INFLUENCES OF NEUROTICISM, EXTRAVERSION-INTROVERSION, SELF-ESTEEM, INTELLIGENCE, AND ACADEMIC ACHIEVEMENT *ON THE* SOCIOMETRIC STATUS OF SECONDARY SCHOOL STUDENTS OF FEDERAL *GOVERNMENT COLLEGE, KANO.*

BY

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1995.

DECLARATION

I hereby declare that this thesis is a record of my research. It has not been presented partially or wholly anywhere previously for the application of higher degrees. All quotations are indicated and the sources of information are specifically acknowledged by means of references.



Adamu Sahabi

CERTIFICATION

This thesis entitled: Influence of Personality, Self-Esteem, Intelligence and Academic Achievement on the Sociometric Status of Students of Federal Government College, Kano by Adamu Sahabi met the regulations governing the award of the Masters Degree in Education by Ahmadu Bello University, Zaria and is approved for its literary contributions.

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DEDICATION

To those that mean so much to me:

My father and mother, Mal. Adamu and Bagudo (Fatima) respectively.

My wife, Lubabatu Garba Biyauri.

My son and daughters: Abdulssamad, Samira, Zainab, Fatimah and Aisha.

My brothers: Muhammed Kimo and Mu'azu Adamu Biyauri.

My friend: Rabiu Abdullahi Benna

and;

To the entire members of my family and friends whose prayers sustained me throughout my stay in Ahmadu Bello University, Zaria (ABU).

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ABSTRACT

This study was designed to investigate the infitrence of neuroticism, extroversion-introversion, self-esteem, intelligence and academic achievement on the sociometric status of students of Federal Government College, Kano. To carry out the study, eight null hypothesis wore formulated to test whether there is any significant relationship between choices as well as rejection status high, average and low and personality, self-esteem, intelligence and academic achievement. The population of the school was 1605.

The sample of the study was 315 who were randomly selected from JSS I through SS III which constitute both males and females. The instruments used for the collection of the data were sociometric data sheet, Eysenck Personality Inventory, AH4 non-verbal reasoning, Cooper-Smith Self-esteem Inventory and the last term's examination scores on three subjects for each segment of class. Six segment of classes selected at random were tested.

The findings shows that neuroticism, extroversion-introversion (divided into stable and unstable personality) self-esteem, intelligence and academic achievement are highly related to the students' choices and rejections in the classroom. From this finding, conclusions and recommendations were made in the way that may create a congenial classroom atmosphere where students can internet freely and contribute maximally in any group work.

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DEFINITION OF TERMS

Terms which may otherwise be misinterpreted are operationally defined as follows:

Cohesiveness of a Group: This refers to the degree to which members of the group chose one another.

Extravation (E): The stable state of sociability and excitability in an individual.

Group: A group is a set of persons among whom there exists definable or observable sets of relations.

Intelligence: The general capacity for thinking, reasoning and problem solving.

Interaction: It is the process of mutual association between the members of a group.

Introvert: Is a person who is quiet and retiring.

Neurotic: The personality state of an individual characterized by emotionality, heightened fear of imaginary evil that might befall one, and suspicion.

Neuroticism: Is a personality state characterised by unneccessary worrying, feelings of restlessness, emotionality, hightened fear of imaginary evil that might befall one and, suspicion

Self-Esteem: It is the evaluation an individual customarily maintains with regard to the self.

Sociometric Choice: This means the interpersonal preference made by individuals in a group in reference to a given criterion.

Sociometric Status: A measure of person to person responsiveness in which each group member renders a judgement in regard to desirability of certain other members for a specific purpose, activity or relationship.

Sociometry: A technique used in social psychology and sociology to measure and depict graphically the structure and cohesiveness of a group in reference to a given criterion.

CHAPTER 1

The Problem

1.1 Introduction

This study is an attempt at examining the pattern of sociometric choice and rejection an individual receives in the classroom whether it has anything to do with his or her stable or unstable personality, self-concept, intelligence or the individual's level of academic achievement.

Few studies present in details, emperical associations between interpersonal processes of choice and rejection behaviour among students, the psychological traits of the individual students and their effect on interpersonal relationships in the classroom. For example, studies conducted by Echelberger Lippit and Gold Van Edmond and Sears, in Yee (1971) on elementary school groups, as well studies by Elkins and Keisler, in Yee (9171) on high school youths, indicate that peer liking behaviours are associated with pupil's classroom behaviour, that over time, these liking relations achieve stability, and that having low liking status in the peer group is associated with negative manifestation of low utilization of academic abilities. Van Egmond found that girls with high liking status utilize their abilities more highly than girls with low, and boys with high influence status utilize their abilities more highly than boys with low.

Several theories propounded by psychologists on interpersonal attraction tends to show that people with similar values and attitudes are attracted towards one another. For example, Newcomb,

in MukherJee (1978), says that people with similar attitudes are attracted towards one another, while people with different attitudes eventually drift apart even if they had initially established a relationship. This is often implied in the statement that "birds of the same feathers flock together". The theory consists of three major variables, that is, attraction, orientation and perceptions as interacting to influence the attitude of an individual towards another. For example, Lasisi's attraction to Ibrahim is influenced by the similarity of Lasisi's attitudes towards schooling, and his perception of Ibrahim's own attitude towards schooling. If however, in the course of time, Lasisi discovers that Ibrahim's attitude towards schooling is not as he had earlier perceived it to be, then one of the three things must happen. These are; (a) either Lasisi's attraction to Ibrahim gets reduced and possibly, even ceases, or (b) Lasisi has to find some attractive source of agreement between Ibrahim and himself; or (c) Lasisi must change his attitude towards schooling in order to have a similar view as Ibrahim so as to regain congruity and to continue with Ibrahim as friends.

In view of this theory and some of the findings aforementioned, as indicated in Yee (1971), it is the contention of the present study that though, religion, ethnicity, sex and age are obvious factors in the attraction process of secondary school students as shown in the studies of Onaji (1991) and Anene (1991), but the real course of attraction could be found in the stable or unstable personality, self-esteem, intelligence and the academic

achievement of the students. These variables are chosen in view of such theories as that of similarity, complementary needs and exchange theories of inter-personal attraction postulated by Thibaut, Kelley and Homan (Yee, 1971). Though, different cultures of different countries are likely to foster different types of interaction and that it is reasonable to assume that evidences obtained abroad may not hold in this country the importance of such studies of this type, here in Nigeria cannot, however, be overlooked.

If it is a psychological principle that the needs, wants and drives of individuals must come to fruition if such individuals are to be well adjusted, and that before we can help any group to perform maximally, it is necessary for us to know about the feelings and ideas of the members of the group and not those of the leader of the group, especially if the leader is a formal one, i.e., a teacher appointed by the Ministry, and if the children's point of view are available to us, we can organize the teaching and learning situation towards achieving the best results feasible in that situation; the study in this field is, therefore, important since it provides us with information on individual's feelings and personal adjustment in the schools' social setting. Nevertheless, some studies have in the last two decades established that the role played by individual's motivation and personal adjustment in a school situation influences his achievements far more than his measured intelligence. For example, in his study with English children, Mukherjee (1972), found that intelligence accounted far

Guidance and Counselling in 1991 attempted to study the inter-personal relationship among students of Federal Government secondary schools. But they failed to include psychological variables such as personality, self-esteem, intelligence and academic achievement in order to show how the inter-personal process of the students is related to the students' behaviour in classrooms. For example, Anene-Maidon (1991) in her M.Ed Thesis titled "the sociometric relationships among students of Federal Government College, Kaduna", tests only sex, religion and ethnic affiliation and concluded that the variables seemed to be the only influencing patterns of choices of close friends and associates among students in Nigerian federal government colleges. While Onaji (1991), in another study of pattern of inter-personal relationships among students of Government Girls College, Bakori in Katsina State, found that among other things, parents' occupations correlate significantly with student choice of friends, but not religion.

It is, however, the contention of the present study that inter-personal relationship among students of secondary schools in Nigeria is determined by the students' similarity in values and academic motivation and success as indicated by several studies aforementioned. Variables such as religion, age, sex and ethnicity may be the obvious ones, but similarity in the students' stability or unstability in personality as well as the level of the students' self-esteem, intelligence and academic achievements may likely be factors in the students' choices and rejection status. Thus, the

factor of common similarity in values, aspiration, etc., is what this study purported to be factors of inter-personal relationships among students of secondary schools, not just demographic variables.

The researcher decided not to test variables such as religion, age, sex and ethnicity, because, though, they are other obvious facts, but the real cause in secondary schools are likely to be personality, self-esteem, intelligence and academic achievements. In addition, the study by Onaji (1991), shows that religion has no effect on sociometric choice of students. The research evidence on the relationship of pupils' classroom behaviours to sociometric choices are as varied and wide as can be expected. For example, in American sociological review Volume XXII (February, 1959) 67 - 76, states that several new theoretical analysis and empirical studies directly relate peer group relationships to the academic motivations and success of individual pupil. Studies by Coleman in Yee (1971), Echelberger in Yee (1971), Lippit and Gold in Yee (1971) as well as Elkins in Yee (1971) and Bonney in Lindzey et al (1954), indicates that peer liking relations are associated with a students' performance in the class that over time, these liking relations achieve stability and that having low liking status in group is associated with low utilization of academic abilities. For example, Bonney in Lindzey et al (1954), found that socio metric choices in a group of elementary school children was positively related to intelligence as measured by group intelligence test. He concluded that the upper quartile in social

choice was distinctly superior intellectually to the lower quartile. This same finding hold for third, fourth and fifth grades.

Van Edmond in Yee (1971), sought to link a pupil's sociometric status with utilization of abilities (defined as how much each pupil was achieving in relation to his intelligence). He found that girls with high liking status, utilize their abilities more highly than girls with low status, and boys with high influence status, utilize their abilities more highly than boys with low status.

Fedhusen, Thurstone and Benning (Psychology in the School, Vol. XI, 1971, p. 59), showed that there is relationship between social behaviour in school and achievement. They found that children who are consistently aggressive and disrupter in the classroom, achieve at far less levels than their peers who exhibit socially approved behaviours. In any case, common observation may tempt one to expect that a secondary school student's social status in classroom is likely related to his personality, intelligence, self-concept and academic achievement. Just as in a study by Brusewell in Yee (1971), who used a population of 300 fifth-grade pupils and a number of standardized tests, found that the highly accepted group, as identified and perceived by their peers were more significantly higher than the rejected group in mean achievement.

Though the relationships of these psychological traits are found in the studies abroad, in the western world, whose cultures

differ from ours, still one would be tempted to believe that even here in Nigeria, the socio metric status of a secondary school student could be likely to be a function of the student's personality, self-esteem, intelligence and academic achievement of such student. It was this common sense expectation that guided the planning of this study. Though, there are many factors attributive to the sociometric preference, however, these psychological traits of an individual was presumed by the researcher to be more influential from the classroom point of view. As to which of these traits contribute most to the sociometric status of the secondary student, will be seen in the result to be obtained in this study.

1.2 Statement of the Problem

Students' choice or rejection status in the classroom, going by other findings, is influenced by sex, age, religion and ethnic background. Some even conclusively stated that this pattern of association is stable and hardly changes even after the students have spent some years together in the school. This study is however in the view that variables other than religion, ethicity, age and sex might be equally important in the students' interaction in the classroom and such variables as stable or unstable personality, self-esteem, intelligence and academic achievement may likely influence students' liking and rejection status in the school. In essence, the researcher is contending that variables other than religion and ethnic background may also be a factor of students' choice or rejection in class; and these variables are

neuroticism, extroversion-introversion (divided into stable and unstable personality), self-esteem, intelligence and academic achievement.

1.3 Hypotheses

This study will be guided by the following hypotheses:

HO_1: There is no significant relationship between choice status (high, average or low) and stability of individual's personality whether stable or unstable.

HO_2: There is no significant relationship between rejection status (high, average or low) and stability of individual's personality whether stable or unstable.

HO_3: There is no significant relationship between choice status (high, average or low) and self-concept (high, average or low) of the students.

HO_4: There is no significant relationship between rejection status (high, average or low) and self-esteem (high, average or low) of the students.

HO_5: There is no significant relationship between choice status (high, average or low) and intelligence (high, average or low)

of the students.

HO_6: There is no significant relationship between rejection status (high, average or low) and intelligence (high, average and low) od the students.

HO_7: There is no significant relationship between choice status (high, average or low) and academic achievement (high, average or low) of the students.

HO_8: There is no significant relationship between rejection status (high, average or low) and academic achievement (high, average or low) of the students.

1.4 SCOPE AND DELIMITATION OF THE PROBLEM

The research was undertaken to find out the influences of personality, self-concept, intelligence and academic achievement on sociometric status of secondary school students. It is aimed at seeing whether these variables are other factors contributing to the liking status of peers in the classroom. The study was carried out in one of the Federal Government Secondary Schools. This school is a boarding and it is the Federal Government College, Kano, Kano State in Nigeria.

This school, being boarding, is expected to cut across different tribes, sex and religion. The sample was selected from JSS I to SSS III. The school being one of the boarding schools in

the state, was therefore, expected to be a representative of the nation. Since parents from all parts of the country send their children there.

1.5 OBJECTIVES

The objective of the study are as follows:

1. To determine the sociometric structure of the Federal Government Secondary School students in the classroom.

2. To find out whether personality, self-concept, intelligence and academic achievement influence to the peer liking status of the secondary school students in Nigeria.

3. To recommend ways of improving classroom learning atmosphere based on the findings of this study.

1.6 SIGNIFICANCE OF THE STUDY

The general utility of sociometric analysis by the classroom teachers as a means of identifying sources of students' social problems, cannot be over-emphasized. The conception of classroom learning as an interfactional process involving reciprocal interplay of person upon person necessitated the use of scientific method of studying the classroom structure and relationships.

This opportunity is offered by sociometric techniques. The

study assumes significance, since several studies in the last three decades established that the role played by an individual's motivation and personal adjustments in a school situation influences his achievement far more than his measured intelligence. Cattel, et al, Entwisthe and Esench.

Balarabe (1984), confirmed the above assertion. In our efforts towards improving upon the learning achievements of our pupils at school, therefore, our emphasis should be directed towards creating the most conducive social atmosphere for teaching and learning to take place.

It is therefore, very significant for a study of this type to be conducted since it promises a very rewarding outcome towards creating conducive atmosphere. There is hence, a great need for conducting a research in this field in this country, since most of the studies of its type, to the best of my knowledge, were conducted outside the country, where culture varies. And since there is likelihood that evidences obtained outside may not likely hold the same in this country.

It is also hoped that the result of this study will shed light on the impression held by the previous researches made by some students of guidance and counselling, claiming that variables such as age, sex, ethnic background and parents' occupation, are the only factors influencing sociometric status of secondary school students in Nigeria. This claim is put forward by Anene-Maidoh (1991) and Onaji (1991). It is hoped that the result of the study will sensitize other students in postgraduate studies into carrying

out further research in this area.

Nevertheless, the significance of the knowledge of this study in the classroom, according to Mukherjee (1978), can be enumerated as follows:

1. The delegation of responsibility. That children who are often chosen by their classmates may be given share of some responsibilities by the teachers. The stars in a sociogram who are popular in their groups can easily creat a congenial atmosphere in teaching situation where cooperation of the children is extremely important from the point of view of teaching and learning. This also helps in maintaining discipline in the class. Cooperation and discipline of the classroom is obtained through the leadership of the stars due to the criterion their choice of objective considerations from their classmates.

2. Children who do not receive any choice from their classmates which are termed isolates, pose certain emotional problems of anxiety that may develop for not being able to satisfy their needs or not being recognised by the other members of their group. Their identification in the classroom is the starting point towards offering them help to become more sociable and interactive members of the classroom.

3. The problem of the neglectees can be tackled by the teachers

from a knowledge of the sociogram of children in the classroom. If early help is not given, they may become maladjusted and cause various problems of concern for the school and society since they will engage in such acts like blackmail, rioting and setting fire to buildings. All these eventual calamities can be avoided by making use of the sociometric analysis since it will help unfold such emotionally maladjusted individuals right from the inception.

4. A knowledge of the sociometric status of any group of children in a classroom can further help the teacher to reorganize the class forming pairs of children manifesting choice interactions, especially in practical work of some subjects and also, by engaging the cliques, if any, of the sociogram to work on projects of some sort and all this will act as factors of positive influence on teaching and learning.

5. Sociometric analysis gives the teacher the child's point of view which is frequently overcooked in teaching. Children's needs have to be satisfied by the fellow members of their group; failure to do that will result in delinquent behaviours of children and some form of maladjustment. While a sociogram tells nothing to the children, it unfolds the group and sub-group interactions of behaviours of the children in the classroom which can be immensely helpful in planning and organizing the teaching programmes for better learning and

mental health of the children in the group.

6. By asking the children with whom they would like to work with in the classroom, to study, for choosing seat mates, playmates, etc., teachers will be able to find suitable partners for classroom practical in science, forming a variable group to undertake some projects, finding the children who rejects certain child and attempt at finding out the underlying factors behind the formation of certain cliques so that any undesirable motives are nipped in the bud.

The inclusion of such variables however, like intelligence, self-concept, personality and academic achievement, will be able to explore the possible underlying factors of choice and rejection behaviour of children in the classroom. Such knowledge of the underlying factors would help the teacher to sort out his classroom for the effective teaching and learning process and establish a good teacher/pupil relationship.

1.7 Assumption

It was assumed that stable or unstable personality, self-esteem and academic achievement are the other important factors influencing sociometric choices and rejection of students in our secondary schools and not just ethnicity or religious background.

1.8 Summary

This Chapter started with establishing a problem and

significance of the study. One of the problem which sensitize the attempt to this study is the recent findings of some postgraduate students in Guidance and Counselling, claiming that age, sex, religion and ethnicity, a well as parental occupation are the only factors of interpersonal attractions among the students of Federal Government Colleges in Nigeria.

In view of that over-generalization, the researcher of this study decided to examine certain psychological traits such as, personality, self-concept, intelligence and academic achievement, since he believes that similarity of values are likely to be one of the factors of social attraction in our schools.

CHAPTER 2

2.0 Review of Literature

2.1 Introduction

There is abundant literature on sociometric research, especially in the developed world. However, very little work has been done in the area here in Nigeria. Most sociometric research that has been carried out in this country on pattern of sociometric choice in schools, were mainly limited to demographic variables.

The purpose of this Chapter is to review studies in the area of sociometric variables, such as intelligence, personality and self-concept as well as academic achievement in particular. There is a detailed explanation of sociometry and its techniques and there is discussion on the nature of groups, group cohesion and interaction and group structure. Finally, there is a review of some relevant studies.

2.2 What Sociometry is

Moreno (1953), was the pioneer towards developing techniques now called sociometric. He said that "Sociometry is the mathematical study of psychological properties, the experimental technique of and the results obtained by application of quantitative methods" (pp. 15-16). This is undertaken through a method which inquire into the evolution and organisation of groups and position of individuals within them. According to this definition, sociometry is concerned basically with social structures of the group and not with such topics as the measurement

of attitudes, interests, personality qualities of the individuals who compose them. According to MusGrave (1965), if the teacher wishes to see the class objectively as it is and not subjectively as he thinks, there available to him, is the technique of sociometry developed by J.H. Moreno. MusGrave (1965), said that there is no doubt that these tools were devised to provide an objective and qualitative picture of the relationship within such a group as the school class. Shertzer and Stone (1976), say that sociometry is concerned with the measurement of interpersonal preference to a stated criterion. Cartwight and Zander (1968), defined sociometry as a method of studying groups. According to them, it is a useful technique for research on group and directs attention to such features of groups as social position, patterns of friendship, sub-group formation and informal structure.

Moreno (1953), explains that the aim of sociometry is to help in the formation of a world in which every individual of whatever intelligence, race, religion or ideological affiliations, is given an opportunity to service in a social group and to apply his spontaneity and creativity within it.

Bonney and Hampleman in Shertzer and Stone (1976), have been able to highlight the purpose of sociometry which is to bring together individuals who can work in harmony, to create a group in which they can all function with maximum efficiency and with minimum distraction.

2.3.1 SOCIOMETRIC TEST

Moreno (1953), defines the sociometric test as an instrument to measure the organisation shown by social groups. Evans (1966), says that the test is designed to give an objective picture of the relationships existing between members of any group of people. Its objective is to bring to light the attractions and repulsions between the individual members and it is easy to administer. Sociometric rest make use of questionnaire which ask each member of the group to indicate with whom in the group he or she would prefer to engage in certain activity or would like to have as companions for an occasion. He may or may not be asked to list those he would not want to work with or have as companions. Berdie et al, (1963), are of the view that rejections sometimes are not solicited because of their negative implications.

Evans (1966), points out that to facilitate the interpretations of the results, the group from which the choices may be made should be delimited. She contends that if this is not done, the individuals may spread their choices over the whole field of their acquaintances and the relationships within the group itself may not become apparent. Berdie and his associates (1963) are in agreement with this view. Thus, in dealing with children in school, their choices should be restricted to their classroom, games field, hostels,etc, so as not to allow it to spread to the whole school or people outside the school. The activity or occasion for which companions are chosen should be specified. All

authors whose works are reviewed, hold this opinion. Evans (1966), adds that where the purpose of the test is to obtain information about a group the choice of a suitable criteria is important. Consideration of the use to which the result are to be put should precede the administration of the test and should determine the choice of the criterion.

He goes further to say that in order for the choice to be real, it is desirable that the group should have been the existence for sometime, so that the members know one another and the capacities and limitations of individuals and their real likes and dislikes have emerged. She contends that if the group is of recent formation, the choices are likely to be superficial and based upon inadequate information or irrelevant factors, but this does not prevent choices being made. However, the usefulness of such choices would be very limited.

Evans (1966), and Berdie and his associates (1963), agreed that the choice should be made private using a paper and pencil technique. When dealing with young children and illiterates, they could give oral information. Subjects must, however, be assured of confidentiality.

The literature reviewed indicates that various authors hold different views on the number of choices or rejections that should be made. Berdie et al (1963) say that the number of choices permitted should be indicated. Evans (1963) asserts that ideally, the number of choices and rejections made by each individual should not be restricted. It is only in this way that it is possible to

identify positively the individuals to whom any one person is really indifferent and the individuals who are completely chosen. Evans contended that in practice, this is very difficult. To avoid dealing with very long list makes it expedient to restrict the number of choices and rejections. He points out that three of each is the most usual number. Fewer than that would present an inadequate picture of the group while more are difficult to handle.

Borgatta in Evans (1966), on the other hand, reasons that by asking for a particular number of choices, the result may be rendered unreliable. Some of the students may feel impelled to make more choices than they would really make, and the fact that the same might make no choices at all from the group would be obscured.

Borgatta asserts that not only the choices of those who would make many restricted, but also those who would make few or no choices are forced to the make of the asked for. In this case, isolates and neglects may not be identified. He points out that when a class of children is given complete freedom, the resulting lists are not usually as long as might be feared, from five to seven choices is quite usual to find.

The issue of rejection is also controversial. As noted, Berdie and his associates (1963) hold the view that rejections should not be solicited because of the negative implications. Evans (1966), notes that although most people are quite willing to tell an investigator which people they like in a group, they are often very unwilling to indicate their dislikes. This is sometimes

from fear of repercussions, but more often from a dislike of hurting another person's feeling.

2.3.2 Sociometric Diagram

According to Moreno (1953), sociometric diagram are constructed so that interpersonal relationships and social interactions can be explored and measured. Several types of sociometric diagrams have been developed by Moreno and other experts. Some of these diagrams are:

1. Pontaneous interaction diagrams, Moreno (1923)
2. Acquittance diagram, Borgatta (1950)
3. Sociomatrix, McKinney (1948)
4. Sociogrammes, Moreno (1932)
5. Role diagram, Moreno (1945)
6. Space and movement diagram, Moreno (1923).

The most commonly used of these are the sociogram and the sociomatrix.

2.3.2 Sociogram

A sociogram is a graphical representative of the pattern of choices made by individuals in a group which reflect the group structures. Moreno (1923), explains that the responses received in

the course of a sociometric procedure from each individual are materials only and not yet sociometric facts in themselves. We first have to visualize and represent how these responses come together. It makes possible the exploration of sociometric facts. The proper placement of every individual and of all interrelations of individuals can be shown on a sociogram. Evans (1960) says that sociogram shows in a diagrammatic form the relationship between the individual members of the group. On a sociogram, the individuals are represented by small circles or if the group contains both sexes, females are represented by circles and males by triangles or squares. Initials or figures or letters of the alphabet are used to identify the individuals represented by the circles, squares or triangles. Lines joining the circles and triangles show the choices and rejections made by the individuals. Red lines are for choice and black lines represent rejection choices. Moreno implies that when there are more than thirty individuals, it is difficult to draw good sociogram.

According to Gammage (1971), the most well known sociogram is the target sociogram which is a chart in form of target which consists of circles in which individuals are placed according to the number of choices they received. The most frequently chosen persons are placed in the inner most ring and the least chosen are placed in the periphery. Sociogram makes the over-chosen and the under-chosen members of a group to be identified at a glance.

2.3.3 The Sociometric Matrix:

The sociometric matrix is an alternative to the sociogram. it also gives a graphical picture of a group structures, and according to Cortis (1977), it enables a great degree of precision to be achieved since the relations can be more exactly represented. On the construction of a sociometrix, Evans (1966), explains that the choices and rejections of a group of individuals should be tabulated an "n x n" matrix. The names of the members being written in the same order beginning from the top left hand corner across the top and down the left hand margin on the matrix. Normally, self choices are not made and this is shown by placing x's or drawing a line along the main diagram. Evans goes on to say that positive choices are shown by +'s and negative choices or rejections by -'s. Thus if the third individual chooses the ninth a + is put in the cell at the intersection of the third row and the ninth column. In this way, all the choices and rejections made in the group can be shown. A blank cell indicate indifference neither choice nor rejection.

The sociogram and sociometric both have advantages and disadvantages. Moreno (1953), asserts that the sociogram has many advantages over sociometric. It presents all the data and their relationships at one's glance and it permits structural analysis in its most minute detail. The sociogram is good for classroom group where the members are not more than thirty and all relationships in the sub-group are represented at one and same time. Evans (1966), says however, that sociogram are not easy to draw for large groups

where a large number of choices is allowed. Also the layout may affect the instruction it conveys and sociometric nearness may be confused with nearness in the diagram.

On the advantages of the sociomatrix, Evans asserts that the form dies not depend on the person constructing it as with the sociogram. Grouping are made obvious and stars are shown by accumulation of t's in their vertical columns. it can also be seen that whether rejections are general or only made by one or two sub-groups. Cortis (1977), says that the sociometric is a good research tool and specially good for large groups. The disadvantage of the sociomatrix according to Moreno (1953), is that information about group relationships is not easily discerned at a glance. It is pertinent to conclude this discussion by referring to Evans who stressed that the sociogram and sociomatrix should be considered as complimentary rather than opposing the ones of showing sociometric data.

2.3.4 <u>The Relationships on a Sociogram or Sociomatrix:</u>

For an adequate understanding and use of the sociogram or sociomatrix, some explanations of terms is necessary. The following list has been drawn from Shortzer and Stone (1976):

Star: An individual who received a larger number of choices on a sociogram.

Isolate: A physically member of the group who is psychologically

isolated from the other group members. He receives no choices on the sociogram. Outsider or social island are other designations for isolate.

Neglectee: The individual who receives relatively few choices on the sociogram.

Rejectee: The individual who receives negative choices on the sociogram.

Mutual choice, Reciprocated Choice or Pair:

Two individuals who have chosen each other on the gram.

Sociometric Clique:

A situation in which a number of individuals choose each other on the sociogram, but give relatively few choices to individuals outside their group.

Sociometric Cleavage:

The lack of sociometric choices between two or more sub-groups.

2.4. THE NATURE OF GROUPS

2.4.0 Introduction:

An attempt is made in this section to examine what a group is and how members of a group interact. This review is necessary in this sense that the work deals with the relationships that exists among students who form a group. An understanding of the dynamics of group structure and bahaviour will further give insight to this study. The group dynamics to be examined include factors which influence group formation, cohesion, interaction and group

structure.

2.4.1 What Group Is

Cartwight and Zander (1968), define a group as a collection of individuals who have relations with one another that make them interdependent to some significant degree. Sherif and Sherif (1956), define a group as a social unit which consists of a number of individuals who stand in (more or less) definite status and role relationships to one another which possesses a set of values or norms of its own regulating the bahaviour of individual members at least in matters of consequence to the group.

A collection of individuals become a group as members accept a common purpose, become interdependent in implementation of this purpose and interact with one another to promote its accomplishment - whether that purpose be to get car out of a mud-hole or to organize a lobby, or to fulfill individual needs, Evans (1966).

The above definitions can be related to a classroom situation. The class group is certain;y a collection of students who relate with one another and influence one another to certain extent. The students are gathered for a purpose. They work, play for many hours in a day and thus develop relationships of role and status among themselves.

The members of a class form a group within this group however, are sub-groups which can be called friendship groups. Evans (1966), asserts that in the lower classes with younger students, sub-groups are usually in pairs, but as the students grow older,

the group may also be determined by an awareness of sexual differences and attractions which are usually observed in early ages.

2.4.2 Group Formation

There are certain factors that can contribute to formation of groups. Patridge (1943), suggests that propinquity (physical nearness), is basic in group formation. Children who live in the same neighborhood and go to the same schools tend to play together and often sit and work together in school are likely to attract one another.

Halworth (1955), found out in a study that among children in a grammar school, the spontaneous group formed were associated with value-systems and it is true that the value-system vary from one individual to another. Children may therefore tend to choose friends from their own class because they meet more of them and have similar value-systems.

Patridge (1943), notes that common play interests is a basis for group formation. He reports that adolescent group is frequently formed and were perpetuated in response to adult antagonism and suppression. Woheman (1958), in this vein, says a group is what it is to its members. How it is perceived by the members and what their motivations about the group determine its nature.

Cartwight and Zander (1968), identify three different kinds of circumstances under which groups come into existence. These are:

1. Deliberate Formation:

A group may be created deliberately by one or more people in order to accomplish some objectives. The basic condition for the deliberate creation of a group is the judgement (which may not be valid) by one or more people that a collection of individuals can accomplish some purpose (or do so at a level of efficiency) not otherwise possible.

2. Spontaneous Formation:

Cartwight and Zander explain that a group may be formed spontaneously by the people who want to participate in it. Many groups arise, not because someone has deliberately created them to accomplish an objective, but because people expect to derive satisfaction from associating together. Groups such as friendship cliques, informal clustering within a formal organisation, social clubs and juvenile gangs usually have this sort of origin. A basic condition for the spontaneous formation of a particular group is that the individuals involved have sufficient contact with one another to become acquainted. The probability that two people will become acquainted tends to increase with the frequency that they find themselves in physical proximity.

3. External Designation:

This is the third circumstance proposed by Cartwight and Zander. They said that a collection of individuals may become

a group because the are treated in a homogenous way by other people. For such groups, the original impetus to their formation derives neither from the desire to accomplish an objective nor from the needs of those who become members, but from the fact that certain people are treated in a homogenous manner by others. People can be categorized on the basis of the colour of their skin, hair, eyes or their age, sex height, weight, ability, place of birth, language, occupation, education, religion, income and many other attributes.

Patridge's factors and Cartwight and Zander's circumstances responsible for the formation of groups are not independent from one another. Patridge's factors or propinquity, social nearness are related to the circumstances of spontaneous formation. The latter is encouraged by physical and social proximity. Nevertheless, people cannot be grouped homogeneously by an external factor if they do not have some common attributes of which common values postulated by Halworth (1955) should therefore be counted in here.

2.4.3.0 Types of Groups

2.4.3.1 Informal Groups:

It was stated earlier that members of a class form a group and that sub-group exists within this class group. There is friendship group informal groups. Sherif (1956), discussed four essential properties of small informal groups. The first is that

there must be a common motive conducive to interaction - informal groups come into being where a number of individuals who have common motives and goals interact. These motives and goals may be due to the result of common needs and ambitions, interests and attitudes, fears and dangers. In a class of students, interests in games, rebellion against authority, a like for a particular teacher or common hobby are among the motives which may lead to the formation of groups. It should be noted that strong common emotions such as rivalry, ambition, or fear of punishment may disrupt a group.

The second property is differential effects of interaction on members. Sherif and Sherif say that when individuals react with one another, changes occur in their thinking, emotional reactions and behaviors. These can be related to the organisation and standard of the group, and it is observable that the effects are different for different individuals. These depend on the role and status relationships between the members of the groups.

The third property is the formation of group structure. Sherif and Sherif say that one result of association in groups is that the members develop role and status relationships towards one another. The role of an individual member is the bahaviour expected of him by other members of the group. The status of an individual, is the position which he occupies in the hierarchy of the group by reason of any abilities or capacities which he may possess. There is a range which he will be tolerated for any individual by the group members and when a stable group structure has evolved the

individual adopts as his own the standard and values of the group.

According to Sherif and Sherif, in any group with a stable structure, definite norms of behaviour can be observed. These may be in the form of slang and nicknames, customs and rituals and reactions to members of other groups; deviation from the group and the properties of the group such as its goals, programs, size, type or organisation and position in the community. They further state that group cohesiveness therefore, is dependent on the nature and strength of the needs of the group members and their perceived suitability of the group for satisfying the needs. This view support the present study since classroom is in a composite culture pursuing common goals.

Cartwight and Zander contend that when a group of people are exposed to the same environment, the group will tend to show a homogeneity in beliefs, attitudes, values and behaviour. The group assumes only one "correct" description of the situation. Individuals who perceive the environment differently from other members' experience conflict between themselves and group. The individual then is placed in the position of either accepting his perception or accepting the perception of the group.

2.4.4 Group Cohesiveness:

Davis (1969), defines group cohesiveness as the characteristic of the group in which the forces acting on members to remain in the group are greater than the total forces acting on

them to leave. From this definition, a cohesive group would be one in which members enjoy interacting with one another and receiving mutual support, and one in which members want to make some kind of sacrifice to maintain its existence.

Cartwight and Zander (1968), say a cohesive group has certain characteristics. A cohesive group is one with a strong feeling of "we-ness", where members talk of "we" rather than "I". The members are friendly and loyal to other members. In cohesive group, members all work together for a common goal or everyone is ready to take responsibility for group chores. There is also the willingness to endure pain or frustration for the group and members defend the group against external criticism or attack.

Cartwight and Zander asserts that a group must exist before we can talk of cohesion, and that the attraction of a person to a group is a function of his needs and the properties of such group as its goals, programmes, size, type of organisation and position in the community. They further state that group cohesiveness therefore rest on the nature and strength of the needs of group members and on their perceived suitability of the group for satisfying these needs. This hypothesis raises a number of answers it pre-supposes that similarity of values and personality could influence cohesiveness. For example, similar I.Q., attitudes complementing personality may draw students together and become cohesive. Extroverts may not choose introvert, etc. It also pre-supposes that if a person joins a group with the expectation that the group will meet his or her needs, but these needs change while

he is a member, the attractiveness to the group will eventually decrease in such a member unless the group fulfills his or her new needs equally well or even better. Another issue is that if the ability of the group to meet the needs of the individual reduces, the attractiveness of the group to him or her will also decrease. In the same proportion, individual is more attracted to the group if changes in the group enhances its ability to meet the needs of members.

It must, however, be noted that the ability of a group to meet the desires of an individual is not in total occurrence within the group itself. No group exist in a vacuum, and the attributes which a person sees in a given group are determined for him in part by the position of the group in the environment.

Cartwight and Zander contend that when a group of people are exposed to the same environment, the group will tend to show a homogeneity in beliefs, attitudes, values and bahaviour. The group assumes only one "correct" description of the situation. Individuals who perceive the environment differently from other members, experience conflict between themselves and the group. The individual then is placed in the position of either accepting his perception or accepting the perception of the group. Cartwight believe that in highly cohesive group, similarities occur as a result of group pressure for uniformity or because of selective process of recruiting group members who are similar in their belief, attitudes and values.

Heap (1977), holds that the potency of the group as an

influential system has been shown to be related to the degree of dependence of the members to the extent of their identification with its purposes. According to Heap (1977), the term 'group bond' or 'we feeling' refers to the experience of mutual identification between members. He says that varying intensity of this experience is referred to as the degree of group cohesion.

Heap identified three elements which make up group cohesion. They are the relationships between members, the shared investment in group aims and the acceptance of group norms. However, we notice from our life experience that a cohesive group may also grow out of some goals determined by supernatural powers or superstition. So, the goal may in some cases, be imposed on the members by process of indoctrination.

However, it is more satisfying to regard group cohesion as the intensity of stated aspect of the bonds between members. For example, in a class group, a student may strongly identify himself with the aims of the group and feel committed to contribute a great deal towards their achievement. But while he is prepared for that reason to accept the group's norms, he might have reservation about developing strong relationship with certain members.

The groups in this research in many ways are a heterogenous one. Whether members are expected to be exposed to the same environment, exhibit the feeling of"we-ness" or there is a mutual identification between members, this study will attempt at finding answers to these questions.

2.4.5 GROUP INTERACTION

According to Heap (1977), interaction refers to the mutual influence of people who are in contact with each other. It includes both modification and reinforcement and not only of behaviour, but also of attitudes and self-concept.

Zadrozny (1959), defines interaction as mutual stimulation and response among persons in contact with each other and where the behaviour of each participant is modified by that of others.

Goffman (1961), distinguish between what he calls "focused interaction" and "non-focused" interaction. Focused interaction occurs when people communicate with each other in relation to some common purpose and where there exist an explicit or implicit agreement that they are meeting in order to serve that common purpose. Non-focused interaction occurs spontaneously whenever people come together. Goffman explains that the concept refers to the modifications of self-evaluation, confidence, tension, demeanor, attitudes and behaviour which result simply from our awareness of the presence of others and the influence of that awareness upon us.

Heap (1977), identifies some factors which influences interactions: (a) mutual exposure: Heap says interaction is most likely to occur in situations where participants have visual contact with the environment and people which are the source of most of their impulses to communication; (b) activities: This stimulate interaction. It may well help insecure and inarticulate people to approach each other, especially if they are strangers. On

the basis of shared-activity experiences, individuals may cut relationships with each other an develop a feeling of security. And (c) relationship is also a factor that can influence interaction. According to Heap, people who have relationships with each other interact more than people who does not know whether these relationships are negative or positive. heap asserts that it is true that relationships cannot be formed without interaction and this one is tempted to infer from this common observation that relationships will develop proportionately with the amount of interaction with occurs.

However, certain literature reviewed indicate that the above assertion is controversial. Bovard in Heap, (1977), showed experimentally that greater mutual liking was generated in "group-centered", a group where interaction was stimulated than in "leader-centred" group in which interaction between members was discouraged.

In this view, Homan in Heap (1977), propositioned that mutual liking will increase in interaction frequency as is often referred to. However, Heap (1977) adds the clause that where participants do not gain satisfaction from the interaction, yet unable to withdraw from it, they may on the contrary, become hostile to each other. However, Darley and Bersheid in Woodard (1971), state that while many theories support the belief that personal contact and group interaction increase the likelihood that group members will find each other more acceptable, the researchers do not agree with the nature of the processes which mediate interpersonal interaction

and attraction. According to Darley and Berscheid, attempts to throw light on the nature of the interaction process generally have been focused upon the examination of the concommitants of interaction. One theory hypothesizes that interpersonal interaction provides the opportunity for the discovery of mutual interests, goals and values, Woodard (1971). Through the discovery of these similarities, the attraction for others increases. Another hypothesis suggests that interaction provides the opportunity for individuals to discover traits in others that are complimentary to their own needs. Through this discovery an attraction is established. Darbey and Bersheid contend that the bringing together of people in a common discussion or the collaboration of people on a common task may suffice to create a unit relationship.

Darley and Berscheid are of the view that in a situation where an individual perceives a unit relationship existing between himself and a person whom he dislikes, the individual will, most likely, deny that a connection has been formed between them and a certain imbalance will result. If future contact is necessary, balance can be restored by the occurrence of an interesting phenomenon. According to both authors, the phenomenon is that rather than acquire a liking for the person, the individual alters his perception of the disliked person. This change in perception is usually in the direction of perceiving the disliked person as being more competent than he seemed previously in contributing to the group's efforts to achieve group goals.

The question on why do individuals sometimes choose people who are not very familiar to them against others who are very well known and friendly to them could be answered from the consideration of Winch's theory in MukherJee (1978).

Heap (1977), hold slightly different views from this. He says that one can accept that when disliked, tension and defensive awareness of differences exist, compulsory contact and propinquity are likely to stimulate negative as well as positive relationship.

2.4.6 Group Attraction

The question on why do individuals sometimes choose people who are not very familiar to them against others who are very well known and friendly to them could be answered from the consideration of Winch's theory (MukherJee, 1978). Winch postulated his "complementary need theory" stating that attraction can be formed between persons on the basis of their complementary needs. According to him, there are two main reasons why persons differing in their respective needs feel mutually attracted. These are:

a. each of the dyad is reinforced by the behaviour of the other person who satisfies his needs. In other words, the nurturant needs of a person are satisfied by the nurturing behaviour of the other, and
b. if a member of the dyad is looking in a particular aspect of his personality, for which he had always worked hard to accomplish, then he is likely to be attracted to the other

person who possesses that personality characteristic and in this way, attraction is generated between the two. This is a kind of "marriage of convenience" between the members of the dyads.

Though research evidences in support of Winch's theory are lacking, however, there is a reason to believe that children are sometimes attracted to some of the children they choose in sociometric analysis on the basis of their complementary mutual needs in the classroom. A popular child in the primary and junior secondary schools is usually popular in the eyes of the other children because he can satisfy many of their needs by virtue of his personality characteristics.

However, the exchange theories proponents , some of who were Thibaut, Kelley and Homans (Mukher Jee, 1978), postulated four basic aspects, namely reward, cost, outcome and comparison level before an individual chooses someone against another. He assesses the benefits he will derive from the basis of the four criteria above. He will consider the reward that will come his way from his association with such individual and he is likely to choose an individual that will bring him maximum reward. He will then consider the cost or the price he will have to pay for associating with that person. For example, he may have to forego some of the things he cherishes. In short, he may have to compare the benefits both material and non-material that he will derive from his association with that person against the inconveniences he will

have to put up with. This is a kind of weighing that takes place, perhaps subconsciously, in the person's mind before deciding whom to choose and whom to reject. The outcome aspect of the theory imply the consequence of interaction. Individual's forming an interpersonal group tend to compare the consequences of remaining attracted to other person and this is an act of comparison.

The exchange theory seems to be more embracing than the complementary needs theory or the similarity of attitudes theory. In view of these theories of similarity, complementary need and exchange theory, the present study is of the view that apart from the sex, age and parent level of education, which may be the obvious factors of the secondary school pattern of attraction, psychological traits, such as personality, self-concept, intelligence and academic achievement, could also play a great role in the choices and rejections processes among the secondary school students. Since there is hardly any research which attempts to examine these psychological traits in this part of the country, the importance of this study at postgraduate level of education in the section of educational psychology of the department of education, here in Ahmadu Bello University, Zaria, cannot be ignored.

2.4.7 Group Structure

According to Heap (1977), any small group shortly after formation will begin to show an increasingly clear pattern of relationships mutual expectations and differentiation between individual members or sub-groups with regard to their function,

influence and contribution to group life. This pattern of roles, ranks and relationships is usually referred to as the group structure.

Group structure is often unspecified and informal since it develops in some spontaneous and unclear manner out of the group process. Heap sees the group structure as a decisive factor in determining any group's efficiency, its ability to use its resources and the degree of satisfaction which members derive from the group.

Cartwight and Zander (1968), state that it is almost impossible to describe what happens in a group without using terms to indicate the "place" members hold in relation to another. Such terms ad position, rank, status and role refers to the fact that members in a group can be identified in relation to each other and that members can be located in the group according to some criterion of placement. Roles, ranks, relationships are closely interrelated components of group structure; each deeply influencing the other. In fulfilling roles, Cartwight and Zander believe that an occupant of a particular position is subjected to "role expectations" from other members and that if the occupant of a role is to be successful, he must engage in action which are appropriate to the role.

Role is a behavioural concept. Heap (1977), Marton (1955), defines role as "the behavioural enacting of the patterned expectations attributed to a stated position in a social system". Winston (Woodward, 1971), defines role as simply a collection of

rights and duties. When the individual puts the right and duties into effect, he is performing a role.

There are three major factors that influence role. According to Heap (1977), role is a product of interplay between:

1. Individual members' needs and resources;
2. The situation in the group; and
3. The forces acting on the group from the environment.

According to Heap (1977), each member of a group bring into a group situation his particular attitudes and forms of behaviour. These are in large measure a product of earlier life experiences in other social groups. These experiences have formed the individual's self-image and self-evaluation, which in their turn, influence his expectations of acceptance, indifference or rejection in new group situations. His expectation influence his approach to new groups and therefore to a considerable extent the response which he receives. His earlier experiences also influences how much he is able to invest in new groups, whom he associates with, his attitudes towards the groups' norms and values and his ability to accept or against to them.

Heap states further that most group accept and absorb those individual members who fit the group aims and needs. The group needs individuals in order to exist and to realize its objectives. As has been stated, the individual on his part has to join groups in order to satisfy his needs. These factors are closely linked.

Thus, the individual member's ability to contribute to the group's aims is often a vital determining factor of the role which he can play in the group and of the status which he is accorded.

Heap adds that a member may well be disliked because of his behaviour and attitudes, but may have possession or abilities which the group needs. This may cause the group to accept him as a member and even give him high status. Here, he may merely be acceptable to the group at that point in time. The more he is able to contribute to the group's goal - striving, the more acceptable he becomes. Thus, one of the most decisive determinant of the individual's position in the group and of his opportunities for the self-realization, is the group's needs.

But the group's needs change. They change harmoniously with the group's development, maturation on the part of the individual members and the group's changing relationship to the environment. heap is of the view that in consequence, the relationships between individuals in group are also gradually subject to change. A leader may be withdrawn, be deposed or lose his influence in some other way. Almost any member may experience different degrees of approval and acceptance at different stages in group life. Role, rank and relationship in the group change in accordance with change in group's perceived needs. Thus group structure is highly dynamic process whose understanding may give valuable insight into the needs which the group and its members experience at any point in time. Heap says that role type that may exist in group are numerous roles such as leader, clown, scapegoat, newcomers,

isolates, etc.

2.50 Previous Studies

2.5.1 Previous Studies on Sociometry

A sociometry study was carried out by Gibson (1977) on students in a public elementary school. One of the hypothesis of the study was that sociometry status is positively correlated with the level of moral reasoning (as derived using Kholberg's scheme). He samples 196 subjects in grades three through six, and sociometry inventory were administered. In the inventory, each subjects was asked to mention five classmates in order of preference, that he would most likely be with in his class the following year. Also, to mention three in order of preference he would prefer not to have in his class the following year. These data provide the basis for the social index used.

The study revealed that correlations between social index and level of moral reasoning were different from primary grades than intermediate grades. In the primary grades, when social index was high, level of moral reasoning tended to be lower. In the intermediate grades, higher social index was associated with the higher level of moral reasoning.

The work led to the conclusion that knowledge of sociometry information can better equip educator to form instructional grouping for increasing the opportunities for growth in moral reasoning. The educator can use "social status" as important stimulator in discussion groups. Knowing that social rejectees

tended to be lower in moral reasoning can better preference the educators to individualize the instructional strategies to facilitate student growth in cognitive moral reasoning.

Gibson's study is of great value in the field of educational instruction. He however did not include the personality dimension of the social attractions of the students so many choices that they captured the centre of the stage like stars.

The percentage of individuals isolated, that is unchosen by their own classmates, fluctuated between 15.4% and 45.7% in various classes. Up to the second grade, more boys are unchosen than girls. From the second to the fifth grade, the picture is reserved. From the fifth to the eighth, the distribution is approximately even. Moreno also found that more pairs were formed by boys up to the fifth grade. From the fifth to the eighth grades, more pairs were formed by girls.

Moreno's study is to some extent related to this investigation because the sociometric test was administered to all classes, from the kindergarten through the eighth grade. The same process will be done in sociometric structure from JSS I through SS III. Moreno however failed to describe the method of analysis used and the number of students and their age range is also not reported.

Moreno retested one class from each grade in the public school after a period of seven weeks had elapsed to find out to what extent the choices of the children fluctuate and if the general trend of organisation persists which has been found characteristic

for the class in the fifth test discovered although one or the other pupils position changed, the general trend of organisation persists. After a period of twenty-two months, the population of the same school was retested. The findings corroborate the findings of the first test in many aspects, although a practically different population was met due to the turn-over within two years and the changed distribution of classes.

Although, it is not the intention of the present researcher to do a retest in this study, however, Moreno's findings led credence of some sort to the reliability of the findings over time.

Buswell (Yee 1971), conducted an investigation on relationships between the sociometric structure of the classroom and the academic success of the pupils. He used a population of 300 fifth grade pupils and a number of standardized test including the Standfort-Binet, the IOW test of basic skills, the Ohio social acceptance scale and a sociometric test of best-liked peers, to find out whether there was any relationship between how a learner performs intellectually in class and his relationships with his peers. The highly accepted group as identified and perceived by their peers were significantly higher than the rejected group in mean achievement. It appeared that achievement is related to social relationship and that student's popularity is a function of his achievement.

Vauzelt in Woodard (1971), supports the value of sociometry in working groups. This study carried out in 1953 deals with two groups: carpenters and brick-layers. The workers were permitted to

select their prepared work partners following the sociometric procedure. The results showed that the productivity of the group greatly improved. Vanzelt contends that sociometric procedures allow the worker to examine his interest and needs and help him to determine his social structure within the group. This research is invariably telling us that the only measure of exploiting maximum performance in the group project is through the use of sociometric techniques.

Caulfield's (1966), study highlights the value of sociometry as a technique for measuring social acceptance. His research was designed to investigate the efforts of two different approaches to group counselling with elementary school children. The study grew out of a concern for finding a method whereby fifth grade children with few or no friends could be helped to improve their social acceptance when needed by their peers.

The sample was five students in each classroom who received the lowest number of choices from their peers in Gronhund's sociometric test which had been administered to 450 fifth grade students. In all, 60 pupils were used. Treatment given to the experimental group involved employing behavioural counselling techniques to bring about imitative and pre-social behaviours on the part of the subjects during eight counselling sessions. The subjects also watched on video, social models. At the end, all subjects were post-tested sociometrically. It was hypothesized that the experimental pupils would increase their sociometric, personal adjustment and social adjustment scores. The results from

the study showed that there were no statistically significant differences observable between treatments. Thus it was concluded that helping low sociometric status student improve their standing with peers may require a more global change of personality than is possible with a limited number of counselling sessions.

Caulfield's study is ideal. However, it is not clear the type of behavioural counselling techniques used, how efficient they were even in the short period they were employed.

Bonney (Yee, 1971), sought to ascertain how efficiently teachers could identify students who have the most and the least friends. He asked 291 students to rate their best friends on a personality scale. He also asked 13 teachers to check in on four columns (High, Middle, Low and Unable to Judge), how they thought each student ranked in number of friends. Teachers appeared to over-rate students who were active in formal class and students activities, who are amenable to teachers' directions, who were socially inhibited and who had desirable personality traits, but who were looked on as outsiders as far as other students were concerned. On the other hand, the teachers under-rated students who were academically inept but who had good interpersonal relationships with their own clique and who were apt to disregard teachers' regulations, but were well liked by peers. It is evident from Bonney's findings that the teachers' judgements were subjective and biased.

Young (Yee 1977), in his study set out to collect data on the social relationships of a group of seventh graders. He used

controlled interviews about the school, the Ohio social acceptance scale and a "guess who" technique, in addition to a standard sociometric test requesting the subject to pick someone to sit with, play on his team, go on a picnic and be his best-friend. A rank order correlation of .90 was obtained between the sociometric test and the Ohio Social Acceptance Scale. It appears that the same factors which enter into a child's choice of friends influence his selecting them for his team. Equally important is the fact that the present study will employ sociometric test and some psychological tests to measure the variables under study.

2.5.2 Studies on Interaction

Sykes, et al. (1974), studies proximity and similarity of frequency of interaction in a class of Naval Recruits. They based their work on the knowledge in social psychology that race relations are affected by factors in addition to attitudinal prejudice. In their experiment, race relations were conceptualized as a special case of interpersonal attraction. Attraction was operationalized as actual interaction with one of several possible partners. The more frequently interaction occurred with a particular partner, the greater the inferred attraction.

Sykes and his associates used Naval recruits who when they reported to boot camp and were placed together with many other young men who had before then, been strangers. They were assigned to collations adjacent to particular other recruits for long period of time (for example, in the classroom, marching and in sleeping

compartments). The researchers sought to test among other things this hypothesis. The fewer similar persons a subject perceives in proximity to his solation, the more he will seek non-proximic similar person with to interact.

To test this hypothesis, 10 subjects (7 black and 3 whites), were bunked next to more dissimilar than similar subjects and a total of 27 subjects bunked next to more similar than dissimilar ones. The percentages of interaction of a particular subject with other subjects of similar or dissimilar colour, were calculated and the mean percentages found for the groups bunked near either mostly similar or dissimilar. Likewise, percentages were calculated foe the same subjects during meal since that was the time when choice of interaction partners was unconstrained by Naval regulations.

The result showed that colour as well as other forms of similarity are salient influences on both black and white recruits. While they apparently lived together on friendly term, they still chose similar others with whom to interact informally, especially if the similar other was equally proximic to a dissimilar one. On the other hand, interaction with a dissimilar proximic occurred about as often as with a similar non-proximic.

Though Sykes and his associates came out with the same interesting finding, the validity of their operational definition of attraction which was greater frequency of attraction can be questioned. This is because no valid check was done in this. Nevertheless, the dissimilarity in colour might be stronger than that of values, hence we could not expect to have the same result

in the case of Nigerian schools which ate predominantly under one race.

Bovard Jr in Heap (1977) p. 128, carried out a research to see if there is an empirical relationship between liking and interaction. The investigator began by forming for groups of college students. Every group to discuss the same problems under a Chairman appointed by the investigator. He trained the Chairman of two of the groups which he termed "leader centered" to monopolize the decisions so that all comments and questions would be addressed to him and answered by him and little communication would pass between the members themselves. He trained the Chairman of the other two groups called "group-centered" to act differently. The Chairman was to ask few questions and if comments were addressed to him, to turn them back to the members for discussion among themselves.

At the end of the meetings, the investigator administered a sociometric test and found that the number of choices given by members to other members of the same group was less in the "leader-centred" discussions than in the "group-centred" ones. He had experimentally discouraged interaction between members in the first kind of group and encouraged it in the second. It was found that the liking of members for other members was less in the first than in the second. The study showed that one of the ways of getting people to like one another is to make them interact with one another freely.

Woodard (1971) set out the effect of group interaction on

sociometric status, self-concept and group perceptions of nursing personnel. The problem of the study was to determine whether group interaction can bring out change in sociometric status, self-concept and perceived group characteristics. The study involved four experimental groups and one control group from a larger metropolitan hospital. The experimental group were intact groups selected randomly from 34 intact groups. These four experimental groups as studied separately and also were combined to form a total experimental group. Four intact groups were randomly chosen to comprise the control group. There were 46 subjects in the experimental groups and 47 subjects in the control group.

Each experimental group met once a week for a period of 12 weeks for the purpose of conducting ward conference (group interaction) in order to discuss how to improve patient care and to deal with any special hospital-related problems. A sociometric questionnaire, the Tennesee Self-Concept Scale and the Group Dimensions Description questionnaire were administered to all of the subjects one week proceeding the first group interaction session and re-administered one week following the last group session. A Pearson product moment correlation was obtained for both pretest and post-test data, between sociometric status indices and self-concept scores. The analyses conversant technique was asked to compare the experimental groups with the control group to determine whether group interaction significantly changed the sociometric status,s elf-concept and perceived group characteristics of the subjects in the study. The 0.5 level of

significance was chosen as the level at which the research hypothesis would either be rejected or retained.

Woodard concluded from her result that group interaction with sociometrically chosen group leaders could bring about changes in sociometric status and some perceived group characteristics, but this technique did not appear to change the self-concept of group members. Self-concept cannot be changed easily even if carried out over a period.

This study is to some extent related to the present investigation in both purpose, methodology. One of the objectives of this study is to find out if self-concept has an effect on the sociometric status of the secondary school students.

Priest and Sawyer (Yee, 1971), observing about 25,000 possible pairs of students residing in the same college dormitory for about four years, tested the prediction by way of Heider's balance theory that students proximity to each other and peership relate to interpersonal attraction. They found evidence to support the prediction but it was found for more proximate persons that increasing time allowed friendship to compete with proximity and access peership. The strength of peership as a force for social attractions among students was found to be even greater than individual characteristics, such as interests, abilities and attitudes. Priest and Sawyer's study therefore, indicate that interpersonal attraction ("Best-friends") for students can be significantly affected by changes factors that is, those persons one happens to find in physical proximity to him and in his college

class. Priest and Sawyer's findings corroborate those of the earlier studies reviewed. The investigators, however, did not look at the content of group cohesion.

2.5.3 Studies on Group Structure and Group Cohesiveness

Halworth (Evans 1966), studied group relationships among grammar school boys and girls between the ages of eleven and sixteen years. He found that group which began as small loosely-knit structures, tended to become larger and better integrated. They were centered around four or five individuals of whom they tended to be over-chosen. The "centre-core" represented values recognised by the members and often as many as two-thirds of the choices of the whole group were directed to the "central core". A group became better integrated and more stable, more and more choices tend to go to the "central core", but the tendency for them to be centered on one individual decreased and they become spread instead, over several individuals. The normal course of development was sometimes hindered where there was no suitable personality round whom the group could form, and in this case, there was, instead, a constantly changing pattern of small group.

Pearce (Evan 1966), in a related investigation, studies a form of boys working in self-chosen groups of friends in several subjects in their first two years at a grammar school. He observed that when the more able boys, who were also the leaders were removed from a form in a grammar school, the structure of the form was destroyed. These boys evidently personified the values of the

rest and no others could take their places. As a result of their removal, the group disintegrated.

Shears (Evans 1966), also worked with more able children of the same age. He found that when the original leaders were removed from the class, others took their place, but there did come a point where, after the repeated removal of leaders, the group did not reform. These studies by Halworth, Pearce and Shears, give evidence to the fact that group form around individuals who personify the values of the members.

Partridge (Evans 1966), worked on the sociometric approach to adolescent groupings. He observed that during adolescence, girls seemed less disposed than boys to form spontaneous groups. This may be because boys and girls at same ages, have different value-systems, which may in turn, be as a result of their different roles for which they are cast by nature and by larger society. Having reviewed certain literature on a general aspect of sociometry, the researcher will now go on to examine the related findings on the variables under study.

2.6.1 Studies on the Relationships between Sociometric and Personality

Brown and Crowe (1953), were interested in determining whether certain types were likely to choose or reject specific other types. Their subjects were the 100 (divided into six groups whom Watson and Milton Rosenberg in Rosenberg (1950) conducted). Two sociometric questions were asked, as who are the five members with whom you would like to spend leisure time, and who are the five

people you consider most like yourself with respect to the philosophy of social change?

A general hypothesis was that there would be a close relationship between the "leisure time" and similarity-of-change-philosophy choices, in as much as friendship is often based on agreement about basic values. This relationship was demonstrated. A further interest was in determining the personality types chosen by each type. Watson's original eleven types were recombined into five types. The dependents, the self-sufficient, the rigid, the inhibited hostile and the overt hostile. The result showed that the rigid tense members tended to choose one another, the self-sufficient members to choose one another and the rigid members, the overt hostile to choose one another and the inhibited hostile and the dependent members to choose the inhibited hostile, while the inhibited hostile, chose the dependents.

Two choice patterns seems to exist. First, certain members tend to choose people like themselves. Second, members tend to choose people who have what they want. For example, the inhibited hostile tended to choose dependency members (who display the control over hostile feelings for which the inhibited hostile were striving). At the same time, the dependency members tended to choose the inhibited hostile (who seemed relatively freer in expressing aggression). This study shows that certain individuals with similar values tend to choose one another while others do not.

Roseberg (1956) approached the same problem in a somewhat different way. First, he identified by means of sociometric

questionnaires, members who received most and least number of choices as leisure time companions and productive members. He then administered a number of personality test (the Runner Steave, the Guildford-Zimmarman, and the All Port-Vernon Scales) to identify the personality characteristics which distinguished between "overchosen" and "underchosen" persons. Rosenberg found that the rejected members (on both questions) tended to be more compulsive, competitive and energetic and less friendly than the accepted members. They showed less capacity for personal relations. The author used the term "anal" to define this combination of characteristics. He formulated the general hypothesis that members displaying this combination of traits would be likely to be rejected by others.

Rosenberg studied a second TY group, first administering test and dividing the membership into two groups in such a way that the first group displayed another traits while the second did not. His predictions that the first group could be more likely to be rejected was upheld when checked against actual sociometric choices. However, this held true only for the final of three administrations of the sociometric questionnaire. The author concludes that the tendency for this relationship to become established only after an accumulation of interaction experiences, the members come to judge one another and evaluate one another at the personality or characteristic level.

In a study of three small women's dormitories in an Urban College, Lemann and Solomon (1952) studied six personality

variables. All the variables were bipolar, and the investigator divided them into two categories; alphatose ratings that run from good to bad (generous-stingy, affectionate-cold, enthusiastic-cold, enthusiastic-apathetic); and beta, those that ran from bad to good to bad (dominating-submissive, shy-bold, stubborn-yielding). Their findings indicated that sociometric status was related to rating on the alpha scales but not on the beta scales. Those high sociometric status as measured by combined choices and rejection score, were characterized as generous, enthusiastic, and affectionate. When the subjects were grouped in terms of the noticeability of their indifference scores (the number of combined choices and rejections subtracted from the total number of responses possible), a relationship was found between this divisions and ratings received on beta scales. Individuals low in noticeability were rated as dominating, bold and stubborn. It is apparent that having the same individuals perform the personality ratings and the sociometric ratings poses certain problems in the interpretation of any association between these variables. Lemann and Solomon suggested: "It may be that a general 'halo effect' surrounding girls with high status causes them to be rated favourably on most traits (p. 35).

In a similar investigation, French and Mensh (1948) studied 34 college students who were members of the same sorority. The subjects were asked to make three choices and three rejections for room-mates and also were asked to rate each other on punctuality, sociability, fair-mindedness, intelligence, self-confidence and

sense of humour. Sociometric status was measured by dividing the group by inspection into the majority in group and nine isolates. The majority group was then further subdivided into those who received rejections and those who did not. This resulting in three groups of varying sociometric status. A comparison of these three groups in the personality ratings they received indicated that, in general, the individuals high in choice status rated highest on those personality variables that are normatively most valued.

In other related findings, Lindzey and Urdan (1954) related measures of security, dominance, happiness and achievement derived from self-ratings, questionnaires and sentence completion test to various sociometric measures, including sociometric status and clique structure. They concluded that the questionnaire measures showed much stronger relations to the sociometric indices than either of the other two types of measures. Northaway and Wigdor (1947) have also compared Rorchard's responses of three groups of eight-grade boys and girls who were high, low and middle in sociometric. The authors indicated that those high in status were characterized by "greater sensitivity in sensing the feelings of others and a conscious striving for other approval of other" (p. 196). The middle group "... seems a more shallow, less introspective group with few anxiety or emotional disturbances" (p. 194). The foregoing findings, however, provide the basis for the necessity of inclusion of the variable of personality into the study of sociometric status of any group of people. And that is why the present study intends to find out whether the personality

variable has any influence in the sociometric status of secondary school students in Nigeria with particular reference to a Federal Government Secondary School.

2.6.2 Studies on the Relationships between Sociometric and Intelligence

Most studies have related sociometric variables to intelligence have found a positive association. For example, Izard, Thorpe in Lindzey and Urdan (1954); Bonney in Lindzey and Urdan (1954), found that sociometric choices were positively related to intelligence as measured by group intelligence tests. Bonney concluded that the upper quartile in social choice was distinctly superior intellectually to the lower quartile, that this same finding held for third, fourth and fifth grade. However, Hill (1963) found a positive relationship between I.Q. (intelligent Quetient) and sociometric status among third graders only with respect to girl's status among boys. The girls did not choose boys with respect to I.Q. nor was same-sex sociometric status related to intelligence. The findings indicated that cleaverage which may usually occur as a result of sex difference has no correlation with intelligence.

In another development, in an investigation of a group of sixth-grade students carried out by Grossman and Wrighter (1948), they however related intelligence as measured by the Stanford Binet Test to choice and rejection. The authors reflected that the group that was high in sociometric status was significantly higher than the remainder of the group in intelligence.

Heber (1956), also found that a high IQ group of school

children was significantly higher in social status than an average IQ group, while a low IQ group was significantly lower in social status. The deviation from the average group was much greater in the case of the low IQ group; this led Heber to conclude ".... the decremental effect on social status of a low IQ ... [is] greater than the incremental effect of a high IQ" (p. 162).

The foregoing expositions and the ones to come later suffices to show how sociometric status is associated with variables under study. These appeared to be enough evidences to substantiate the fact that among other things, intelligence is one of the factors of peer group liking in the classroom.

2.6.3 Studies on the Relationship between Sociometric Status and Self-Esteem

Self-description as measured by such devices as the Q-sort technique and the objective checklist appears to be related to attraction. Turner and Vandelippe (1958) used Q-sort items to measure self-concept and ideal self in a group of 175 undergraduates. From this sample, the 25 with the greatest and the 25 with the smallest self-ideal discrepancy were selected for comparison on a number of variables, including sociometric status in their living groups. Those with the highest discrepancy (mean self-ideal correlation of .11) were less well liked than those with the least discrepancy (mean self-ideal correlation of .76). Somewhat different results were reported by Reese (1961) in a study of 507 children from the fourth, sixth and eighth grades. Subjects with the most negative self-concept (high self discrepancy) were

again the least liked by their peers. However, the highest social acceptance was for those with moderate self-ideal discrepancy. Thus, sociometric status was curvilinearly related to self-concept measures.

With 87 male college freshmen, Kipnis (1961) found that subjects perceived themselves as significantly more similar to their best friends than to their least-liked roommates. Mickenna, Hofstaetter and O'Connor (1956) had 90 female college students do Q-sorts of self, ideal self, and two friends. Friends were perceived as being more like ideal self than like-self. Among those subjects with very high self-ideal congruence, however, friends were perceived as more similar to self than to ideal-self. In a similar findings by Lindy et al (1956), who dealt with similarity in opposite sex, sociometric choices among undergraduates, self descriptions were more like the descriptions of a positive opposite sex sociometric choice than a negative opposite sex choice.

In an experimental investigation, Griffitt (1966) found that both subjects with high and subjects with low self ideal discrepancy were more attracted to strangers who were like themselves in self-description than strangers who were unlike themselves. The above findings is enough to show one that similarity of personality characteristics and to a greater degree, perceived similarity of oneself is associated with attraction. Just as Maisonneuve et al (1954) observed that subjects with similar personality tend to mutually choose each other. It is therefore

the hope of this study to find the truth of this finding in the case of Nigeria which has a different cultural and environmental settings.

2.6.4 The Relationship between Sociometric Status and Academic Achievement

From his survey of the literature traits related to popularity, Bonney (1947) finds several factors that seemed to imply the existence of abilities to reward others; physical health and vigorous and being a source of new experiences to others.

French (1956) present evidences that the preference for competent persons as work partners may be outweighed by affiliative rewards depending upon the individual's motivation. Subjects high in achievement motivation tended predominantly to choose as workmates, persons of demonstrated ability, whereas subjects high in affiliation motivation tended to choose from among their friends, even though the friends had poor performance records.

Bonney (1946) found that a group of elementary school children who mutually chose each other were more similar in intelligence as measured by group tests, than a corresponding group of subjects who did not choose each other. There was, however, according to him, very little relation between friends in their academic achievement as measured by reading test.

Although Bonney (1946) found little relations between choices and rejection and academic achievement, however, the present study is contending if the pupils acceptance by his peers may only depend in part on the student's personality, self-esteem and intelligence.

It is however enough to suppose that the level of the student's achievement in academic activities will be another factor as will be seen in the subsequent paragraph.

Buswell (1953) used a population of 300 fifth-grade pupils and a number of standardized tests including the Stanford -Binet, the Iowa Test of Basic Skills, the Ohio Social Acceptance Scale, and a sociometric test of best-liked peers to find out whether there was any relationship between how a learner performs intellectually in class and his relationships with his peers. The highly accepted group as identified and perceived by their peers were significantly higher than the rejected group in mean achievement. Thus, it appeared that achievement is related to social acceptability and in fact, that acceptability by peers is linked in many instances with the learner's achievement.

One will conclude by saying that though some peer relationships seem to be based upon similarity of attitudes and background, others constitute symbiotic relationships in which the reward one person provides the other are quite different from those provided in the reverse direction. This kind of relationship requires that the two individuals differ in certain respect, (e.g., in their respective predominant traits and abilities and in the way that are complementary. Each being able at low-cost to provide the special kind of product valued by the other. The foregoing discussions show evidences that persons are most comfortable (incur least cost) when associating with persons from their own social class and status level. There also appears that rewards are higher

if one associates with persons of higher status.

2.7 SUMMARY

This Chapter surveys the different areas of relationships between sociometry status and the behaviours of the individuals of the group. It briefly sampled some of the studies that showed how sociometry status was associated with certain psychological variables such as personality, self-concept, intelligence and academic achievement.

The Chapter has, however, attempted to throw light on the background to this study by providing evidence of substance showing the relations between sociometric status and the psychological variables under study.

CHAPTER 3

3.0 Study Design and Procedure

3.1 Introduction

This research is a survey of the sociometric process of choice and rejection of students in Federal Government College Students in Kano. This section presents a description of the study population, sample and the instruments used for the collection of data. The statistical procedure to be used and the limitations of the study are also discussed.

3.2 Study Population

As of the time of the study, Federal Government College, Kano has a population of about one thousand six hundred and fifty four students of both male and female. The students' age ranges between twelve and twenty-two years and they come from various parts of the country. There are five arms for every class with a total of thirty arms all together. The population in each class varies, the highest being sixty and the least, thirty five. The mean number of students in J.S.S. classes is fourty and in the S.S. class, is thirty-five.

The researcher decided to use only one Federal Government College because it was the same method adapted by the predecessors of this study such as Anene-Maidod (1991) and Onaji (1991).

3.3 Sample of the Study

The selection of sample for each segment of class was done at random. The sample was picked from JSS I to SS III. Since each segment of classes comprises five arms ranging from M to R, the researcher wrote the arms on a piece of paper for each class and put them in a match box and shook it and then picked one from them. From each class, therefore, an arm is chosen at random. In the long run, the following arms were chosen from JSS I to SS III. These were JSS 1M, 2M, 3P, SS IM, IIM and IIIM. The sample size is 315.

Krejee and Morgan (1970) worked out a table used for determining the sample size. For the population of 1,640, the sample size according to the table should be 310 to 313. This study's sample of 315 is considered appropriate. With the number of classes that was used, the investigator held the view that the characteristics important for the study are sufficiently included. From a study of the normal roll, all classes appeared to have cut across different societies in Nigeria. That is to say in each class of the school, the students are drawn from different parts of the country and comprises of both males and females.

3.4 Instrumentation

3.4.1 Sociometric Questionnaire

A data sheet questionnaire constructed by the researcher was used as the instrument for the collection of sociometric data. It is composed of two sections. Section (A) requires each student to

supply demographic information about his name, age, sex and class as well as father's highest level of education. Part 2 of the data sheet has three sociometric limited-choices and rejection. The students were to indicate the members of the class who they would like to work with. The number of choices were restricted to three and that of rejection was also restricted to three. Three reasons are to be given for choices as well as for rejections.

The investigator decides to restrict the number of choices to three, after a due consideration of available literature on the issue of restriction or non-restriction of choices since more than three choices are difficult to handle, Evans (1966).

The sociometric questions are on activities that relate to real school situations. Care is taken to avoid transitory activities. The criteria chosen will elicit responses that will provide data for testing the hypotheses.

3.4.2 Validity and Reliability of Sociometric Instrument

Sociometric test are designed to elicit actual behaviours being studied under certain criteria or circumstance, not sample of behaviour. Validity and reliability as conceived by psychologists therefore, do not rigidly hold here. Evans (1966) quotes Prepinsky on this issues:

> ".... the concept of reliability and validity as traditionally used by psychologists, seem to have little direct meaning or application to the field of sociometry.

> Instead, the important questions seem to be concerned with means of eliciting true samples of such behaviour over periods of time, at different ages, and under different conditions" (pp. 134-141).

3.5 Eysenck's Personality Inventory

This is a 57 item tests designed to measure the personality of subjects of 15 years of age or above. Of the 57 items, 9 are designed to detect lying while 24 measure extraversion and anxiety. The subjects are required to respond to the statement by placing a tick in the "YES" or "NO" box opposite each statement.

Since this is a standardized instrument, it is assumed that the validity and reliability are assured. All children who scored 6 and above in the lie sub-scale are eliminated from the study because this is a sign of inconsistency, Eysenck and Eysenck (1962).

3.6 Intelligence Test (Non-Verbal Reasoning)

The AH4 Part II Non-verbal Test developed by Heim (1974) was used. This test is based on non-verbal materials, i.e., pictures and diagrams of various sorts. Like most tests of intelligence, these tests are speeded, i.e., there is definite time limit of 10 minutes for the testers to complete the test.

The test is widely held to be culture-fair and it has been used extensively by researchers in the Faculty of Education, Ahmadu Bello University, Zaria, over the years.

3.7 The Self-Esteem Inventory (S.E.I.)

The investigator used the Self-Esteem Inventory Scale by Cooper-Smith (1967). A shortened version of the inventory was used. This version consists of 25 items which would be responded in the form of "it is definitely like me; "it is like me to some extent" and "it is unlike me". These items are scored according to the scoring keys, Burns (1979).

The scale is divided into four sub-scales viz; social, peer, parents and academics. The total scores are used as a general self-esteem score.

3.8 Administration of the Instrument

The data sheet and other tests were administered by the researcher personally to each class selected for the study. The instructions were read out to them and explained by the researcher. The questionnaires were checked to ensure that they were properly filled in the end.

3.9 Academic Achievement

The average scores of the students' last term's examination in three subjects, percentage-wise was used. These subjects were English, Mathematics and Integrated Science for JSS Classes, while Biology make up the third subject for the SS classes.

3.10 Scoring of Test

The researcher scored the subjects' responses of the self-

esteem inventory according to the responses falling in three alternatives for each of the item. The total scores for the self esteem was obtained in accordance with the instruction of the test manual. This total score was then subdivided into high, average and low self-concept in order to compare it with high, average, low choices status of the students and high, average and low rejection status of the students.

The same process was followed in the analysis of the achievement and intelligence. But the neuroticism, extravation, introversion were divided into stable and unstable personality; and these were compared with the three categories of choices and that of rejection.

3.11 Statistical Procedure

The statistical instrument used for testing of the hypothesis under study is chi-square (X^2). This is because the sociometric data is ordinal in scale and the personality, self-esteem, intelligence and academic achievement, though interval scales were reduced to discreet measures by grouping them each into high, average and low.

3.12 Limitation of the Study

The study has the following limitations. That the sample size is not the optimal size but had to be used because of the constraints related to analysis of sociometric data. The study is

also limited in geographical scope. However, the main objectives of the study is to determine whether personality, self-esteem, intelligence and academic achievement have any influence in the choice status of secondary school students. In other words, the study aimed at finding out whether the aforementioned variables have any relationship in the liking and rejection of a student in a secondary school classroom atmosphere. Only the Federal Government College, Kano was used. More schools could have been taken to make the finding more generalizable, but due to financial constraint and time limit for such a study to be carried out, this could not be possible. Only one technique was used, that is the questionnaire. Perhaps, the use of another instrument such as the interview would have been necessary to corroborate the study, however, this was the only method adopted by the predecessors of the study of this type.

Inspite of these limitations, it is however, expected that the findings of the study were valid.

3.13 Summary

This Chapter has focused on the procedures of investigation for this study. An attempt has been made to describe the selection of the study population, sample, the test inventories and their reliability and validity. The process of their administration and analysis were also described. And the statistical tools for the analysis of data is also mentioned. Finally, the limitations of the study were also highlighted.

CHAPTER 4

Results and Conclusion

4.0 Introduction

The data collected was coded for the purpose of analysis. As explained in the last chapter, the scores on intelligence, achievement, self-esteem and that of choice and rejection, were all grouped each into three categories (high, average and low). However, neuroticism and extravation-introversion were grouped into stable and unstable personality. This was to prepare the data for the cross tabulation analysis (chi-square). The choices and rejection data being ordinal are therefore suitable for this purpose. For the intelligence, the cut-off points were taken as less than 10 for low, 11-20 for average and 21 and above for high. The scores range from zero to forty (0-40). The self-esteem data were grouped as 0-20 for low, 21-30 for average and 31 and above for high. The scores range from seven (7) to forty-three (43). Personality (stable/unstable) were grouped from 0-11 as stable and 12 and above as unstable. Academic achievement also was grouped taking less than 39 marks as low, 40-54 as average and 55 and above as high. In the choice 0-2 was taken as low, 3-4 as average and 5 and above as high, while in rejection, 0 is taken as low, 1-2 as average and 3 and above as high.

The data was analysed manually using the chi-square statistics as mentioned earlier, the result of which are presented hypothesis

by hypothesis as follows:

HO_1: There is no significant relationship between choice status (high, average and low) and the stability of individual's personality.

Table 4.1 shows the result of the hypothesis testing.

Table 4.1: Cross-Tabulation Analysis of Choice by Personality (Stable and Unstable)

PERSONALITY			
Choice Status	Stable	Unstable	Total
Low (1)	180 (84.9)	32 (15.09)	212
Average (2)	44 (74.6)	15 (25.4)	59
High (3)	32 (72.7)	12 (27.3)	44
Total	256	59	315

Chi-Square = 126.68 df = 2 P< .00001.

Note: Row percentages are presented in brackets.

The results indicate that 73% of the individuals with high popularity come from those students who are stable in personality. In addition, 73.8% of the individuals with average or high popularity come from the stable personality category as compared to students with high or average popularity but unstable in personality who contribute only 26.2% of the population. In essence, this shows that popularity goes with stability in personality.

In general, the result shows that there is significant relationship ($P < .00001$) between choice status and the personality of individuals. This hypothesis which states that there is no significant relationship between choice status and personality is therefore rejected. This is because of the significant relationship obtained from the analysis of the results as indicated below the table above ($X^2 = 126.68$ df = 2 $P < .00001$).

HO_2: There is no significant relationship between rejection status (high, average and low) and stability of individual's personality.

Table 4.2 shows the result of the hypothesis testing.

Table 4.2: Cross-Tabulation Analysis of Rejection Status by Personality (Stable/Unstable)

	PERSONALITY		
Rejection Status	Stable	Unstable	Total
Low (1)	104 (83.2)	21 (16.8)	125
Average (2)	107 (79.9)	27 (20.2)	134
High (3)	48 (85.71)	08 (14.3)	56
Total	259	56	315

Chi-Square = 131.46 df = 2 P< .00001.

Note: Row percentages are presented in brackets.

This table shows that 86% of the individuals high in

rejection, that is, very unpopular come from the stable personality group as compared to 14% who are high in rejection and who come from the class of unstable personality. In general terms, individuals with a stable personality are again more likely to be rejected. Unstable individuals are more likely to be ignored in such cases since individuals are not under any compulsion to associate with them.

When all the stable individuals are taken together, 40.2% are low in rejection, 41.3% are average and 18.5% are high. This compared with 37.5% of unstable individuals low in rejection, 48.2% average and 14.3% high in rejection.

In general, the result, however, shows that there is significant relationship between rejection status (high, average and low). In this regard, the null hypothesis which states that there is a no significant relationship between rejection status and personality (stable/unstable) is therefore rejected. This is due to the significant relationship obtained below the table above ($X^2 = 131.46$ $df = 2$ $P < .00001$).

HO_3: There is no significant relationship between choice status (high, average and low) and self-concept (high, average and low).

Table 4.3 shows the result of the hypothesis testing.

Table 4.3: Cross-Tabulation of Choice Status by Self-Esteem

SELF-ESTEEM				
Choice Status	Low	Average	High	Total
Low (1)	66 (30)	19 (55)	32 (15)	217
Average (2)	10 (19)	30 (58)	12 (23)	52
High (3)	09 (17)	17 (37)	21 (46)	46
Total	84	166	65	315

Chi-Square = 100.14 df = 4 P< .00001.

Note: Row percentages are presented in brackets.

An examination of the table above shows that some 46% of the students with high choices come from those individuals with high self-esteem as compared to their counterparts who are popular but low in self-esteem who constitute only 17% of the population. This shows that the higher an individual's self-esteem, the more popular he is likely to be in the class.

Among individuals who are low in choices status, only 15% are high in self-esteem as compared to 55% who are average and 30% who are low in self-esteem.

In general, the result shows that there is significant relationship between choice status and self-esteem. The null hypothesis which states that there is no significant relationship between choice status and self-esteem is therefore, rejected. This is because of the significant relationship obtained from the

analysis of the data (X^2 = 100.14 df = 4 P< .0001).

Hypothesis 4

HO_4: There is no significant relationship between rejection status (high, average and low) and self-esteem status (high, average and low) of the students.

Table 4.4 shows the result of the hypothesis testing.

Table 4.4: Cross-Tabulation of Rejection Status by Self-Esteem

	SELF-ESTEEM			
Rejection Status	Low (1)	Average (2)	High (3)	Total
Low (1)	32 (25)	65 (50)	33 (25)	130
Average (2)	31 (24)	74 (57)	24 (19)	129
High (3)	19 (34)	29 (52)	08 (14)	56
Total	52	168	65	315

Chi-Square = 93.95 df = 4 P< .0001.

Note: Row percentages are presented in brackets.

It could be observed that only 14% of the individuals rejected come from those ones with high self-esteem as compared to their counterparts with low self-esteem who constitute more than 34% of the population rejected. In essence, the result indicates that students low in self-esteem are more likely to be rejected in the classroom than students who are high in self-esteem.

The null hypothesis which states that there is no significant relationship between rejection status and self-esteem is therefore rejected since the overall result show a significant relationship (X^2 = 93.95 df = 4 P< .0001).

Hypothesis 5

HO_5: There is no significant relationship between choice status (high, average and low) and intelligence (high, average and low) of the students).

Table 4.5 shows the result of the hypothesis testing.

Table 4.5: Cross-Tabulation of Choice Status by Intelligence.

	INTELLIGENCE			
Choice Status	Low (1)	Average (2)	High (3)	Total
Low (1)	74 (35)	130 (60)	10 (5)	214
Average (2)	06 (10)	29 (50)	23 (40)	58
High (3)	02 (5)	07 (16)	34 (79)	43
Total	82	166	67	315

Chi-Square = 157.28 df = 4 P< .00001

NOTE: Row percentages are represented in brackets.

A close look at the table above will show that 79% of the individuals high in popularity constitute of those high in intelligence as compared with those students low in intelligence but very popular who constitute only 50% of the population. The

results in the table tends to show that the more intelligence the child is, the more popular he is likely to be in the classroom.

In general, the result indicate a significant relationship between choice status (of individuals) and their intelligence. In this regard, the null hypothesis which states that there is no significant relationship between choice status and intelligence is rejected.

Hypothesis 6

HO_6: There is no significant relationship between rejection status (high, average and low) and intelligence (high, average and low) of the students.

Table 4.6 shows the result of the hypothesis testing.

TABLE 4.6: Cross-Tabulation of Rejection Status by Intelligence

	INTELLIGENCE			
Rejection Status	Low (1)	Average (2)	High (3)	Total
Low (1)	33 (26.4)	68 (54.4)	24 (19.2)	125
Average (2)	25 (19)	67 (50)	41 (31)	133
High (3)	24 (42)	30 (53)	03 (5)	57
Total	82	165	68	315

Chi-Square = 97.45 df = 4 P< .0001

From this table, one could observe that 42% of the individuals rejected constitute those with low intelligence as compared to only 5% of their counterparts from the high intelligence group. In a

nutshell, the result tends to show that the less intelligence an individual is, the more likely he is to be rejected among his classmates.

In general, the result indicates that there is a significant relationship between rejection status and intelligence. Thus, the hypothesis which states that there is no significant relationship between these variable is hereby rejected. This is due to the significant relationship obtained in the analysis of the scores shown below the table above (X^2 = 97.45 df = 4 P< .0001).

Hypothesis 7:

HO_7: There is no significant relationship between choice status (high, average and low) and academic achievement (high, average and low) of the students.

Table 4.7 shows the result of the hypothesis testing.

Table 4.7: Cross-Tabulation of the Choice Status by Examination Achievement

ACADEMIC ACHIEVEMENT				
Choice Status	Low (1)	Average (2)	High (3)	Total
Low (1)	148 (60)	60 (28)	08 (3)	216
Average (2)	10 (18)	30 (53)	16 (29)	56
High (3)	02 (4)	08 (19)	33 (77)	43
Total	160	98	57	315

Chi-Square = 177.9 df = 4 P< .00001.

Note: The row percentages are presented in brackets.

The table shows that about 77% of the individuals who are very popular are high in examination achievement as compared to their counterparts who are very popular but low in examination achievement, who constitute only 4% of the population. This tends to show that the more brighter a student is in the classroom, the more popular he is likely to be while the reverse is the case with students that are dull (60% of low achievers are also low in choice status).

The whole result from the table indicates significant relationship between choice status and achievement. The null hypothesis is therefore rejected since the analysis produce a significant result (X^2 = 177.9 df = 4 P< .00001).

Hypothesis 8:

HO_8: There is no significant relationship between rejection status (high, average and low) and academic achievement (high, average and low) of the students.

Table 4.8 shows the result of the hypothesis testing.

Table 4.8: Cross-Tabulation of Rejection Status by Examination Achievement

ACADEMIC ACHIEVEMENT				
Rejection Status	Low (1)	Average (2)	High (3)	Total
Low (1)	58 (46)	47 (58)	20 (16)	125 (150.0)
Average (2)	59 (44)	36 (27)	39 (29)	134 (150.0)
High (3)	42 (75.0)	13 (23.2)	01 (1.8)	56 (150.0)
Total	159	96	60	315

Chi-Square = 102.25 df = 4 P< .0001.

Note: The row percentages are presented in brackets.

More than 75% of the students with high rejection are from those with low achievement in examination as compared to those students high in examination achievement with high rejection who constitute only 2% of the population. In essence, the less bright a child is, the more likely he is to be rejected by his classmates. In this regard, the null hypothesis is rejected since the result of the analysis established a significant relationship between rejection status and achievement (X^2 = 102.25 df = 4 P< .0001).

4.9 Summary

In this chapter, the choice status as well as the rejection status of the students were tested with students' personality, self-esteem and intelligence as well as academic achievement to see whether these variables have any influence on the choice and rejection status of students in the classroom or not.

It was found that they had, with analyses producing significant result. It was in the light of this that all the eight null hypotheses (HO) were rejected. In the next chapter, these results will be discussed in detail along with the conclusions and implications of these findings.

CHAPTER 5

Discussion, Summary, Conclusion, Implication and Recommendations

5.0 Introduction

In this chapter, the findings of the study will be discussed in the light of those findings of this research. In addition, the conclusion on the findings and implications are highlighted along with some recommendations on ways of improving classroom atmosphere for better teaching and learning process. These recommendations are made in line with the findings of this study.

5.1 Discussion

The result from the data analysis show that even though religion, ethnic background and other demographic variables may be a factor in the choice or rejection relations of students in classroom, personality, self-esteem, intelligence and academic achievements are other very important forces if not domineering ones. This is contrary to some findings (e.g. Anene-Maidoh (1991) and Onaji (1991). In those studies, the researchers asserted that interactions among students was solely dependent on variables like religion and tribe, and that this pattern did not change with increase in the number of years spent together in school. However, *the findings of this research supports those of Brown and Crowe* (1953); Grossman and Wrighter (1948); French and Mensh (1948); Heber (1956); Kepnis (1961); Bonney (1947) and Buswell (1953).

Brown and Crowe (1953); Grossman and Wrighter as well as French and Mensh (1948), all found that personality is one of the factors in group attraction and rejection and they asserted that acceptance is positively related to scholastic achievement. In his studies on the relationship between selection, rejection and intelligence, social status and personality among sixth grade children, Grossman found a positive relationship between responding and intelligence on the one hand and selection and rejection on the other hand. Brown and Crowe (1953) also found a similar result. Heber (1956) in his studies on the relation of intelligence and physical maturity to social status, found that a high IQ group of school children was significantly higher in social status than an average IQ group, while a low IQ group was significantly lower in social status. That the deviation from average group was much greater in the case of the low IQ group. This led Heber to conclude that "the decremental effect on social status of a low IQ .... (is) greater than the incremental effect of a high IQ" (p. 162). The finding of this investigation on intelligence to some extent supports that of Heber.

Kippers and Dorothy (1961) in another investigation on change in self-concepts in relation to perceptions of others, also found that subjects perceived themselves as significantly more similar to their best friends than to their least-liked roommates. That subjects with high and subjects with low self ideal discrepancy were more attracted to roommates who were like themselves in self description then who were unlike themselves. In this study, it was

found that students with a high self-esteem were more popular than those with low self-evaluation. Bonney (1947) and Buswell (1953) also found significant correlations between choice and ejection status and academic achievement.

Buswell (1953) found that the highly accepted group as identified and perceived by their peers were significantly higher than the rejected group in mean achievement just as found in this study. It thus appears that achievement is related to social acceptability and that rejection by peers is found among other things on the individual's achievement in class.

5.2 Summary and Conclusion

The sociometric status of students, as shown by the results is therefore to a more or lesser extent, dependent on psychological variables such as neuroticism, intravation-extravation, self-esteem, intelligence and academic achievement. That students have more interactions and associations better with students of stable personality, high and average academic achievement, high and average self-esteem and high intelligence. That a stable neurotic, introvert and extrovert, high and average achievers, high and average intelligent and high and average self-esteem individuals are likely to be more popular in the school than any other students.

From the cluster analysis, the following conclusion are therefore drawn: That there is a significant and positive relationship between stable and unstable personality and the

choices and rejection status of the students and this can be best predicted from the predicator variables of neuroticism, extroversion-introversion. That the average and high self-esteem individuals as well as average and high academic achievers and intelligent individuals are more popular in the school. That the issue of ethnicity, age, sex and parental occupation which are though obvious, are very silent in the case of classroom interaction.

Inspite of the foregoing, it would not be correct to say that this investigation is by no means conclusive. This is because only a variable may be responsible for a student's choice of associates. For some students, it could be more than one. It is not possible to ascertain which one is at work.

5.3 Implications

The findings of this study indicate that students like to associate with others that are high in intelligence, self-esteem, stable in personality and high in examination achievement. That having found all the results of the hypotheses tested significant, it implies that these variables are very crucial in the students' interaction in the classroom. That a student who is very bright, stable in personality, high in self-esteem and high in intelligence is very likely to be popular in school irrespective of the language he speaks or his religion. Another implication of these findings is that educationally, backward students ought to be given special attention if they are to adjust emotionally so as to interact very

well in the school. Nevertheless, the finding of this researcher implies that since high academic achievement has been indicated to facilitate the choice of student in school, it is necessary for the Ministry of Education to provide congenial classroom atmosphere where the students can make use of their potentialities to the fullest. Thus, a well ventilated classroom equipped with teaching aids are necessary. There is also a need of qualified teachers to be assigned to teach at any level in the school.

5.4 Recommendations

Based on the findings of this study, the researcher recommends that in any project or group work that is to be done in classroom, individuals should be allowed to select their prepared work partners with however, an even distribution of the bright students among the groups. This is because individuals with similar value and interest are bound to cooperate with each other and create a congenial atmosphere.

This view is stressed by Vauzelt in Woodard (1971). According to him, productivity of the group greatly improve where individuals were allowed to select their prepared work partners following the sociometric procedures.

Streaming of students into several arms of class which is now adopted in secondary schools, should also follow the sociometric procedures by groups students of similar personality and self-concept, but with a proportionate distribution of average and high

intelligence students among the arms.

To interact more, the importance of participation in clubs and societies should be stressed to the students by the teachers. Equally important, is that admission system of Federal Colleges whereby a large proportion of the yearly intake are from the indigenes of the state where the school is situated should be slightly modified in order to avoid a concentration of students of one ethnic group in the school. States should be equally represented in each Federal school.

Conscious effort should be made by teachers in the school to place dissimilar students in ethnic background and religion together in the seating arrangement in the classroom and in the hostels.

Finally, the researcher would like to recommend that selection of the prospective candidates into Federal Government Colleges be made on the basis of their stability of personality, average and high esteem, intelligence and academic achievemen.

5.5 RECOMMENDATION FOR FURTHER STUDIES

In order to test the stability of finding over a period of time a re-test as Moreno (1953) puts it, should be carried after some years.

The study should also be conducted in other Federal Government Colleges in order to replicate it because some of the variables tested in this study and confirmed may be proven otherwise.

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