

**INFLUENCE OF ANXIETY, COGNITIVE STYLES AND
PERSONALITY ON ACADEMIC ACHIEVEMENT AMONG SENIOR
SECONDARY SCHOOL STUDENTS IN KANO MUNICIPAL
EDUCATION ZONE**

BY

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APPROVAL PAGE

This research report on “the influence of anxiety, cognitive styles and personality on academic achievement among senior secondary school students in Kano municipal education zone” has been read and approved as meeting the requirement for the award of Masters Degree in Educational Psychology of Bayero University, Kano.

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In the name of Allah (SWT), the most Beneficent and the most Merciful. All praise be to Allah (SWT) the Lord of the world. May His blessing be upon the prophet (S.A.W), his household and his companions till the day of recompense (Amin)

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DEDICATION

This research work is dedicated to my late parent Alhaji and Hajiya Zubair Hamzat may Almighty Allah (SWT) continue to bless them and reward them with Jannatul Firdaus (Amin).

ABSTRACT

This study investigated the influence of anxiety, cognitive styles, and personality types on academic achievement among senior secondary school students in Kano municipal education zone. The study examined the relationships between anxiety, cognitive styles, personality and academic achievement. It equally examined whether Kano municipal education zone senior secondary school students with different anxiety levels, different cognitive styles and different personalities differs on academic achievement. The study adopted an ex-post- facto design, three hundred and sixty four(364) samples were sampled out from the total population of seven thousand one hundred and seventy (7176) using kreycie and Morgan table of determining sample size. Three research instruments used in collecting data viz; Sarason anxiety scale(for measuring anxiety level), kazembe sorting test(for measuring cognitive styles) and Eysenck personality inventory(for measuring personality of the students) with internal consistency of 0.858, 0.755, 0.916 respectively. The result of the students qualifying examination was used to obtained their scores on academic achievement by taking the average of the three general subjects ;(English, Mathematics and Biology). Pearson product moment correlation coefficient was used to the relationships between anxiety, cognitive styles, personality and academic achievement while t-test for independent sample was used to test the differences. The students qualifying exam scores were compared to the scores obtained from the questionnaires. It was discovered that the three variables positive correlated with, and significantly influence their academic achievement. This implies that academic achievement is associated with anxiety, cognitive styles and personality variables. The analysis of the data also shows significant difference in academic achievement between high anxious and low anxious level of anxiety , between field dependent and field independent cognitive styles, as well as between extraversion and introversion personality among senior secondary school students in Kano municipal education zone. The result shows that anxiety, cognitive styles and personality correlated with academic achievement, while high anxious and low anxious, field dependent and field independent as well as extraversion and introversion students also differ on academic achievement. In the light of these findings, it was recommended among others that, education stakeholders should intensify effort in organizing, reorienting, and enlighten programmes to rehabilitate students suffering from anxiety, cognitive styles and personality problems, also neurotic tendencies such as anger, anxiety, depression and low self esteem should be discouraged in students at all levels both at home and in the school, so also so group assignments requiring cooperation should be encouraged by teachers to draw out the isolate and improve communication among the students. Finally, government should direct the school authority to encourage the formation of guidance and counseling clubs in Kano municipal education zone.

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OPERATIONAL DEFINITIONS OF TERMS

Anxiety: Is a painful or apprehensive uneasiness of mind usually over an impending or anticipated ill.

Cognitive styles: Refers to preferences for information processing.

Personality: Refers to feelings and behaviors consistently exhibited by individual over time that strongly influence our expectations and reactions.

Extraversion: Are those students who are energized from social interaction.

Introversion: Are those students who are energized from being alone.

Field dependence: The field dependent learners are strongly influenced by the prevailing field, they see forest.

Field independence: The field independent learners see items as more or less separate from the field; they see the tree within the forest.

Academic achievement: Refers to how much an individual has achieved after a course of instructional training in a school setting.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study:

Academic achievement is a major issue among students, teachers, parents, school administrators, and the community at large. Attempts have been made by researchers to unravel the complexities surrounding academic achievement. Psychologists have put forward a lot of reasons why these disparities in achievement exist. A lot of attention had been paid to external factors such as type of school, teaching methods, school location, instructional materials, teachers experience, and so on (WAEC, 2005). Many spend lots of money in order to secure good schools either for their children or themselves and those who can afford it even invest on education abroad as they believe this will enhance achievement, and which in turn gives an added advantage in terms of securing gainful employment. Opinions vary as to why some students excel academically while others appear to be underachievers. Many psychologists have consistently attempted to identify the major predictors of individual academic achievement. Factors such as intelligence, self concept, gender, study habit, maturation, home background, amongst others, just to mention a few, have been extensively explored as being responsible for academic achievement, especially in secondary school students in Kano state generally and Kano municipal Education zone in particular. Other factors that have been researched into in the past include: child rearing patterns, peer group influence, socio-economic background and learning environment. Another major factor that is believed to be responsible for academic achievements in students are; anxiety, cognitive styles and personality.

The broad aims and expectation of any teaching and learning program are productivity and positive-evaluated end product (achievement). But in recent times, observations on students academic achievement in Kano state generally,

and Kano municipal Education zone in particular over the years in the affective factors in learning and academic achievement in general. Ibrahim (2009), Naibi (2010) and Shu'aibu (2014) in their different studies discovered that poor academic achievement in Kano state generally and Kano municipal Education zone in particular are caused by some psychological factors.

The current rise in school low level of achievement, dropout rate and low level of performance in the nation forced educators, researchers and psychologists in the field of education to look at other factors which may influence the academic achievement of students in Kano state generally and Kano municipal Education zone in particular.

An understanding of concept of psychology would enhance the understanding of the psychological factors that are going to be discussed in this study.

The term “psychology” is derived from two Latin words “psyche” and “logus” while “psyche” literally means mind, “logus” on the other hand, means study. Therefore, psychology literally means the scientific study of human mind and behavior. According to McDonald (2000), psychology is the science that employs scientific techniques for the observation and recording of information and this may be overt and covert behavioral manifestation of animals and man mental process.

Mangal (2010), considered psychology as the science of behavior in its comprehensive meaning and which covers all type of behavior of the living organisms. Due to scientific nature of psychology it believes in the relationship of cause and effect which uses observation, experimentation and other scientific method for its study.

Educational psychology, being one of the many branches of psychology dealing mainly with the problems, process and products of education. It is also the systematic study of the development of an individual within the educational setting. For total development of the student into responsible and participating citizens, a sensitive and reflective human being, a productive and creative individuals,

effective learning must come to play. Learning therefore, is the fundamental key which structured our personality and behavior, the term learning broadly speaking, stands for all those permanent changes and modifications in behavior of the individual which he undergoes in his life time.

There are so many psychological factors that have impact on students learning such as anxiety cognitive styles and personality to mention but a few, in relation to their academic achievement.

Students are dynamic organisms, changing and growing with each experience and activity towards maturity and stability, physical, social, emotional and intellectual patterns and principles of growth and development, the individual differences and disabilities. There is need for guidance in the methods of testing and measuring their academic achievement will be discussed. Studies have shown that, anxiety has an influence on the academic achievement, where low level of anxiety can be constructive and higher level can be detrimental. Stress is observed to be one of the major causes of anxiety, apart from the stress experienced by the students, teachers also experienced stress that could affect the performance of the student. In most classes, some students are easily distracted especially those student learning under stress conditions, they are themselves anxious about understanding what they have to do and their ability to do it. There is the tendency for the students' anxiety level to increase whenever the teachers anxiety is level are affected. Many classroom implications emerge from this general overview, older student may develop distaste for school that affects their performance, while younger ones develops school phobia.

According to Taura (2001) "people differ from one another in the way they think, perceive, remember and use information." This is distinctive way by which individuals respond to information or task differently.

Educational administrators are in most cases turning away from associating learning styles and anxiety as a major factors affecting student's achievement. Mary (2004) was of the view that, cognitive/learning styles are personality differences that exist

among learners. Many teachers are not aware of these and as such are rarely taking them into consideration during instruction.

At the other extreme is for experience to be “delineated and the field as a whole as structure.” To support the above assertion, that some people or students differ in the way they see things, some students are low anxious, field independent and introvert don’t need any encouragement to enable them perform well, while others students are high anxious, field dependent and extrovert have to wait until they are encourage to perform academically.

It is against this backdrop that, this study is out to investigate student variables (student anxiety level, student cognitive styles and student personality) on academic achievement among senior secondary school students in Kano municipal Education zone.

1.2 Statement of the Problem

The problem of underachievement has assumed a worrisome dimension in Nigerian educational system in general and indeed Kano municipal Education zone in particular. Desperate to make it anyhow, students have devised various illegal means to succeed in examinations, even when they are not academically competent. And unfortunately, the system has bucked under pressure. Examination malpractice has risen steadily to become a seemingly untamable monster. It is increasingly becoming difficult to equate competence of people with the supposed academic achievement as presented in their certificates. Many candidates are unable to defend the result they supposedly acquired honorably. And of course this has consistently led to inability to compete effectively in the job market which has become a serious issue.

Several factors have been researched into in the past as to the cause of this social malaise, but there seem to be indications that some hidden factors may be responsible that needs to be unraveling. This desire to see this problem curbed gave rise to this study and the researcher’s aim is to see if there is a way by which anxiety, cognitive styles and personality influenced academic achievement,

especially from the perspective of the analytical and scientific approach of measurement and evaluation.

The researcher has consequently chosen to explore this problem among the senior secondary school III students in Kano municipal Education zone.

1.3 Objectives of the Study

In view of the aforementioned problems identified and analyzed above, the aims of this study are:

- i To assess the relationship between anxiety, cognitive styles personality and academic achievement.
- ii To examine the difference in academic achievement between high anxious and low anxious senior secondary school students in Kano Municipal Education Zone.
- iii To identify the difference in academic achievement between field dependent and field independent senior secondary school students in Kano Municipal Education Zone.
- iv To examine the difference in academic achievement between introversion and extraversion senior secondary students in Kano Municipal Education Zone.

1.4 Research Questions:

- i Is there any relationship between anxiety, cognitive styles, personality and academic achievement?
- ii Is there any difference in academic achievement between high anxious and low anxious senior secondary school students in Kano Municipal Education Zone?
- iii Is there any difference in academic achievement between field dependent and field independent senior secondary school students in Kano Municipal Education Zone?
- iv Is there any difference in academic achievement between introversion and extraversion senior secondary school students in Kano Municipal Education Zone?

1.5 Research Hypotheses

- i Ho1: There is no significant relationship between anxiety, cognitive styles, personality and academic achievement.

ii Ho2: There is no significant difference in academic achievement between high anxious and low anxious senior secondary school students in Kano Municipal Education Zone.

iii Ho3: There is no significant difference in academic achievement between field independent and field dependent senior secondary school students in Kano Municipal Education Zone.

iv Ho4: There is no significant difference in academic achievement between introversion and extraversion senior secondary school students in Kano Municipal Education Zone.

1.6 Significance of the Study

This study is expected to make a significant contributions to educational process in general and classroom instructions in particular. A study that will be useful to curriculum designers, teachers, parents, school administrators, student and the government because it forms the general foundation of understanding of individual differences as well as boosting educational productivity. To curriculum planners, it will reveals a specific relationship between anxiety and cognitive /learning styles as it affects the learners which will guide in the development of achievement/behavioral objective towards encouraging the acquisition of positive knowledge and make the goals/objectives achievable.

An understanding of an individual's cognitive style, personality types and anxiety will help eliminate barriers to learning and enhance the quality of academic achievement of our students. The research also has significant educational implications for the teaching/learning process, teachers, parents, counselors, academic, students as well as government. The connection between anxiety, cognitive styles and personality types if any, is useful in curriculum development and teaching/learning. For instance, it will guide teacher in arranging learning experiences which are commensurate with the cognitive /learning styles and personality types of the student. A study of cognitive styles of students will help teachers in identifying some of the factors contributing to the educational

attainment of our students in Nigeria and Kano State in particular. Appropriate cognitive/learning styles may be determined by their field-dependent and field independent cognitive dimensions. We are aware that, for any successful teaching/learning outcomes, students must have been sufficiently understood in terms of their individual differences, ways of thinking, and ways of perceiving, using information or problem-solving. In other words, students too should be able to follow what is expected of them. A study of field –dependent and field independent and academic achievement of senior secondary school students will throw more light on the problems of poor educational attainment of our student.

1.7 Scope and Delimitation of the Study

This study examined the influence of anxiety, cognitive styles and personality on academic achievement among senior secondary school students in Kano municipal Education zone. Therefore, anxiety, cognitive styles and personality represents the independent variables, while academic achievement was the dependent variable.

Senior secondary schools was the scope of the study and students of the other classes (SS I, SS II, JSS and primary classes) were delimited from the study; in addition, variable of gender differences, motivation, attitude and family type were all delimited. The study is limited to SS III students of senior secondary schools in Kano municipal Education zone. The study focuses on the influence of anxiety, cognitive styles and personality on academic achievement.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviewed the theoretical framework and empirical studies, the concept of anxiety, the theories of anxiety, the concept of cognitive/learning styles, the theories of cognitive styles, and the concept of personality. The theories of personality were discussed. The chapter will also review empirical studies which are related to the study. Lastly the chapter will summarize all the review literatures and state how the study is unique from others.

2.2 Conceptual Framework

(Grillion et al. 1991) Anxiety is defined as the response to prolonged, unpredictable threat, a response which encompasses physiological, affective and cognitive changes.

According to Basavanna, (2000), anxiety is highly unpleasant affective state similar to intense fear which can include feelings of threats, vague objectless fear, a state of uneasiness and tension, and a generalized feeling of apprehension.

In a (2011) review of the Psychiatry literature, fear and anxiety were said to be different in four domains: (1) duration of emotional experience (2) temporal focus, (3) specificity of the threat, and (4) motivated direction. The review differentiated fear as short lived, present focused, geared towards a specific threat, and facilitating escape from threat, while anxiety is defined as long acting, future focused, broadly focused, towards a diffuse threat and promoting excessive caution while approaching a potential threat, and interferes with constructive coping. While almost everyone has experienced anxiety at some point in their lives, most do not develop long term problems with anxiety; such problems are classified as an anxiety disorder.

In popular language, anxiety is used to refer to various thing mental state; a drive (for examples, being' anxious to please); a response to a particular situation (being anxious about a new job); a personality trait (an anxious person); the cause of

behavior (a person who smokes out of anxious), and a psychiatric disorder. It involves a loose blend of apprehension with a state of physical readiness to cope with upcoming events. By contrast, pathological anxiety arises not in reaction to an external threat but to an internal stimulus; the relationship between this condition and anxiety neurosis is not fully clear.

APA (1994) the diagnostic and statistical manual of mental disorders (DSM-IV) defined anxiety as “apprehensive” anticipation of future danger or misfortune accompany by a feeling of dysphoria or somatic symptoms of tension. It is thus a future oriented state, motivating the person to avoid the perceived danger; worry may be seen as a cognitive manifestation of anxiety. Fear, by contrast, is a basic emotion that is associated with a “fight of flight” response to immediate danger; it typically arises after the exposure, where as anxiety is apprehension over a potential future danger. Anxiety need not to be negative it may increase vigilance and arousal, and thereby enhance performance and learning.

2.2.1 Basic Anxiety

“Basic anxiety” is a feeling of bitter helplessness toward a fundamentally hostile world. This means a total lack of faith in one’s own defenses because of the fear that any act of hostility, anger or self-defense will only arouse the hostile elements in the environment to completely reject or destroy him. According to the psychiatric theorist Karen Horney, this feeling is the most basic of all the neurotic fears. Horney finds this kind of fear to be highly characteristic of our society. This concept explains the customer who is “easy to sell” because he can’t say no, but who, on the other hand, is never satisfied with you, or your store, or your service, or your product. He is dissatisfied because he feels he was “sold” against his own wishes, which he did not dare to act on. This is not a minor problem just because, as Horney points out, this type is very numerous in our society. What to do? Satisfying the people with basic anxiety requires a subtle combination of “you can always rely on me for support”, plus I have no desire for you to do anything you don’t want to do.”

This particular combination happily, is best not only for the person with basic anxiety, but also for the average consumer as well.

2.2.2 Anxiety in the Classroom

At one time or another, everyone has experienced anxiety, or a general uneasiness, a feeling of self-doubt, and sense of tension. The effects of anxiety on school achievement are clear “*from* the time of the earliest work on this problem.

According to (Covington, 1992; Zeidner, 1998). Anxiety can be both a cause and an effect of school failure students do poorly because they are anxious, and their poor performance increases their anxiety. Anxiety probably is both a trait and state. Some student tend to be anxious in many situations (trait anxiety), but some situations are especially anxiety provoking (state anxiety).

(Pintrich & Schunk, 2002; Zeidner, 1995, 1998) Anxiety seems to have both cognitive and affective components. The cognitive side includes worry and negative thoughts-thinking about how bad it would be to fail and worrying that you will, for example. The affective side involves physiological and emotional reactions such as sweaty palms, upset stomach; racing heart beat, or fears. Also, research with school-age children shows a relationship between the quality of sleep (how quickly and how well you sleep) and anxiety. Better-quality sleep is associated with positive arousal or an “eagerness” to learn poor-quality sleep, on the other hand, was related to debilitating anxiety and decreased school performance. You may have discovered these relationships for yourself in your own school career (Meijer & van den Witten Boer, 2004).

2.2.3 How Does Anxiety Interfere With Achievement

Anxiety interferes with learning and test performance at three points: focusing attention, learning, and testing. When students are learning new material, they must pay attention to it. Highly anxious students evidently divide their attention between the new material and their preoccupation with how worried and nervous they are feeling instead of concentrating, keep noticing the tight feelings in the chest, thinking, “I’m so tense, I’ll never understand this stuff” from the

beginning, anxious students may miss much of the information they are supposed to learn because their thoughts are focused on their worries (Cassady & Johnson, 2002, Paulman & Kennelly, 1984).

But the problems do not end here. Even if they are paying attention, many anxious students having trouble, learning material that is somewhat disorganized and difficult- material that requires them to rely on their memory. Unfortunately, much material in school could be described this way. In addition, many highly anxious students have poor study habits. Simply learning to be more relaxed will not automatically improve these students performance; their learning strategies and study skills must be improved as well (Navch-Benjamin, 1991).

2.2.4 Coping with Anxiety

Some students, particularly those with learning disabilities or emotional disorders, may be anxious in school. When students face stressful situations such as tests, they can use three kinds of coping strategies which might include, planning a study schedule, borrowing good notes, or finding a protected place to study. Emotions-focused strategies are attempts to reduce the anxious feeling, for example, by using relaxation exercise or describing the feelings to a friend. Of course, the latter might become an avoidance strategy, along with going out for pizza. Or suddenly launching an all-out desk.

Learning attack (can't be studied until you get organized) different strategies are helpful at different points for example, problem solving before and emotion management during an exam. Different strategies fit different people and situations (Zeidner, 1995, 1998).

Teachers should help highly anxious students to set realistic goals, because these individuals often have difficulty making wise choices. They tend to select either extremely difficult or extremely easy tasks. In the first case, they are likely to fail, which will increase their sense of hopelessness and anxiety about school.

In the second case, they will probably succeed on the easy tasks, but they will miss the sense of satisfaction that could encourage greater effort and ease their fears

about school work. Goal cards, progress charts, or goal- planning journals may help here.

2.2.5 Affective Factors in Learning

Affective factor in learning is an activity whereby learning is affected by certain factors. It has been noted that for example, motivation and emotional stability of the learner are among the most important factors in successful learning. Therefore, teachers have to understand in relation to learning the concept of motivation, classroom motivation, motivation techniques, anxiety and its effects as well as personality. Learners can be categorized into three anxiety groups

1. Low anxiety
2. Moderate anxiety
3. High anxiety

The high anxiety or simply anxious learners are mainly tense and worried such people usually twist the fingers, sweat on all their body and fear embarrassment, disapproval, punishment or the general learning of their status.

Although anxiety can affect learning negatively or positively it has been noted that learner learned better when they are emotionally stable. On the negative side, anxious learner lack concentration and self-control for necessary meaningful learning. The sweating which characterized the anxious learner can make learning environment less comfortable and conducive for him, fear of embarrassment or disapproval may make a high anxious learner participate less in learning activities furthermore, feeling of insecurity may result in an anxious learner lagging to school.

On the positive side, anxiety can be quite motivating factors e.g. the thought of failure in an examination, mocking by fellow learners or parents and stingy rebuke can increase the vigor of the anxious child's effort within. According to Akbas and Kan (2007). Since the academic achievement is related directly or indirectly with many factors, the affective factors could be considered as one of the mentioned factors.

With consistency, the factors (as motivation and anxiety) will affect many other factors such as the will and the interests of students in lessons. Thus, it could be thought that student's performances and their academic achievements would be affected (Akbas & Kan, 2007).

2.3. Conceptual Framework of Cognitive styles

2.3.1. The concept of Cognition

“Cognition” is the act of knowing. It is a term used by psychologists in referring to the complex of intellectual activities, as distinct from emotional and motivational activities, and includes perceiving, thinking, understanding, imagination, and gaining of insight. Of all psychological process the processes of cognition are the most neglected by advertiser and businessmen so much emphasis has been placed on impulses, emotions, and unconscious and mechanical aspects of human behaviour that there is a tendency to forget that human beings are cognitive by nature. Man is the perceptual animal who thinks.

2.3.2 The concept of Cognitive styles/Learning styles

The term cognitive styles and learning styles often means the something. In other words, cognitive styles and learning styles are synonymous-often used interchangeably by psychologists and educationist. We define cognition as information processing (the term comes from the Latin word *cognoscere*, which means “to conceptualize” “to know,” or “to recognize”). Cognitive style is a term used in cognitive psychology to describe the way individuals think, perceive and remember information, or their preferred approach to using such information to solve problems.

According to Dreher (1997) learning styles and cognitive styles should not be separated therefore, learning styles/strategies enable learners to plan different ways of solving-problems. According to Borkowski, Rellinger and Pressley (1990).

Tenant (1998), looked at cognitive styles to connote, “an individual characteristics and consistent way or approach to organizing and processing information.

Cognitive styles may be referred to as declarative and procedural knowledge, which help in assimilating information into long-term memory.

Cognitive styles refers to the preferred way an individual processes information, unlike individual difference in abilities (e.g. Gardner, Guilford, Sternberg which describe peak performance, styles describe a person's typical mode of thinking, remembering or problem solving. Cognitive style is usually described as a personality dimension, which influences attitudes, values, and social interaction.

Cognitive style or thinking style” is a term used in cognitive psychology to describe the way individuals think, perceive and remember information. Cognitive styles are defined as consistent patterns of functioning which are mainly present in perception and intellectual activity (Rayner & Riding 1997; Riding 1997).

2.3.3 Cognitive styles inform learning strategies

Learning strategies enable learners to plan different ways of solving problems. According to Borkowski, Rellinger and Presley (1990), contemporary psychological research yielded three particular important findings in relation to the students learning.

1. Those students must be strategic and engage in strategies to build connections between new knowledge and prior knowledge.
2. That students must possess and utilize metacognitive knowledge to control their thinking; and
3. Those students must believe that they are responsible for their own learning (Seifert and Wheeler 1994).

2.4 The concept of personality

The concept of personality is multi-dimensional. The word ‘personality’ originates from the Latin word persona, which means mask. Significantly, in the theater of the ancient Latin-speaking world, the mask was not used as a plot device to distinguish the identity of a character, but rather was a convention employed to represent or typify that character. Personality may also refers to the patterns, of thought, feelings and behaviors consistently exhibited by an individual over time that strongly

influence our expectations, self-perception, values and attitudes, and predict our reactions to people, problems stress.

Psychologists, generally speaking viewed personality as the unique combination of psychological and behavioral characteristics by which each individual can be compared and contrasted with everyone else.

The oxford advanced learners dictionary (2001) said, personality is a collection or totality of various characteristics of a person that combined to make him/her different from other people. Schultz et' al (2001) opined that, personality entails the enduring and stable characteristics that are predictable in a person. The word by implication encompasses a host of subjective social and emotional qualities we may not see, pointing to the fact that personality is not rigid and unchangeable, but vary with situation.

Ryuckman (2004) defined personality as a dynamic and organized set of characteristics possessed by a person that uniquely influences his/her cognitions, motivations and behavior in various circumstances. For example, in time of provocation, how does he/she react often? Apparently, the early proposal of Freud, that personality is permanent at age five is faulted by contemporary researchers and posits that personality is dynamic and a process of adjustment.

MC. Adams (1994) suggested that personality can be described on three levels to explain its constant development and changes. These are:

- a. Dispositional traits
- b. Personal concerns
- c. Life Narrative

Although “personality” has no precise and universal theory, (Torrance, 1997) there has been a number of measures and explain this elusive concepts over the past decades. Osakinle (2008), state that most of these theories have focused on extraversion and introversion categorization of personality. Introvert individual according to Todd (2006) are not necessarily shy but misanthropic, they become

arouse to action by what goes on in their mind. He further stated that they tend to focus their attention on concepts and ideas more and are comfortable when they are expected to spend most of their time, just thinking, they prefer to reflect on things, before they action.

Osakinle (2008) on the other hand gave the characteristics of extraverts tend to focus their perception and judgment on people and objects, they are energized by what is going on in the world of mind. Todd (2006) stated that extroverts prefer to communicate more by taking, than writing and to learn by experiencing; simply they act externally than internally.

Counselors and other researchers alike have long pointed out the importance of personality.

Onoyese (2005) in her studies on personality did found that people are introverts because they energized from being alone, they regard social contacts as draining due to natural detachments and reserve nature. On the other hand, people are extravert because they energized from social-interaction, being alone is draining due to focusing on being. She concluded that how an individual can be extraverts or introverts depending on how an individual draws his or her energy, if it is within an individual is an introvert. If he or she draws his or her energy outside the individual, he is an extrovert.

As revealed by factor analysis studies of R. B Cattell (1990) in U.S.A, and Eysenck (1953) in Britain, they said to make personality a scientific affair, two assumptions are needed:

- a. That an individual must have sufficient consistency in actions demonstrated about him/her to identify such behavior as characteristics of him/her; which must also be a function of his/her stimulus situation.
- b. The individuals idiosyncratic ways of behavior can be compared and contract along dimensions that allow individual differences to be measured.

As earlier said, personality is a multi-dimensional term. Different personality systems describe personality differently. There is no single answer to what exactly describes personality and this is the obvious reason for the numerous dimensions and systems that characterized personal styles. Personality in essence concerns the uniqueness of a person that is the enduring and unique cluster of characteristics though many change in response to different situations

2.4.1 Characteristics of Introversion versus Extraversion

According to Crow and Crow (1968), the introverts has tendency to withdraw into self mostly in times of emotional stress/conflicts exhibits shyness, prefers to work alone and interested in his own thoughts. Academically, introverts are better at writing than speaking and find of books.

2.4.2 Extroverts have their own peculiar characteristics: According to Atkinson (1975), when the extraverted individual is under stress, he seeks for the company of others. Extraverts are more sociable, outgoing and interest in the external world and the world of people, fluent in speech.

Presently, the work of Jung and Eysenck are used mostly by researchers in assessing personality types of factor analysis method(Schultz et al, 2001). He based his types on the interaction of the eight functions:-

- **Extraverted Thinking type:** Obey society rules; they seem to repress feelings and emotions, objective in all aspects of life, dogmatic in thoughts/opinions.
- **Extraverted feeling type:** They repress thinking mode but highly emotional. Confirm to traditional lines/moral codes taught. Unusually, sensitive to other peoples opinion and expectations. Make friends easily and emotionally responsive, effervescent and sociable, Jung (1927), Posits that this was found more among women.

- **Extraverted sensing type:** Seeks new experiences and focus pleasure and happiness-strongly oriented to the real world and easily adaptable to all kind of people and situations. They are out-going and high capacity of enjoying life.
- **Extraverted Intuiting Type:** Succeeds in Business and politics. Possess keen ability to exploit opportunities. Highly creative and are attracted by new ideas. Good inspirers of others ready to change from one idea to the other.
- **Introverted thinking Type:** Difficult to get along well with others. Cannot communicate ideas properly, have poor practical judgment. They focus on thoughts rather than on feelings. Highly secretive. They prefer dealing with abstractions and theories. They seek to understand themselves than others. People see them as arrogant, stubborn and inconsiderate because they keep to themselves.
- **Introverted feeling Type:** Avoid outward expressions by capable of keeping emotions. Tend to be quiet and inaccessible, mysterious, modest and childish. They appear withdrawn, cold, have little concern for others feelings and thoughts, and self-assured. Represses rational thought.
- **Introverted sensing Type:** They are passive, calm, detached from everyday world. Human activities are looked at with benevolence and amusement. Aesthetic and loves art or music- they repress the intuition.
- **Introverted intuiting type:** Highly intuitional. They have little contact with reality, very good visionaries and day dreamers, unconcern with practical matters.

They are considered odd and eccentric. Have difficulty coping with everyday life- and planning for the future.

2.5 The concept of academic achievement

“Achievement encompasses student ability and performance; it is multidimensional; it is intricately related to human growth and cognitive, emotional, social and physical development, it reflects the whole child; it is not related to a single instance; but occurs across time and level, through a student’s life in public school and into post secondary years and working life.” (Steingberger, 1993). Merriam Webster as cited by Steinberger (1993) defined achievement as “the quality and quantity of a student’s work.”According to student academic achievement committee (SAAC) report (2005-2006).academic achievement is all about what students can actually do when they finished a course of study.

Academic achievement, as far as education is concerned is something which require a lot of concentration and experience in an organization which officially aims at encouraging and developing arts, skills and knowledge related to sciences and all other subjects taught in schools. It can also be seen as a procedure in reaching a particular goal, status or standard especially by making effort for a long time for one to achieve something academically need one’s effort and skills, and certain factors are responsible for that and this include: factors within the individual, classroom or environment, the home, community or society in general.

In educational psychology academic achievement is a specific level of proficiency in scholastic work in general or in a specific skill, such as arithmetic or reading. Academic achievement is the educational goal that is achieved by a student, teacher or institution achieves over a certain period. This is measured either by examinations or continuous assessment and the goal may differ from an individual or institution to another (en.wikipedia.org). Academic achievement is a term used in school when a student does well in academics they achieve or do well in an area of school and do well in their studies.

Murray-ward (1996), defines academic achievement or (academic) performance as the outcome of education- the extent to which a student, teacher or institution has achieved their educational goals.

An academic achievement is something you do or achieve at school, college or university in class, in a laboratory library or fieldwork. It does not include sport or music. An academic achievement, such as graduating 1st in one's class, is sometimes a purely quantitative matter, while having the findings of lengthy, comprehensive research published by a recognized journal is also a notable academic achievement. Being named head/chairman of a particular department at a university is both a professional and an academic achievement. Academic achievement can be defined as excellence in all academic disciplines, in class as well as extracurricular activities. It includes excellence in sporting, behaviour, confidence communication skills, punctuality assertiveness, arts, culture, and the like.

2.6 The Theoretical Framework of anxiety, cognitive styles and personality

At initial stage of the present study, a collective body of research work, related to involved variables i.e., academic achievement, anxiety, cognitive styles and personality were examined extensively, so that proper guidelines and directions from the objectives hypotheses, methodologies and findings, may be sought to assist the various stages of the present study like determination of objectives, formulation of hypotheses, selection of methodology and to get an understanding of the relationships between different related variables.

2.6.1 Theoretical Explanations of Anxiety

Researchers are always and only properly guided when the basic theoretical models of the principal variables involved are reviewed. This fact has been under scored by Shehu in Hobfoll (1989) saying that although initial stages of any research direction may be strictly observational it is necessary to explore and expand the theory or model based on the research in order to gain more insights and direction to guide the research.

2.6.2 *Michael Eysenck's attention control theory of anxiety*

He is the son of the noted psychologist Hans Jurgen Eysenck. Eysenck research focuses mainly on cognitive factors associated with anxiety in normal and clinical

populations. He has recently developed two new theories, first there is attentional control theory (with Nazanin Derakshan, Rita Santos, and Manuel Calvo), which provides a cognitive account of the effects of anxiety on performance. Second there is vigilance-avoidance theory (with Nazanin Derakshan and LyrnMyers), which provides a detailed theory of repressive coping. His current research with collaborators is designed to test these two theories in detail. Processing efficiency theory is a theory that attempts to explain the relationship between anxiety and performance. It suggests that anxiety serves two functions (a) it increases worry and takes part of the attention resources and (b) the worry created serves monitoring function by identifying the task as important, so that the individual increases the effort, which overcomes the depleted attention capacity unconsciously switches their feelings from an anxiety producing person or object to one that is benign for most psychodynamic.

2.6.3 The relationship between anxiety and academic achievement among secondary school students: a test of processing efficiency theory.

Research have shown that negative emotions particular by anxiety, can play a role in learning and academic performance. The processing efficiency theory (PET) and the more recent attention control theory (ACT) have been put forward to explain the relationship between anxiety and performance. The theories assure that worry (the cognitive component of anxiety) is thought to have a significant impact on performance and that the effect of anxiety on performance is through working memory, and in particular the central executive. The literature review identified a number of key areas of development, including the application of the theories of younger populations and with targeted populations who underachieve in school.

2.6.4 Theoretical Framework on cognitive Styles

Most of the styles have been broadly researched and recognized as effective ways of learning. Park (1995) synthesized the research findings on cognitive styles and listed three categories of cognitive styles thus:

- (a) Strongly effective styles
- (b) Weakly effective styles
- (c) Styles that need more research

Those strongly effective styles include adjunct questions, reflective questions, summarizations, note-taking, key word method of loci, and advanced organizer. The weakly effective style is underlining and the styles that need more research are concept mapping, Venn diagram, matrix frames and signaling: concept mapping has been found to contribute meaningfully towards student's achievement.

2.6.5 Witkin's field-dependence versus field independence

Field-dependence/field-independence is essentially an individual's ability to dissembled in perceptual tasks- likened to spatial intelligence(Widiger, Knudson, & Rorer, 1980) - and is associated with the ability to dissembled in non-perceptual problem solving tasks (Riding and Cheema, 199 1). Evidence that field -dependence was also relevant to intellectual ability as well as a range of other psychological competencies, such as sense of self, has led to the construct being given the broader label of "differentiation". As a style is associated with a general preference for learning in isolation (field -independence) as opposed to integration (field-dependence) (Witkin & Good enough, 1981). Field -independence learners are characterized as operating with an internal frame of reference intrinsically motivated with self- directed goals, structuring their own learning, and defining their own study strategies. Field -dependence learners on the other hand are characterized as relying more on an external frame of reference, are extrinsically motivated, respond better to clearly defined performance goals, have a need for structuring and guidance from instructors, and a desire to interact with other learners. These characteristics will clearly have implications for the preferred learning situation and consequently learning outcomes.

2.6.6 Theoretical Framework of Personality

As a general introduction to all of these theories and models, it's important to realize that no-one fully knows the extent to which personality is determined by genetics and hereditary factors compared to the effects of up-bringing, culture, environment and experience. Nature versus Nurture: no-one knows. Most studies seem to indicate that it's a bit of each, roughly half and half, although obviously it varies from person-to-person.

Given that perhaps half our personality is determined by influences acting upon us after we are conceived and born, it's interesting and significant also that no-one actually knows the extent to which personality changes over time. Certainly childhood is highly influential in forming personality. Certainly major trauma at any stage of life can change a person's personality quite fundamentally. Certainly many people seem to mature emotionally with age and experience. But beyond these sort of generalizations, it's difficult to be precise about how and when- and if personality actually changes.

So where do we draw the line and say a personality is fixed and firm? The answer in absolute terms is that we can't. We can however identify general personality styles, aptitudes, sensitivities, traits, etc., in people and in ourselves, especially when we understand something of how to define and measure types and styles. And this level of awareness is far better than having none at all. Which is the purpose of this information about personality and styles 'types' what follows is intended to be given a broad, accessible(hopefully interesting) awareness of personality and types, and of ways to interpret and define and recognize different personalities and behaviors, so as to better understand yourself and others around you.

2.6.7 (a) Jung's psychology 'general attitude Types'-introverted and extraverted

Jung divided psychic energy into two basic 'general attitude types': **introverted** and **Extraverted**. These are effectively two 'type behaviors that combine with others to create, Jung's psychological types. Moreover Jung's introverted and Extraverted ' general attitude types, feature strongly as two

opposite characteristics within very many modern personality systems, including Myers Briggs® and Keirsey.

The 1923 translation of Jung's 1921 book psychological Types uses the words introverted and Extraverted to describe these types, which in German would have been introvertiert and Extravertiert. Some interpretations of Jung's ideas use the alternative words introvert and introversion, and Extravert and Extraversion to describe Jung's types. The word Extravert was devised by Jung, which is how it appears in German. He formed it from the Latin words 'extra' meaning outside, and 'vertere' meaning to turn.

The words extravert, extraverted and extraversion are English adaptations which appeared soon after Jung popularized word in German. Both 'extra' and 'extro' versions are acceptable English. Jung formed the word introvert from the Latin 'intro' meaning inward and 'vertere' to turn.

The word 'attitude' in this sense means a deeper more settled mode of behavior than the common day-to-day use of the word. In his 1921 book psychological types, Jung described the introverted and extraverted general attitude types as being: '.....distinguished by the direction of general interest or libido movement Differentiated by their particular attitude to the object.....' And '.....The introvert's attitude to the object is an abstracting one..... he is always facing the problem of how libido can be withdrawn from the object..... The extravert, on the contrary, maintains a positive relation to the object. To such an extent does he affirm its importance that his subjective attitude is continually being oriented by, and related to the object.....

2.6.8 (b) Eysenck's personality Trait

British psychologist Hans Jurgen Eysenck (1916-97) was born in Berlin. He became a prolific writer in the field of clinical psychology and also had a great interest in psychometrics. Eysenck used extensive research and questionnaires to build a personality inventory which he related to Galen's four Temperaments. The fit is not

perfect with the more recent interpretations of the four Temperaments (Keirsey, Myers Briggs®) but there are certainly many common aspects between the Eysenck and Galen models.

Eysenck's concepts are particularly interesting, and provide a valuable additional perspective compared to the four Temperaments, Jung, Myers Briggs®, and Keirsey, because they explore and analyze a personality dimension related to emotional stability.

Eysenck's approach to personality assessment was the first popular scalable mathematical methodology. Previous theories generally placed a person within one of the defining types, or between two types or attributed a mixture of types to a person's personality.

Eysenck's 1950s theory (he later added a third dimension) measures personality using two scales.

. Introversion- extraversion

. Stability- Instability (unemotional-emotional).

By surveying many thousands of people, using many and various adjectives (traits) representing behaviors and types, Eysenck built a scalable model which also formed the basis of what became the Eysenck personality test.

Eysenck's theory regards the choleric and melancholic temperaments as being emotionally **unstable** (let's say 'emotional'), and the sanguine and phlegmatic temperaments as being emotionally **stable (unemotional)**. The theory sees the phlegmatic and melancholic temperaments as being **introverted** and the **choleric** and **sanguine** temperaments as being **extraverted**.

At this point there is clear divergence from the Eysenck model and certain recent interpretations of the four Temperaments, since, for example, Keirsey and Myers Briggs® clearly assert that introversion and extraversion appear in each of the four temperaments. Eysenck's ideas are a part-fit with MBTI® and Keirsey, but certainly not a direct overlay.

. Unstable-introverted (emotional-introverted) = melancholic

- . Unstable-extraverted (emotional-extraverted) = choleric
- . Stable-introverted (unemotional-introverted) = phlegmatic
- . Stable-extraverted (unemotional-extraverted) = Sanguine

Building on the writings and observation of Jung, during World War II, Isabel Briggs Myer and her Mother, Katherine C. Briggs type delineated personality types by constructing the myers-Briggs type indicator. This model was later used by David Keirsey with a different understanding from Jung, Biggs and Myers. In the former society union, Lithuania Austral Augustina Viciute independently derived a model of personality type from Jung called socionics. The model is an older and more theoretical approach to personality, accepting extroversion and introversion as basic psychological orientations in connection with two pairs of psychological function.

Perceiving Functions: Sensing and intuition (trust in concrete, sensory-oriented facts Vs trust in abstract concepts and imagined possibilities)

Judging Functions: Thinking and feeling (Basing decisions primarily on logic Vs considering the effect on people). Briggs and Myers also added another personality dimension to their type indicator to measure whether a person prefer to use a judging or perceiving function when interacting with external world. Therefore, they concluded questions design to indicate whether someone wishes to come to conclusion (judgment) or to keep option open (perception).

2.7 Empirical studies on the influence of anxiety, cognitive styles and personality on Academic Achievements

2.7.1 Empirical studies of Anxiety

Grills- Taquechel, Fletcher, Vaughn & Stuebing (2012) conducted a quantitative, non-experimental study to determine the relationship between reading difficulties and anxiety in students. The researcher analyzed the anxiety levels and academic achievement test scores of 153 average or at-risk general education first grade students.

The empirical study aimed to test the application of PET and ACT for pupils with social, emotional and behavioral difficulties (SEBD). It investigated whether the negative impact via working memory and whether this relationship was moderated by emotional regulation.

Twenty-four pupils with SEBD aged 12 to 14 completed working memory tasks and self-report anxiety measures. Academic performance was also assessed.

Muola, Kithuka, Ndirangu and Nassiuma (2009) carried out a study on the relationship between anxiety and academic achievement in secondary schools in Nyeri district, Kenya. They use a correlation study design and selected their research participants from among 4 students and their teachers. 83,000 students and 600 teachers formed the target population. The results showed that there was no significant relationship between anxiety and academic achievement. Their results indicated that there was a statistically significant difference ($p < 0.01$) between the levels of anxiety aroused by different subjects.

Nelson and Harwood (2010) performed a study comparing research on learning disabilities and anxiety to determine the connection between the two. Researchers analyzed 58 studies which included 3,336 students. Researchers used computer programme to analyze the data from the studies.

Owens, Stevenson, Hadwin, & Norgate, 2012) Anxiety has been linked to poor academic performance. High levels of academic anxiety can negatively affect working memory. Anxiety is also associated with high levels of worry that can affect academic performance. Researchers tested the relationship between anxiety, academic performance, and working memory. Two groups of 12-13 year old students completed self-report questionnaires about anxiety. Parents and students each had to sign consent forms for the students to participate in the studies.

Symes (2010) found that, low academic self-concept was associated with higher worry and tension about their abilities to do well on a test. Also Anzi and Owayed (2005) examined the relationship between academic achievement and the following personality variables; anxiety, self-esteem, optimism, and permission. The sample

consisted of 400 male and female students in the basic education college in Kuwait. The silent findings of the investigation were the significant positive correlation between academic achievement and both optimism and self-esteem. Whereas the correlations were negative between academic achievement and both anxiety and motivation.

2.7.2 Empirical studies of cognitive styles

Dutt (1993) studied problem solving ability in science of high school students in relation to anxiety levels, cognitive style and intelligent with the objective to view the relationship between cognitive style of learner and problem solving ability by taking a sample of 300 students of class Xth with an age range of 14-15 years and found that cognitive style of the learner significantly contributed to the problem solving ability score.

(Sutherland, 1995). Most of the work has been done on full- time undergraduates with an age -range of 18 to 22 years. The ‘Approaches to studying’ Inventory was applied for the first time to primary teacher and nurse factors. The learning styles of the two were compared and any significant statistical differences then established.

2.7.3 Empirical Studies of Personality

Mehta(2010) studied personality needs and academic achievement of secondary school students with the objective to find out the relationship between personality needs and academic achievement by taking a sample of 120 students(50 high achievers, 70 low achievers) from five schools by using systematic sampling technique and found that need achievement, need dominance, need nurturance and need endurance were positively and significantly related to students academic achievement while need succurance, affiliation, abasement and aggression were significantly but negatively related to academic achievement.

(Johnson,1996,Broussard and Garrison,(2004;Skaalvik andSkaalvik,2004,Skaalvik and Skaalvik,2006; Sandra,2002) revealed significant relationship between academic achievement and Personality in Nigeria, a study carried out by Ajayi

(1998) on Personality Types using 276 students revealed that there is a significant difference between academic achievement and Personality.

In another effort, Martin, Montgomery and Saphian (2006) examined the role of three big related personality traits (prudence, sociability, and Ambition) as unique prediction of academic achievement. Two successive undergraduate classes (entering in 1998 and 1999) completed personality inventories upon entering college. The authors obtained grade point (GPA's) for all students in the spring of 2003.

2.7.4 Anxiety and academic achievement

A fair number of previous studies have found a significant relationship between academic achievement and anxiety (Diaz et al., 2001). Using an Egyptian sample of 405 secondary school students in Cairo, Egypt. He found a statistically significant correlation between anxiety and academic achievement in males. For females, the correlation was not significant.

The influence of anxiety on the academic achievement of college students is also illustrated by the following study.

A group of high-anxious and a group of low-anxious freshmen were selected by means of questionnaire at Kano state college of Education in 1998. Both groups were subdivided into five levels of scholastic ability on the basis of their college entrance examination scores. The invigilator then evaluated the joint effects of anxiety and scholastic ability. The scholar went further to state that, analysis of drop outs owing to academic failure gives further evidence of the destructive effect of anxiety on academic performance. More than 20 percent of the high- anxious students left the college because of academic failures; less than 5 percent of the low-anxious students left for the same reason.

Going by this study, it could be concluded that, some students who have the ability to obtain a college degree fail to do so because they are hampered by the effects of anxiety.

Vijayakumari (2010) studied correlates of academic achievement of secondary school students with the objective to study the relationship of academic anxiety and achievement motivation with academic achievement, and to find out the interaction effect of academic anxiety, achievement motivation and gender on academic achievement by taking a sample of 400 students of IXth class through stratified sampling technique and found that academic achievement was negatively related to academic anxiety and positively to achievement motivation; the interaction of academic anxiety and achievement motivation on academic achievement was not significantly different for boys and girls.

2.7.5 Cognitive styles and academic achievement

A cognitive style has been reported to be one of the significant factors that may impact students' achievement on various school subjects. (See, Murphy, Casey, Day, & Young, 1997, Cakan, 2000). In research study, Dwyer and Moore (1995) investigated the effect of cognitive styles on achievement with 179 students who enrolled in an introductory education course at two universities in the United States. They found the field independent learners to be superior to the field dependent learners on tests measuring different education objectives. The researchers concluded that cognitive style had a significant association with students' academic achievement.

Tinajero and Paramo (1997) investigated the relationship between cognitive styles and students achievement in several subject domains, (English, Mathematics, natural science, social science, Spanish and Galician). With the sample of 408 middle school students, the researchers asserted that cognitive style was significant source of variation in overall performance of students. That is, field independent subjects outperformed their field dependent counterparts.

In another study, Murphy, Casey, Day,& Young (1997) sought to determine the relationship between academic achievement and cognitive style of 63 undergraduate Canadian students in information management programme. They found out that field independent students performed better than field dependent subjects only on one of the technical courses. For other three courses the two groups performed similarly.

Although considerable research has been conducted on the impact field dependence/independence and academic achievement, the relationship between FD/FI cognitive style and learning, including the ability to learn from social environments (Summerville, 1999), and the impact of cognitive styles on the use of learning strategies (Jonassen, 1998; Liu& Reed, 1994), few studies have considered affective variables and cognitive styles together in teacher training programmes.

Most part of these studies revealed positive correlation between field independent and academic achievement and a negative correlation between field dependent and academic achievement. A few studies revealed no significant relationship between these variables.

2.7.6 Personality and Academic Achievement

Bajwa et al. (2006) studied academic achievement in relation to personality, stress and well being with the objective to study academic achievement in relation to personality by taking a sample of 180 students of XIth class and found that correlation between academic achievement and psychotism were negative and significant, correlation between academic achievement neurotism was positive and insignificant, correlation between academic achievement and extraversion was negative and insignificant.

Kusum (2010) studied the effect of personality of 12th grade students on their academic achievement with the objective to find out whether high and low achievers differ significantly on extroversion-introversion, psychotism by taking a sample of 200 students from ten randomly selected secondary schools located in Delhi and found that high achievers were more extrovert than the low achievers,

there was significant difference between high and low achievers on neuroticism and high achievers were more neurotic than low achievers both high and low achievers were psychotic averagely but low achievers were psychotic than the high achievers. Khan (2000) studied about gifted achievers and underachievers on personality, need achievement and socioeconomic status with the objective to find out the factor pattern associated with gifted achievers and underachievers with a sample 128 gifted over achievers and 100 gifted underachiever and found that low achieving gifted children were more likely to show behavioural immaturity, emotional instability, feeling of inadequacy and certain nervous symptoms than gifted high achieving students.

Ananthasayanam et al. (2005) studied personality traits in relation to language skills among engineering college students with the objective to find out the influence of selected personality traits on language skills by taking a sample of 135 students and found out that personality traits especially emotional control, courtesy and attitude towards life contributed more to the development of language skills.

2.8 Summary and uniqueness of the study

This research work attempted to find out the influence of anxiety, cognitive styles and personality on academic achievement of students, as such many literature was reviewed which are related to the area of the study, an attempt was made to demonstrate the relationship between anxiety, cognition and other affective factors of learning generally, with particular reference to personality itself. The theories of anxiety, cognitive styles and personality were then critically reviewed.

An intensive review of the concept, typology and features of anxiety, cognitive styles and Personality was made. The theoretical backgrounds of the concept of cognitive styles and personality were also critically reviewed. Like theories of anxiety, each of the cognition and personality theories presented a partial explanation due the fact that, there are few literatures on anxiety, cognitive style and personality. In the case of personality Eysenck personality dimension of introversion/extroversion approach was adopted in order to provide a

comprehensive view of theories of personality. Based on the key variables involved in this study, various empirical studies were then reviewed. These include anxiety, cognitive and personality on academic achievement, the role of personality on student academic achievement, anxiety and academic achievement, personality and academic achievement and gender difference on academic achievement affective factors of learning have great impact among adolescent students in the secondary school setting. However, most of the studies were carried out in the west; few of such studies were conducted in Africa and Nigeria in particular. For further justification of more research with particular reference to Nigeria is highly imperative. Another finding from this review is that, most of the studies on the impact of affective factors of learning are too cumbersome in their various forms depression, locus of control, anxiety, self esteem etc.

Finally, the use of large samples in carrying out the study coupled with the use of three independent variables such as; Anxiety, cognitive styles and personality against the dependent variable (academic achievement) among students in Kano municipal Education zone because, other researchers studied only one or two independent variable(s) at a time and this is what makes the study unique from others.

CHAPTER THREE

METHODOLOGY OF THE STUDY

3.1 Introduction

The chapter entails the methodology that was used in the conduct of the research; which involved the research design; the population of the study; and the sample used, the data collection instruments and their validation, the procedures used in data collection and their analysis. It focused on issues regarding the influence of anxiety, cognitive/learning styles and personality on academic achievement among secondary school students in Kano Municipal Education Zone, as specified by the scope of the study.

3.2 Research design

In achieving the objectives of the study ex-post-facto design (EPF) was used. The phrase ‘Ex-post-facto’, is a Latin word which means ‘After the fact’. Ex-post-facto design concerns itself with possible cause and effect relationships by observing an existing condition or state of affairs and searching back in time for plausible causal factors. Ex-post-facto design, then is a method of teasing out possible antecedents

of events that have happened and cannot therefore be controlled engineered or manipulated by the investigators (Cooper and Schindler 2001:136).

The researcher used ‘ex-post-facto design’. Lawal (2012) asserted that ‘Ex-post-facto’ design make an attempt to determine the cause or reasons for the existence of difference in behavior or status of group of individuals, in other words it observe that groups are different in some variables and the researcher attempt to identify the major factor that has led to this difference’.

3.3 Population and Sample

3.3.1 Population of the study

The population consists of the entire SSSIII students only from the Thirty nine (39) senior secondary schools with total population of Seven thousand one hundred and seventy six (7176) students. It is made up of both boys and girls. In selecting the sample size Kreychie and Morgan (1971) table of determining sample size from a population was used to select the sample from the study population. Three hundred and sixty four (364) students were selected to serve as the study sample.

TABLE 3.3.1: Population of Senior Secondary Schools in Kano Municipal Education Zone

S/N	School type	Population of School	Population Size
1	Boys	19	4076
2	Girls	20	3100
	Total	39	7176

3.3.2 Sample size

From the population identified, sample size of 364 students from the SSS3 classes only were taken as the sample size of the study; which were taken using Kreychie and Morgan (1971) table.

TABLE 3.3.2 Summary of The Schools from Which the Data Were collected.

S/N	SCHOOLS	GENDER	POPULATION	SAMPLE
1.	Rumfa college Kano	Male	1068	46

2.	S.A.S. Kano	Male	1063	46
3.	H.I.S. Shauci	Male	408	45
4.	G.S.S. Sharada	Male	1475	46
5.	A.B.C.Q.S. Kano	Male	1062	46
6.	G.G.S.S. Shekara	Female	407	45
7.	G.G.S.S. Hasiya Bayero	Female	1000	45
8.	G.G.S.S. G/Albasa	Female	693	45
	Total		7176	364

Source: Field study 2014.

3.3.3 Sampling techniques

A simple random sampling technique was used to draw the needed sample for the study from the population. The sample of respondents were drawn from Seven thousand one hundred and seventy six (7176) senior secondary school III (SSS3) students .The schools and students were selected randomly, hence each school and student were given equal chances of been selected.

3.4 Data collection instruments

In order to get accurate data about the subject matter under study, three (3) data collection instruments were used namely:

(1) Sarason Anxiety Scale for Children (SASC)

(2) Kazembe Sorting Test (KST)

(3) Eysenck Personality Inventory (EPI)

3.4.1 Sarason Anxiety Scale: This instrument was designed to obtain the level anxiety among Senior Secondary School Students in Kano State. The scale has 23 (Twenty Three) questions. Higher Scores indicate high anxiety level, while low scores indicate low level of anxiety. It was divided into two sections i.e. section “A” which consisted of Bio-data of the respondents and section B contains the actual questions numbering twenty three (23) See Appendix I.

3.4.2 Kazembe Sorting Test (KST): Was used to determine the cognitive styles of the respondents, the questionnaire contained some specific pictures and written

questions seeking answers from the respondents(see Appendix I).The questions contained in the questionnaire can either be close or open or even both.

The reason for choosing the questionnaire was that, all the respondents were literate (i.e. Senior Secondary School III Students) who means they can easily fill-in the questionnaire forms without much difficulty, and made it easier for the collection and analysis of the data. The questionnaire tried to keep the respondents within the framework of the subject matter under study.

The KST was originally developed using African culture and employed adapted in a number of studies; Kazembe,1973(as cited in serio 1998) the KST consist of sixteen test items, each comprising of different pictures of objects, human beings and animals portraying certain information . Each of the sixteen test items comprised of three pictures. In its introduction, the three respondents are asked to group two of each three pictures together and to write a reason as to why they felt the two chosen pictures go together. For detail on KST (see Appendix I)

3.4.3 Scoring of kazembe: Kazembe (1973) as cited in serio (1998 p.62) considered a score of 1 for field-independent i.e. (analytical) cognitive styles and a score of zero for field-dependent i.e. (non analytical) cognitive styles, an overall score of 0-5 as highly field-dependent. He further suggested an overall score of 16 as highly field-independent. This was adopted as a scoring key for KST in the current study.

3.4.4 Eysenck Personality Inventory (EPI): *Was also employed as one of the measuring instrument. This was used to obtain the measure of extroversion/introversion among the subjects of research. The instrument consists of fifty-seven (57) items. Eysenck and Eysenck(1972) shows that the EPI gives a score on a continuum of social extroversion-introversion. A high score on extroversion (E) scale represents sociability and outgoingness, while a low score represents self-control and seriousness.*

3.4.5 Scoring the EPI: *This scale consist of fifty-seven (57) items each item answer was scored in the direction of extroversion/introversion (Eysenck,1972). Each item*

responded in the direction of extroversion/introversion carries one (1) mark each (see Appendix I).

Researchers both home and abroad have used this instrument for the measurement of extroversion/introversion and academic achievement. For instance, Love Grave (1978) used the EPI to find out the relationship between extroversion/introversion and academic achievement among Igbo students. Ahmad (1978) had also used the same instrument to find out the relationship between extroversion/introversion and moral reasoning among Nigeria Hausa Muslim adolescent. Bazariye (1981) also used the EPI to find out the causes of delinquency among Nigeria in primary school.

3.5 validations of data collection instruments

3.5.1 Validity

Validity refers to the extent to which an instrument or test measures what it is suppose to measure (Bichi 2004, Nworgu 1990, and Olayiwola 2007). For this research, in order to ascertain the face validity of the instrument which is the questionnaire, a sample of the questionnaire was forwarded to three experts in Test and Measurement, Psychology and English Language at Bayero university Kano for proper scrutiny and determined the extent to which the instrument is valid as well as for criticisms and comments before it was taken for pilot testing.

3.5.2 Reliability

The reliability of an instrument is concerned with the consistencies with which the instrument measures whatever it supposed to measure. Reliability is the degree of accuracy with which an instrument or test measure what is to be measured (Bichi 2004, Nworgu 1990, and Olayiwola 2007). In this study, since the questionnaire as a measuring instrument was used, its reliability and stability are to be ensured through a pilot study.

3.5.3 Pilot Study:

The reliability of the instruments used for this research was established using test-retest method. Thirty (30) students were sampled for the pilot study and two schools

was selected for the pilot study .The instrument was administered to the students who are not part of sample for this study for the first, second and third time within an interval of two weeks and a correlation coefficient was calculated to determine the reliability which ranges between ($r= 0.858, 0.755, 0.916$). The pilot study was conducted in order to know the problems that can be encountered by the researcher when the questionnaires or scales are to be administered.

3.6 Data collection procedure

The researcher solicited the permission of the principal of the schools under study for the use of their students. In each school the assistance of the school teachers was also solicited to help the researcher administer the questionnaire. All the tests were grouped administered in a class and were given the test in a conducive atmosphere. The method of administering the test in the boys' and girls' schools was the same. The instructions were fully explained to the students and they were given ten minutes to ask questions on what is not clear to them about the test, and they were given one and half hour to answer the questions. The researcher was personally involved in distributing the questionnaire .Three hundred and sixty four (364) questionnaires were distributed to the students and the same were returned back to the researcher.

3.7 Data analysis procedure

The data collected through the use of questionnaire was recorded according to the category of responses. Descriptive statistics such as frequency, simple percentages, mean, standard deviation and inferential statistics (t-test for independent sample) and Pearson product moment correlation coefficient were equally used for analysis of the results. At the inferential level one statistical instrument was employed to test the four hypotheses used in this study. All the four hypotheses involve the testing/examination of differences between two groups. For these reasons therefore, Pearson product moment correlation coefficient and t-test for independent sample were used to analyze the result, and the measurement was also based on the ratio/Interval scales. On the issue of academic achievement, students' English

Language, Mathematics and Biology Qualifying Examinations [MOCK] Result only was used for the analysis of the comparison between students' level of anxiety Cognitive Styles and Personality on their Academic Achievement among Senior Secondary School Students in Kano Municipal Education Zone.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This study investigated the influence of anxiety, cognitive styles and Personality on academic achievement among senior secondary school students in Kano Municipal Education Zone. Therefore, this chapter presented the data collected and analyzed in respect to the hypothesis formulated.

Descriptive and inferential statistics were used in summarizing and analyzing the data collected. There are four (4) hypotheses tested and T-test for independent sample was used. For further clarification and understanding of the results of the investigation, the analyses are described as follows:-

4.2 Summary of the data

The data were collected from only the SSS III students in Kano municipal education zone.

Eight (8) schools were randomly selected from where the samples of the research were equally selected. Below is the summary of the schools from which the data were collected.

There were 364 samples, comprising 229 males and 135 females respectively. The data collected were on anxiety level, cognitive styles and Personality of the students from the result obtained, analyses were carried out on the difference on the level of anxiety, cognitive styles and Personality and its effects on academic achievement of senior secondary school students in Kano Municipal Education Zone. The researcher considered it appropriate to find out if there is any significant difference in any of the independent variables (i.e. anxiety, cognitive styles and Personality). In this regard, the mean score (X) and standard deviation (SD) of the difference were computed.

In testing the main hypothesis however, Pearson product moment correlation coefficient analysis was used to determine any significant relations between all the variables, that is, anxiety, cognitive styles, personality and academic achievement. T-test for independent sample was also used to find out the differences between the independent variables (i.e. anxiety, cognitive styles and Personality) and the dependent variable (academic achievement) i.e. the mean scores between English, mathematics and biology.

In view of the above, the results of the research are presented below, they are presented in tabular form, each standing for the respective hypothesis. Each of the tables would be followed by an analysis. The results of the PPMCC and T-test are presented separately.

4.3 Data Analysis

Four (4) hypotheses were used by the researcher to test hypotheses. PPMCC and T-test were used to analyze all the hypotheses formulated.

4.3.1 Hypothesis I

There are no significant relationships between anxiety, cognitive styles, personality and academic achievement

Table 4.3.1: Shows the descriptive statistics and correlations among the study variables. The table revealed that academic achievement correlated with anxiety($r=.466, p<0.05$); cognitive styles($r=.411, p<0.05$); personality($r=.365, p<0.05$).

Table 4.3.1: Descriptive statistics and correlations among the variables.

Variable	N	Mean	SD	Academic Achievement	Anxiety	Cognitive Styles	Personality
Academic Achievement	364	68.3678	17.5120	1.0000			
Anxiety	364	29.1456	5.1251	.365**	1.0000		
Cognitive styles	364	31.8086	7.4516	.411**	.771**	1.0000	
Personality	364	45.7175	11.0025	.406**	.321**	.302**	1.0000

N= 364, df=362 Correlations greater than .30 are significant at $p<0.05$.

The first research question sought to inquire the combined influence of anxiety, cognitive styles and personality (independent variables) on academic achievement (dependent variable) of the students.

4.3.2 Hypothesis II

There is no significant difference in academic achievement between high anxious and low anxious among Senior Secondary School Students in Kano Municipal Education Zone.

Table 4.3.2: T-test for independent sample of difference in academic achievement between high anxious and low anxious among Senior Secondary School Students in Kano Municipal Education Zone.

Anxiety	N	Mean	SD	T-value	T-crit	Df	P
Low anxious	160	33.2	11.5	6.50	1.97	362	0.05
High anxious	204	41.2	13.2				

From the above table, the result showed that there was a difference in academic achievement between high anxious and low anxious students and the difference is significant. Table above indicates that the mean score of low anxious students

(33.2) is higher than the mean score of high anxious students (41.2) in academic achievement. This established the fact that students with high level of anxiety performed poorly on academic achievement at secondary school in Kano municipal Education zone. The result also showed that the difference was significant at 0.05 ($p=0.05$).

More so, the T-calculated (6.50) is greater than the T-critical (1.96). Therefore, the null hypothesis was rejected. That is to say that the significant difference exist between high anxious and low anxious students in academic achievement ($T\text{-cal } 6.50 > 1.96$).

4.3.3 Hypothesis III

There is no significant difference in academic achievement between field dependent and field independent among Senior Secondary School Students in Kano Municipal Education Zone.

Table 4.3.3: t-test for difference in between academic achievement field dependent and field independent among senior secondary school students in Kano state.

Cognitive styles	N	Mean	SD	t-cal	t-cri	Df	P
Field-dependent	259	41.2	13.2	6.10	1.97	362	0.05
Field-independent	105	49.2	12.7				

From the above table we could observe that there is significant difference in academic achievement of Field-independent versus Field-dependent senior secondary school students. The calculated T-value of (6.10) obtained is greater than the critical t-value of (1.96). This signified that Field-independent students performed better than Field-dependent students in academic achievement at senior

secondary school in Kano municipal Education zone. It was equally established that the difference was significant at 0.05.

4.3.4 Hypothesis IV

There is no significant difference in academic achievement between introverts and extroverts among senior secondary school students in Kano Municipal Education Zone.

Table 4.3.4: T-test showing means difference in academic achievement between high achiever and low achiever among Senior Secondary School Students in Kano State.

Variable	N	Mean	SD	t-cal	t-crit	Df	P
Introverts	235	52.7	18.7	5.20	1.97	362	0.05
Extroverts	129	43.2	15.3				

Table 4.3.4 shows academic achievement measured based on Personality. The result revealed that there is significant difference in Academic Achievement of Extroverts and Introverts Personality with ($t\text{-cal} = 5.20$, $t\text{-cri} = 1.96$; $df = 362$ and at 0.05 level).

From a close observation of the table above, one can easily noticed that the mean score of the Introverts ($M=52.7$; $SD= 18.7$) is greater than the mean score of the Extroverts ($M= 43.2$; $SD = 15.3$). In view of the above, the null hypothesis is therefore rejected since there is a significant difference between the groups on academic achievement.

4.4 Summary of the findings

The main findings of this study are summarized below:

- (1) There are significant relationships between anxiety, cognitive styles, personality and academic achievement.
- (2) There is significant difference in academic achievement between high anxious and anxious students. This shows that low anxious students tend to perform better in academic achievement.

(3) There is significant difference in academic achievement between field-independent and field-dependent students. This implies that, majority of the field-independent students happened to do better in academic achievement.

(4) The analysis shows that there is significant difference in academic achievement between Extroverts and Introverts. In the sense that introverts have higher in scores on academic achievement than extroverts.

4.5 Discussion of the findings

The research was on the effects of anxiety, cognitive styles and Personality on academic achievement among senior secondary school students in Kano Municipal Education Zone. The researcher investigated the differences between high anxious and low anxious students, field-independent versus field-dependent, Extroverts and Introverts by using t-test for independent sample to determine their differences.

The result arrived at from this investigation showed a clear difference between highly anxious students and lower anxious students, with the low anxious students performing better. In other words, high anxiety really affects students' academic achievement while low anxiety does aid in motivating students to achieve academically.

The research findings are in consonant with that of Burger (1997). According to these scholars, research participants with high anxiety show a number of related problems with learning that require efforts. They also established that low anxiety does assist learner if the learning task was simple, while high anxiety hurt if the learning tasks are complicated.

Mwamwenda(1994), did not find any significant differences between high anxious and low anxious students in test of educational psychology.

High anxiety is inimical to academic achievement as this research has established. High anxious students tend to perform poorly in academic achievement as this study has shown. These categories of students hardly settle down to study. They are always on the move as if something is itching them. They quarrel with friends, teachers and even school authority which will affect them academically. They also

dislike class activities as they use to antagonize them. This is because they lack all the necessary skills for effective learning. Students with low level of anxiety tend to perform better academically. The low level of anxiety tends to serve as a motivator of learning. Even when there is pressure from the teachers or the school authorities to read hard the low anxious students are believed to work to ensure success to whatever task given to them. But the high anxious students on their part completely become disorganized and hostile to such situations, because they are always afraid of the consequences such activity may eventually pose to them.

The second research question was based on Witkin (1997) field dependent and field independent theory. Witkin in his field dependent and field independent type of cognitive styles established that there is distinction between field dependent and field independent learners. Specifically field dependent learners have a socially oriented cognitive style compared field independent learners who prefer an independent analytical cognitive styles i.e. the field dependent learner relies on others while field independent learners rely on themselves during problem solving. And that a field dependent learner uses a social reasoning cognitive style while the field independent learners prefer an analytical style.

In another development, Witkin in his field dependent cognitive style theory, as reported by Fritz Roberts in a paper titled “ A study of Gender Difference in Conative Volition” presented in America vocational Educational Research Association session at the American Vocational Association Convention (St. Louis, MO, Dec.08, 1992) Conation Georgia(North), predict that females are more likely to have a social or field dependent cognitive style, whereas males will more often have an analytical or field independent cognitive style. Males were more field independent (Analytical), although females have higher mean scores for theoretical symbols (abstraction).

Females also had cognitive preferences that suggest a social orientation and sensitivity to learning environment. This matches expectation from field dependence theory.

In general, the findings suggest that females are more than males rely on acculturated values to interpret situation, desire pure input to organize experience and shape decisions and want a variety of instructional modalities to derive meaning from an experience.

Similarly, Gideon in Saracho (1997) believed that because field dependent learners are more socially oriented, they remember verbal messages with a strong social content better. In the same vein, Witkin and good enough in fritz (1995) also suggested that learners with a social learning style preferred more specific instruction and sequenced assistance. Bonnet (1999) opined that field dependent learners need much structures as they have shorter attention spans, having no inner control, often testing the rules, finding it difficult to work within a group without becoming aggressive being unable to make inferences and lacking self-confidence.

Saracho (1997) on his part maintained that field dependent children need to be involved in physical manipulative, block and dramatic play and without close guidance; field dependent learners are not able to progress. Also field dependent learners achieve a higher degree of success in everyday language situations and tasks requiring inter personal communication skills.

On the other hand Goodenough (Richter 1992) hold the view that field dependent individuals show more introversion personality. Field dependent individuals are often only motivated to work under conditions of negative reinforcement. Richter (1992) maintains that field dependent learners are verbally fluent, attentive, competent, and reflective and make use of reason to respond to a situation mastering of exercise, drills and other focused activities.

Stoltenberg and Delworth state that female trainees tend to emphasize relationship factors in relationship. The Myers – Briggs type indicator (MBTI) was used for such differences in cognitive style across gender of trainees. The primary finding that male trainees attend higher T scores than female trainees while trained higher F scores on the thinking–feeling scale of the MBTI supports the difference postulated by Stoltenberg and Delworth.

This hypothesis was rejected because the T-test result shows that there is significant difference in academic achievement between Extroverts and Introverts Personality Types. The result indicated that Introverts had higher mean scores in academic achievement in comparison to their Extroverts counterpart students.

This result is in consistent with the grouping by Jung (1927), who regards introverts individuals as quiet, cautious and reclusive, generally inhibits expressions of their impulses and feelings. While extroverts are talkative and sociable and gain impulses from external forces, but Buadi(2000) observed that lots of people are in-between, knows as ‘ambiverts’, who are introverts and in other situations extroverts. Odebunmi(1991) agree that individuals at middle of the two personality Types(introverts and extroverts) are referred to as ambiverts. Osakinde (2006), agreed that most of the theories of personality types have only focused on extroversion and introversion categorization.

One pattern of findings in the study showed that most introverts and extroverts differ on academic achievement. Introverts performed better academically than extroverts. And majority of the students are introverts, while others are extroverts. The reason for this was due to natural dispositions, politics, obsessions, technological influence among others. This is in line with the study carried out by Azanu (2001) who find out those students personality types in Bauchi state are mostly Extroverts than introverts. Godwin (2002), did not agree with the findings, in his interpretations, introverts are more among Adamawa state students than extroverts, he lend a credence to his subjects. Egwuchukwu (1997) in a different study did report that many students are introverts, while few are extroverts among Delta state university students. The explanation offered is that most students could not state their personality characteristics due to rigorous academic sessions at the university.

The disparity between the findings of the studies may not be unconnected with the facts that the level at which both studies were carried out were different. The result in this study may be an indication that maturation may have contributed to the

significant difference in academic achievement between Extroverts and Introverts at the senior secondary school in Kano municipal Education zone. Hence, parents and other stakeholders should maintain or increase this tempo of encouraging their wards while teachers should continue to help their students for greater achievement. In the same vein, Extroverts and Introverts differ in a number of ways and in a variety of settings. For instance, Dewar and Whittington (2000) found that Extroverts have a relatively short attention span and prefer to work in large groups. However, Elskamp and Broida (2004) reported that extroverted students preferred face-to-face interaction in the classroom; they did not differ from introverted students in their comfort level with commitment in a class that used computers for quizzes, discussions and emails

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The research is an attempt to determine the influence of anxiety, cognitive styles, Personality on academic achievement among Senior Secondary Schools Students in Kano Municipal Education Zone.

However, this chapter summarized the research findings, presents the research summary conclusion and recommendations were made for subsequent use by all stakeholders in education for the benefit of the learners in particular and society in general and also for further research which if is carried out will further enhance the studies in personality or affective factors in learning and its effects on the teaching and learning as well as the performance of students in their examination.

5.2 Summary

The research work studied the effects of anxiety, cognitive styles, Personality on academic achievement Among Senior Secondary Schools Students in Kano Municipal Education Zone. The researcher used only eight (8) Senior Secondary Schools from municipal educational zone in the State in order to determine the representation from each zone.

The four (4) hypotheses were formulated from the research questions and the objective of the study which served as a guide towards solving the problems of the study. The sample size of 364 students were selected randomly from the eight (8) Senior Secondary Schools in the State with the total population of about 7176 according to Krejcie and Morgan (1971) table for determining sample size was used by the researcher as a guide to determine the sample size of the study. Simple random sampling was also used for the selection of schools and students from the larger population and the research design was an ex-post-facto design.

The student's anxiety level, field independent and field dependent and their personality on academic achievement scores were collected using questionnaire. All

the results of the differences were tested using T-test for independent sample statistical tools to determine their differences.

The major findings of the research indicated that there is significant difference in anxiety between high anxious and low anxious students on academic achievement the sense that low anxious students performed better than high anxious students.

Similarly, the findings show that there is significant difference in cognitive styles between field independent and field dependent students on academic achievement (this means that, field independent performed better than field dependent students in academic achievement because they score high grades than the field dependent. Equally, the findings also show that there is significant difference in Personality between Extroverts versus Introverts on academic achievement (that is to say that introverts scored higher on the academic achievement due to the fact that they are energized internally while the Extroverts scored lower on academic achievement because they are energized externally. Finally, it equally shows that Introvert students exhibited more positive Personality than Extrovert students on academic achievement. However, Personality appears to be a stronger predictor of academic achievement.

5.3 Conclusion

Based on the findings of this study, the following conclusions were made:

That anxiety, cognitive styles and personality correlated with academic achievement of students in Kano municipal Education zone.

That low anxious/ high anxious students differs on academic achievement, in the sense that, the lower the student's anxiety level the higher their performance.

That Field independent/Field dependent cognitive styles differs on academic achievement, in the sense that, Field Independent students performed better academically than Field dependent students.

That introversion/extroversion personality student differs on academic achievement, in the sense that, students with introversion personality performed better academically than students with extroversion personality.

5.4 Recommendations from the study

This study shows the influence of anxiety, cognitive styles, and personality on academic achievement by establishing the significant relationships between anxiety, cognitive styles, personality and academic achievement and also the differences between high anxious and low anxious, field dependent and field independent, Introversion and Extroversion on academic achievement among senior secondary school students in Kano Municipal Education Zone. Based on these research findings therefore, the following recommendations were made.

- (1) Teachers, counselors should help the students to discover their personalities which will go a long way in helping them to chose the right career for better or excellent academic achievement
- (2) Teachers, researchers and curriculum planers should carry out more studies that will provide useful basis for predicting students that field dependent or field independent and provide a teaching style that will tally with their cognitive styles.
- (3) The importance of psychological test should be recognized and the administration of such test as anxiety scale test, cognitive styles test and personality test should be intensified in our secondary schools in general and senior secondary schools in particular.
- (4) Government should direct the school authorities to encourage the formation of guidance and counseling clubs in our secondary schools in Kano state.
- (5) Education stakeholders should intensify effort in organizing, reorienting and enlighten programs to rehabilitate students suffering from anxiety, cognitive styles and personality problems in Kano Municipal Education zone in particular and Kano state in general.
- (6) Group assignments requiring cooperation should be encouraged by teacher to draw out the isolate and improve communication among the students.
- (7) Neurotic tendencies such as anger, depression, anxiety, and a low self esteem should be discouraged in students at all levels both at home and in the school.

- (8) Parent should inculcate self confidence in their children by affirming them whenever they do the right thing and correct them whenever they go wrong.

5.5 Recommendations for further studies

This study examined the influence of anxiety, cognitive styles and personality on academic achievement among senior secondary school students in Kano municipal Education zone. Only (8) senior secondary schools were used for the study. Therefore, there is need for other researchers to study other variables in relation to affective factors in learning which impede academic achievement such motivational styles, attitude, gender and so on. Also other education zones in Kano state should be studied.

Additional studies in relation to students' problem solving skills and students' academic achievement should be carried out in order to develop education-based intervention models to teach cognitive behavior therapy skills in the classroom.

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SARASON ANXIETY SCALE (SAS)

SECTION A: BIODATA

NAME _____

AGE-----CLASS-----

SEX----- SCHOOL-----

SECTION B:

INSTRUCTION

6. I am very anxious if I promised to bring a book to school and then forget it.
Yes No
7. I am anxious making a mistake when reading aloud to the class.
Yes No
8. I don't like other children to know if I get a bad mark for mathematics.
Yes No
9. I do not like having new teachers.
Yes No
- 10.Shivers go up and down my spine if I hear that a child in school is to be severely punished.
Yes No
- 11.I feel so awful if i haven't got my gym shoes for PE lessons.
Yes No
- 12.I feel very hot and cold inside if I think I am late for school.
Yes No
- 13.I am very anxious when i thought of my parents coming to school to talk to my teachers.
Yes No
14. I hate going into a new class with strange children.
Yes No
- 15.I am very anxious if my teacher stirred at me.
Yes No
16. I feel very anxious when i thought of my examinations.
Yes No
- 17.I am very anxious when my teacher looks over my shoulder while I am writing.
Yes No

18.I feel very anxious when I see the school doctor.

Yes

No

19.I feel very nervous if my mathematics teacher asks me sudden questions.

Yes

No

20.I don't like going back to school when I have been away.

Yes

No

21.I think that coming back to school after the holidays is frightening.

Yes

No

22.I am sure that I will be very anxious if I got a message that I have to see the principal.

Yes

No

23.Sometimes I have worried dreams about school

Yes

No

THE KAZAMBE SORTING TEST

Please read these notes carefully.

1. The following pictures are in group 3. Look at each group and choose 2 pictures which you think go together. Show your choice by ticking either A and B, or A and C, or B and C, written on the right hand-side of each group.
2. Then give ONE reason why you think the pictures you have chosen go together. Write your reason briefly in the space provided below each group of pictures.

Group 1

TICK ONE OF THESE



A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 2



A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 3

TICK ONE OF THESE



A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 4



A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 5



A

B

C

A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 6



TICK ONE OF THESE

A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 7



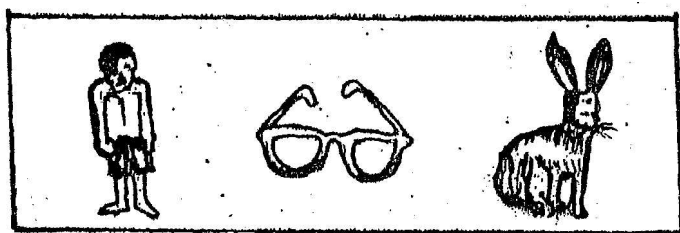
A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 8



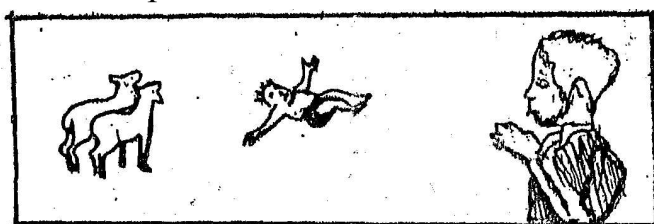
A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 9



A B C

TICK ONE OF THESE

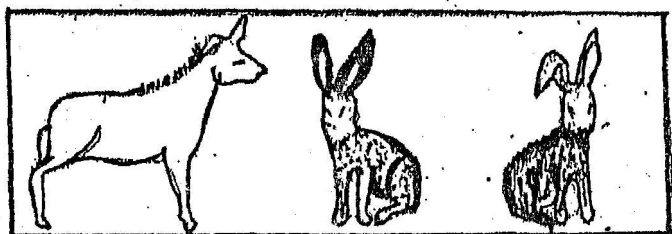
A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 10



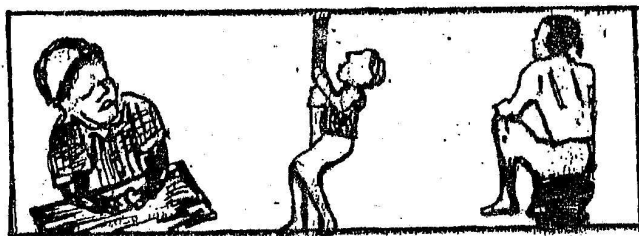
A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 11



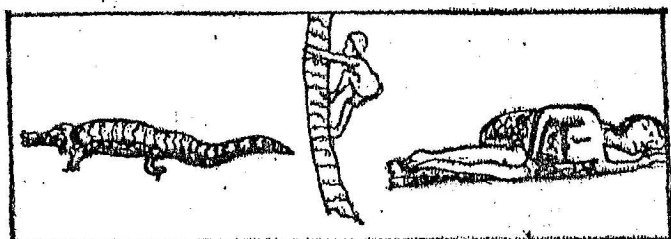
A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 12



A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 13



TICK ONE OF THESE

A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Group 14



A and B go together _____

A and C go together _____

B and C go together _____

The two pictures I have chosen go together because

Scoring Key for KST

GROUPS	ANALYTICAL	NON ANALYTICAL
Group 1	A + B Holding hips A + C	Both are men
Group 2	A + B facing the same direction carrying something B + C	Both are boys
Group 3	A + C Open Mouth Facing The Same Direction B + C	Both are birds
Group 4	A + B stamping or founding B + C	Both are boys
Group 5	A + B Both have patches on fore head B + C Holding something A + B	Both are boys
Group 6	A + C facing the same direction B + B	Both are female
Group 7	A + C Facing the same direction B + C	Both are birds
Group 8	A + C one eye is missing A + C	Both are living things
Group 9	A + B facing upwards B + C	Both are human beings
Group 10	A + C one ear down B + C	Both are hares
Group 11	Both are seated or resting A + B	Both are boys
Group 12	A + C Laying on the ground B + C	Both are males
Group 13	A + C arms are along the side A + C	Both are males
Group 14	A + B Holding something both standing A + C B + C one leg is missing A + C B + C something is on their heads B + C Both bearded A + B	Both are males Things to sit on Both are men

EYSENCK PERSONALITY INVENTORY (EPI)

INSTRUCTION:

Please answer each question by putting a circle around the “Yes” or “No” of the following questions. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of each question.

1.	Do you often long for excitement?	Yes	No
2.	Do you often need understanding friends to cheer you up?	Yes	No
3.	Are you usually carefree?	Yes	No
4.	Do you find it very hard to take no for answer?	Yes	No
5.	Do you stop and think things over before doing anything?	Yes	No
6.	If you say you will do something, do you always keep your promise, no matter how inconvenient it might be to do so?	Yes	No
7.	Does your mood often go up and down?	Yes	No
8.	Do you generally do and say things quickly without stopping to think?	Yes	No
9.	Do you ever feel just miserable for no	Yes	No

	good reason?		
10.	Would you do almost anything for a dare?	Yes	No
11.	Do you suddenly feel shy when you want to talk to an attractive stranger?	Yes	No
12.	Once in a while do you lose your temper and get angry?	Yes	No
13.	Do you often do things on the spun of moment?	Yes	No
14.	Do you often worry about things you should not have done or said?	Yes	No
15.	Generally, do you prefer reading to meeting people?	Yes	No
16.	Are your feelings rather easily hurt?	Yes	No
17.	Do you like going out a lot?	Yes	No
18.	<u>Do you occasionally have thoughts and ideas that you would not like other people to know about?</u>	Yes	No
19.	<u>Are you sometimes bubbling over with energy and sometimes very sluggish?</u>	Yes	No
20.	<u>Do you prefer to have few but special friends?</u>	Yes	No

21.	<u>Do you day dream a lot?</u>	Yes	No
22.	When people shout at you, do you shout back?	Yes	No
23.	Are you often trouble about feeling of guilt?	Yes	No
24.	Are all your habits good and desirable ones	Yes	No
25.	Can you usually let yourself go and enjoy yourself a lot at a gay party	Yes	No
26.	Would you call yourself tense or highly strong?	Yes	No
27.	Do other people think of you as being very lively?	Yes	No
28.	After you have done something important do You often come away feeling you could have done better?	Yes	No
29.	Are you mostly quiet when you arc with other people?	Yes	No
30.	Do you sometimes gossip?	Yes	No
31.	Do ideas run through your head so that you cannot sleep?	Yes	No
32.	If there is something you want to know about, would you rather look it up in a	Yes	No

	book than talk to someone about it?		
33.	Do you get palpitation or thumping in your heart? Yes	Yes	No
34.	Do you like the kind of work that you need to pay attention?	Yes	No
35.	Do you get attacks of shaking or trembling? Yes No	Yes	No
36.	Would you always declare everything at the customs if you know that you could never be found out?	Yes	No
37.	Do you hate being with a crowd who play jokes on one another?	Yes	No
38.	Are you an irritable person?	Yes	No
39.	Do you like doing things in which you have to act quickly?	Yes	No
40.	Do you worry about awful thought that might happen?	Yes	No
41.	Are you slow and unhurried in the way you move? Yes No.	Yes	No
42.	Have you ever been late for an appointment or work?	Yes	No
43.	Do you have any nightmares?	Yes	No

44.	Do you like talking to people so much that you never miss a chance of talking to a stranger?	Yes	No
45.	Are you trouble by aches and pains'?	Yes	No
46.	Would you be very unhappy if you could not see lots of people most of the time?	Yes	No
47.	Would you call yourself a nervous person?	Yes	No
48.	48. Of all the people you know are there some whom you definitely do not like?	Yes	No
49.	Would you say that you are fairly self-confident?	Yes	No
50.	Are you easily hurt when people find fault with you or your work?	Yes	No
51.	Do you find it hard to really enjoy yourself f at a lively party?	Yes	No
52.	Are you troubled with feelings of inferiority?	Yes	No
53.	Can you easily get some life into a rather a dull party?	Yes	No
54.	Do you sometimes talk about things you know nothing about?	Yes	No

55.	Do you worry about your health?	Yes	No
56.	Do you like playing pranks to others?	Yes	No
57.	Do you suffer from sleeplessness?	Yes	No

Thank you very much for your cooperation.

APPENDIX II

SAAC FOR ANXIETY

Reliability Statistics

Cronbach's Alpha	No of items
0.858	23

KAZEMBE SORTING TEST (KST) INDEX

Reliability Statistics

Cronbach's Alpha	No of items
0.755	16

EYSENCK PERSONALITY INVENTORY (EPI) INDEX

Reliability Statistics

Cronbach's Alpha	No of items
0.916	57

APPENDIX III

TABLE 3.1: SENIOR SECONDARY SCHOOL STUDENTS' POPULATION PER SCHOOL PER CLSS IN KANO MUNICIPAL EDUCATION ZONE.

S/N	SCHOOLS	SEX	SSS1	SSS2	SSS3	TOTAL
1.	GSS S/Kofa	M	780	695	675	2150
2.	GSS Gyadi-Gyadi	M	178	00	100	178
3.	GSS Unguwar Gano	M	135	58	100	193
4.	GASS Babban Giji	M	97	95	130	322
5.	GSS Kundila	M	279	251	408	1056
6.	GSS Hausawa Model	M	86	135	108	331
7.	GSS Darmanawa	M	125	63	84	272
8.	GSS U/uku	M	225	244	248	718
9.	GASS Hausawa B/R	M	202	125	137	464
10.	GSS G/Albasa	M	200	220	202	622
11.	ABCQS Kano	M	124	106	1062	1832
12.	HIS Shauchi	M	558	576	408	1542
13.	GSS Sharada	M	572	726	1475	2773
14.	GSS K/Nassarawa	M	260	281	308	849
15.	SAS Kano	M	619	516	1063	2195
16.	Rumfa College	M	423	555	1068	2046
17.	GSS Warure	M	100	150	350	1101
18.	GSS Dorayi Babba	M	120	60	209	402
19.	GSS G/Dutse	M	101	120	130	360
20.	GGSS H/Sufi	F	375	250	395	1020
21.	GGASS Koki	F	65	43	69	177
22.	GGSS Sharada	F	296	266	295	357
23.	City Women Centre	F	200	210	205	615
24.	GGASS H/Bayero	F	479	493	1000	1990
25.	GGSS Festival	F	199	124	202	542
26.	GGSS Umma Zariah	F	110	171	202	501
27.	GGASS Zoo Road	F	117	75	138	330
28.	GASS H/Delu	F	54	54	59	167
29.	GGSS Shekara	F	360	100	407	867
30.	GGASS Namai Tuwo	F	170	670	200	640
31.	GGSS U/uku	F	107	129	219	360
32.	GGASS Tahir	F	211	293	57	723
33.	GGSS Hausawa	F	204	120	147	381
34.	GGSS Fatima Muhd	F	164	165	273	476
35.	GGSS Darmanawa	F	283	211	124	767
36.	GGASS T/Kudu	F	98	100	111	307
37.	GGSS K/Kudu	F	24	84	135	243
38.	GGSS Yakasai	F	230	273	344	947
39.	GGSS G/Albasa	F	453	394	693	1540
	Total		9059	9201	10200	28460

Source: Municipal Zonal Education office Kano, planning and statistics unit 2014

APPENDIX 1V

RAW SCORES OF STUDENTS IN SARASON ANXIETY SCALE FOR CHILDREN (SASC), KAZEMBE SORTING TEST (KST), EYSENCK PERSONALITY INVENTORY (EPI) QUESTIONNAIRE AND ACADEMIC ACHIEVEMENT (AA) (Mean Score of English, Mathematics and Biology).

RUMFA

NO	SASC	KST	EPI	AA
1	22	10	33	39
2	19	15	28	17
3	23	9	30	17
4	21	12	37	35
5	18	11	44	3
6	15	13	41	33
7	8	15	50	89
8	10	15	41	34
9	17	14	38	36
10	14	13	41	34
11	16	15	30	48
12	20	12	30	20
13	22	10	40	25
14	19	13	33	35
15	15	14	34	38
16	10	16	41	28
17	6	15	54	63
18	9	12	54	64
19	8	10	49	30
20	21	16	47	23
21	19	11	56	64

22	11	15	46	37
23	18	14	44	45
24	7	10	40	56
25	20	16	50	59
26	12	15	53	45
27	11	12	30	22
28	15	10	35	25
29	17	13	37	39
30	21	15	40	28
31	22	13	39	34
32	19	11	45	47
33	15	14	41	46
34	23	14	43	55
35	10	10	53	66
36	15	12	50	66
37	18	15	55	56
38	6	11	50	73
39	10	16	41	45
40	12	10	45	55
41	8	13	49	37
42	6	14	42	51
43	22	10	35	20
44	6	15	57	95
45	10	12	50	47
46	15	10	39	24

SAS KANO

NO	SASC	KST	EPI	AA
1	20	12	24	32
2	17	15	25	30

3	22	10	52	48
4	18	15	49	46
5	12	12	43	53
6	9	16	51	66
7	11	11	42	49
8	23	14	16	31
9	19	11	32	25
10	20	9	28	20
11	15	13	24	32
12	19	15	30	51
13	22	12	35	34
14	14	10	45	43
15	19	10	40	37
16	8	14	45	72
17	10	15	50	56
18	6	11	55	52
19	9	13	50	62
20	11	10	55	55
21	19	15	50	21
22	23	14	35	32
23	18	15	45	56
24	22	12	40	48
25	22	13	45	35
26	22	10	50	40
27	22	8	43	33
28	22	10	40	50
29	22	13	41	38
30	22	15	35	36
31	21	11	51	56
32	19	9	30	28

33	20	12	32	39
34	18	12	49	53
35	11	14	43	42
36	6	14	40	55
37	9	16	55	38
38	10	13	46	34
39	12	14	39	37
40	15	15	20	31
41	23	10	29	35
42	20	15	38	31
43	22	11	22	32
44	21	13	40	42
45	19	12	48	56
46	13	15	45	56

HIS SHAUCI

NO	SASC	KST	EPI	AA
1	12	13	55	48
2	10	16	55	71
3	8	16	50	48
4	22	16	39	38
5	7	14	50	72
6	9	11	53	48
7	6	15	52	56
8	22	15	42	35
9	23	10	33	23
10	11	13	45	62
11	13	10	44	48
12	22	15	48	32

13	21	10	31	32
14	20	12	40	33
15	23	14	38	30
16	15	10	45	53
17	19	13	50	39
18	16	14	47	47
19	11	11	41	41
20	13	14	54	52
21	10	12	51	41
22	11	15	50	70
23	9	13	42	67
24	12	14	40	59
25	15	13	35	40
26	11	14	49	53
27	10	15	44	33
28	21	13	51	37
29	23	9	25	37
30	13	12	38	42
31	10	16	41	45
32	9	11	57	52
33	14	11	39	34
34	11	14	45	55
35	8	13	40	43
36	12	14	55	47
37	17	13	35	31
38	7	12	50	43
39	12	15	37	57
40	14	16	51	45
41	20	6	40	36
42	18	11	46	40

43	16	13	51	43
44	14	12	48	40
45	10	15	46	55

GSS SHARADA

NO	SASC	KST	EPI	AA
1	22	7	39	27
2	21	10	42	27
3	22	10	41	37
4	17	14	38	42
5	14	13	41	38
6	18	11	30	39
7	15	9	30	24
8	19	7	40	32
9	21	11	33	49
10	23	13	44	32
11	20	14	41	57
12	17	14	38	57
13	19	10	35	47
14	18	12	39	54
15	20	15	40	47
16	10	13	41	60
17	22	14	30	20
18	21	12	38	26
19	11	15	45	51
20	22	10	35	33
21	20	13	33	30
22	19	15	42	40
23	23	9	39	36
24	18	12	49	47

25	11	14	43	40
26	19	10	45	35
27	20	9	40	33
28	9	14	41	68
29	12	19	52	54
30	13	15	36	43
31	10	12	47	58
32	15	13	35	43
33	8	11	55	62
34	12	15	53	55
35	10	12	40	49
36	22	14	25	37
37	21	10	56	36
38	23	8	35	18
39	19	10	22	32
40	10	21	33	66
41	12	14	32	61
42	8	10	21	62
43	6	13	31	62
44	14	15	23	46
45	11	15	33	43
46	6	11	21	72

ABCQS KANO

NO	SASC	KST	EPI	AA
1	21	18	34	25
2	20	16	32	25
3	10	12	40	50
4	9	12	49	60
5	8	11	55	60
6	19	10	40	36

7	11	10	41	58
8	14	12	55	68
9	9	15	57	73
10	22	16	39	17
11	20	15	40	22
12	15	15	45	40
13	19	11	37	25
14	21	10	35	21
15	18	12	40	24
16	16	13	44	33
17	11	19	41	43
18	17	11	45	37
19	10	14	56	63
20	12	13	40	40
21	14	16	38	40
22	21	12	31	28
23	19	14	25	32
24	17	19	39	32
25	18	7	34	26
26	22	10	33	20
27	19	8	24	30
28	23	11	23	31
29	21	9	32	30
30	20	13	31	41
31	22	15	35	39
32	18	12	25	25
33	22	13	44	33
34	19	7	33	39
35	17	11	20	33
36	18	13	34	21

37	20	14	21	20
38	19	16	31	17
39	23	18	29	37
40	22	10	31	43
41	21	9	36	33
42	20	8	34	24
43	17	12	31	21
44	18	7	30	25
45	19	13	33	40
46	21	12	27	22

GGSS SHEKARA

NO	SASC	KST	EPI	AA
1	6	10	52	73
2	9	15	43	68
3	7	14	40	58
4	22	10	46	36
5	8	16	55	60
6	10	13	38	60
7	19	11	43	41
8	21	9	40	28
9	11	17	52	51
10	19	12	47	37
11	12	9	48	55
12	15	11	45	45
13	7	6	46	73
14	6	10	32	56
15	21	10	36	66
16	18	13	28	66
17	22	9	41	55
18	17	11	55	46
19	20	8	45	47
20	18	10	39	20
21	16	7	34	34
22	17	12	37	28
23	21	9	38	39
24	19	6	30	25
25	20	8	33	22
26	22	14	43	45
27	17	11	49	53

28	23	14	55	56
29	21	12	48	45
30	18	10	38	23
31	22	8	35	32
32	17	11	43	48
33	23	15	41	43
34	14	12	38	40
35	22	9	31	36
36	21	8	35	37
37	20	10	33	38
38	23	7	39	38
39	14	5	20	61
40	10	8	49	31
41	15	13	47	43
42	11	12	17	66
43	16	11	29	66
44	12	10	39	56
45	17	9	57	67

GGSS H/BAYERO

NO	SASC	KST	EPI	AA
1	13	6	30	72
2	18	13	26	60
3	12	14	25	56
4	9	12	30	58
5	20	9	37	37
6	11	11	45	43
7	17	15	50	33
8	7	11	27	73
9	19	11	40	41
10	22	9	33	25
11	18	12	39	40
12	20	7	32	22
13	23	9	29	17
14	9	10	37	73
15	11	8	39	68
16	13	12	47	58
17	19	6	30	36
18	9	12	44	60
19	7	9	30	60
20	6	15	45	54
21	8	11	29	68
22	14	13	33	33

23	18	11	40	35
24	15	14	50	40
25	13	7	44	47
26	17	13	34	36
27	12	8	48	40
28	`14	12	30	30
29	10	9	46	33
30	16	15	37	51
31	14	6	40	26
32	11	13	39	20
33	8	10	50	60
34	9	15	49	47
35	7	12	44	54
36	11	13	51	47
37	14	9	54	57
38	6	7	40	57
39	12	13	43	32
40	20	11	41	34
41	11	8	38	52
42	12	7	41	45
43	15	9	30	42
44	23	6	30	37
45	22	14	33	33

GGSS G/ ALBASA

NO	SASC	KST	EPI	AA
1	14	9	44	53
2	20	8	41	40
3	10	10	27	59
4	9	13	45	67
5	6	5	39	70
6	8	12	53	41
7	10	10	49	52
8	12	7	44	41
9	13	9	32	47
10	18	15	54	39
11	11	12	35	53
12	19	13	32	30
13	23	8	33	33
14	20	10	32	37
15	21	14	21	34
16	22	13	43	38
17	8	14	20	55

18	13	12	53	42
19	9	5	45	53
20	19	14	40	39
21	20	6	47	28
22	11	10	45	56
23	20	7	39	36
24	22	15	35	38
25	12	10	55	50
26	22	15	39	33
27	19	10	50	40
28	23	15	49	35
29	19	5	44	48
30	18	6	53	56
31	22	10	30	32
32	20	12	43	21
33	16	14	53	55
34	22	6	52	62
35	21	13	45	52
36	20	10	55	56
37	22	5	53	72
38	17	10	40	37
39	18	13	49	43
40	21	6	39	34
41	22	9	46	51
42	20	14	29	32
43	19	15	20	20
44	21	13	35	25
45	20	7	27	22