading (2000) , who conducted a study on 844 students using the students' Grade point average (GPA) and their findings revealed that out of the five personality traits only conscientiousness was found to have significant relationship with academic achievement, meaning that agreeableness among the big five personality traits has no significant relationship with academic achievement. Furthermore the findings by Garba (2010) confirmed that agreeableness and openness to experience have no significant relationship with academic achievement among the university students in Nigeria. Nofle and Robin (2011) in a longitudinal relationship between big five and grade point average GPA.Submitted that, agreeableness, extraversion and openness were not significantly related to students' grade point average GPA.

On the contrary, the findings of this study contradicts Costa and McCrae (2006) who reported that, agreeableness has high correlation with the academic achievement of the students , while Graziano (2013) found medium association between academic grades and other personality traits like agreeableness. Also in (2014) Ridgell and Lansbury also found a significant correlation between agreeableness, emotional stability and academic achievement.

The second finding of this work posited that conscientiousness has no significant relationship with academic achievement among NCE students of federal colleges of education in North-West Nigeria. P- Value .057 greater than 0.05 level of significance, consequently since the p value is greater than 0.05 level of significant the null hypothesis has been retained by this study and the alternative one rejected, thus the study maintained that there is no significant relationship between conscientiousness and

academic achievement among NCE students of Federal Colleges of Education in North-West Nigeria. Conscientiousness reflects an individual who can handle stress, think deeper, emotionally stable and remain calm in tensed situation, even though these traits may have positive relationship with academic achievement they however possessed some traits that can hinder their academic achievement such as obsessive personality disorder characterized by general pattern of too much concern with orderliness, perfectionism which normally lead them to depression and low self esteem when they encounter failure to achieve what they want achieve, conscientious individuals always want exercise control over their environment at the expense of flexibility and efficiency. This implies that an individual with such traits may have too much confidence, anxiety, fear, and delay while executing academic task such as examination or test, and at the same time he may pay little time to his study. This will invariably affect once academic achievement. The above scenarios re-affirmed the finding of this study that conscientiousness has no relationship with academic achievement.

this result contradicts the report of Erik and Richard (2017) on the big five personality and academic outcome where they conclude that, conscientiousness was the strongest predictor of both high school and colleges' grade point average GPA. Another finding by Lee and Ashton (2006) reported that conscientiousness is significantly related with academic performance. Bromley and Dally (2011) reported that conscientiousness has positive correlation with grade point average GPA and is educationally relevant than the other traits. Muhammad (2006) posited that some personality traits interact with academic achievement, and conscientiousness is one of these traits. Takemoto-Choch (2009) also did not corroborate with the findings of this work and reported that

conscientious students are well organized, purposeful, and persistent, and these characteristics are highly related to academic achievement. The contradictions between the findings of this work and that of the above researchers might be attributed to the availability or presence of other traits associated with the conscientiousness such as over confidence fear of failure, obsessive personality disorder, too much concern about pattern and order at the expense of flexibility and efficiency among others which are not favourable to academic achievement.

The third finding of this research indicated that extraversion has significant relationship with academic achievement among NCE students of federal colleges of education in North –West Nigeria, the p value stands at 0.022 less than 0.05 level of significant, based on the above result the researcher concluded that extraversion has significant relationship with academic achievement among NCE students of Federal Colleges of Education in North-West, Nigeria. The finding of this research might not be wrong as extraversion reflects characteristics like talkativeness, sociality, assertiveness and always full of energy which might help him to push and also with stand the pressure of academic tasks, consequently, the finding of this research work concluded that extraversion has significant relationship with academic achievement among the NCE students of Federal Colleges of Education in North-West Nigeria.

This finding lends support to the work of Johnson (2012) who posited that extraversion among the five personality factors has higher correlation with the academic achievement. Research reported by Tomas and Andriana (2000) on the relationship between personality traits and examination performance shows that super traits especially extraversion is significantly correlated with examination grade. Paradoxically, Entwistle

(2009) reviewed research studies involving extraversion scales developed by Cattell and Eysenck, and concluded that the result suggested a developmental trend in which academic success in the earlier school years is associated with stable extraversion, while success at higher level of education is linked with introvert. The different stand between this findings and the finding of this work may be attributed to comparative approach of their work as they compared early school success with the high school success while this study focused on the students of high school only.

The fourth finding of this work revealed that neuroticism has no significant relationship with academic achievement among NCE students of Federal Colleges of Education in North-West Nigeria. p value 0.790 greater than 0.05 level of significant, therefore since the p value is greater than the level of significant as indicated above, the null hypothesis which state there is no significant relationship between neuroticism and academic achievement among NCE students of federal colleges of education is hereby retained. The researcher maintains that even though neuroticism reflects characteristics like being reserved worried and shy which may keep one indoor, these traits can make one distracted on his academic tasks, such individual are always free from too much interactions with people which often provide room for socialization and assimilation of knowledge, their failure to engage with their colleagues in extra lesson and other extra-curricular activities are likely to affect their academic activities negatively, at the same time he possess other characteristics such as depression, nervousness, fear and anxiety as well as lack of confidence, etc which might hinder his academic achievement. These characteristics associated with neuroticism re affirmed the finding of this work which

maintained that neuroticism has no significant relationship with academic achievement among NCE students of federal colleges of education in North- West, Nigeria.

This finding re affirmed the submission of Misra and McKean (2000) whose research found that there is no relationship between Neurotic people with stressful life events and poor academic achievement. Ruckers (2012) also conclude that the feeling of stress as an element of neuroticism was significantly correlated with rate of failure of courses. The outcome of this work also lends support to the study conducted by Sohail (2013) whose findings indicated that a high level of neuroticism is associated with poor academic achievement.

The fifth finding presented that openness to experience has no significant relationship with academic achievement among NCE students of federal colleges of education in North-West Nigeria. The p- value presented at 0.352 greater than 0.05 level of significance, in view of the fact that p- value is higher than the level of significant the null hypothesis which state that openness to experience has no significant relationship with academic achievement among the NCE students of Federal Colleges of Education is retained and the alternative hypothesis is therefore rejected.

From the findings by other researchers on the relationship between openness to experience and academic achievement of student it is evident that, openness to experience does not correlate with the academic achievement; this position has been supported by Garba (2010) who established that openness is not strongly related to the academic achievement of students. Nofle and Robin (2007) also, did not find significant relationship between openness to experience and academic achievement,

The result of hypotheses six was obtained via t test analysis , the finding from the analysis on this hypothesis which says that there is no significant difference on Intelligence between Male and Female Students of Federal Colleges of Education in North-West Nigeria showed the t- value 2.382 at 0.05 and p value(0.005) lower than level of significance , based on the fact that p- value is lower than the level of significant, the finding concluded the null hypothesis is rejected and the alternative hypothesis retained, the researcher therefore deduced that there is a significant difference on the intelligence between male and female students of Colleges under study , since p-value is less than the level of significance and there for the alternative hypothesis is retained while the null hypothesis which states that there is no significant difference on intelligence between male and female NCE students of Federal Colleges of Education in North- West Nigeria is rejected.

This finding is in line with Auwal's stand (2011) as he reported that, Girls or Female are superior in Intelligence than the Male, most often in the vocabulary articulation. Another report has been given by Colom and Lynn (2004) who found a Male advantage over the Female among the Spanish students. Meisenberg (2009) also lends support to the findings of Colom and Lynn where he posited that Male Students are more Intelligence than their Female counter parts. Paradoxically, the finding of Umar, Yagana and Waziri (2015).is not in conformity with the findings of this work. They examined Gender difference in Students' Intelligence of Colleges of Education in Borno Maiduguri on 186 samples; their finding indicated that there is no significant differences exist between Gender and Intelligence in colleges of education Borno state, Nigeria. The different position between the findings of this study with their position may be attributed to restriction/scope in the

area of their study, as they conducted their research in one state (Borno) and also covered State Colleges of Education which are often Homogeneous with regard to the culture and tradition of their Students, while this study covered wider region (North –West Nigeria) and also covered Federal Colleges of Education which are heterogeneous in nature. This is in addition to the fact that State Colleges of Education and the Federal Colleges of Education are under two different Tiers of Government (State and Federal) which allow room for different source of funding, recruitment of teachers and their remuneration packages as well as provision of infrastructural facilities. They all differs significantly in these aspect among others, and thus could be the basis of difference between the finding of their study and that of this research.

The last finding of this study retained the null hypothesis and rejected the alternative hypothesis, the finding revealed that there is no significant difference on the intelligence among the students of various Federal Colleges of Education in North-West, Nigeria p-value of 0.632 higher than 0.05 level of significance. The researcher opines that since all Federal Colleges of Education are under the umbrella of Federal Republic of Nigeria and under the purview of National Commission for Colleges of Education there should not be any difference in their standard because all the colleges under study do enjoy uniform standard with regard to adherence to the rules and regulation, provision of teachers, students' admission criteria as well as provision of infrastructural facilities, consequently the intelligence and academic achievement of the students in these colleges should ordinarily not be different from each other.

Chapter Five

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter the researcher presented the summary of this study, conclusion deduced from the tested hypotheses as well as recommendations from the study and recommendations for further studies

5.2 Summary

The study investigated the Impact of Personality Traits and Intelligence on Academic Achievement among NCE Students of Federal Colleges of Education in the North – Western, Nigeria. Chapter one, explained researcher's motives behind conducting the study consisting of the back ground to the study, and statement of the problem .The researcher observed with keen interest the myopic academic capabilities being displayed by the students of higher educational institutions of learning in Nigeria, which has been of enormous concern to all the stakeholders in education (parent, teachers, policy makers, students, and counsellors) who were considered as the target beneficiaries of this work. In view of this, the researcher believe that personality and intelligence as key predictors of academic achievement may be attributed to the current poor academic achievement being displayed by the students of various higher institutions of learning in Nigeria. This motivated the researcher to ponder around these factors with a view to find out if they have bearing on the current myopic academic achievement among the students of Nigeria.

The researcher further observed that most of the previous investigations on Personality were not conducted on NCE Students of Federal Colleges of Education in North- West Nigeria. The researcher also desired to extend the frontier of knowledge by studying the impact of two independent psychological constructs (personality and intelligence) concomitantly in relation to the students' academic achievement. Many researchers have previously treated these constructs in relation to academic achievement separately.

The researcher further formulated seven research objectives to guide the conduct of the study these objectives were to find out if the Big Five Personality Traits (agreeableness, conscientiousness, extraversion, neuroticism, and openness to experience) and Intelligence have any Impact on the Academic Achievement among NCE Students of Federal Colleges of Education in North-West Nigeria. In line with these objectives seven research questions with their corresponding research hypotheses were also developed, five out of the seven hypotheses looked for relationship between Personality Traits and Academic Achievement of the sample under study, hypothesis six sought for difference on intelligence between male and female students of the colleges, while the last hypothesis (ho₇) established differences on intelligence among the Students of the colleges. Toward the end of chapter one the researcher presented the significance and relevance of the study to the stakeholders in education such as the Teachers, Policy makers, Parent, Counselors and Psychologists as well as the School Administrators. The researcher finally closed this chapter by stating the scope and delimitation of the study,

In chapter two, the researcher presented the literatures that are related to the topic under investigation, this enabled the researcher to conceptualize the key variables of the research and also review theories as well as the empirical studies that are related to the

topic. The concept of personality, as individual differences in characteristics, pattern of thinking, feelings and behavior has been delineated extensively, in addition to the discussion on the concept of intelligence as ability to put intellect into use, using intellectual abilities for handling a situation or accomplishing task; as well as academic achievement were thoroughly discussed, in this chapter. Further to this, some psychological theories related to personality and intelligence were also presented in this chapter, these theories include the Cattell sixteen factors personality theory, the big five personality theory focusing on agreeableness, conscientiousness, extraversion, neuroticism, and openness to experience. In addition to these personality theories two theories of Intelligence, multiple intelligence theory by Howard Gardner and the General factor theory of intelligence by Guilford were reviewed. Various empirical studies were also presented in order to have a guide and identify gap to be filled by this study.

In chapter three the researcher presented the methodology employed in the process of conducting this study, the chapter provided the blue print and road map that guided the entire process of this work; the chapter described the research design, (an ex-post facto), population size obtained from the colleges of educations' academic record offices. The samples of three hundred and seventy were obtained via multi stage sampling techniques, in line with suggestions offered by Research advisors (2006).

The chapter further described the instruments used for data collection. In this chapter the researcher also discussed the validity and reliability of the data collection instruments, content validity was established by experts in Psychology, Test and Measurement as well as the English specialist while convergent validity was established after a pilot testing of the research instruments on fifty samples from Federal College of Education Kano.

Reliability of internal consistency was obtained via Cronbach's alpha. The researcher wrapped up this chapter with the details of data collection and analysis, an explanation was provided to justify why Pearson Product Moment Correlation Coefficient, t test and Analysis of variance (Anova)) were used in the data analysis.

Chapter four availed the reader of this work with the presentation and analysis of data collected. It also presented the descriptive statistics of the respondents' demographic variables using frequency table and percentage figures. The chapter also presented the detailed analysis of the collected data in line with the research hypotheses; the inferential analysis applied in this work consisted of Pearson Product Moment Correlation Coefficient (r) t- test and Analysis of variance (ANOVA). The last part of this chapter provided the major findings' as well as a thorough discussion in line with existing empirical studies.

5.3 Conclusion

As it were, out of the seven null hypotheses, four hypotheses under the Big Five Personality Components were retained as not having any significant relationship with the academic achievement among the Students of Federal Colleges of Education in the North-West, (Agreeableness, conscientiousness Neuroticism and openness to experience) while the finding on Extraversion revealed that it is significantly related with academic achievement. On difference on Intelligence between Male and Female NCE students of Federal Colleges of Education in North-West Nigeria, the researcher discovered and reported that Male and Female from Federal Colleges of Education in the North-West, Nigeria differ significantly on their Intelligence, consequently, the null hypotheses was rejected. The last finding of this study was on hypothesis seven aimed at establishing

difference on Intelligence among the Students of various Federal Colleges of Education in the North-West Nigeria. The researcher established that the null hypothesis is retained and therefore reported that there is no significant difference on Intelligence among the Students of various Federal Colleges of Education in the North-West, Nigeria. Based on the findings of this work the following conclusions are hereby presented.

1. That Agreeableness has no significant relationship with the academic achievement among the students of Federal Colleges of Education in the North-Western, Nigeria.
2. That Conscientiousness does not correlate with the academic achievement among the students of Federal Colleges of Education in the North-Western, Nigeria
3. That Neuroticism does not correlate with the academic achievement among the students of Federal Colleges of Education in the North-Western, Nigeria
4. That Openness to Experience does not correlate with the academic achievement among the students of Federal Colleges of Education in the North-Western, Nigeria
5. That Extraversion has significant relationship with the academic achievement among the students of Federal Colleges of Education in the North-Western, Nigeria
6. That there is a significant gender difference between male and female students of Federal Colleges of Education in the North –Western, Nigeria with regards to their intelligence.
7. That Intelligence among the students of various Colleges of Education in the North-West Nigeria does not differ significantly.

5.4 Recommendations

Against the backdrop of the above findings, recommendations are hereby forwarded from the study and for further studies.

5.4.1 Recommendations from the study

In view of the findings from this study that, some of the personality traits like agreeableness, conscientiousness, openness to experience and neuroticism do not correlate with the academic achievement of the students, there is the need of identifying these category of students by teachers, counselors and school administrators, so that efficient procedure that would enhance and facilitate their academic achievement will be employed.

Extracurricular facilities should be made available and accessible so that students with neurotic traits and agreeableness will be exposed to social activities this will reduce the level of depression anxiety and shyness that are associated with the above traits and expose them to interactive activities like group discussion which have significant impact on academic achievement of students.

Counsellors, parent and teachers in particular, should help the students and guide them in the process of seeking admission to various higher institutions of learning, so that students would seek for admission in the areas that commiserates with their personality traits, and thus would enable the students to face school challenges with little hindrances and also reduce learning difficulties to the barest minimum.

Students should be given freedom of choice with regards to choosing area of specialization in higher institution of learning, this is because the students know themselves and their capabilities much better than any significant others. Thus parent and guardians who compel their children to undertake area of specializations that are not of their interest should desist from such action.

In view of the fact that neuroticism, conscientiousness, agreeableness and openness to experience did not correlated with academic achievement, a dedicated table for attending students with low academic achievement should be created by the colleges authority to enable the students confide their academic difficulties to the desk officers, the table should also help and guide neurotic and agreeable students who were found to have low academic achievement due to their personality traits.

Government and college administrators should explore additional ways of re assessing the colleges' infrastructural facilities, teachers' quality and qualifications, students' assessments procedure, quality assurance among others, as these factors may be attributed to the of differences discovered on the Intelligence among the students of various Colleges of Education in the North –West, Nigeria. Government and colleges' administrators may engage the services of universities, educational consultant to strengthen and maintain tempo further.

Center for gender equality should be established by the Federal Colleges of Education in order to neutralize the difference on Intelligence between male and female students of Federal Colleges of Education in North-West, Nigeria.

Both male and female students should be encouraged by the Colleges Authority to fully participate in Extra Curricula activities such as games, clubs and associations as this will expose them to tap knowledge from each other which can help in reducing the gap of Intelligence between the gender.

5.4.2 Recommendations for further studies

It is an indisputable fact that no research work is exhaustive and knowledge is built cumulatively, thus issues arising from this work paved ways for further studies. As such the following recommendations for further studies are hereby forwarded

This type of studies should be cascaded to other levels of education such secondary school polytechnics, and states colleges of educations in the North- West, Nigeria. This would avail educationist and policy makers to get cumulative picture of personality traits and intelligence of the students of these institutions in particular and of the region at large. By doing this policy makers would be able to provide appropriate counseling services.

The fact that this research is limited to the impact of personality and intelligence on academic achievement of students, the researcher is hereby recommending similar research on the impact of teachers' personality and intelligence on the academic achievement of the students

To extend the frontier of this study another research should be conducted to establish the magnitude of different levels of intelligence and academic achievement among the students Federal Colleges of Education North-West, Nigeria.

In view of the fact that federal colleges of education is a multi cultural society there is the need of research that will explore the impact of culture on personality and intelligence in relation to the students' academic achievement.

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APPENDIX I

UC BEREKEY BIG FIVE PERSONALITY INVENTORY (ADAPTED)

Dear respondents, Kindly attempt to answer all the questions from the available responses/options that you considered appropriate to you. Note that the responses will be treated with utmost confidentiality and will be considered only in the research tagged 'Impact of personality traits and intelligence on academic achievement among NCE students of Federal Colleges of Education in North-West Nigeria.

INSTRUCTION: The following statements concern your perception about yourself in a variety of situations. Your task is to indicate the strength of your agreement with each statement, by utilizing a scale in which 1=denotes strong disagreement, 4=denotes strong agreement, and 2, and 3 represent disagree and agree. Please tick in the boxes after each statement, (Strongly disagree, 2. Disagree, 3. Agree 4. Strongly agree).

Section A-Bio data

Age-----Marital status -----Tribe -----state of origin-----

--

Gender -----course study -----Level -----Reg. Number-----

--

Types of accommodation (a) off Campus -----(b) campus-----

-

I SEE MY SELF AS SOMEONE WHO:

S/N	AGREEABLENESS	SD	D	A	SA
1	Is helpful and unselfish with other				
2	Has a forgiven nature				
3	Tends to be quite				
4	Is generally trusting				
5	Is considerate and kind to almost every one				
6	Prefers work that is routine				
7	Has few artistic interest				
8	Is like to cooperate with others				
9	Tend is like to cooperate with others s to be lazy				
10	Is reserved				

I SEE MY SELF AS SOMEONE WHO

S/N	CONSCIENTIOUSNESS	SD	D	A	SA
11	Does a thorough job				
12	Is relaxed, handles stress well				
13	Who is creative and a deep thinker				
14	Is not easily upset, emotionally stable				
15	Does things efficiently				
16	Remain calm in tense situations				
17	Make plans and follow through with them				
18	Has high self esteem				
19	Preservers the task is finished				

I SEE MYSELF AS SOMEONE WHO

S/N	EXTRAVERSION	SD	D	A	SA
20	Is talkative				
21	Tends to find fault with others				
22	Is full of energy				
23	Is out going sociable				
24	Is politically liberal				
25	Starts agues, and quarrels with others				
26	Has an assertive personality				

I SEE MYSELF AS SOMEONE WHO

S/N	NEUROTICISM	SD	D	A	SA
27	Is depressed and sad				
28	Is sometimes rude to others				
29	Tend to be disorganized				
30	Worries a lot				
31	Is some times shy and inhibited				
32	Is easily distracted				
33	Get nervous easily				
34	Can be rigid and taut				
35	Can easily be angry and unhappy				
36	Unfriendly and unapproachable				
37	Is sometimes rude to others				

I SEE MYSELF AS SOMEONE WHO

S/N	OPENESS TO EXPERIENCE	SD	D	A	SA
38	Come with new ideas				
39	Is curious about different thinks				
40	Has an active imagination				
41	Value artistic, aesthetic experiences				
42	Inquisitive				
43	Like reflect and play with ideas				
44	Is good in art music and literature				
45	Generate a lot of enthusiasm.				
46	Inventive				

Thank you

Appendix II

Multiple intelligence inventory (Adapted)

Dear respondents. Kindly attempt to answer all the questions from the responses, options that you considered appropriate to you. Note that the responses will be treated with utmost confidentiality and will be considered only in the research tagged impact of personality traits and intelligence an academic achievement among the NCE students of Federal College of Education in North west Nigeria

Directions: The following statements concern with different types of intelligence people passed, your task is to indicate the type of intelligence you felt you have strength on by utilizing the state below in which denotes strong disagreement d= denotes strong agreement and 2,3 and 4 represent intermediate judgement. In the boxes after each statement.

1. Strongly disagree, 2 disagree, 3 Agree 4. Strongly agree

Bio data

Age-----marital status -----Tribe -----state of origin -----

Gender -----Course of study -----Level -----Reg. No-----

Types of accommodation (a) off Campus ----- (b) campus-----

SECTION A

S/N	VERNAL/LINGUISTIC INTELLIGENCE	SD	D	A	SA
1.	I enjoy telling stories				
2	When I derived down the road, I pay attention to signs				
3	If something break I read the instruction first				
4	For a group presentation I prefer to do the writing and library research				
5	I hardly make spelling errors while writing				
6	I enjoy playing with words				
7	I normally contact friends through letters/email				
8	I participate in debate and public speaking				

SECTION B

S/N	LOGICAL MATHEM INTELLIGENCE	SD	D	A	SA
9	I like math puzzles				
10	If have to memorize something, i put them in logical order				
11	If something break, I like to look at the pieces and figures it out				
12	For a group presentation, I like to create charts and graphs out				
13	I enjoy science kits and experiments				
14	I can complete calculation quickly in my head				
15	I find working on spread sheet interesting				
16	I get easily distanced with disorganized people				

SECTION C

S/N	VISUAL/SPATIAL INTELLIGENCE	SD	D	A	SA
17	I prefer map to written directions				
18	I like using a camera				
19	I like books that have pictures				
20	For a group presentation I like to draw pictures				
21	If I have to memorize something I have to draw a diagram to help me				
22	I can generally find my way around new place				
23	I am good at reading maps, atlases and blue print				
24	I prefer looking at reading material that is illustrated				

SECTION D

S/N	Bodily/kinesthetic intelligence	SD	D	A	SA
25	I play at least one game				
26	I like to touch new things with my hand				
27	I use a lot of gesture when I talk				
28	If something breaks I play with pieces until fit back together				
29	For a group presentation with pieces until they fit back model				
30	I'm well coordinated				
31	I like to practice a new skill instead of reading about it				
32	I like working with tools				

SECTION E

S/N	MUSICAL INTELLIGENCE	SD	D	A	SA
33	I enjoy listening to music and radio				
34	I like to sing				
35	I play with musical instruments				
36	For a group presentation I like to write new songs				
37	I can remember the melodies of lots of songs				
38	I get television jingles stuck in my head				
39	My life would be dull if there were no music				
40	If I hear a music once or twice, I'm usually able to sing it back fairly accurately				

I SEE MYSELF AS SOMEONE WHO

S/N	EXTRAVERSION	SD	D	A	SA
20	Is talkative				
21	Tends to find fault with others				
22	Is full of energy				
23	Is out going sociable				
24	Is politically liberal				
25	Starts agues, and quarrels with others				
26	Has an assertive personality				

I SEE MYSELF AS SOMEONE WHO

S/N	EXTRAVERSION	SD	D	A	SA
27	Is depressed and sad				
28	Is sometimes rude to others				
29	Tend to be disorganized				
30	Worries a lot				
31	Is some times shy and inhibited				
32	Is easily distracted				
33	Get nervous easily				
34	Can be rigid and taut				
35	Can easily be angry and unhappy				
36	Unfriendly and unapproachable				
37	Is sometimes rude to others				

I SEE MYSELF AS SOMEONE WHO

S/N	EXTRAVERSION	SD	D	A	SA
38	Come with new ideas				
39	Is curious about different thinks				
40	Has an active imagination				
41	Value artistic, aesthetic experiences				
42	Inquisitive				
43	Like reflect and play with ideas				
44	Is good in art music and literature				
45	Generate a lot of enthusiasm.				
46	Inventive				

Thank you

```

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  /ORDER=ANALYSIS.

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Frequencies

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Statistics

Diferencial extent of personality

N	Valid	370
	Missing	0
Mean		2.8378
Std. Deviation		1.43728

Diferencial extent of personality types

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agreeableness	101	27.3	27.3	27.3
	Conscientious	60	16.2	16.2	43.5
	Extraversion	60	16.2	16.2	59.7
	Neurotism	96	25.9	25.9	85.7
	Opennes to Experience	53	14.3	14.3	100.0
	Total	370	100.0	100.0	

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	Sig. (2-tailed)		.352
	N	53	53
Zscore(AA)	Pearson Correlation	-.130	1
	Sig. (2-tailed)	.352	
	N	53	53

[DataSet1] C:\Users\Hauwa Suwaid\Documents\NEUROTICISM.sav

Correlations		NEUROTICISM	AA
NEUROTICISM	Pearson Correlation	1	.028
	Sig. (2-tailed)		.790
	N	96	96
AA	Pearson Correlation	.028	1
	Sig. (2-tailed)	.790	
	N	96	96

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CORRELATIONS
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Correlations

[DataSet2]

Correlations			
		Zscore: EXTRAVERSIO N	Zscore: ACADEMIC ACH
Zscore: EXTRAVERSION	Pearson Correlation	1	.690
	Sig. (2-tailed)		.022
	N	60	60
Zscore: ACADEMIC ACH	Pearson Correlation	.690	1
	Sig. (2-tailed)	.022	
	N	60	60

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CORRELATIONS
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Correlations

[DataSet3]

Correlations			
		Zscore(CON)	Zscore(AA)
Zscore(CON)	Pearson Correlation	1	-.247
	Sig. (2-tailed)		.057
	N	60	60
Zscore(AA)	Pearson Correlation	-.247	1
	Sig. (2-tailed)	.057	
	N	60	60

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CORRELATIONS
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[DataSet4]

Correlations			
		Zscore: AGREABLENES S	Zscore(AA)
Zscore: AGREABLENESS	Pearson Correlation	1	.120
	Sig. (2-tailed)		.233
	N	101	101
Zscore(AA)	Pearson Correlation	.120	1
	Sig. (2-tailed)	.233	
	N	101	101

Photocopy 122

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T-Test

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Intelligence	Male	237	21.8439	2.85617	.18553
	Female	133	20.9774	2.76467	.23973

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
										95% Confidence Interval of the Difference
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intelligence	Equal variances assumed	.455	.500	2.832	368	.005	.86644	.30593	.26485	1.46802
	Equal variances not assumed			2.858	281.076	.005	.86644	.30313	.26974	1.46314

RAW DATA

GEND	COLLEG	AA	AGRE	CONS	EXTR	NEU	OPEN	INTEL	EXT
1.00	1.00	2.56	20.00	30.00	24.00	26.00	29.00	23.00	2.00
1.00	1.00	1.94	25.00	32.00	28.00	34.00	21.00	21.00	4.00
1.00	1.00	1.60	23.00	33.00	19.00	26.00	19.00	22.00	2.00
1.00	1.00	2.50	22.00	33.00	22.00	28.00	25.00	20.00	3.00
1.00	1.00	3.15	19.00	27.00	20.00	25.00	19.00	17.00	2.00
1.00	1.00	3.50	30.00	23.00	22.00	24.00	24.00	20.00	3.00
1.00	1.00	.83	22.00	32.00	23.00	22.00	26.00	27.00	2.00
1.00	1.00	2.00	31.00	35.00	19.00	20.00	28.00	20.00	2.00
1.00	1.00	2.10	21.00	35.00	21.00	29.00	25.00	21.00	2.00
1.00	1.00	3.17	20.00	37.00	24.00	22.00	27.00	21.00	2.00
1.00	1.00	2.78	28.00	30.00	21.00	28.00	19.00	18.00	3.00
1.00	1.00	2.89	27.00	28.00	16.00	26.00	19.00	22.00	2.00
1.00	1.00	2.90	23.00	31.00	19.00	27.00	26.00	16.00	2.00
1.00	1.00	1.68	30.00	30.00	19.00	30.00	25.00	23.00	4.00
1.00	1.00	2.90	30.00	28.00	21.00	28.00	26.00	22.00	1.00
1.00	1.00	1.80	20.00	27.00	24.00	33.00	9.00	23.00	4.00
1.00	1.00	1.50	36.00	30.00	26.00	36.00	27.00	20.00	3.00
1.00	1.00	.50	32.00	32.00	21.00	34.00	29.00	23.00	4.00
1.00	1.00	3.00	11.00	13.00	22.00	27.00	27.00	20.00	5.00
1.00	1.00	2.50	32.00	33.00	25.00	17.00	29.00	26.00	2.00
1.00	1.00	2.76	32.00	33.00	22.00	23.00	30.00	24.00	2.00
1.00	1.00	2.00	30.00	33.00	29.00	26.00	23.00	25.00	3.00
1.00	1.00	3.96	31.00	30.00	23.00	30.00	25.00	23.00	4.00
1.00	1.00	2.30	37.00	32.00	24.00	31.00	26.00	23.00	1.00
1.00	1.00	1.29	30.00	25.00	31.00	33.00	27.00	33.00	4.00
1.00	1.00	1.90	26.00	19.00	23.00	11.00	26.00	23.00	5.00

1.00	1.00	2.82	40.00	33.00	32.00	44.00	36.00	21.00	3.00
1.00	1.00	1.89	24.00	36.00	22.00	11.00	27.00	24.00	2.00
1.00	1.00	3.50	27.00	25.00	22.00	11.00	27.00	16.00	1.00
1.00	1.00	2.80	18.00	25.00	21.00	28.00	19.00	23.00	3.00
1.00	1.00	1.56	24.00	27.00	18.00	21.00	25.00	22.00	2.00
1.00	1.00	2.00	31.00	25.00	16.00	22.00	27.00	26.00	1.00
1.00	1.00	1.17	31.00	36.00	24.00	27.00	21.00	23.00	3.00
1.00	1.00	1.80	27.00	25.00	21.00	25.00	22.00	22.00	1.00
1.00	1.00	.17	30.00	22.00	24.00	33.00	27.00	25.00	4.00
1.00	1.00	2.11	30.00	27.00	28.00	44.00	18.00	24.00	4.00
1.00	1.00	2.10	30.00	19.00	17.00	29.00	22.00	19.00	1.00
1.00	1.00	1.80	30.00	23.00	28.00	44.00	36.00	20.00	3.00
1.00	1.00	2.58	30.00	19.00	22.00	14.00	36.00	23.00	5.00
1.00	1.00	1.98	24.00	36.00	20.00	31.00	26.00	23.00	2.00
1.00	1.00	1.76	30.00	33.00	27.00	44.00	27.00	22.00	2.00
1.00	1.00	1.99	31.00	19.00	14.00	11.00	21.00	23.00	1.00
1.00	2.00	2.80	31.00	32.00	19.00	14.00	27.00	19.00	3.00
1.00	2.00	.71	31.00	30.00	14.00	14.00	28.00	22.00	1.00
1.00	2.00	.33	29.00	30.00	15.00	21.00	27.00	19.00	2.00
1.00	2.00	1.87	26.00	25.00	21.00	31.00	28.00	20.00	4.00
1.00	2.00	2.89	27.00	27.00	18.00	31.00	23.00	20.00	4.00
1.00	2.00	3.89	26.00	25.00	18.00	20.00	30.00	22.00	5.00
1.00	2.00	2.20	26.00	25.00	19.00	28.00	25.00	20.00	4.00
1.00	2.00	4.00	28.00	23.00	18.00	16.00	28.00	22.00	3.00
1.00	2.00	.10	27.00	31.00	20.00	31.00	22.00	23.00	4.00
1.00	2.00	3.40	27.00	23.00	25.00	31.00	23.00	21.00	4.00
1.00	2.00	3.20	26.00	32.00	22.00	28.00	33.00	22.00	5.00
1.00	2.00	3.00	30.00	32.00	23.00	39.00	27.00	21.00	3.00

1.00	2.00	1.80	31.00	35.00	20.00	26.00	30.00	20.00	2.00
1.00	2.00	4.40	31.00	25.00	18.00	26.00	24.00	19.00	1.00
1.00	2.00	1.40	27.00	25.00	16.00	19.00	28.00	25.00	5.00
1.00	2.00	3.90	23.00	23.00	15.00	17.00	27.00	22.00	5.00
1.00	2.00	2.94	30.00	24.00	15.00	28.00	24.00	22.00	3.00
1.00	2.00	2.94	27.00	25.00	22.00	22.00	30.00	18.00	5.00
1.00	2.00	1.87	31.00	26.00	21.00	27.00	26.00	23.00	1.00
1.00	2.00	2.76	32.00	28.00	19.00	33.00	30.00	22.00	4.00
1.00	2.00	2.68	27.00	29.00	14.00	24.00	25.00	27.00	1.00
1.00	2.00	2.89	31.00	28.00	16.00	15.00	20.00	23.00	3.00
1.00	2.00	3.40	20.00	27.00	16.00	17.00	31.00	20.00	5.00
1.00	2.00	2.25	38.00	28.00	17.00	22.00	29.00	25.00	5.00
1.00	2.00	.33	33.00	24.00	21.00	23.00	22.00	21.00	1.00
1.00	2.00	2.50	29.00	28.00	22.00	15.00	28.00	19.00	1.00
1.00	2.00	2.67	33.00	25.00	28.00	22.00	22.00	22.00	3.00
1.00	2.00	2.17	36.00	31.00	18.00	22.00	29.00	21.00	3.00
1.00	2.00	2.17	29.00	31.00	19.00	18.00	28.00	22.00	3.00
1.00	2.00	1.44	28.00	33.00	17.00	32.00	22.00	25.00	2.00
1.00	2.00	1.25	25.00	24.00	15.00	20.00	19.00	26.00	2.00
1.00	2.00	1.48	25.00	20.00	24.00	30.00	31.00	17.00	4.00
1.00	2.00	4.40	27.00	30.00	23.00	38.00	29.00	22.00	4.00
1.00	2.00	3.40	35.00	30.00	19.00	36.00	25.00	24.00	4.00
1.00	2.00	3.40	33.00	29.00	28.00	31.00	29.00	25.00	1.00
1.00	2.00	2.20	29.00	27.00	18.00	30.00	26.00	21.00	4.00
1.00	2.00	1.00	24.00	25.00	24.00	31.00	30.00	22.00	4.00
1.00	2.00	1.56	35.00	27.00	22.00	38.00	29.00	21.00	3.00
1.00	2.00	3.00	35.00	31.00	26.00	36.00	28.00	22.00	4.00
1.00	2.00	3.10	34.00	29.00	21.00	35.00	24.00	24.00	4.00

1.00	2.00	2.89	25.00	30.00	17.00	30.00	19.00	23.00	4.00
1.00	2.00	1.90	21.00	21.00	24.00	24.00	20.00	22.00	3.00
1.00	2.00	2.08	23.00	23.00	16.00	36.00	17.00	23.00	3.00
1.00	2.00	2.06	20.00	32.00	17.00	31.00	28.00	21.00	4.00
1.00	2.00	3.75	27.00	22.00	18.00	19.00	23.00	24.00	5.00
1.00	2.00	2.00	23.00	22.00	14.00	25.00	28.00	21.00	5.00
1.00	2.00	2.01	29.00	25.00	21.00	15.00	32.00	19.00	5.00
1.00	2.00	3.40	24.00	31.00	17.00	29.00	24.00	21.00	2.00
1.00	2.00	4.80	26.00	21.00	16.00	17.00	31.00	25.00	5.00
1.00	2.00	4.00	25.00	27.00	27.00	18.00	24.00	24.00	2.00
1.00	2.00	4.40	32.00	27.00	21.00	23.00	23.00	25.00	1.00
1.00	2.00	2.20	29.00	26.00	14.00	31.00	24.00	24.00	4.00
1.00	2.00	2.09	24.00	23.00	22.00	32.00	9.00	14.00	4.00
1.00	2.00	2.25	25.00	20.00	21.00	26.00	24.00	20.00	4.00
1.00	2.00	4.60	36.00	27.00	17.00	30.00	29.00	22.00	1.00
1.00	2.00	2.60	25.00	26.00	22.00	27.00	22.00	25.00	2.00
1.00	2.00	2.60	22.00	19.00	26.00	24.00	31.00	21.00	3.00
1.00	2.00	2.25	30.00	25.00	20.00	35.00	25.00	16.00	5.00
1.00	2.00	2.93	27.00	30.00	14.00	20.00	32.00	22.00	5.00
1.00	2.00	3.00	31.00	22.00	17.00	11.00	25.00	25.00	1.00
1.00	2.00	4.00	32.00	29.00	18.00	17.00	20.00	18.00	1.00
1.00	2.00	1.69	24.00	37.00	26.00	28.00	27.00	20.00	2.00
1.00	2.00	3.00	34.00	14.00	21.00	15.00	24.00	19.00	3.00
1.00	2.00	1.80	22.00	29.00	20.00	26.00	22.00	21.00	2.00
1.00	2.00	2.25	24.00	34.00	23.00	28.00	27.00	29.00	2.00
1.00	2.00	2.40	36.00	20.00	26.00	27.00	33.00	23.00	1.00
1.00	2.00	2.80	34.00	27.00	22.00	36.00	28.00	21.00	4.00
1.00	2.00	4.60	27.00	31.00	10.00	21.00	9.00	22.00	2.00

1.00	2.00	2.20	11.00	27.00	16.00	12.00	27.00	23.00	5.00
1.00	2.00	1.76	23.00	20.00	17.00	35.00	30.00	22.00	4.00
1.00	2.00	2.60	23.00	25.00	19.00	23.00	29.00	19.00	5.00
1.00	2.00	2.40	23.00	29.00	21.00	22.00	26.00	21.00	2.00
1.00	2.00	4.17	33.00	28.00	21.00	33.00	23.00	20.00	1.00
1.00	2.00	3.67	29.00	25.00	19.00	29.00	22.00	19.00	1.00
1.00	2.00	4.50	25.00	24.00	18.00	28.00	24.00	20.00	4.00
1.00	2.00	2.17	26.00	23.00	19.00	11.00	23.00	28.00	1.00
1.00	2.00	4.20	26.00	28.00	20.00	34.00	22.00	22.00	4.00
1.00	2.00	4.40	25.00	19.00	20.00	30.00	28.00	25.00	4.00
1.00	2.00	4.60	25.00	21.00	26.00	24.00	28.00	21.00	5.00
1.00	2.00	4.20	25.00	23.00	20.00	25.00	24.00	14.00	1.00
1.00	2.00	2.20	27.00	27.00	25.00	28.00	27.00	20.00	4.00
1.00	2.00	3.00	26.00	23.00	19.00	31.00	32.00	23.00	5.00
1.00	2.00	2.00	28.00	24.00	24.00	26.00	29.00	9.00	5.00
1.00	2.00	.10	35.00	30.00	28.00	26.00	21.00	23.00	1.00
1.00	2.00	3.40	20.00	20.00	19.00	34.00	19.00	21.00	4.00
1.00	2.00	3.20	25.00	22.00	21.00	26.00	25.00	22.00	4.00
1.00	2.00	3.00	23.00	23.00	20.00	28.00	19.00	20.00	4.00
1.00	2.00	1.80	22.00	23.00	22.00	25.00	24.00	17.00	3.00
1.00	2.00	4.40	19.00	27.00	23.00	24.00	26.00	20.00	3.00
1.00	2.00	1.40	30.00	23.00	19.00	22.00	28.00	27.00	3.00
1.00	2.00	3.90	22.00	22.00	21.00	20.00	25.00	20.00	5.00
1.00	2.00	2.94	31.00	25.00	24.00	29.00	27.00	21.00	1.00
1.00	2.00	2.94	21.00	25.00	21.00	22.00	19.00	21.00	1.00
1.00	2.00	1.87	20.00	27.00	16.00	28.00	19.00	18.00	4.00
1.00	3.00	2.76	28.00	20.00	19.00	26.00	26.00	22.00	5.00
1.00	3.00	2.68	27.00	18.00	19.00	27.00	25.00	16.00	4.00

1.00	3.00	2.89	23.00	21.00	21.00	30.00	26.00	23.00	4.00
1.00	3.00	3.40	30.00	20.00	24.00	28.00	9.00	22.00	1.00
1.00	3.00	2.25	30.00	28.00	26.00	33.00	27.00	23.00	1.00
1.00	3.00	.33	20.00	27.00	21.00	36.00	29.00	20.00	3.00
1.00	3.00	2.50	36.00	30.00	22.00	34.00	27.00	23.00	1.00
1.00	3.00	2.67	32.00	22.00	25.00	27.00	29.00	20.00	1.00
1.00	3.00	2.17	11.00	23.00	22.00	17.00	30.00	26.00	4.00
1.00	3.00	2.17	32.00	33.00	29.00	23.00	23.00	24.00	2.00
1.00	3.00	1.44	32.00	33.00	23.00	26.00	25.00	25.00	2.00
1.00	3.00	1.25	30.00	33.00	24.00	30.00	26.00	23.00	3.00
1.00	3.00	1.48	31.00	26.00	31.00	31.00	27.00	23.00	4.00
1.00	3.00	4.40	37.00	29.00	23.00	33.00	26.00	33.00	1.00
1.00	3.00	3.40	30.00	25.00	32.00	11.00	36.00	23.00	5.00
1.00	3.00	3.40	26.00	19.00	22.00	44.00	27.00	21.00	4.00
1.00	3.00	2.20	40.00	33.00	22.00	11.00	27.00	24.00	1.00
1.00	3.00	1.00	24.00	36.00	21.00	11.00	19.00	16.00	2.00
1.00	3.00	1.56	27.00	25.00	18.00	28.00	25.00	23.00	1.00
1.00	3.00	2.20	18.00	25.00	16.00	21.00	27.00	22.00	3.00
1.00	3.00	3.00	24.00	27.00	24.00	22.00	21.00	26.00	2.00
1.00	3.00	2.00	31.00	25.00	21.00	27.00	22.00	23.00	1.00
1.00	3.00	2.56	31.00	26.00	24.00	25.00	27.00	22.00	1.00
1.00	3.00	1.94	27.00	25.00	28.00	33.00	18.00	25.00	4.00
1.00	3.00	1.60	30.00	22.00	17.00	44.00	22.00	24.00	4.00
1.00	3.00	2.50	30.00	27.00	28.00	29.00	36.00	19.00	3.00
1.00	3.00	3.15	30.00	9.00	22.00	44.00	36.00	20.00	3.00
1.00	3.00	3.50	30.00	23.00	20.00	14.00	26.00	23.00	3.00
1.00	3.00	.83	30.00	9.00	27.00	31.00	27.00	23.00	3.00
1.00	3.00	2.00	24.00	36.00	14.00	44.00	21.00	22.00	4.00

1.00	3.00	2.10	30.00	23.00	19.00	11.00	27.00	23.00	1.00
1.00	3.00	3.17	31.00	9.00	14.00	14.00	28.00	19.00	1.00
1.00	3.00	2.78	31.00	29.00	15.00	14.00	27.00	22.00	1.00
1.00	3.00	2.89	31.00	30.00	21.00	21.00	28.00	19.00	1.00
1.00	3.00	2.90	29.00	30.00	18.00	31.00	23.00	20.00	4.00
1.00	3.00	1.68	26.00	15.00	18.00	31.00	30.00	20.00	4.00
1.00	3.00	2.90	27.00	27.00	19.00	20.00	25.00	22.00	2.00
1.00	3.00	1.80	26.00	25.00	18.00	28.00	28.00	20.00	5.00
1.00	3.00	1.50	26.00	25.00	20.00	16.00	22.00	22.00	1.00
1.00	3.00	.50	28.00	23.00	25.00	31.00	23.00	23.00	4.00
1.00	3.00	3.00	27.00	31.00	22.00	31.00	33.00	21.00	5.00
1.00	3.00	2.50	27.00	23.00	23.00	28.00	27.00	22.00	4.00
1.00	3.00	2.76	26.00	22.00	20.00	39.00	30.00	21.00	4.00
1.00	3.00	2.00	30.00	32.00	18.00	26.00	24.00	20.00	1.00
1.00	3.00	3.96	31.00	25.00	16.00	26.00	28.00	19.00	1.00
1.00	3.00	2.30	31.00	20.00	15.00	19.00	27.00	25.00	1.00
1.00	3.00	1.29	27.00	25.00	15.00	17.00	24.00	22.00	1.00
1.00	3.00	1.90	23.00	21.00	22.00	28.00	30.00	22.00	5.00
1.00	3.00	2.82	30.00	24.00	21.00	22.00	26.00	18.00	1.00
1.00	3.00	1.89	27.00	25.00	19.00	27.00	30.00	23.00	5.00
1.00	3.00	3.50	31.00	26.00	14.00	33.00	25.00	22.00	1.00
1.00	3.00	2.80	32.00	28.00	16.00	24.00	20.00	27.00	1.00
1.00	3.00	1.56	27.00	29.00	16.00	15.00	31.00	23.00	5.00
1.00	3.00	2.00	31.00	28.00	17.00	17.00	29.00	20.00	3.00
1.00	3.00	1.17	20.00	27.00	21.00	22.00	22.00	25.00	3.00
1.00	3.00	1.80	38.00	18.00	22.00	23.00	28.00	21.00	1.00
1.00	3.00	.17	33.00	24.00	28.00	15.00	22.00	19.00	1.00
1.00	3.00	2.11	29.00	28.00	18.00	22.00	29.00	22.00	3.00

1.00	3.00	2.10	33.00	25.00	19.00	22.00	28.00	21.00	1.00
1.00	3.00	1.80	36.00	31.00	17.00	18.00	22.00	22.00	1.00
1.00	3.00	2.58	29.00	31.00	15.00	32.00	19.00	25.00	2.00
1.00	3.00	1.98	28.00	33.00	24.00	20.00	31.00	26.00	3.00
1.00	3.00	1.76	25.00	24.00	23.00	30.00	29.00	17.00	4.00
1.00	3.00	1.99	25.00	20.00	19.00	38.00	25.00	22.00	4.00
1.00	3.00	2.80	27.00	20.00	28.00	36.00	29.00	24.00	4.00
1.00	3.00	.71	35.00	30.00	18.00	31.00	26.00	25.00	4.00
1.00	3.00	.33	33.00	29.00	24.00	30.00	30.00	21.00	3.00
1.00	3.00	1.87	29.00	27.00	22.00	31.00	29.00	22.00	4.00
1.00	3.00	2.89	24.00	25.00	26.00	38.00	28.00	21.00	4.00
1.00	3.00	3.89	35.00	27.00	21.00	36.00	24.00	22.00	4.00
1.00	3.00	2.20	35.00	31.00	17.00	35.00	19.00	24.00	1.00
1.00	3.00	4.00	34.00	29.00	24.00	30.00	20.00	23.00	1.00
1.00	3.00	.10	25.00	30.00	16.00	24.00	17.00	22.00	2.00
1.00	3.00	3.40	21.00	21.00	17.00	36.00	28.00	23.00	4.00
1.00	3.00	3.20	23.00	23.00	18.00	31.00	23.00	21.00	3.00
1.00	3.00	3.00	20.00	32.00	14.00	19.00	28.00	24.00	2.00
1.00	3.00	1.80	27.00	22.00	21.00	25.00	32.00	21.00	4.00
1.00	3.00	4.40	23.00	22.00	17.00	15.00	24.00	19.00	5.00
1.00	3.00	1.40	29.00	25.00	16.00	29.00	31.00	21.00	5.00
1.00	3.00	3.90	24.00	31.00	27.00	17.00	24.00	25.00	2.00
1.00	3.00	2.94	26.00	21.00	21.00	18.00	23.00	24.00	1.00
1.00	3.00	2.94	25.00	27.00	14.00	23.00	24.00	25.00	2.00
1.00	3.00	1.87	32.00	27.00	22.00	31.00	9.00	24.00	1.00
1.00	3.00	2.76	29.00	26.00	21.00	32.00	24.00	14.00	3.00
1.00	3.00	2.68	24.00	23.00	17.00	26.00	29.00	20.00	5.00

1.00	3.00	2.89	25.00	20.00	22.00	30.00	22.00	22.00	4.00
1.00	3.00	3.40	36.00	27.00	26.00	27.00	31.00	25.00	1.00
1.00	3.00	2.25	25.00	26.00	20.00	24.00	25.00	21.00	2.00
1.00	3.00	.33	22.00	19.00	14.00	35.00	32.00	16.00	5.00
1.00	3.00	2.50	30.00	25.00	17.00	20.00	25.00	22.00	3.00
1.00	3.00	2.67	27.00	30.00	18.00	11.00	20.00	25.00	2.00
1.00	3.00	.10	31.00	22.00	26.00	17.00	27.00	18.00	1.00
1.00	3.00	3.40	32.00	29.00	21.00	28.00	24.00	20.00	1.00
1.00	3.00	3.20	24.00	37.00	20.00	15.00	22.00	19.00	3.00
1.00	3.00	3.00	34.00	14.00	23.00	26.00	27.00	21.00	1.00
1.00	3.00	1.80	22.00	29.00	26.00	28.00	33.00	29.00	5.00
1.00	3.00	4.40	24.00	34.00	22.00	27.00	28.00	23.00	2.00
1.00	3.00	1.40	36.00	20.00	10.00	36.00	9.00	21.00	1.00
1.00	3.00	3.90	34.00	27.00	16.00	21.00	27.00	22.00	1.00
1.00	3.00	2.94	27.00	31.00	17.00	12.00	30.00	23.00	3.00
1.00	3.00	2.94	11.00	27.00	19.00	35.00	29.00	22.00	4.00
2.00	1.00	1.87	23.00	10.00	21.00	23.00	26.00	19.00	5.00
2.00	1.00	2.76	23.00	25.00	21.00	22.00	23.00	21.00	2.00
2.00	1.00	2.68	23.00	29.00	19.00	33.00	22.00	20.00	3.00
2.00	1.00	2.89	33.00	28.00	18.00	29.00	24.00	19.00	1.00
2.00	1.00	3.40	29.00	25.00	19.00	28.00	23.00	20.00	1.00
2.00	1.00	2.25	25.00	24.00	20.00	11.00	22.00	28.00	3.00
2.00	1.00	.33	26.00	23.00	20.00	34.00	28.00	22.00	4.00
2.00	1.00	2.50	26.00	28.00	26.00	30.00	28.00	25.00	3.00
2.00	1.00	2.67	25.00	19.00	20.00	24.00	24.00	21.00	1.00
2.00	1.00	2.17	25.00	21.00	25.00	25.00	27.00	14.00	5.00
2.00	1.00	2.17	25.00	23.00	19.00	28.00	32.00	20.00	5.00

2.00	1.00	1.78	29.00	27.00	16.00	28.00	30.00	23.00	5.00
2.00	1.00	2.52	27.00	22.00	21.00	25.00	23.00	22.00	1.00
2.00	1.00	1.33	30.00	9.00	31.00	44.00	27.00	20.00	4.00
2.00	1.00	.58	29.00	26.00	16.00	23.00	22.00	21.00	1.00
2.00	1.00	1.75	16.00	16.00	17.00	22.00	19.00	21.00	4.00
2.00	1.00	.25	18.00	16.00	10.00	16.00	14.00	22.00	1.00
2.00	1.00	1.60	22.00	20.00	18.00	35.00	21.00	22.00	4.00
2.00	1.00	2.40	29.00	26.00	16.00	20.00	22.00	21.00	1.00
2.00	1.00	.10	14.00	17.00	16.00	16.00	17.00	20.00	5.00
2.00	1.00	2.40	16.00	19.00	15.00	27.00	23.00	21.00	4.00
2.00	2.00	2.40	31.00	29.00	15.00	22.00	28.00	22.00	1.00
2.00	2.00	2.08	30.00	26.00	20.00	28.00	24.00	20.00	3.00
2.00	2.00	3.80	27.00	26.00	15.00	21.00	27.00	21.00	1.00
2.00	2.00	1.78	26.00	24.00	17.00	28.00	22.00	21.00	4.00
2.00	2.00	1.71	27.00	25.00	20.00	30.00	27.00	32.00	4.00
2.00	2.00	1.67	26.00	19.00	13.00	11.00	35.00	23.00	5.00
2.00	2.00	1.50	30.00	29.00	15.00	29.00	27.00	25.00	1.00
2.00	2.00	3.79	30.00	20.00	24.00	20.00	25.00	22.00	1.00
2.00	2.00	2.85	27.00	25.00	18.00	21.00	20.00	24.00	1.00
2.00	2.00	2.34	28.00	25.00	15.00	21.00	24.00	23.00	1.00
2.00	2.00	1.87	29.00	34.00	20.00	19.00	24.00	21.00	2.00
2.00	2.00	2.00	26.00	20.00	16.00	26.00	33.00	20.00	5.00
2.00	2.00	1.67	29.00	22.00	11.00	23.00	23.00	23.00	3.00
2.00	2.00	1.68	24.00	27.00	11.00	32.00	29.00	22.00	4.00
2.00	2.00	2.09	26.00	26.00	15.00	20.00	27.00	20.00	5.00
2.00	2.00	2.81	33.00	28.00	16.00	19.00	24.00	18.00	1.00
2.00	2.00	2.00	27.00	26.00	19.00	28.00	23.00	23.00	4.00

2.00	2.00	.75	26.00	20.00	15.00	22.00	20.00	23.00	1.00
2.00	2.00	2.54	27.00	26.00	18.00	29.00	23.00	23.00	1.00
2.00	2.00	2.50	25.00	25.00	16.00	23.00	23.00	21.00	2.00
2.00	2.00	1.92	29.00	27.00	15.00	30.00	26.00	25.00	4.00
2.00	2.00	.75	29.00	27.00	16.00	26.00	24.00	21.00	1.00
2.00	2.00	1.75	26.00	24.00	19.00	28.00	22.00	19.00	4.00
2.00	2.00	3.56	31.00	23.00	18.00	34.00	23.00	20.00	4.00
2.00	2.00	2.53	28.00	26.00	19.00	23.00	24.00	21.00	1.00
2.00	2.00	1.87	28.00	24.00	12.00	26.00	23.00	22.00	3.00
2.00	2.00	3.87	30.00	32.00	13.00	18.00	28.00	21.00	1.00
2.00	2.00	2.30	29.00	27.00	16.00	23.00	25.00	22.00	1.00
2.00	2.00	1.68	26.00	29.00	11.00	30.00	28.00	19.00	4.00
2.00	2.00	3.11	30.00	25.00	20.00	24.00	24.00	18.00	1.00
2.00	2.00	1.50	23.00	21.00	16.00	22.00	24.00	24.00	5.00
2.00	2.00	1.70	24.00	33.00	20.00	19.00	24.00	14.00	2.00
2.00	2.00	1.25	34.00	23.00	22.00	33.00	29.00	24.00	1.00
2.00	2.00	1.78	26.00	22.00	17.00	30.00	23.00	15.00	4.00
2.00	2.00	2.87	18.00	22.00	20.00	28.00	30.00	21.00	5.00
2.00	2.00	2.90	25.00	28.00	20.00	31.00	33.00	15.00	4.00
2.00	2.00	3.67	27.00	26.00	25.00	31.00	26.00	19.00	4.00
2.00	2.00	2.80	25.00	25.00	18.00	26.00	25.00	24.00	4.00
2.00	2.00	1.20	24.00	24.00	20.00	27.00	27.00	17.00	5.00
2.00	2.00	2.60	28.00	23.00	19.00	31.00	27.00	23.00	1.00
2.00	2.00	2.80	29.00	27.00	20.00	31.00	23.00	20.00	4.00
2.00	3.00	3.40	26.00	25.00	22.00	29.00	27.00	18.00	4.00
2.00	3.00	3.80	34.00	25.00	20.00	25.00	22.00	20.00	1.00
2.00	3.00	3.60	32.00	28.00	28.00	35.00	27.00	19.00	4.00

2.00	3.00	3.00	32.00	22.00	22.00	26.00	30.00	22.00	3.00
2.00	3.00	3.88	25.00	28.00	23.00	35.00	27.00	19.00	4.00
2.00	3.00	2.89	27.00	26.00	25.00	36.00	25.00	21.00	4.00
2.00	3.00	2.55	28.00	28.00	24.00	26.00	22.00	20.00	2.00
2.00	3.00	1.90	25.00	21.00	16.00	37.00	27.00	19.00	4.00
2.00	3.00	3.66	30.00	26.00	19.00	35.00	31.00	21.00	3.00
2.00	3.00	2.26	33.00	31.00	25.00	37.00	30.00	19.00	4.00
2.00	3.00	2.00	26.00	27.00	16.00	28.00	23.00	16.00	4.00
2.00	3.00	1.67	29.00	36.00	21.00	25.00	27.00	23.00	2.00
2.00	3.00	1.68	24.00	39.00	31.00	44.00	22.00	22.00	2.00
2.00	3.00	2.09	26.00	26.00	16.00	23.00	19.00	20.00	2.00
2.00	3.00	2.81	33.00	16.00	17.00	22.00	14.00	21.00	3.00
2.00	3.00	2.00	27.00	16.00	10.00	16.00	21.00	21.00	1.00
2.00	3.00	.75	26.00	20.00	18.00	35.00	22.00	22.00	4.00
2.00	3.00	2.54	27.00	26.00	16.00	20.00	17.00	22.00	1.00
2.00	3.00	2.50	25.00	27.00	16.00	16.00	23.00	21.00	2.00
2.00	3.00	1.92	29.00	29.00	15.00	27.00	28.00	20.00	5.00
2.00	3.00	.75	29.00	29.00	15.00	22.00	24.00	21.00	3.00
2.00	3.00	1.75	26.00	26.00	20.00	28.00	27.00	22.00	4.00
2.00	3.00	3.56	31.00	26.00	15.00	21.00	22.00	20.00	1.00
2.00	3.00	2.53	28.00	24.00	17.00	28.00	27.00	21.00	1.00
2.00	3.00	1.87	28.00	25.00	20.00	30.00	35.00	21.00	3.00
2.00	3.00	3.87	30.00	29.00	13.00	11.00	27.00	32.00	1.00
2.00	3.00	2.30	29.00	29.00	15.00	29.00	25.00	23.00	2.00
2.00	3.00	1.68	26.00	21.00	24.00	20.00	20.00	25.00	1.00
2.00	3.00	1.78	30.00	25.00	18.00	21.00	24.00	22.00	1.00
2.00	3.00	2.87	23.00	25.00	15.00	21.00	24.00	24.00	2.00

2.00	3.00	2.90	24.00	34.00	20.00	19.00	33.00	23.00	3.00
2.00	3.00	3.67	34.00	20.00	16.00	26.00	23.00	21.00	1.00
2.00	3.00	2.80	26.00	22.00	11.00	23.00	29.00	20.00	5.00
2.00	3.00	1.20	18.00	27.00	11.00	32.00	27.00	23.00	4.00
2.00	3.00	2.60	25.00	26.00	15.00	20.00	24.00	22.00	2.00
2.00	3.00	2.80	27.00	28.00	16.00	19.00	23.00	20.00	2.00
2.00	3.00	3.40	25.00	26.00	19.00	28.00	20.00	18.00	4.00
2.00	3.00	3.80	24.00	20.00	15.00	22.00	23.00	23.00	3.00
2.00	3.00	3.60	28.00	26.00	18.00	29.00	23.00	23.00	4.00
2.00	3.00	3.00	29.00	25.00	16.00	23.00	26.00	23.00	1.00
2.00	3.00	3.88	26.00	27.00	15.00	30.00	24.00	21.00	4.00
2.00	3.00	2.89	34.00	27.00	16.00	26.00	22.00	25.00	1.00
2.00	3.00	2.55	32.00	24.00	19.00	28.00	23.00	21.00	2.00
2.00	3.00	1.90	32.00	23.00	18.00	34.00	24.00	19.00	3.00
2.00	3.00	3.66	25.00	26.00	19.00	23.00	23.00	20.00	2.00
2.00	3.00	2.26	27.00	24.00	12.00	26.00	28.00	21.00	5.00
2.00	3.00	2.00	28.00	32.00	13.00	18.00	25.00	22.00	2.00
2.00	3.00	1.67	25.00	27.00	16.00	23.00	28.00	21.00	5.00
2.00	3.00	1.68	26.00	29.00	11.00	30.00	24.00	22.00	4.00
2.00	3.00	2.09	29.00	25.00	20.00	24.00	24.00	19.00	3.00
2.00	3.00	2.81	24.00	31.00	16.00	22.00	24.00	18.00	2.00
2.00	3.00	2.00	26.00	33.00	20.00	19.00	29.00	24.00	2.00
2.00	3.00	1.78	33.00	23.00	22.00	33.00	23.00	14.00	1.00
2.00	3.00	2.87	27.00	22.00	17.00	30.00	30.00	24.00	5.00
2.00	3.00	2.90	26.00	22.00	20.00	28.00	33.00	15.00	5.00
2.00	3.00	3.67	27.00	28.00	20.00	31.00	26.00	21.00	4.00
2.00	3.00	2.80	25.00	26.00	25.00	31.00	25.00	15.00	3.00

2.00	3.00	1.20	29.00	25.00	18.00	26.00	27.00	19.00	1.00
2.00	3.00	2.60	29.00	24.00	20.00	27.00	27.00	24.00	1.00
2.00	3.00	2.80	26.00	23.00	19.00	31.00	23.00	17.00	4.00
2.00	3.00	3.40	31.00	27.00	20.00	31.00	27.00	23.00	1.00
2.00	3.00	3.80	28.00	25.00	22.00	29.00	22.00	20.00	4.00
2.00	3.00	3.60	28.00	25.00	20.00	25.00	27.00	18.00	1.00
2.00	3.00	3.00	30.00	28.00	28.00	35.00	30.00	20.00	3.00
2.00	3.00	3.88	29.00	22.00	22.00	26.00	27.00	19.00	1.00
2.00	3.00	2.89	26.00	28.00	23.00	35.00	25.00	22.00	4.00
2.00	3.00	2.55	30.00	26.00	25.00	36.00	22.00	19.00	3.00
2.00	3.00	1.90	23.00	28.00	24.00	26.00	27.00	21.00	2.00
2.00	3.00	3.66	24.00	21.00	16.00	37.00	31.00	20.00	5.00
2.00	3.00	2.26	34.00	26.00	19.00	35.00	23.00	19.00	5.00
2.00	3.00	2.00	26.00	31.00	25.00	37.00	14.00	21.00	2.00