EFFECTS OF TWO TREATMENT TECHNIQUES ON THE ADJUSTMENT OF JUVENILE DELINQUENTS IN LAGOS APPROVED SCHOOLS

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CERTIFICATION

THIS IS TO CERTIFY THAT THE THESIS -

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ADJUSTMENT OF JUVENILE DELINQUENTS IN LAGOS

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DEDICATION

This thesis is dedicated to the memory of my never to be forgotten late daughter, Titilola Adefunke Bolarin.

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for making it possible for me to use the inmates of their schools for this study. In particular I am grateful for the co-operation and the warm and congenial atmosphere offered by the Principals of the Approved Schools during the period of this study.

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BOLARIN, T.A.

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ABSTRACT OF THE THESIS

The main focus of this study was to find out the effect of two treatment techniques on the adjustment of juvenile delinquents. Hence, this study examined the effectiveness of the self-control therapy (Mode I) and the Token economy therapy (Mode II) in improving the adjustment problems confronting the juvenile delinquents.

A total of 54 juvenile delinquents made up of 27 males and 27 females residing in two single sex approved schools in Lagos constituted the sample for this study. The 27 respondents from each school were randomly assigned to three groups - Experimental I group (EXP. I); Experimental II group (EXP. II) and Control group (C G). The EXP. I group received 16 sessions of self-control therapy; the EXP. II group had two main sessions and members were exposed to the Token economy therapy; while the Control group had 16 sessions but members of the group did not receive any treatment.

The Student Problem Inventory (SPI) and the Adolescent Personal Data Inventory (APDI) were used for the measurement of respondent's level of adjustment and Self-concept respectively. A pre-test-post-test experimental design was utilized. Eight hypotheses were stated and statistically analysed using t-test. paired comparisons and correlated t-test.

Results indicated that:

1. Both treatment techniques improve the self-concept and adjustment of male and female respondents.

2. The Token economy therapy (Mode II) is more efficacious than the self-control therapy (Mode I) for improving the self-concept of female respondents and adjustment

of male respondents.

3. Male respondents in the two experimental groups performed better than their female counterparts.

In view of these findings, the following recommendations were made:

1. Trainers of social welfare workers should introduce the practice of some relevant treatment techniques such as the self-control therapy and Token economy into the curriculum of their students.

2. The Lagos State Government should include at least a trained counsellor in the list of staff of each approved school.

3. The Lagos State government should make provision for welfare officers in the field to go on short training/refresher courses where they can update their knowledge on current effective treatment techniques.

4. Workshops, and seminars on current treatment techniques should be organised on regular basis by State Ministries of Social Development, Youth and Sports for both counsellors and Social welfare workers in the field.

It was suggested that further research studies involving both sexes in some other states of the Federation need to be carried out before difinite claims and generalisation can be made about the effectiveness of the two treatment techniques in improving the anti-social behaviours of juvenile delinquents in Nigerian approved schools.

CHAPTER ONE

1.1 INTRODUCTION

Counsellors, social psychologists, and sociologists often engage in searching for various treatment techniques that can be applied to juvenile delinquents in our approved schools to facilitate their adjustment. If such techniques can be discovered, they will go a long way in assisting the juvenile delinquents with their problem of adjustment to the society. Equally important is the fact that many survey and empirical researches have been conducted on the treatment of juvenile delinquents in approved school setting in other countries, but there is the dearth of similar studies in Nigeria.

This study is an attempt by the researcher to find out how best juvenile delinquents in approved schools in Nigeria could be assisted to improve on their anti-social behaviours.

This chapter highlights the background of the problem, the statement of the problem, the purpose of the study, the rationale for the study, the research questions posed, and operational definitions of concepts. The chapter concludes with the delimitations of the study.

1.2 BACKGROUND TO THE PROBLEM

The earliest attempt in Lagos State to place juveniles with behaviour problems in a residential care setting was made in 1943 by a Christian missionary organization called the Salvation Army. The purpose then was to assist in the upbringing of children whose parents, especially the fathers, had been killed during the World War II. Such children were

found roaming about the streets and committing series of offences. The children were then kept in a school then referred to as Boys' Hostel. Later the name of the school was changed to Boys' Reformatory Home, Yaba and was again renamed after some years as Birrel Boys' Approved School. Although the school was started by the Salvation Army, the control of the school has since been transferred to the Lagos State Government. Other reformatory or approved schools have since been established after the Birrel Boys' Approved School. All the approved schools (3 for boys and 1 for girls) at present are under the auspices of the Lagos State Ministry of Social Development, Youth and Sports.

The approved schools were purposely set up for reformation of boys and girls aged under eighteen years with anti-social behaviours. The children are under the care and observation of the officials of the approved schools.

In the approved schools juvenile delinquents are first of all committed for a period of three years by the juvenile courts after which they are released to their parents or guardians as having achieved or attained some changes in their behaviours that will make them acceptable to the larger society. Where the changes attained are not yet satisfactory enough to the authorities of the approved schools an extension is normally granted by the juvenile court for extra number of years provided the young criminal has not attained the age of eighteen years. Where he is already 17 years old but not yet twenty-one years old, the

hardened young criminal will be transferred to a tougher institution (Borstal) where tougher measures than are being employed in the approved schools will be applied to him until he is twenty-one years old.

Official records of approved schools had shown that a good percentage of the juvenile delinquents moved from one approved school to the other because they had grown worst in their behaviour (Awakan, 1987 and Ige, 1987). Some even ended up spending up to six years in the approved schools before they were eventually released. According to Awakan, (1987) when most of them are released to their parents, they are released not because they have improved on their anti-social behaviours but because they have attained the age of seventeen years. There is therefore the need to find out means of affecting positive behavioural changes in the juvenile delinquents in such a way that they can become adjusted within the shortest time possible.

This study is an attempt by the researcher to find out the effectiveness of two treatment techniques (Self-control Therapy and Token economy) on the self-concept and adjustment of the juvenile delinquents in the two approved schools in Lagos. This study will also seek to affirm or refute the report of previous studies by Miechenbaum et.al, (1968); Dranman et al (1973); Thoresen and Mahoney, (1974); Saigh and Khan, (1982); McAdam, (1986) that the self-control therapy and the Token economy improved the adjustment problems of juvenile delinquents in approved schools. The results of this study might provide useful information on how best to assist juvenile delinquents to overcome their adjustment problems.

1.3 STATEMENT OF THE PROBLEM:

A large number of juvenile delinquents in the approved schools in Nigeria fail to achieve any meaningful adjustment by the time they complete their terms of committal to the approved schools (Oloruntimehin, (1969 and 1970); Ige, (1987). This is similar to findings in the United States of America and Britain reported by Ayllon and Azrin, (1968); Braukmann and Fixsen, (1975); Brown, (1979); and McAdam, (1986). This does not however mean that all the juvenile delinquents in the approved schools fail to respond to the current method of treatment (which is strict obedience of the laws and regulations of the approved schools) employed by authorities of the approved schools. It is however important to point out that the degree of adjustment attained varies among the juvenile delinquents. They do not all improve on their adjustment problems at the same rate. There is therefore the need to cater for the needs of those who are slow at adjusting. The pertinent questions to be asked are: How prepared are these juvenile delinquents to cope with members of the larger community when they are eventually released by the authorities of the approved schools? How can they develop the appropriate skills that will enable them to cope effectively with the demands both within and outside the approved schools?

One solution is probably that of exposing the juvenile delinquents to some treatment techniques to enable them to improve on their self-concept and overall adjustment. However, the more important issue is what treatment technique is

more effective for such a programme? Is it the self-
control therapy which involves the teaching of a set of
generalizable skills such as coping responses, assessing
situation and behaviour outcomes and developing rules of
conduct of common problem situations which will assist
juvenile delinquents to avoid or handle future problems more
effectively than in the past? On the other hand, is it
the Token economy therapy which entails identifying the
desirable behaviour one wishes to establish, identifying
an object that the individual values and giving tokens
when desirable behaviour is emitted?

Past researches such as those reported by Ajayi, (1972);
Ayeni, (1978); Oloruntimehin, (1970); Eruemere, (1985) to
mention a few, have focused mainly on the causes of juvenile
delinquency and the characteristics of juvenile delinquents
but there has not been any study in Nigeria reporting the
effect of any treatment technique on the adjustment of
juvenile delinquents in the approved schools. The present
study attempts to fill this gap.

1.4 PURPOSE OF THE STUDY:

This study intends to find means of effectively treating
approved school juvenile delinquents in such a way that they
will change their anti-social behaviours in the shortest
time possible.

It has been observed by the present researcher that in
Nigeria, most of the juvenile delinquents in the approved
schools tend not to have attained any reasonable improvement
on their adjustment problems by the time they complete their
terms of committal. Added to this, research studies such as

those carried out by Olaruntimehin, (1969); Ajayi, (1972);
Ayeni, (1978); and Erumere, (1985); have shown that the
current method of "treatment" (i.e. exposure of all inmates
to strict regimentation and curbing offenders through
detention, reduction in food rations and manual labour) by
the authorities of the approved schools seem not to be
effective enough as some inmates are said to have grown
worse in their anti-social behaviours to the extent that they
either had to be moved from one approved school to the other
or had their terms of committal extended. Hence, the
problem of how best to assist the juvenile delinquents in
improving on their adjustment problems while in and out of
the approved schools confronts Counsellors, social psycholo-
gists, sociologists and others in the helping profession in
Nigeria and the world at large. This problem explains the
growing interest in Britain and the United States of America
in the application of various therapeutic intervention
techniques to institutionalized juvenile delinquents.
Through this means, juveniles who in one way or the other
cannot be helped by only the strict disciplinary measures
used in the approved schools, are in addition often exposed
to some therapeutic intervention programmes. Counsellors,
social psychologists, sociologists and others in the allied
professions in Nigeria have a special responsibility to cater
for the needs of those juveniles who are in one way or the
other unable to achieve any worthwhile adjustment through
their exposure to the current method of treatment employed
by the authorities of the approved schools.

A thorough review of the literature dealing with the effect of Self-control therapy and Token economy on the adjustment problems of juvenile delinquents in approved school setting (Cohen et al, (1966); Bandura and Perloff, (1967); Ayllon and Azrin (1968); Dranman, et al, (1973); Goldfried and Merbaum, (1973); Atkinson et al, (1974); Thoreseen and Mahoney, (1974); Saigh and Khan, (1982); and McAdam, (1986) shows that juveniles with behaviour problems can be effectively treated to change their anti-social behaviours by exposing them to the two treatment techniques. It therefore seems that the question is not whether self-control therapy and token economy therapy as therapeutic intervention programmes can assist juvenile delinquents to improve on their adjustment problems but rather which is the more effective programme that can be adopted. Added to this, to the best of the researcher's knowledge, there is not much being done in Nigerian approved schools to expose inmates to therapeutic intervention programmes. The present study is one of the relatively few studies to expose juvenile delinquents to treatment techniques.

Hence, the purpose of this study therefore is to assess and compare the effectiveness of the self-control therapy and the Token economy therapy in improving the adjustment problems of juvenile delinquents in approved schools.

1.5 RATIONALE FOR THE STUDY:

The need to focus attention on the juvenile delinquents has since been felt in Nigeria and this need led to the setting up of approved schools by some missionary bodies in the early 1940s in Lagos. Ever since the setting up of

Lagos State approved schools, not much attention has been paid to ensuring that most of the wards really attained adjustment in their behaviour before they are eventually released at the expiration of their terms of committal. The current methods of treatment employed by the authorities of the approved schools leave much to be desired. The laws (Children and Young Persons' Law, 1973) setting up the approved schools in Lagos State stipulate that the schools are set up to serve two objectives: correction and education of committed youths.

The correctional objective is supposed to be achieved through the following measures:

    (i)   Temporary loss of privileges by wards;

    (ii)   Separation from others including family;

    (iii) Infliction of corporal punishment on special condition and by authorized persons.

The educational objective is supposed to be achieved through the following measures:

    (i)   Observation of inmates upon admission;

    (ii)   Provision of educational facilities according to need;

    (iii) Provision of vocational training and exposure of inmates to religious training;

    (iv) Provision of outside recreation; and provision of physical training as well as games with other outside organisations.

The list above gives a summary of the various ways that the inmates are punished and prepared for re-absorbtion into the wider society after the end of their terms in the

approved schools. During their stay in the approved schools, inmates are expected to abide by the rules and regulations in terms of timing of their various activities from rising time in the morning to when they go to bed at night.

These methods discussed above tend not to be **very effective** in the treatment of approved school delinquents as the preventive and rehabilitative effects of the approved schools on the inmates are yet to be felt and documented. Research studies conducted by Oloruntimehin, (1970); Ajayi, (1972); Ayeni, (1978); and Omideyi, (1979) testify to this.

In addition, available records in the approved schools showed that some of the discharged boys and girls end up in jail shortly after leaving the approved schools. All these reports tend to cast some doubt on the effectiveness of the methods used in the approved schools as far as the treatment of delinquency is concerned.

Added to the problem of ineffective methods of treatment employed is the fact that literature on delinquency in Nigeria revealed that many studies that had been carried out on juvenile delinquency were carried out purposely to find out the causes of juvenile delinquency rather than the cure. A few researchers had attempted to identify some of the family-based psychological factors which support delinquent behaviours among Nigerian youths. These researchers include Oloruntimehin, (1969 and 1970); Ayeni, (1978); Erumere, (1985); and Bolarin, (1987). Thus more is known about the nature and causes of delinquent behaviours among Nigerian youths than their treatment.

Since the current methods of treatment employed by the authorities of approved schools have been found not to be very effective in the treatment of juvenile delinquents resident in the approved schools there is the urgent need to introduce some other forms of treatment to inmates with the hope that some success will be achieved.

In order to assist juvenile delinquents in approved schools in their adjustment problems and consequently reduce the cost of their maintenance by the government, counsellors, social psychologists and sociologists in particular need to be conversant with many of the treatment techniques that are applicable if they are to carry out this enormous task effectively. In addition, they should have the knowledge of the effectiveness of the various treatment techniques.

The result of this study may enhance the treatment of criminally-minded juveniles. The findings may also provide useful information which may be included in the training programme of social welfare workers by the authorities concerned. Also the findings may provide a useful guide to all scholars in the helping professions, who may be involved in mounting psychological supports for adequate adjustment and the development of the mental health of youths. The findings of this study may specifically be useful to developmental psychologists who in the Nigerian context may be constantly consulted to help in the modification of aberrant patterns of juvenile behaviour.

1.6   RESEARCH QUESTIONS:

The problem of this research is to find answers to the following questions:

1) Will the two treatment techniques (Self-control therapy and the Token economy therapy) improve the self-concept of Nigerian juvenile delinquents in approved schools?

2) Which is a more effective treatment technique for improving the self-concept of Nigerian male and female juvenile delinquents in approved schools? Is it Mode I (the self-control therapy) or Mode II (the Token economy therapy)?

3) Are male juvenile delinquents in approved schools more responsive to the Self-control therapy (Mode I) than the Token economy therapy (Mode II) as a treatment technique for improving their level of self-concept?

4) Are female juvenile delinquents in approved schools more responsive to the Self-control therapy (Mode I) than the Token economy therapy (Mode II) as a treatment technique for improving their level of self-concept?

5) Will the two treatment techniques (the self-control therapy and the Token economy) improve the adjustment of Nigerian juvenile delinquents in approved schools?

6) Which is a more effective treatment technique for improving the adjustment of Nigerian male and female juvenile delinquents in approved schools? Is it Mode I (the self-control therapy) or Mode II (the Token economy therapy)?

7. Are male juvenile delinquents in approved schools more responsive to the self-control therapy (Mode I) than

the Token economy therapy (Mode II) as a treatment

technique for improving their level of adjustment?

8) Are female juvenile delinquents in approved schools

more responsive to the self-control therapy (Mode I)

than the Token economy therapy (Mode II) as a treat-

ment technique for improving their level of adjustment?

1.7   OPERATIONAL DEFINITION OF CONCEPTS:

In order to provide a clear interpretation of this

study, the terms below are defined according to their

usage in the study:

1.   Adjustment: In the context of this study, better

overall adjustment is in terms of reduction in anti-

social behaviours displayed by respondents. Adjustment

as used in this study refers to an acquired character,

a variation produced in an organism during its life,

but which cannot be inherited by its progeny.

2.   Approved Schools: These are institutions set up for

the care and protection of young offenders who are not

above the age of seventeen and who have been committed

in the Juvenile Courts to the approved schools.

3.   Institutionalized Delinquents: These refer to delin-

quents who have been tried and found guilty of

committing some crimes and who have consequently been

committed to terms of stay in approved schools.

4.   Token Economy Therapy:

The Token economy therapy is the delivery of

varying types of reinforcement at various time intervals

in order to enhance the probability of emission of

desirable behaviour by subjects. The Token economy

shares the same logic with the stimulus-response
theories of learning as they all assume that patholo-
gical behaviour is learned and so can be modified by
the application of principles of learning. Token
economy uses laboratory tested methods for modification
of conduct disorders as suggested by the works of
Skinner (1953); Eysenck and Rachman (1967); and
Atkinson et al. (1974). In this study, token rein-
forcements in form of food items, and writing materials
such as pencil, eraser and sharpner were regularly
delivered by the researcher to respondents in the
treatment of specified behaviour.

5. Juvenile: A juvenile is a young person of between
   age 14 and 17.

6. Juvenile Delinquency: Juvenile delinquency is that
   behaviour on the part of children which may, under the
   law subject those children to the juvenile court.
   As such, it is a relatively new and legal term for a very
   old phenomenon. When a child is designated a juvenile
   delinquent by the court, this is a precise definition
   of his legal status. He is, by this act, a ward of the
   court, subject to its direction (International
   Encyclopaedia of the Social Sciences, 1972).

As used in this study, juvenile delinquency consists
of behaviours on the part of young people which under the
law will bring these children under the juvenile court.
Some common behaviours that characterize delinquency in
almost all countries including Nigeria are criminal homicide,
rape, robbery with or without violence, assault, burglary,

larceny, forgery and couterfeiting, embezzlement and fraud, prostitution, drug addiction, drug trafficking, drunkeness, disorderly conduct, vagrancy, gambling, violation of road and driving laws.

7. Minors: These are young people under legal age which is 18 years in Nigeria.

8. Self-Concept: Self-concept is a person's perception of himself or herself. It is that part of a person that affects every aspect of his or her experience.

9. Self-Control Therapy: This is a therapy in which a person makes a response that alters the probability of the occurrence of another response. The first of these is a controlling response, the second is the controlled response (Skinner, 1953). According to Kanfer and Goldfoot, (1973) the paradigm above has two types of conflict situations:

1. Subject has available the means for terminating a noxious stimulus at any time but continuation of exposure to the noxious stimulus is also associated with reinforcement of high magnitude.

2. Subjects can make a response which leads to immediate reinforcement but the behaviour also has ultimate aversive consequences which tend to inhibit the occurrence of the instrumental response or to strengthen antagonistic response.

The researcher using this method holds series of discussion with the juvenile delinquents on Criminal laws and the consequence of breaking them. The researcher behaves as an expert law enforcing agent, disseminating

information to the juveniles. The juveniles are allowed to relate the past experiences that have brought them in confrontation with criminal laws and also to ask relevant questions. The researcher throws the questions back to the group and finally she rounds up discussions by giving the correct answers to questions asked.

1.8 DELIMITATIONS OF THE STUDY:

In an attempt to provide a clearer definition of the boundaries within which the experiment is confined and to which the findings are applied, the following delimitations of the study are hereby underlisted:

1) The study was limited to the juvenile delinquents in two Approved Schools in Lagos State (one for boys and the other for girls). It is therefore difficult to generalise findings to all approved schools in the country.

2) Juvenile delinquents that are not in government residential settings are excluded from the study.

1.9 SUMMARY:

This chapter is an introductory chapter and it has discussed the background of the problem, the statement of the problem, the purpose of the study, the rationale for the study, the research questions posed, operational definitions of concepts and the delimitations of the study,

The next chapter which is the Review of Related Literature has provided a more substantial basis for clear understanding of the value of this study and its relation-ship to other research studies.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

This chapter reviewed the related literature for the study. The purpose of the review was to see what studies had been done in the area of study, what the findings were and what else is left to be done, with a view of sharpening the researcher's knowledge about the study. The chapter is divided into five main sections. The first section subtitled "Theoretical Framework" deals with the relationship between the present study and learning theories. The second section which is sub-titled "Delinquency as a Social Problem", discusses the rate at which juveniles in Nigeria commit crimes. The third section sub-titled "Theories of Delinquency" deals with the relevant theories of delinquency namely:- The Biological theory; the Dynamic theory; the sociological theory and the Psychological theory. The fourth section sub-titled "Behaviour Modification" deals with behaviour modification techniques as effective therapeutic intervention techniques. This section discusses the self-control therapy and the Token economy therapy. It also discusses a critical review of relevant researches to date on the effectiveness of the two treatment techniques in assisting juvenile delinquents to attain adjustment. This includes the works of Cohen et al. (1966); Ayllon and Azrin, (1968); Dranman et al., (1973); and Goldfried and Merbaum, (1973). The fifth section sub-

titled "Self-concept and Its Relevance to Juvenile Delinquency" discusses the research findings on the relationship between self-concept and delinquency. The chapter ends with the summary of the whole chapter and eight hypotheses to be tested.

2.2 THEORETICAL FRAMEWORK

The present study is generally tilted towards learning theories. The stimulus-response theory of learning as propounded by Thorndike, (1913); Watson, (1924) and Pavlov, (1928) is very relevant to this research. The acceptance of individual differences in the etiology of delinquency makes it necessary that the stimulus-organism-response theory put forward by Hull, (1943); Woodworth, (1958) and Spence, (1959) is included as a basis for the study. Research studies carried out and reported by Bandura and Walters (1963), Patterson, (1969); and Ross, (1972) also showed that social learning theory is also very relevant to the present study because delinquent acts as revealed in most of the studies cited under the literature review have elements of imitation in their acquisition. The Token economy and the self-control therapies are the treatment techniques adopted for use in this study as they both relate to different theoretical aspects of learning. The self-control therapy is based on the effect of thinking in the acquisition and maintenance of behaviour, be it social or anti-social, while the Token economy emphasizes the connection between stimulus and response in the form of reinforcement and its manipulation in the process of un-learning anti-social behaviour or acquiring pro-social

behaviour.

The review of literature therefore touched on such studies as theories of delinquency, self-control, token economy, self-concept and its relevance to juvenile delinquency.

2.3 DELINQUENCY AS A SOCIAL PROBLEM

Every human society has its own norms of behaviour which are socially accepted ways of behaving in the society. Hence there are accepted ways of talking, eating, greeting, dancing, training the young people and so on. These norms of behaviour are closely interwoven into the societal ways of life. Norms of behaviour are therefore the accepted ways of doing things within a societal set up. In a situation where a person's behaviour contradicts the accepted or prescribed societal ways of doing things then such a person is looked upon as a law breaker, a deviant or a delinquent.

In the present day Nigeria, juvenile delinquents and adult law breakers abound. In fact as discussed in some recent Nigerian daily news papers and weekly magazines (Daily Times, 26th April and 25th May, 1988 and the African Guardian Magazine of September, 1988) there is an increase in the number of adult delinquents just as there is among juveniles. Otubanjo, (1988) while writing on "Criminals' Paradise", stated clearly that:

> "In Nigeria, crime has crossed the threshold of the endemic to that of the epidemic, particularly when one is thinking of burglary with violence. There is hardly any hour of the day in which one car or the other is not snatched by the daring hands of armed robbers in the country" p. 13.

Similarly it was reported in the Sunday Tribune of

29th May, 1988 that:

> "Crime is now common place in our
> society .... Robbery is no news;
> so are burglary, drug pedling, and
> prostitution...." p. 11.

In fact the increase in adult delinquency is a problem

for juveniles in that there are very few good models for

the young people to look up to. Nigeria is however not the

only country experiencing increase in the number of

delinquents especially juvenile delinquents. A good example

of the fact that juvenile delinquency is a world-wide

problem is seen in a recent publication on China. China

was said to be facing a dramatic increase in juvenile

delinquents with up to seven in ten criminals being minors.

In fact sixty to seventy percent of all criminal offences

were said to be committed by minors (Sunday Times, 1st May,

1988). Although the problem of increase in juvenile

delinquents is world wide, it should be considered a very

serious problem in Nigeria because of her stage of develop-

ment. The problem is so serious that many well-meaning

Nigerians have expressed their anxiety in the national daily

newspapers and popular Nigerian Magazines and even in the

radio and television (The African Guardian Magazine,

September 1988; Daily Times, November 2, 1988; and Vanguard,

November 2, 1988).

It is pertinent to note however that juvenile delinquency

is an age old problem that has been with us for years. To

combat it therefore there is the need to find a positive

and radical approach to solving the problem. There are

available reports of congestion in Nigerian prisons and courts of adult delinquents (Daily Times, April 26, 1988, May 10; and 25th 1988; and The Guardian, 13 June, 1988) and it is certainly true that unless something radical is done to stop the wave of increase in the number of juvenile delinquents, the nation may need to continue increasing the number of prisons to be built for the rehabilitation of the delinquents.

Juvenile delinquency is now on such a wide scale that it now constitutes a social problem. Raab and Selznic, (1966) gave a definition of social problems as primary problems in relation among people. Social problems are problems existing where prevailing relationship among people frustrates the important personal goals of a substantial number of people or where members of an organized society appear to be seriously threatened by inability to achieve orderly relationship among its members. It is in other words a problem of human relationship which seriously threatens society itself or disturbs the aspirations of many of its members. Juvenile delinquents are a problem to themselves and to other members of the society in that they will be unable to attain their own aspiration and at the same time they will be stumbling blocks on the ways of other people around them.

2.4   THEORIES OF DELINQUENCY

A major question that needs to be answered at this stage is: How do some children become delinquents while others under similar situation are not? In an attempt to answer this question, the various theories of delinquency

put forward in the literature were reviewed.

The literature on delinquency has provided some theoretical models namely, biological, dynamic, socio-logical, and behavioural models.

2.4.1 THE BIOLOGICAL THEORY OF DELINQUENCY

The biological or physiological explanation for delinquency believes strongly that criminality is essentially inborn (Lombroso, 1899; Davis, 1957; and Montagu, 1959).

Casare Lombroso (1899), an Italian army doctor, gave an early version of the biological theory of delinquency in his book titled "Crime, its Causes and Remedies". In this book Lombroso argued that criminals were throw backs to an earlier and more primitive form of man. Lombroso claimed to have identified a number of genetically determined characteristics which were often found in criminals. These according to him included large jaws, high cheek bones, large ears, extra nipples, toes and fingers and an insensitivity to pain. These were Lombroso's outward signs of an inborn criminal nature. Later researchers after Lombroso found no support for his picture of the criminal as a primitive biological freak.

Aichhorn (1935) in an attempt to find answer to the question posed to the parents of delinquent youths on why the youths in his study had taken to anti-social behaviours was often told by the parents that the anti-social behaviours of their children resulted from their children's association with bad company and running around on the streets. From this Aichhorn explained that the response was true to a certain extent as there were thousands of other children growing up under the same unfavourable

circumstances and who were still not delinquents. It therefore follows that there must be something in the child which the environment brings out in the form of delinquency. Proponents of the biological model of delinquency believe that the fact that not all juveniles turn delinquents means that there must be something peculiar in the personality of delinquents. Biological model of delinquency emphasized that there must be something in the make up of a person that makes him delinquent while others around him under the same condition are not.

Although Lombroso and Aichhorn's contributions date back to over five decades, there is still support in the literature for biological explanation of delinquency.

Davis, (1957) and Montagu (1959) explained that delinquency can be attributed to a form of genetic abnormality. According to them, delinquency is one of the results of a chromosonal abnormality associated with the XYY genetic structure which results into extraordinarily tall males who are very violent and of low intelligence. Other supporters of this view include McClement, Jacobs, Brunton, Melville, and Britain, (1965) who in their own findings claimed to have discovered an extra Y chromosome in the cells of male criminals who were unusually tall and violent and of low intelligence.

A British psychologist, Hans Eysenck, (1967) argued that there was a link between genetically based personality characteristics and deviant behaviour. He maintained that there was a connection between personality traits such as extroversion and criminal behaviour.

Glueck and Glueck, (1964) claimed to have found a causal relationship between physical build and delinquent activity. They argued that stocky rounded individuals with a body type known as mesomorph, tend to be more active and aggressive than those with other builds. Their research tended to show that delinquent behaviour is associated with mesomorphs.

Schwarz, (1979 and 1980) presented a strong argument which proposed that biological and family influences interact in the etiology of many childhood and adolescent disturbances, including juvenile delinquency. Schwarz outlined a model of personality development which was based upon the assumption that certain personality characteristics such as temperament were genetically influenced, and that patterns of family interaction either cooperate with genetic tendencies in children or fail to adjust to hereditary factors associated with the personalities of young children. Schwarz further explained that where parents do not accommodate their children's predispositions, the children may be exposed to maladaptive circumstances which could lead to various psychological disturbances. Schwarz recognized that heritable personality traits could be altered to a finite degree through environmental pressures such as parental disciplinary practices, but ultimately there needs to be a compromise between the child's biological predispositions and the rearing style of the child's parents.

Schwarz's model of psychopathology is compatible with the theory of criminal conduct put forth by Mednick and Christiansen, (1977). Mednick and Christiansen had shown that the physiological functioning of the autonomic nervous

system (ANS) in a significant number of criminals who had participated in their research, was different from the ANS functioning in non-criminals. According to data collected by Mednick and Christiansen, the ANS in criminals recovered more slowly from environmental stimulation as compared to non-criminals.

Mednick and Christiansen argued that the possible under-active ANS in criminals reduced their ability to alter their behaviour through punishment. They both assumed that slow ANS recovery to punishment led to delayed fear reduction. When such an individual inhibits previously punished behaviour, the experience of fear will decrease slowly as a result of slow ANS recovery to stimuli associated with punishment. At the same time, the experience of reinforcement due to fear reduction as a result of inhibiting previously punished behaviour will be small. Accordingly therefore Mednick and Christiansen argued that the individual will not experience enough reinforcement to inhibit unwanted behaviour. They predicted that such individuals would be more likely to engage in criminal behaviour as adolescents and adults when compared with those who have normal functioning nervous system.

However, some other theorists such as Eysenck, (1967) have tried to point out that no single factor of heredity or environment can be held responsible for delinquent behaviours but that the interactionist theory seemed to be more rational and true in the explanation of delinquent behaviour. This view point suggests that both heredity and environmental factors interact to produce delinquency. Earlier on, Lange, (1931) pointed out that delinquency or criminality is not inherited. Lange's finding revealed that heredity is not a

factor in criminality or delinquency. Much earlier writers on education such as Locke, (in Boyd, 1962) and Rousseau, (in Boyd, 1962) had portrayed the mind of the child as a blank or clean slate on which the society writes whatever the children become. This disagrees with the notion that delinquency is hereditary.

Modern supporters of genetic theories of deviance are more cautious than their predecessors. They do not suggest that an individual is a total prisoner of his genes. Instead they argue that genetically based characteristics predispose an individual to deviant behaviour. Thus Eysenck, (1966) argued that heredity is a very strong predisposing factor as far as committing crimes is concerned.

Both the genetic and the biological theorists have in recent studies been grouped as proponents of biosocial view point which assumed that genetic and physiological factors play a role in the etiology of delinquency. Investigators who align themselves with this school of thought often propose that a combination of biological predisposition toward delinquent behaviour and exposure to maladaptive reactions within and outside of the home which potentiate the biological tendencies for delinquency represent important mechanisms in the development of delinquent conduct.

2.4.2 THE DYNAMIC THEORY OF DELINQUENCY

Another group of theorists have put forward the dynamic theory in explaining the etiology of delinquency. This group of people believe that delinquency is a symptom of inner conflict or an underlying disorder. In other words they believe that delinquency is an outcome of the inter-

action of unsatisfied inner drives with the immediate
environment which provides alternative means of satisfying
such needs arising from inner drives. The dynamic theorists
see delinquency as a sort of symptom of an underlying conflict.
As a result of this, a delinquent person is regarded as a
product of the interaction of unsatisfied inner drives with
opportunities available in the culture to indulge in activities
which offer some satisfaction of such inner drives (Healy
and Bronner, 1936; and Lindner, 1944). Based on the finding
from their study of delinquents, Healy and Bronner, (1936)
pointed out that delinquents have psychological problems
resulting from their unhappy environments. Their finding
has been supported by many other researchers who had
documented that delinquent children have family background
characterised by broken homes with both or one of the parents
missing more through dissolution of marriage than death
(Rodman and Grams, 1967; Hammond, 1968; Nye, 1958 and 1974;
Berger and Simon, 1974; Datesman and Scarpatti, 1975 and Quay,
1975).

Poor parental relationship is another factor said to be
significantly related to juvenile delinquency. In fact studies
have shown that children tend to be more disturbed when
parents are lost through divorce than through death (Pemberton
and Benady, 1973; Lefkowitz, Evon, Walder and Huesman, 1977).
Harmony or discord in a home has often been cited as having
tremendous effect on children's emotional development. The
state of parents' marriage is a reflection of whether or not
there is harmony in the home. Homes in which parents are
divorced or separated have often been cited in literature as

usually not adequate enough for the emotional stability of children.

Research findings had shown that children feel very secure and grow up with the least difficulty when their parents have cordial relationship. Children brought up by one parent as pointed out in many research studies often face emotional problems especially in cases where female parents bring up male children (McCord and McCord, 1958; Andry, 1962).

Most of the research studies cited above on juvenile delinquency tend to show that juvenile delinquents are members of broken homes.

Parental rejection is another factor often cited by dynamic theorists as giving rise to juvenile delinquency. Ayeni, (1978) showed that parental rejection implies circumstances in which it is glearing to the children as well as to people around them that parents have withdrawn their affection and approval from the children. In fact parental rejection involves situations where parents deny children their normal rights such as the provision of basic needs, identifying with the children and denial of parental love and affection to the children. The problem gets more serious if it happens that the father is the parent rejecting the child.

Ausubel and Sulivan, (1970) proposed that children who are rejected or over protected by their parents, and who are given qualified acceptance which is based upon their ability to carry out the wishes of their parents, were likely to be susceptible to reacting in a delinquent manner if exposed to negative social influences outside of the home and compared

with children who are given unconditional acceptance by their parents. Ausubel predicted that a rejected child, whom he referred to as non-satellized, is motivated to obtain social status at any cost outside of the home due to his or her low prestige in the family. That kind of child according to Ausubel will be highly receptive to delinquent influences which often raise the status of youngsters, at least on a short-term basis, through gang activities and criminal acts.

Ausubel found from his research study that parental rejection is part of the cause of anti-social behaviour in lower-class youngsters where it is more probable that status - raising events away from the family will be of a delinquent nature as compared with status-raising events among middle-class adolescents.

Poole and Regoli, (1979) from the investigation that they conducted gave support to Ausubel's theory by reanalyzing data originally collected by Hepburn, (1976). Hepburn through random sampling method selected one hundred and thirty nine males aged 14 to 17, from a midwestern city in the United States of America and asked each subject along with his best friend, to fill out several questionnaires pertaining to their delinquent activities and their attitudes towards their parents. Poole and Regoli found evidence which showed that adolescents who reported that their parents gave them little support were more susceptible to becoming involved in delinquent acts through the influence of delinquent associates as compared with those in the sample who reported that their parents were more supportive of their needs. These investigators believed that adolescents who experience support at home do not want to

jeopardize their status within their families by getting into trouble with delinquent associates. Therefore, youngsters who are strongly attached to their parents are compelled to stay away from deviant peers. Conversely, when adolescents enjoy little prestige at home they are motivated to find personal recognition elsewhere and are less concerned about the consequences of their conduct on their parents. This latter group of teenagers are more likely to participate in anti-social acts through the influence of delinquent companions (Anolik, 1983).

Bandura and Walters, (1959) in a study that they conducted involving twenty six aggressive delinquents found that these delinquents were rejected by their fathers who were also found to be using physically punitive methods of discipline and as such they were modelling aggressive behaviour and adding to the hostility which the boys already had for them. As a result of this, the youths ended up as delinquents who were inadequately socialized.

In support of the view expressed by the dynamic theorists, Alexander, (1930) in his theory of the neurotic character found that delinquent or criminal act **represents** acting one's internal and unconscious conflicts, thereby balancing one's needs with the demands of the ego and super ego. Similarly Bowlby, (1950) pointed out that stealing in many instances is a means by which the deprived child tries to find an alternative for parental love. In the same way, Durojaiye, (1972) found out from his study that some children steal to fulfil deep seated emotional needs.

The incidence of psychopathic traits among parents of delinquents is another factor often cited by dynamic theorists as giving rise to juvenile delinquency. Many research studies on delinquency have pointed out that most parents of juvenile delinquents are psychopaths and as such they are unable to be exemplary to their children (Glueck and Glueck, 1950; and Bandura, 1969). All the deviant acts engaged in by these psychotic parents make them to be inadequate and unacceptable models for their children's emulation.

Some of the traits found to be common among these psychotic parents include prostitution, brutality, alcoholism, drug addiction, frequent and unnecessary absconding from their homes, inadequately providing the basic needs for the members of their families and a host of many other anti-social behaviours.

Dynamic theorists as illustrated by the research findings discussed above have attempted to explain the etiology of juvenile delinquency in terms of an attempt to gain recognition and status, or escape from an unpleasant situation.

2.4.3 THE SOCIOLOGICAL THEORY OF DELINQUENCY

Some Sociologists tend to dismiss biological theory of deviance, arguing that any association between physical and personality characteristics and deviant behaviour can be explained in other ways. Taylor, Walton and Young, (1973) provided an alternative explanation for the link between mesomorphism and delinquency. They argued that it may well be that lower working class children, who are more likely to be found in the criminal statistics, are also by virtue

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of diet, continual manual labour, physical fitness and strength, more likely to be mesomorphic. In the same manner, they provided an alternative explanation for Eysenck's association of extrovert personality traits with criminal behaviour.

The approach to delinquency that placed great emphasis on the influence of peers and society on delinquent behaviour of young people is illustrated by the works of Shaw and McKay, (1942); Trasler (1962); Shaw and Moore, (1969); Ausubel and Sullivan, (1970); McKissack, (1975) and Hepburn, (1976).

Some Sociological theorists believe that values are learned rather than being genetically determined. These theorists include Thomas and Zraniecki, (1927); Karp, (1932); Shaw and McKay, (1942); Matza and Sykes, (1961); Trasler (1962); Shaw and Moore, (1969).

Thomas and Zraniecki, (1927) defined man generally as a subjective aspect of his culture and a cultural type. Similarly Karp, (1932) in an attempt to explain human behaviour discarded the explanation based upon instincts and innate characteristics.
Rather he explained human behaviour in terms of learning and acculturation.

Cohen, (1956) in his "subcultural" theory argued that delinquency is a learned behaviour generated in, and representative of a particular kind of culture. In addition to this, Cohen further explained that "the gang is a separate, distinct and often irresistible focus of attraction, loyalty and solidarity" (Cohen, 1956; p. 31).

Cohen and Short, (1958) showed that delinquent behaviour can be learned from cultures which are non utilitarian, negativistic, versatile, hedonistic, and group autonomous with people geared towards the satisfaction of short term needs.

Glueck and Glueck, (1950) in their own analysis pointed out that the most important consideration in knowing whether a child would become delinquent or not is whether or not the child shows much dependence on or fear authority. Where the child fears so much and depends very much on the authority the child is more likely to become delinquent.

Sutherland and Cressey, (1960) in replying to a question on why some people are delinquent even where there are not existing delinquents pointed out that a person accepts criminality because his contracts and definition favouring violating the law exceed his definition and contracts favouring conforming to the law.

Shaw and Moore, (1969) explained criminality as a product of a deviant sub-culture within the urban community. Still in support of the view put forward by sociologists on the etiology of delinquency that values are learned rather than being genetically determined, Merton, (1968) argued that deviance results not from "pathological personalities" but from the culture and structure of society itself.

Cohen's (1975) work was a modification and development of Merton's position. He made two major criticisms of Merton's view of working-class deviance. He began from the standard functionalist position of value consensus, that is, all members of society share the same values. However, since members of society are _ placed in different positions in the social structure, for example they differ in terms of class position,

they do not have the same opportunity of realizing the shared values. This situation according to Merton can generate deviance. According to Merton the social and cultural structure generates pressure for socially deviant behaviour upon people variously located in that structure.

2.4.4 THE PSYCHOLOGICAL THEORY OF DELINQUENCY:

The psychological theory of delinquency shares certain similarities with the biological theories. In the first place, supporters of the psychological theory of delinquency see the delinquent as different from the population as a whole. In the second place, they see the delinquent as abnormal in a normal population and in the third place they believe that the delinquent's abnormality predisposes him to delinquency.

However psychological theory of delinquency differs from the biological theory in the sense that the supporters believe that deviant abnormality is learned rather than genetically determined. They see abnormal experience rather than abnormal genes as the basis for delinquency. This experience according to them produces "character defects" and "maladjusted personalities" which in turn produce deviance. Proponents of the psychological approach often argue that something has gone wrong in the mother-child relationship. This "defective socialization" involves emotional disturbance which leads to the formation of maladjusted personality traits.

There are however some point of agreement in the psychological and the sociological explanations. The psychological explanation of delinquency is rooted on the socialization process which according to Eysenck, (1957);

Mowrer, (1960) and Trasler, (1962) basically involves training of children to accept certain rules of behaviour, that have been laid down by society for the purpose of societal preservation.

The psychological theorists are of the view that human behaviours including delinquent behaviours are a reflection of the type and extent of socialization, to which people who commit them have been exposed. Thus much attention is paid to socialization as a factor in delinquency. Through socialization, young children are put through the societal acceptable way of behaviour. Similarly children are made to become aware of those behaviours that should not be displayed. Thus many studies including that of Eysenck, (1960) and Trasler, (1962) have shown that the society ensures that children are brought up in such a way that they exhibit those behaviours acceptable to the society and inhibit those that the society disapproves of.

Both sociological and psychological theorists generally ignore biological factors in the etiology of delinquency and focus rather upon maladaptive styles of family relations. They have been grouped together as presenting psychosocial view point on etiology of delinquency. Investigations in this area of research propose that stressful family relations produce children who are susceptible to the influences of negative forces in the society, which in turn can lead to delinquent behaviour.

The psychosocial view point of delinquency focuses upon two important variables in the development of anti-social behaviour. These are: inadequate socialization in the family,

and environmental conditions outside of the home which re-
inforce delinquent behaviour. McKissack, (1975) pointed out
that the general consensus among investigators in this area of
research is that children who become juvenile offenders are
exposed to socialization routines which are characterized by
weak parent-child attachment and which fail to instil in
children concern about the consequences of their behaviour on
others. McKissack proposed that those children would probably
reject their parents as figures to identify with and are more
likely to exhibit impulsive behaviour with little or no
capacity to learn from the consequences of their conduct.

Many researchers on delinquency who **align** themselves with
the psychosocial view-point believe that certain early
experiences in the family may predispose a child to develop
delinquent patterns of conduct if the child is exposed to
delinquent producing forces in society, such as the influence
of anti-social peers (Ausubel and Sullivan, 1970; Berzonsky,
1978).

Both the biosocial and psychosocial approaches to
delinquency have notable deficiencies. The biosocial view
point fails to incorporate into its assumptions the probability
that some juvenile offenders do not have a dysfunctional
nervous system and turn toward deviant behaviour as a result
of interactions with the environment. On the other hand the
psychosocial view-point does not adequately consider the
possibility that biological abnormalities in children may
trigger maladaptive relations in the family which may lead
youngsters into anti-social conduct.

Although none of the schools of thought is free of pitfalls, the idea that delinquency is a learned behaviour suggests that delinquent acts can be unlearnt in the same way that they have been learnt. This is very crucial to this study. Yule, (1970); Miller et al, (1971); Achenbach, (1974); and Herbert, (1974) have all shown in their various studies that abnormal behaviour in children and adolescents does not differ from normal behaviour in its development, its persistence, and the way it can be modified. That what the young adolescent does, in other words, can be perceived as the result of a complex transaction between the individual, his in-born strengths and weaknesses and his acting and re-acting within the environment, factors which sometimes encourage and sometimes discourage the development of trouble-some behaviour.

There was therefore the identification of the anti-social behaviours among the juvenile delinquents in the present study so as to find ways of reducing the frequency of emission of the anti-social or delinquent behaviours and maintain the pro-social ones. For this purpose two treatment techniques in form of Token Economy and Self-Control have been adapted for use in this study. These two techniques are some of the treatment techniques under Behaviour Modification strategies.

2.5. BEHAVIOUR MODIFICATION

Behaviour modification as an effective therapeutic intervention programme has emerged in recent times as one of the most exciting and promising in the behavioural sciences

(Akinboye, 1979). It is universally utilized in education, medicine, sociology, politics, counselling, psychology, psychiatry and social work programmes.

Systematic behaviour modification began in the late nineteenth century with Watson (1878-1958) formulating the concept of methodological behaviourism. Since then a lot of developments have taken place and within the last twenty five years a clear-cut methodology, psychological theory and clinical activities have been evolved by researchers including Skinner, (1953); Wolpe, (1958); Eysenck, (1960); Wolpe and Lanzarus, (1966); Bandura, (1969); Kanfer and Phillips (1970); Andrews and Karlins, (1971); Kanfer and Goldstein, (1975); Craighead, Kazdin and Mahoney, (1976).
Historically, behaviour modification has been conceived as any strategy that leads to behaviour change. This view has been challenged by Lazarus, (1971b). This initial attempt has been followed by many definitions that ranged from its simple conceptualization in learning principles as put forward by Skinner, (1953 and 1971); Wolpe, (1958); Ullman and Krasner, (1961) to the broad-based principles by Bandura, (1969); Kanfer and Phillips, (1970) and Lazarus, (1971a).

One such definition was that by Andrews and Karlins, (1971) who defined Behaviour modification as: "a scientific procedure for systematically changing behaviour through the use of rewards or punishment or both ..." (p.13).

Skinner, (1960) puts it more simply in Walden Two thus:

> "When he behaves as we want him to behave we simply create a situation he likes, or remove one he doesn't like. As a result, the probability that he will behave that way again goes up, which is what we want". (p.259)

This power of reinforcement to modify human behaviour
is one of the most pervasive and documented findings in modern
psychology; and behaviour modification is seen as the first
truly effective system to harness its power in regulating man's
actions (Andrews and Karlins, 1971). Other principles apart
from positive reinforcement are also involved in behaviour
modification technique.

Krumboltz and Krumboltz, (1972) summarized thirteen
principles under five headings - to strengthen existing
behaviour, to develop new behaviour, to maintain new behaviour,
to stop inappropriate behaviour, to modify emotional responses,
This organisation according to Stanton, (1975) provides a
convenient overview of behaviour modification, including the
principles of positive reinforcement, modelling, self-control,
extinction, and negative reinforcement.

Much of the literature on behaviour modification concerns
skill learning (for example Sherman, 1973), but Proteet,
(1973) wpuld see the technique as more valuable in the service
of humanistic goals:

> "There are those who would argue that the attainment
> of skills is a minor goal for education. More
> important is understanding self and having a
> sensitivity to others so that better interpersonal
> relations can develop. For some children these
> things must be learned. If a ''. behaviour such as
> "having a sensitivity" can be defined, then it can
> be taught with the principles of behaviour
> modification (pp. 84-85)".

All through literature systematic attempt has been made
at defining behaviour modification. The general conclusion
that tends to emerge from the recent research studies by
Kanfer and Phillips, (1970); Lazarus, (1971a); Wolpe and
Lazarus, (1966); Agras, (1973) is that behaviour modification

is a product of content and methodology. The main attribute
of behaviour modification according to Kanfer and Phillips,
(1970) is its emphasis on methodology and analysis of
functional ... relationships in the S O R models.

Akinboye, (1979) gave a step-by-step-how to-do-it
template (blue-print) for executing a therapeutic programme:

Step 1   Observation of broad problem areas which may include
         client and therapist descriptions of the broad
         problem categories.

Step 2   Problem targetting and contracting between client
         and therapist.

Step 3   Commitment of the client to cooperate with the
         therapist to bring about possible behaviour
         modification.

Step 4   Specification of the problem areas, Samples of
         behavioural components of the designated problem
         areas and possible alternatives are indicated.

Step 5   A plan for collecting baseline data of focal behaviour.

Step 6   Identification of probable controlling conditions

Step 7   Assessment of environmental and behavioural resources
         with particular emphasis on the potential mediators
         such as friend, family members, potential aversive
         conditions.

Step 8   Specification of behavioural objectives, involving
         the elaboration of the terminal behavioural
         repertoires, desired with those successive approxima-
         tions necessary to reach the terminal behaviour.

Step 9   Formulation of a behaviour modification plan.

Step 10   Execution of the modification plan

Step 11   Monitoring of the out-come of the modification plan.

Step 12   Formulation of a maintenance plan

Step 13   Execution of the maintenance plan

Step 14   Monitoring of the out-comes of the maintenance
plan.

Step 15   Follow-up at some future designated time.

All the studies referred to so far in this chapter
have been carried out outside Nigeria. In Nigeria, there
is the dearth of studies where behaviour modification
techniques have been used. This view was expressed almost
a decade ago by Akinboye, (1979) and the situation has
since not changed.

Token economy and the self-control Therapies were the
two treatment techniques used in the present study.
Although there was an abundant literature on Token economy
and its efficacy in improving the adjustment of juveniles
with behaviour problems, there was very scanty literature
on the self-control Therapy and its application to
juveniles with behaviour disorders.

2.5.1 THE SELF-CONTROL THERAPY

Self-control according to Kanfer and Goldstein, (1975)
may be regarded as a special case of self management
framework which rests on the following rationale:

(1)   Many behaviours are not easily accessible for
modification by any one but the client.

(2)   Problematic behaviours are often associated
closely with self-reactions and with such
cognitive activities as thinking, fantasizing,

imagining, or planning. These behaviours are
essentially inaccessible to direct **observation**

(3) Changing behaviour is difficult and often unpleasant.

(4) The utility of a change programme lies not only
in removing situation - specific problems or
particular symptoms. What is learned in therapy
should include a set of generalizable skills such as
coping responses, assessing situations and behaviour
outcomes and developing rules of conduct for common
problem situations, which aid the client to avoid
or handle future problems more effectively than in
the past (Kanfer and Goldstein, 1975).

The framework from which many of the techniques used in
self-management approach has been derived essentially attempts
to combine a Skinnerian approach with research findings from
social psychology, cognitive psychology and current clinical
practices. The framework views self-regulatory behaviours as
originating in the person's earlier learning experiences.
It is assumed that the social and physical environment
ultimately must support self-regulation to maintain its
effectiveness.

Within the past two and a half decades, there has been
a growing interest in self-control processes in which
individuals regulate their own behaviour by arranging appro-
priate contingencies for themselves. These self-directed
endeavours comprise a variety of strategies, some of which
were originally proposed by Ferster, Numberger and Levitt
(1962).

Many attempts have been made at defining the term
"Self-control" in the literature.

One such definition was given by Kanfer, (1975) that self-control is a term used to describe a person's actions in a specific situation. According to Kanfer, (1975) the definition above required:

1) that the behaviour in question is one that has relatively equal and positive aversive consequences;

2) that prior to the occurrence of the behaviour, . i.e. earlier in the chain leading up to it, a controlling response is introduced that alters the probability of the response to be controlled and

3) that although the individual may have been trained in self-control techniques by others, at the time that he performs the controlling response it is initiated by self-generated cues and is not under the direct control of the social or physical environment.

Thus according to Kanfer, (1971), Thoresen and Mahoney, (1974), when a person exercises self-control it means that in the absence of immediate external constraint or urging, he engages in the behaviour (the controlling response) that originally had a lower probability than that of a more tempting behaviour (the controlled response), in such a way that the controlled response is less likely to occur. This does not mean that self-control is seen as a behaviour that unfolds in individual development independent of environmental influences. On the contrary, its history is related to the person's earlier training and its success is related to the ultimate consequences supplied by the social environment.

The concept of self-control implies that an individual can be taught to re-arrange powerful contingencies that influence behaviour in such a way that he experiences long range benefits, even though he may have to give up some satisfaction or tolerate some discomforts at first.

Self-control is a treatment method that is based on a number of theories that explain its various components. These components include:

i) conditions necessary for the use of self-control in psycho-therapy;

ii) processes by which subjects acquire self-control skills;

iii) therapeutic components in self-control programmes (Kanfer and Goldstein, 1975).

Skill learning has been found to be very vital in any attempt to modify a person's behaviour (Sherman, 1973). In acquiring the skills necessary to re-arrange powerful contingencies which influence a person's behaviour, the person has to undergo certain theoretical processes.

Self-control involves self-study by the individual himself. Self-study is a process of solving emotional problems and in addition it involves high mental processes. These high mental processes include responses which are mediated by symbolic internal activities involving the use of language, thinking, reason, foresight, insight and logic as discussed by Miller and Dollard, (1971); Dollard and Miller, (1950); and Miller, (1951). Bandura (1969) in his reciprocal-interaction model of self-control has developed this view.

The main goal of self-control is performance change which can be obtained through a combination of mediational and non-mediational behaviour.

An important step in self-control is stimulus control (Guthrie, 1935). Guthrie in his study has considered the breaking of old habits by learning new responses to the same situation which previously elicited the old habits. Self-control involves mental processes. Psycho-analysts such as Goldfried and Merbaum, (1973) have recognised the ego as the clearest internal representative of reality and the co-ordinator of mental processes. Self-control has been analysed by Skinner, (1953) as an extension of general principles of operant behaviour. Three stages of self-control have been identified by Kanfer et al, (1979, 1975). These are:

    i)   Self-monitoring or self-observation stage which involves a deliberate or careful attendance to one's own behaviours;

    ii) Self-evaluation stage which consists of a comparison between the information obtained from self-monitoring and the criteria for the given behaviour and thus a matching which reveals the discrepancy between what one is doing and what one should be doing;

  iii) Self-reinforcement stage which is motivational as it consists of the administration of self-reinforcement contingent upon the degree to which the behaviour diverges from the performance standard.

Kanfer, (1975) pointed out that self-control programme consisted of the following elements aimed at making subjects self reliant:

i)   self-monitoring;

ii) establishment of specific rules of conduct by contracts with one self;

iii) seeking support from the environment for fulfilment;

iv) self-evaluation;

v)   generating strong reinforcing consequences for engaging in behaviours which achieve the goals of self-control.

In applying these five elements to the treatment of young offenders in corrective institutions, there is the need to incorporate the past, present and the expected future adjustment of the young offenders into the elements. This will ensure a meaningful result.

From the research studies of Leitenberg et al,(1960); Lazarus et al; (1962); Anant, (1967); Cautela, (1967); Davison, (1968a and 1968b); Ashem and Donner, (1968); and Bergin, (1969), there was little dispute over the importance of a person's thinking or problem-solving process in influencing his behaviour.

Cognitive restructuring is very vital in self-control. Kelly, (1955) and subsequently Ellis, (1962) and Beck, (1963) developed techniques enabling therapists to analyse an individual's internal cognitive contructs which laid the foundations for cognitive therapy for emotional disorders. Changes in behaviour therapy, with a shift of interest by

behaviourists towards covert cognitive processes (Mahoney, 1974), have fueled rapid advance in popularity and application of cognitive therapy. Inherent in cognitive approach is the notion that individuals are not passive recipients of stimuli but active interpreters of their world according to their own sets of values, beliefs, expectations and attitudes. These interpretations colour the view they have of themselves in their world. This view significantly influences mood and behaviour. To understand "the view" a person takes of events, the therapist according to Mahoney needs to explore the idiosyncratic styles of appraisal and interpretation which may predispose him to maladaptive emotions and behaviour. Hence, cognition influences the individual's physiological response to situation and his behaviour and emotions within that situation. The principles behind self-control rests on uncovering and changing those aspects which influence cognitive inter-pretation in maladaptive ways. Beck, (1976) has introduced the idea that people continually evaluate themselves in relation to their performances and to other people's opinion of them. This stream of inferences Beck has called automatic thought. Negative evaluation of these automatic thoughts will give rise to negative emotions.

Automatic thoughts often occur as habitual responses to specific events and arise from underlying predispositions to construct the world in negative ways when presented with ambiguous cues. These underlying "predispositions" are often called cognitive constructs or base schema. Beck argued that these schema lie at the core of an individual's

personality. They determine his behaviour and the way: he responds to people and how he interprets others' response to him.

The self-control treatment programme in this study therefore focused on the thought processes of the ., wards before and during the commission of crimes; the rationale behind such thoughts; their feelings; their motives and ways of altering the probability of occurrence of the crimes in future in favour of pro-social behaviours.

The following roles have been identified by Kanfer, (1975) for the therapist to play in a self-control programme:

i) motivation - helping subjects to establish favourable conditions for carrying out a self-control programme and providing initial reinforcement to alter the balance in favour of changing the undesirable behaviour;

ii) training - helping subjects to acquire specific behaviour change techniques which will ease the process of change;

iii) support and maintenance - reinforcing the subject's efforts and success in carrying out a self-control programme.

There are very few empirical studies that have focused on self-control as a therapeutic method of treating anti-social behaviours among juvenile delinquents. Some of the studies deal with the internal processes that form the basis of self-control while the others are related to the evaluation of the operational elements of self-control.

Parnes, (1967) showed in his book on creative
behaviour that creative thinking is a product of self-
control that can be fostered by formal training. He found
that creative problem solving training produced a significant
increment in the ability to generate more and better ideas
among his subjects who were offering a course in psychology.

In another study, a relationship between motivation
and self-control was postulated by Orne, (1959). Orne
found that hypnosis resulted in an increase in subjects'
motivation to comply with experimenter's request instead
of increase the capacity to comply.

Dranman et al, (1973) in their report on the teaching
of self-control to a group of disruptive children claimed
that the self-control therapy was very effective in
improving the children's adjustment problems.

Similarly, Thoresen and Mahoney, (1974) reported on
the efficacy of the self-control therapy on their clients
with behaviour disorder.

Reports similar to Thoresen and Mahoney's were made
by Cautela, (1967); Anant, (1967 and 1968); Davison, (1968
(a) and (b)); Ashem and Donner, (1968); Barlow, Leitenberg
and Agras, (1969) in their treatment of clients with
problematic behaviours.

So far all the studies referred to above dealt with
the internal processes that formed the basis of self-control.
The rest of the studies to be discussed are related to
the evaluation of the operational constituents of self-
control.

Bandura and Whalen, (1966) in testing the hypothesis that patterns of self-reinforcement are acquired imitatively found that children's patterns and magnitude of self-reinforcement closely matched those of the model they have been exposed to. In addition to this, they also found that adults served as more powerful models than peers in the transmission of self-reinforcing responses. Self monitored and externally applied reinforcement were found to be equally effective in the maintenance of behaviour.

Bandura and Perloff, (1967) in their discussion on the relative efficacy of self-monitored and externally imposed reinforcement systems found that self-reinforcing operations showed the two characteristic properties of reinforcing stimuli - they altered the probability of occurrence of the response that precedes them, and they motivated new learning. This view was shared by Kanfer and Duerfeldt, (1967).

In modifying bad behaviours, Tooley and Praet, (1967) and Ferster, Nurberger and Levitt, (1962) claimed that clients agreed to restrict increasingly, in graduated steps, the times and places in which they will engage in the undesired behaviour. Under conditions where individuals voluntarily commit themselves to given courses of action, subsequent tendencies to deviate are likely to be counter-acted by negative self-evaluation. Through this mechanism, and anticipated social reactions of others, contractual commitments reinforce adherence to corrective practices.

The only reported study on application of self-control therapy to behavioural problem using Nigerian sample that is known to this researcher is that carried out by Akinranti,

(1984) in his study of some prison inmates in Ibadan. The
result showed that the self-control Therapy was very
effective in the treatment of anti-social behaviours of the
prisoners.

2.5.2   TOKEN ECONOMY THERAPY:

Token economy or rather the use of reinforcement in
the form of reward was first introduced by Ayllon and Azrin
in 1968.

Token economy is a technique that can be incorporated
into the culture and the life of all people who live in
residential setting (Brown, 1979). It has been used in the
literature either singly or in combination with some other
methods in the treatment of juvenile delinquents. The
result of the mix-up is that it is difficult to pin-point
the exact contribution of contingent attention to changes in
delinquent behaviour. Examples abound in the literature of
the efficacy of token economy adopted either singly or in
combination in the treatment of delinquents and pre-
delinquents.

Schwitzgebel and Kolb, (1964) in treating a group of
unclubbable type of hardcore delinquents, set up a laboratory
in an old shop in a delinquency area and delinquent boys
were invited to serve as subjects. Whenever a boy put in an
appearance this was at once reinforced with food, sweets and
cigarettes - and immediately after talking into a tape
recorder he was paid in cash. Next was the opportunity for
him to participate in other reinforcing activities such as
learning to drive, building electronic equipment and listening
to music.

Improvement in attendance resulted in giving of unexpected bonuses. Both researchers reported that within fifteen to thirty meetings attendance usually became regular and punctual; the boys' anti-work attitude changed, and their delinquent and gang activities decreased. Greater improvement was reported three years after the study ended for the first twenty boys.

One other example of the efficacy of token economy is that of a project conducted at camp Butler in North Carolina and reported by Burchard, (1967). The subjects were anti-social delinquents, aged ten to twenty years, with intelligence quotients in the fifty to seventy range. Among the behaviours reinforced were maintaining a job, staying in school, budgeting money, buying and caring for clothes, buying food and meals, and cooperating with peers and adults. To reduce stealing, the tokens were stamped with resident's number and they were exchangeable for a range of articles in a shop, recreational activities and bus tickets for visits to town or home. In addition to this positive reinforcement, the programme included a response cost component. For mild offences, a resident was charged four tokens and required to sit in a row of chairs for a few minutes until his behaviour became appropriate. For more serious offences, a charge of fifteen tokens was made and the resident was secluded in an empty room until he was quiet for thirty minutes. If he went to the room and stayed there in an orderly manner for the minimum period possible, then he was rewarded with five tokens at the end of that time. Failure to repay all tokens owed by the end of each day resulted in the loss of a

"behaviour credit", and carried the penalty of having to pay more tokens for the back up reinforcers. In contrast, possession of the maximum possible number of behaviour credits entitled the resident to free access to the yard, and to the facilities of purchasing a trip to town for ninety tokens or recreation time with female residents at fifteen tokens an hour.

Cohen and his co-workers (Cohen et al., 1966 and 1968) used token economy principles in the National Training School for Boys, an institution for young prisoners in Washington, D.C. In an attempt to promote the skills necessary to achieve status and possessions by legitimate rather than deviant means, the project was aimed at improving educational performance and attitudes. All the boys in the project were school drop-outs and had little interest in academic matters. In the project, when a boy studied satisfactorily and completed a course of programmed instruction with a score of ninety per cent, he could take a test which could earn him token reinforcement in the form of points. These were exchangeable for a range of back up reinforcers including a choice of meals, a private room, entry to recreational activities, in a lounge with his friends, registration for new course of instruction, library time or the loan of books. The results of the project showed that the boys studied conscientiously and gained two grade levels on standard achievement tests over a period of eight months. There were also accompanying favourable changes in problems of discipline and destructiveness, although no direct attempt was made to modify those in the project.

Burchard, (1967) using the time out and token procedures in reducing the severity and frequency of unacceptable behaviour among delinquents found some improvement in the anti-social behaviour of the retarded delinquents.

Brown and Tyler, (1968) used the token economy programme with two groups of juvenile delinquents. While members of one group received tokens contingent upon their quiz scores, the members of the other group received tokens independently of their performance. At the end of the programme, results showed that performance in the quiz was greater during contingent reinforcement for both groups.

Another example of the application of token economy principles was the report given by Phillips, (1968) of a project he conducted for pre-delinquent boys. The boys came from poor families, had histories of truancy and academic failure, and had been committed to the home by the court after minor offences in an atempt to prevent them from progressing to more serious crimes. The subjects in the project were three boys aged twelve, thirteen and fourteen years respectively. Tokens were earned for specified self-care, social and educational behaviour, while specified contrary behaviour incurred token fines. At the end of each week the tokens could be exchanged for rewards and privileges in the following week, including pocket money, access to a bicycle, television and other recreational facilities, and permission to go to town. Fine and twenty tokens were imposed on the boys for transgressions. The result of the study showed that correction reduced the verbal aggression of only one of the boys, while fining reduced it in all the

three boys.

Miechenbaum et al, (1968) in an attempt to improve the behaviours of institutionalized female delinquents used a token reinforcement programme. At the end of the study, results showed that the respondents had improved on their anti-social behaviours and had also gained two grade levels on standard achievement tests.

Levinson (1970) used the token economy to improve the behaviour of students in an institution for young offenders. The study involved three hundred students. Students earned points for good behaviour, productive school work and for performing chores. The points earned were convertable to money which could be spent in buying goods or could be exchanged for privileges. Nine months after the commencement of the programme, students were assessed and it was found that they had made great gains and that disruptive behaviours were eliminated.

Atkinson et al, (1974) using institutionalized adolescents in an hospital ward, carried out two experiments. The first experiment looked into the effects of verbal demands and contingent points on room maintenance behaviour. The result of the two experiments showed that contingent points produced substantial effects on both types of behaviour.

Eitzen, (1975) in a study on the effects of token economy on the attitudes of delinquents, found that delinquent boys tended to dramatically improve in self-esteem and from externality to internality.

Brown, (1979) applied token economy to the treatment of delinquent boys in a residential setting - the Gilbey House. The Gilbey House was a 15-bedded unit in a community home school for boys. The boys were able to earn tokens by achieving personalized behavioural targets. Tokens were then exchanged for a wide range of back up reinforcers, such as extra home leave, sweets, toys, cigarettes, games, puzzles, modelling kits and baseline analysis of the repertoire of skills, exhibited by the boys before coming to Gilbey. This initial range of targets, usually six in number, was designed to be sufficiently easy for the boy to earn tokens at a fairly high rate during the first few days. After getting used to earning tokens, the individual targets were raised and subsequently reviewed at four week intervals. Typical targets included educational attainment, social skills, personal hygiene, and basic maintenance skills, co-operative game playing, vocational skills, personal problems, such as specific phobias or habit disorders, physical co-ordination and self-control of temper and impulsivity.

The result of the above study showed that there was a reduction in the amount of crimes committed by the boys.

Saigh and Khan, (1982) implemented a token economy in a Pakistani second grade classroom to test the external validity of the token reinforcement model in a non- Western setting. The incidence of disruptive behaviour was charted across three treatment phases (Baseline, Token Reinforcement and Removal of Contingencies). The results revealed that the Token Reinforcement phase was effective in reducing the

Baseline rates of disruption, and a degree of support for the view that behavioural precepts function universally was reached.

A host of other empirical studies including that of Wolf, Riley and Mees, (1965); Lazarus et al. (1965); Tyler, (1967); Whitlock and Bushell, (1967); Benowitz and Busse, (1970 and 1976); Homme and Tosti, (1971); Dranman et al, (1973); Saigh and Payne, (1979) testify to the effectiveness of the token reinforcement in changing delinquent behaviours.

Lastly, Akinranti (1984) in his study of the effect of token reinforcement strategies on some socially undesirable behaviour of seventy two Nigerian prison inmates reported that the token reinforcement strategy was effective in treating prison inmates.

The last study (Akinranti, 1984) is the only study known to the present researcher where token reinforcement has been used on Nigerian juvenile delinquents. The present study therefore contributes in no small way to the knowledge of Nigerians in this area of research.

Both the token economy and self control therapy were applied to the juvenile delinquents in this study to find out their effect on their self-concept and overall adjustment.

2.6   Self-Concept and Its Relevance To Juvenile Delinquency:

Precisely, the self-concept held by a person has a vital effect upon the way he perceives personal existence. Rogers, (1951) for example discovered that self-concept was characterized with abilities, the percepts and concepts of the self in relation to the environment.

then to inferences about self in academic and non-academic areas, and then to inferences about self in general.

(d) General self-concept is stable, but as one descends the hierarchy, self-concept becomes increasingly situation specific and as a consequence less stable.

(e) Self-concept becomes increasingly multifaceted as the individual develops from infancy to adulthood.

(f) It has both a descriptive and an evaluative dimensions such that individuals may describe themselves (I am happy) and evaluate themselves (for example, I do well in school).

(g) It can be differentiated from other constructs such as academic achievement.

Self-concept researchers such as Mead, (1934); Rosenberg, (1973); Shavelson, Habner, and Stanton, (1976); Brookover and Passalacqua, (1981); Marsh et al, (1982, 1983a, b, c, d and 1984) emphasized the importance of the reference group - a group to which a person belonged or aspired - in understanding self-concept. Hence Mead, (1934) for example emphasized that the individual's self-concept was a derivation of the reflected appraisals of others.

Symbolic interactionists proposed the self-concept as a looking-glass reflection of how we think the significant people in our lives see us. Alternatively, standards established by a reference group may serve as a basis against which to judge one's own behaviour.

Self-concept as a fundamental construct cannot be overlooked in an attempt to have a better understanding of a person and his or her behaviour. It is that part of a person that affects every aspect of his or her experiences. Self-concept is closely related to the three components of self-behavioural, cognitive, and affective.

Phillips, (1964) pointed out that how a person sees himself exercises a great deal of influence on his achievement and mental health. In other words, the way one perceives oneself, forms the foundation of one's thinking, aspiration and of course determines one's view of the world. An individual will achieve a satisfactory overall life adjustment and come to a harmonious integrated personality by accepting himself as he is with full knowledge of his abilities and endowments. Abosi, (1986) in his study emphasised that by knowing one's limitation, one will be able to make full use of one's abilities and live a well-adjusted life free from fear and tension, one should acquire a self picture that is adequate and realistic.

Self-concept can be negative or positive. Positive self-concept enables a person to achieve a measure of adjustment while a negative self-concept makes a person to set unrealistic goals and to see nothing good about himself. Many factors have been mentioned in the literature as being responsible for a person's negative or positive self-concept. Guthrie, (1938) established that the treatment meted out to the individual affects his self-concept positively or negatively depending on the type of treatment.

Reckless, (1962) in his discussion of the containment theory pointed out that incarcerated fellows have a poorer self-concept than non incarcerated fellows and that people with poor self-concept engage in more criminal and deviant behaviours than people with good self-concept. Reckless has developed this point further in his containment theory in which he showed that the existence of two reinforcing aspects (inner and outer control system) act as insulators against normative deviance, that is violation of socio-legal norms of conduct. The outer containment is defined as the ability of society, groups, organisations and the community to hold the individual within the bounds of accepted norms, roles, regulations, values and expectations. This outer containment theory provides the individual with warm supportive relationships, acceptance, a sense of belonging and identity. The inner containment theory is the ability of the individual to follow the accepted norms of the society. The inner containment theory provides the individual with the ability to steer himself. It is made up of factors like self-concept, goal orientation, frustration, tolerance and retention of norms. It is therefore possible to conclude that when a person has a weak inner containment and a weak outer containment he should have the greatest chance of being involved in delinquency or crime. Although Reckless made reference to incarcerated fellows, inmates of the approved schools in this study are different from adult prisoners only in terms of their age. As earlier on pointed out in this study,

they are criminals before the law but have not been imprisoned because of their young age.

2.7 Summary

This chapter has focused on the review of relevant literature for this study. The chapter discussed the theoretical framework, delinquency as a social problem, theories of delinquency, token economy therapy, self-control therapy, and self-concept and its relevance to juvenile delinquents. The review of literature has shown that many factors have been identified as resulting in juvenile delinquency. That even though these factors have been identified, the treatment of juvenile delinquency is yet to be focused upon. That even though a lot of researches have been done in the area of applying treatment techniques to the treatment of delinquents in the Western Countries (Europe and the United States of America), not much has been done in Nigeria. The present study therefore gives a Nigerian dimension of the issue.

From the review of past relevant researches and confirmed by the works of Cohen et al,(1966), Dranman et al (1973), Atkinson and Green (1974), Brown (1979) and Mc Adam (1986) to mention but a few, it is generally accepted that exposing juvenile delinquents in approved schools to some treatment techniques improve their anti-social behaviours.

From this theoretical background and the knowledge on past researches in this area, the researcher states the null hypotheses below.

2.8 NULL HYPOTHESES:

The following null hypotheses were tested at 0.05 level of significance:

1. There are no significant differences between the means of pre-test and post-test scores on Adolescent Personal Data Inventory (APDI) for the Experimental groups and the control groups for the total sample of male and female respondents.

2. There are no significant differences between the means of post-test scores on Adolescent Personal Data Inventory (APDI) for the Experimental groups and the control groups for the total sample of male and female respondents.

3. There are no significant differences between the means of post-test scores on Adolescent Personal Data Inventory (APDI) for the Experimental groups and the control group for male respondents.

4. There are no significant differences betwwen the means of post-test scores on Adolescent Personal Data Inventory (APDI) for the Experimental groups and the control group for female respondents.

5. There are no significant differences between the means of Pre-test and post-test scores on Student Problem Inventory (SPI) for the Experimental groups and the control groups for the total sample of male and female respondents.

6.   There are no significant differences between the means of post-test scores on Student Problem Inventory (SPI) for the Experimental groups and the control groups for the total sample of male and female respondents.

7.   There are no significant differences between the post-test scores on Student Problem Inventory (SPI) for the Experimental groups and the control group for male respondents.

8.   There are no significant differences between the post-test scores on Student Problem Inventory (SPI) for the Experimental groups and the control group for female respondents.

The next chapter is on Methodology.

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION:

In this chapter, the population from which the sample used for this study was drawn is discussed. The chapter also highlights the design, the procedure, the treatments, the instruments used for the study, the pilot study and results, administration and scoring of the instruments, statistical analysis of data and attempts to control possible methodological errors.

3.2 THE POPULATION:

The population for this study was made up of all the inmates of two single sex approved schools in Lagos State one for boys and the other for girls.

The two schools catered for children age between fourteen and seventeen years.

The total population of the inmates at the commencement of this study was 58 (31 girls and 27 boys). There were some criteria that were satisfied before an inmate could take part in this study. The first criterion for taking part in this study was that the inmate must be resident in one of the two approved schools in Lagos State used for this study. The second criterion was that the inmate's period of committal to the approved school must not expire within the next twelve weeks after the commencement of the programme. Those whose terms of committal expired while the programme was still on were not allowed to take part. The third

criterion for taking part in this study was that all
respondents received two pre-tests and two post-tests.
The two pre-tests were in form of completing the Students
Problem Inventory by Bakare (1977) and the Adolescent
Personal Data Inventory by Akinboye (1976).

3.3   THE SAMPLE:

From an initial population of fifty eight juvenile
delinquents in the two Approved Schools in Lagos State, a
total number of fifty four jevenile delinquents (27 boys
and 27 girls) were selected as sample for this study. They
were aged between fourteen and seventeen years with a mean
age of fifteen.

Four out of the thirty one female inmates who were to
be released by the school authority before the end of the
treatment phase due to the expiration of their terms of
committal were excluded from the programme. The remaining
twenty-seven girls satisfied the conditions stated above and
as such they all took part in the programme.

All the twenty-seven boys satisfied the conditions
stated above and were all involved in the programme. All
the 54 respondents were committed to the approved schools
because they had committed criminal offences that would have
fetched them jail terms if they were adults. In other words
all the respondents were criminals before the law. Informa-
tion gathered from their case files at the approved schools
showed that 81.48 per cent of the female respondents had
been committed to the approved school for stealing and
92.59 per cent of the male respondents had also been committed

to the approved school for stealing. All together, 87.04 per cent of the respondents had been committed for stealing. Thus stealing when compared with other offences committed by both male and female juvenile delinquents has the largest percentage.

In addition, Table 1 below shows the family background of respondents. The table shows that most of the boys and girls (87.04%) were from broken homes, 92.59 per cent came from polygamous homes and 74.07 per cent were from homes with more than four children otherwise regarded as large families. As for religious affiliation, 74.07 per cent of the respondents were from Muslim home background and 25.93 per cent were from Christian home background. 96.30 per cent of the respondents were from poor homes where the parents were petty traders, manual labourers and artisans.

TABLE 1

Home Background of Respondents

Sex	Type of Home		Number of Subling		Marriage		Religion	
	Separated	Together	1-4 Children	More than 4 Children	Poly gamy	Mono gamy	Mus lim	X- tian
Male	23	4	8	19	25	2	21	6
Female	24	3	6	21	25	2	19	8
Total	47	7	14	40	50	4	40	14

The 27 respondents in each school were assigned to three treatment groups by balloting. Those who picked numbers 1 - 9 in the ballot papers were for Treatment Mode I (the self-control Therapy), those who picked numbers

10 - 18 in the ballot papers were for Treatment Mode II (the Token Economy) and those who picked numbers 19 - 27 in the ballot papers were for no treatment (Control Group).

Balloting technique was adopted in this study to prevent respondents from seeking to change from one group to the other during the treatment phase as they were informed before picking the ballot papers that every member was responsible (by luck) for whichever group he or she finds himself or herself.

Table 2 shows the distribution of the respondents according to groups in both schools.

TABLE 2

Distribution Of Respondents Into Groups

GROUPS	SEX		TOTAL
	MALE	FEMALE	
EXP. I (Self - Control)	9	9	18
EXP. II (Token Economy)	9	9	18
Control Group	9	9	18
Total	27	27	54

All the inmates of the two Approved Schools used in this study are exposed to various vocations such as tailoring, carpentry, motor mechanic, blacksmithery, hair dressing, and catering. Each inmate is expected to opt for one of the vocations. A particular period of the daily routine of the inmates of these two schools is set aside for the practice of the preferred vocation. In addition to learning the vocations, male inmates attend normal public schools in the neighbourhood while the

female inmates are taught by teachers in the approved school compound. In each school, inmates are made to take care of the school compound and to assist the cooks in the preparation of their meals. Sporting activities are also engaged in.

There were a total of 54 juvenile delinquents in the sample of which 27 were females and 27 were males. There were three groups in each school and each group consisted of 9 children who satisfied the criteria for participation mentioned in 3.2.

The choice of male and female juvenile delinquents as sample for this study was made so as to enable the researcher to examine the effect of sex on the self-concept and adjustment of respondents both at the pre-and post-tests level.

All the male and female respondents prior to their assignment to treatment groups were given a pre-test on self-concept and this gave a t-value of 0.07 at 52 degrees of freedom. The value of t for significance is 2.0 at 0.05 level. Similarly all the male and female respondents prior to their assignment to treatment groups were given a pre-test on adjustment and this gave a t-value of 0.06 at 52 degrees of freedom. The value of t for significance is 2.0 at 0.05 level. The results showed that the male and female respondents were not significantly different before treatment with respect to each of self-concept and adjustment (See Tables 32 and 35 in Appendices 1 and IV).

Tables 33, 34, 36 and 37 (See Appendices II, III, IV and VI) showed the group equivalence on self-concept and adjustment for the three groups in each school. The results

showed that respondents assigned to the three groups in each school were not significantly different in their self-concept and adjustment prior to treatment.

3.4   THE DESIGN:

A pre-test post-test experimental design using two experimental groups and one control group was adopted for the study. The design is as shown in Table 3. The independent variables were the 3 treatment modes (Mode I, Mode II and Control) and the sex of subjects (Male and Female). The dependent variables were respondents' scores on Adolescent Personal Data Inventory (APDI) which was used for the measurement of self-concept and Student Problem Inventory (SPI) used for the measurement of adjustment. The two inventories were given prior to treatment and two weeks after treatment.

TABLE   3

EXPERIMENTAL   DESIGN

TREATMENT MODES	SEX	
	MALE	FEMALE
I (Self-Control		
II (Token Economy)		
Control		

The three groups were as follows for each school:

1.   Experimental Group I (Exp. I)

This group received 16 contact sessions on self-control therapy for a period of 8 weeks on a bi-weekly basis. The first and the last weeks of the 10 week treatment period were used for the introduction and revision of the self-control

therapy. Each session lasted for one and half hours. Members of this group were introduced to the Concept of self-control so that they can achieve some degree of adjustment in their behaviour. The researcher played a very active and stimulating part in encouraging respondents to talk about some offences that they had committed and what it was like to commit the offences. The complete treatment package on self-control therapy including its aims and objectives is described in Appendix IX.

The rationale for using the self-control therapy in improving the self-concept and adjustment of the respondents are as follows:

i. Many behaviours are not easily accessible for Modification by any one but the client.

ii. Problematic behaviours as found among juvenile delinquents in this study are often associated closely with self-reactions and with such cognitive activities as thinking, fantasizing, imagining or planning.

iii. Self-control is a therapy which includes the teaching of a set of generalizable skills, such as coping responses, assessing situations, and behaviour outcomes and developing rules of conduct of common problem situations which will assist juvenile delinquents to avoid or handle future problems more effectively than in the past.

2. Experimental Group II (Exp. II)

There were 2 main contact sessions for members of Experimental Group II (Token Economy) in each school. The first main session was held to brief the members of what the whole programme was about while the last session was held to announce that henceforth the schedule for the award of tokens had changed. However the researcher saw members of this group for the award of tokens everyday for the first

two weeks of treatment; twice a week for the next four weeks of treatment and once a week for the last two weeks of treatment. Each meeting lasted for one hour. The complete treatment package on Token Economy Therapy including its aims and objectives is described in Appendix IX. The rationale for using the token economy therapy for improving the self-concept and adjustment of the respondents rests on the proposition that pathological behaviour is learned and as such tenable to modification by the application of principles of learning.

3.   The Control Group (CG)

Members of the Control Group in each school like those in Experimental Group I had 16 sessions but without the researcher. Two sessions were held per week. The 16 sessions took place at the same time as those in Experimental Group I. Members of the Control Group interacted with each other and in addition they were free to discuss issues of common interest among themselves. Each session lasted for one and half hours at the end of which members dispersed. No treatment whatsoever was given to members of the Control Group.

3.5   PROCEDURE:

3.5.1   TREATMENT SCHEDULE:

In each of the two schools, the Experimental Group I met twice each week while the Experimental Group II met everyday for the first two weeks of treatment, twice a week for the next four weeks of treatment and once a week for the last two weeks of treatment. Members of the Control Group in each school met at the same time as those in Experimental Group I but at different venue. The timing of treatment fell between 2.30 p.m. after their resting period and 4.30 p.m. which is

the time for physical activities. The researcher was specifically advised by the Principals of the two approved schools to try as much as possible to operate within the scheduled time. In other words the morning periods could not be used. This is understandable as the children had to be in their various schools between 8.30 a.m. and 1.00 p.m. from Monday to Friday. On their return from school, they would have their lunch and observe 60 minutes as resting period.

3.5.2   THE TREATMENTS:

Members of Experimental Group I had 16 sessions on Self-Control Therapy covering the following areas listed below: (For the aims and objectives of these sessions see Appendix IX).

i)   Thought Processes Involved In Criminal Acts:

The first session was devoted to identifying the thought processess involved in criminal acts. The second session was devoted to improving the thought processess of the juvenile delinquents.

ii)   Reflection On Feelings That Give Rise To Criminal Acts:

The third session featured a discussion on feelings that give rise to criminal acts. The fourth session was used to discuss the feelings that gave rise to criminal acts committed by respondents within the recent time.

iii)   Positive Approach To Problem-Solving:

The fifth session featured a discussion on some positive ways of solving problems. The sixth session featured a discussion of various ways of preventing future committal either to the approved schools or to prisons.

iv) <u>Violation Of Laws Against Property</u>:

The seventh session was on educating the respondents about the list of offences against property. The eight session was also on violation of laws against property. The ninth session was on the result of violation of the laws against property. The tenth session was devoted to teaching the respondents how to handle future occurences when they are tempted to violate laws against property.

v) <u>Violation Of Law Against Non-Verbal Aggression</u>:

The eleventh session was an introduction to the two forms of non-verbal aggression - assault and fighting. The twelfth session was on the implications of the criminal laws and sanctions for their violation. The thirteenth session was devoted to how to handle future occurences when they are tempted to violate laws against non-verbal aggression.

Vi) <u>Violation Of Law Against Fighting (Affray)</u>:

The fourteenth session was an introduction to what affray is. The fifteenth session was a discussion on the possible outcome of fighting on the parties concerned. The sixteenth session was devoted to teaching the respondents how to handle future occurences when they are tempted to fight with someone.

In developing the above modules, the researcher has drawn much from the research studies reported by Kanfer and Phillips, (1970); Kanfer,(1971) and Kanfer, (1975) cited in Kamfer and Goldstein, (1975); Falua's unpublished material

of 1987, and researcher's awareness of the various crimes that led to the committal of each inmate to the approved school.

Members of Experimental Group II had 2 main sessions on the Token Economy Therapy. For the aims and objectives for adopting the Token Economy, See Appendix IX.

In developing the Token Economy Treatment package, the researcher has drawn much from the research work of Ayllon and Azrin, (1968); Kazdin and Bootzin, (1972); Sistrunk et al (1972) and Atchinson and ᵘreen, (1974). The use of sweets, biscuits, biros, pencils and erasers as tokens was based on the information gathered by the researcher in a series of unscheduled interviews with some inmates of the approved schools that the items were gratifying for them.

3.6   INSTRUMENTS:

Two main instruments (The Adolescent Personal Data Inventory and the Student Problem Inventory) along with individual case files of respondents were used in this study. (The Inventories are shown in Appendices VII and VIII).

3.6.1   The Adolescent Personal Data Inventory (APDI):

This instrument was constructed and validated for Nigerian adolescents by Akinboye in 1976. The APDI can be described as a battery of non-intellectual tests which could be used for evaluation of some general characteristics of adolescents. It has six sub-scales one of which is the self-concept sub-scale. Only the self-concept sub-scale of the APDI was used in this study as the content of the other sub-scales were not relevant to the study. The self-concept sub-scale is a general self-perception scale. It is made up of thirty items. A co-efficient alpha of 0.75

was established for internal consistency reliability by
Akinboye in 1982. The APDI was used in gathering information
on the self-concept of respondents both before and after
therapy.

Since the respondents had an age range of fourteen to
seventeen years with a mean age of fifteen years they
automatically fall within the age range for which the
instrument was designed.

3.6.2 The Student Problem Inventory (SPI):

The SPI was constructed and validated for Nigerian
Adolescents by Bakare in 1977. It has eleven sections. The
SPI was used in gathering information on the problems
facing each respondent both before and after therapy.

Since the respondents had an age range of fourteen to
seventeen years and are all schooling they autbmatically
fall within the age range for which the SPI was designed.

3.6.3 Case Files:

The case files of all the respondents were collected
from the principals of the two approved schools and carefully
studied to find out background information like respondent's
age, occupations of parents, whether parents are living
together or separated, whether the parents are dead or alive,
number of children in the family, religious affiliation of
the family and the juvenile court order that committed the
respondent to the approved school.

3.7 Pilot Study:

Before embarking on the main study, a pilot study was
undertaken. The purpose of carrying out the pilot study was
to find out if respondents would encounter any difficulty in
completing the two instruments (APDI) and (SPI) used in this

study, the average time it would take the respondents to complete them, and to enable the researcher to find out likely problems that might be encountered during the treatment period either in respect of the treatments or the timing of the treatments.

All the 18 male jevenile delinquents who were resident in one of the three boys' approved schools in Lagos participated in the trial run of this study. Girls were not included in this pilot study because there is only one girls' approved school in Lagos State and the inmates (27 in number) were to be used for the main study.

The 18 boys were randomly assigned to three groups that would receive different treatments and called Experimental Group I, Experimental Group II and Control Group. Each group was made up of 6 boys. Members of Experimental Group I were met as a group and they had 16 sessions of self-control therapy on a bi-weekly basis for 8 weeks. Each session lasted for one and half hours.

Experimental Group II had two main sessions. The members of the group were however met as a group by the researcher for 8 weeks. Tokens were awarded daily for the first two weeks, twice a week for the next four weeks, and once a week for the last two weeks of treatment, Each meeting lasted for one hour.

Members of the Control Group received no treatment but met as a group same time as experimental group I. Post-test in form of the re-administering of the APDI and the SPI was given to all the 18 boys by the researcher, two weeks after the termination of treatment.

The results of the pre-test and post-test for the three groups are presented in Tables 4 - 7.

TABLE 4 (PILOT STUDY)

Pre-Test t-Test Result for Group Equivalence on APDI

GROUPS	n	Mean ($\bar{x}$)	Standard Deviation (SD)
Exp. I (Self-Control)	6	121.33	.13.16
Exp. II (Token Economy)	6	121.17	11.65
Control	6	123.5	6.39

1) **For Experimental Groups I and II:**

Calculated t-value = 0.03. Critical table value for t at 0.05 level of significance with 10 df = 2.228. Therefore Group I and Group II are equivalent groups.

ii) **For Experimental Group I and the Control Group:**

Calculated t-value = 0.50. Critical table value for t at 0.05 level of significance with 10 df = 2.228. Therefore Group I and the Control Group are equivalent groups.

iii) **For Experimental Group II and the Control Group:**

Calculated t-value = 0.52. Critical table value for t at 0.05 level of significance with 10 df = 2.228. Therefore Group II and the Control Group are equivalent groups. Hence, the three groups are equivalent groups.

TABLE 5 (PILOT STUDY)

GROUPS	n	Mean (x)	Standard Deviation (SD)
Exp. I (Self-Control)	6	60.17	5.27
Exp. II (Token Economy)	6	60.83	2.64
Control	6	60.67	1.86

i)   For Experimental Groups I and II:

Calculated t-value = 0.27. Critical table value for t at 0.05 level of significance with 10 df = 2.228. Therefore Experimental Groups I and II are equivalent groups.

ii)   For Experimental Group I and the Control Group:

Calculated t-value = 0.22. Critical table value for t at 0.05 level of significance with 10 df = 2.228. Therefore Experimental Group I and the Control Group are equivalent Groups.

iii) For Experimental Group II and the Control Group:

Calculated t-value = 0.19. Critical table value for t at 0.05 level of significance with 10 df = 2.228. Therefore Experimental Group II and the Control. Group are equivalent groups. Hence, the three groups are equivalent groups.

TABLE 6   (PILOT STUDY)

APDI Pre-Test And Post-Test Results

Groups	APDI Pre-Test	Treatment Modes	APDI Post-Test
Exp. I N = 6	$\bar{x}$ = 121.33 sd = 13.16	Mod Mode I	$\bar{x}$ = 177 sd = 25.8
Exp. II N = 6	$\bar{x}$ = 121.17 sd = 11.65	Mode II	$\bar{x}$ = 157.83 sd = 12.66
Control Group N = 6	$\bar{x}$ = 123.5 sd = 6.39	No Treatment	$\bar{x}$ = 124.33 sd = 6.41

TABLE 7 (PILOT STUDY)

SPI Pre-Test and Post-Test Results

Groups	SPI Pre-Test	Treatment Modes	SPI Post-Test
Exp. I N = 6	$\bar{x}$ = 60.17 sd = 5.27	Mode I	$\bar{x}$ = 83.83 sd = 9.87
Exp. II N = 6	$\bar{x}$ = 60.83 sd = 2.64	Mode II	$\bar{x}$ = 93.5 sd = 9.71
Control Group N = 6	$\bar{x}$ = 60.67 sd = 1.86	No Treatment	$\bar{x}$ = 60.83 sd = 2.64

From the statistical analyses of the pre-test and post-test data of the pilot study, the gain scores (that is the difference between the pre-test and post-test scores) indicated that the experimental groups benefited significantly from the treatment more than the control group. Although treatment modes I and II seem to be both effective in improving the APDI and the SPI scores of sampled juvenile delinquents in the approved school used for this pilot study, Mode I therapy seems to have produced a more significant effect on gain scores in the APDI.

The two instruments (the Student Problem Inventory and the Adolescent Personal Data Inventory) used in this study were found adequate as measures for the adjustment and self-concept level of the respondents. It was found that the respondents, with very minimal assistance (in form of translation of some areas in the Student Problem Inventory into Yoruba, the local language) were able to complete the two inventories. It was also observed that most of the respondents completed the APDI in 30 minutes and the SPI in 50 minutes,

thus spending a total of one hour and twenty minutes (1 hour: 20 minutes) for the completion of both inventories during the pre-test. However the respondents spent approximately one hour and five minutes (1 hour: 5 minutes) for both inventories in the post-test. Therefore, for the main study, the researcher decided to allow respondents a maximum of one hour and twenty minutes to complete the two inventories. This length of time was allowed so as to give every respondent the opportunity to complete the two inventories, thereby ensuring a much more accurate data at the end of the exercise. There were no problems encountered as regards to the timing of the treatments. The Principal of the School and the resident social welfare officers had earlier on been briefed/trained about the whole programme before embarking on the pilot study. They were very co-operative throughout the ten weeks duration of the pilot study. No ambiguities were detected in the two instruments used in gathering data for the pilot study. Consequently the instruments were considered adequate to be used in eliciting valid and reliable data from the respondents in the main study.

3.8 ADMINISTRATION AND SCORING OF APDI AND SPI IN THE MAIN STUDY:

3.8.1 Preparation:

Before carrying out the treatment in the respective schools, formal permission was obtained from the Lagos State Ministry of Social Development, Youth and Sports by the researcher to use the inmates of Lagos Approved Schools for this study. The principals of the two approved Schools used for this study were met by the researcher for discussion on

what the whole programme was about. The four resident
Social Welfare Officers in the two approved schools who were
holders of the Diploma in Social Welfare were given two
weeks training by the researcher on what Token Economy
entailed, how to observe/monitor inmates for signs of
delinquent behaviours and the system to be adopted in the
award of tokens. During training, the resident social
welfare officers tape-recorded five cases each so as to
ensure that they followed the presented guidelines for token
economy programme. The tape-recorded items were played back
to the satisfaction of the supervisor of this Project
before the resident social workers were deemed competent to
participate in the study. The preparation of the Principals
and in particular the resident social welfare officers was
very necessary in order to gain their co-operation throughout
the period of the exercise.

3.2   Administration of APDI and SPI:

All testing (pre-and post-tests) took place in the
afternoon of the testing dates. This was to ensure that
respondents had returned from their various public schools
and had observed the one hour testing period. Also, this
was to ensure that respondents were fresh in mind and not
fatigued in any way. All the respondents were informed
before the testing dates about the venue of the test. On
the testing dates, the researcher made available the required
number of pencils and erasers for completing the test. The
researcher provided all the writing materials as her
experience in the pilot study showed that most of the child-
ren for one reason or the other had no writing materials with

which to complete the forms. The researcher sat on a chair at the front of the class while each respondent sat on a bench. The seating arrangement of one person to a bench was purposely adopted to ensure that respondents listen attentively to instructions and do not engage in side-talks of any form. Both the APDI and the SPI were administered to the respondents on the same day. The SPI was the first to be administered. The researcher read the instructions for the SPI and asked the respondents to start. All the respondents finished with the completion of the SPI within 50 minutes. The completed SPI was collected from each respondent after which the APDI was circulated. They were told not to start completing the APDI until they have been instructed to do so. Next the researcher read the instructions for the APDI and the respondents were allowed to start. A maximum of 30 minutes was allowed to complete the APDI.

3.8.3 Instructions:

The instruction for the SPI (the Adjustment Scale) read thus:

> This is a list of problems that boys and girls in School usually have. Read slowly through the list and as you come to a problem which is troubling you, put a tick in the space provided before it. If you do not have a particular problem, leave the space in front of it blank. You can mark as many problems as you have in each section.

The instruction for the APDI (the Self-Concept Scale) read thus:

> Please use the nine-point scale below to rate yourself on each of the following items. Rate the items most descriptive of yourself at the high end, those least descriptive of you at the low end, and those about which you are not sure

of or undecided at the middle. For each
item record the number which represents
your response on the blank space on the
right side of the items.

All instructions were read by the researcher to respondents in each school before they were told to start completing the forms. The researcher also entertained questions from respondents on the instructions given. While the respondents were busy completing the forms, the researcher went round to ensure that respondents understood the instructions and that they were filling the forms properly. For the pre-test on APDI and SPI a total of one hour and twenty minutes (1 hour: 20 minutes) was spent. All the completed forms were collected from the respondents as they finished.

3.8.4 Scoring Procedure:

The SPI:

The Student Problem Inventory has one hundred and twenty items. Scoring was done by counting the total number of ticks ( ) made on the inventory by a respondent. The total number of ticks was deducted from 120 to obtain the raw score of each respondent on adjustment. A raw score of between 0-60 indicates poor adjustment while between 61-120 indicates good adjustment.

The APDI:

There are 30 items on self-concept in the Adolescent Personal Data Inventory of which a respondent could rate himself on a nine-point grade, 0-8. The scores of negatively constructed items were reversed in order to conform with the definitions of the scoring procedure. Such items are

4, 5, 9, 16, 17, 18, 24, 25 and 29. The score for each item totalled up to form the raw score of each subject on self-concept. A raw score of 120 out of 240 represents just the minimum acceptable self-concept for a psychologically healthy person while any score below 120 indicates low self-concept. All the scoring was done entirely by the researcher.

3.8.5 <u>Statistical Analysis of Data</u>:

For the analysis of data collected, the descriptive statistics in form of mean scores, graphs and standard deviations were used.

The data obtained from this study were statistically analysed using the t-test paired comparisons and correlated t-test.

The t-test for independent and correlated samples was used as inferential statistics to analyse the pre-test and post-test scores on self-concept and adjustment. The t-test for correlated samples was used to compare the pre-treatment scores and post-treatment scores of respondents from each group in the two schools, while the t-test for independent samples was used to compare the post-treatment scores of male and female respondents. The t-test was used in this study because according to Miller (1975, p. 68), it is "highly robust and may be used generally without much attention to anything other than the most glaring departures from normality and homogeneity of variance".

Analysis of variance was used to determine if there were differences among the three groups in terms of their performances on APDI and SPI after the treatments. ANOVA results lent credence to the effectiveness or ineffective-

ness of the treatments. Where the ANOVA results indicated the existence of significant differences between means, t-test paired comparisons were done to identify where the difference lay. The t-test paired comparison results high-lighted the differential effects of the two modes of treat-ment. The multiple classification analysis was used to indicate the relative position of each group's mean score in relation to the grand mean, and the results gave support to the t-test paired comparison's result.

All statistical tests were held as significant at the 0.05 probability level.

3.9   ATTEMPTS TO CONTROL POSSIBLE METHODOLOGICAL ERRORS

Experimental bias was adequately controlled in this study through the following measures:

(i)   Identical rooms were used for treatment in the two schools.

(ii)   Resident social welfare officers in the schools whose services were required for the succefful operation of the Token Economy Therapy were formally given two weeks' training at the same time and at the same venue. They were allowed to participate in the programme having demonstrated competency in the application of Token Economy.

(iii)   The two main instruments (the APDI and the SPI) used for the study were administered on the same day in the two schools by the researcher.

The next chapter is on the results of the investigation.

CHAPTER FOUR

RESULTS OF THE INVESTIGATION

4.1.1 INTRODUCTION:

This chapter presents the results of the study in terms of the testing of the stated hypotheses. The mean scores and the standard deviations were used as the descriptive statistics while the t-test, multiple classification analysis and analysis of variance (ANOVA) were used as the inferential statistics to analyse the pre-test and post-test scores.

4.1.2 USE OF ANOVA (F-test):

It should be noted however, that when the sample size per cell is small (here it is 9 per cell) the use of the ANOVA (F-test) will be unjustified as this may violate the important assumption about normal distribution. The appropriate statistical test for small samples is the t-test. The t-test is appropriately applied all through in these results. The addition of the ANOVA (F-test) is only to improve the statistical elegance.

4.2 GENERAL DESCRIPTION OF THE DATA:

The general description of the data collected for both male and female respondents irrespective of the treatment groups they belong to is presented in Tables 8 and 9 in form of the means and standard deviations.

TABLE 8

MEANS AND STANDARD DEVIATIONS OF PRE-AND POST-
TEST APDI SCORES FOR TOTAL SAMPLE BY SEX

SEX	N	PRE-TEST		POST-TEST	
		MEAN	SD	MEAN	SD
ALL MALES	27	119.48	22.84	160.22	32.02
ALL FEMALES	27	118.81	22.68	136.52	22.53
ALL MALES AND ALL FEMALES	54	119.15	18.34	148.37	34.68

TABLE 9

MEANS AND STANDARD DEVIATIONS OF PRE-AND POST-TEST

SPI SCORES FOR TOTAL SAMPLE BY SEX

SEX	N	PRE-TEST		POST-TEST	
		$\bar{X}$	SD	$\bar{X}$	SD
ALL MALES	27	61.93	7.16	80.15	17.32
ALL FEMALES	27	61.78	11.01	68.32	15.77
ALL MALES AND ALL FEMALES	54	61.86	9.20	74.24	15.26

4.3 TESTING THE HYPOTHESES:

One of the major objectives of this study was to find out whether the two treatment techniques (the self-control Therapy and the Token economy) would have significant effect(s) on the self-concept and adjustment level of the juvenile delinquents as measured by the Adolescent Personal Data Inventory (APDI) and the Student Problem Inventory (SPI). In other words the study sought the answers to the 8 research questions listed in Chapter 1 which were mainly to find out, the effectiveness of the two treatment techniques. Tables 10-31 show at a glance the highlights of the investigation. The 8 null hypotheses generated for this study were tested and the results are discussed one after the other.

Hypothesis No 1:

In hypothesis 1, it was stated that there are no significant differences between the means of pre-test and post-test scores on APDI for the Experimental groups and the control groups for the total sample of male and female respondents. t-test for correlated sample was used to

compare the means and the standard deviations of the male
and female respondents' pre-and post-test scores on APDI
by groups. Table 10 shows the calculated t-values for the
total sample by groups while Table 11 shows the calculated
t-values for male and female respondents by groups.

TABLE 10

CORRELATED t-TEST ANALYSIS OF PRE-AND POST-TEST APDI

SCORES FOR THE TOTAL SAMPLE BY GROUPS

GROUPS	N	SCORES	$\bar{x}$	SD	OBTAINED t-VALUE	TWO TAIL PROB
EXP. I (Mode I) Self-Control Technique	18	PRE-TEST	120.06	21.48	5.23	s
	18	POST-TEST	161.44	36.16		
EXP. II (Mode II) Token economy Technique	18	PRE-TEST	119.94	21.01	6.48	s
	18	POST-TEST	164.89	23.62		
CG (Control Group)	18	PRE-TEST	117.44	11.89	0.34	ns
	18	POST-TEST	118.78	13.02		

df = 17

Critical table value for t at 0.05 level of
significance = 2.110.

s = significant

ns = not significant.

The results of the correlated t-test analysis of pre-
and post-test APDI scores for the total sample by groups
are as follows:

EXPERIMENTAL GROUP I (MALE AND FEMALE):

For the total sample of male anf female respondents in this group, the critical table value for t at 0.05 level of significance with 17 df = 2.110. The calculated t-value = 5.23. The calculated t-value is significant. Therefore, the null hypothesis is rejected. This indicates that there is a significant difference between the means of the pre-and post-test APDI scores of all the respondents (male and female) in Exp. group I. Therefore the treatment was effective for both male and female respondents in Exp. group I.

EXPERIMENTAL GROUP II (MALE AND FEMALE):

For the total sample of male and female respondents in Experimental group II, the calculated t-value = 6.48. The critical table value for t at 0.05 level of significance with 17 df = 2.110. The calculated t-value is significant. Hence, the null hypothesis is rejected. There is a significant difference between the means of pre-and post-test APDI scores of all the respondents in Exp. group II. Therefore the treatment was effective for both male and female respondents in Exp. group II.

CONTROL GROUP (MALE AND FEMALE):

For the total sample of male and female respondents in the control group, the calculated t-value = 0.34. The critical table value for t at 0.05 level of significance, with 17 df = 2.110. The calculated t-value is not significant. Therefore, the null hypothesis is upheld. There is no significant difference between the means of the pre-and post-test APDI scores of all respondents (male and female) in the control group.

TABLE 11

CORRELATED t-TEST ANALYSIS OF PRE-AND POST-TEST APDI
SCORES FOR MALE AND FEMALE RESPONDENTS BY GROUPS

GROUPS	SEX	N	SCORES	X̄	SD	OBTAI-NED t-VALUE	TWO TAIL PROB
EXP. I (Mode I) Self-Control Technique	MALE	9	PRE-TREATMENT	120.56	29.80	9.20	s
		9	POST-TREATMENT	190.44	28.37		
	FEMALE	9	PRE-TREATMENT	119.56	9.59	5.63	s
		9	POST-TREATMENT	132.44	9.13		
EXP. II (Mode II) Token-Economy Technique	MALE	9	PRE-TREATMENT	119.0	26.78	5.12	s
		9	POST-TREATMENT	170.44	28.74		
	FEMALE	9	PRE-TREATMENT	120.89	14.79	6.78	s
		9	POST-TREATMENT	159.33	12.02		
C G (Control Group)	MALE	9	PRE-TREATMENT	118.89	9.40	1.32	ns
		9	POST-TREATMENT	119.78	9.06		
	FEMALE	9	PRE-TREATMENT	116.0	14.40	0.97	ns
		9	POST-TREATMENT	117.78	16.63		

df = 8

critical table value for t at 0.05 level of significance
= 2.306.

s = significant

ns = not significant

The results of the correlated t-test analysis of pre-
and post-test APDI scores for male and female respondents
by groups are as follows:

For the <u>male sample in Exp. group I</u>, the calculated
t-value = 9.20. Critical table value for t at 0.05
level of significance with 8 df = 2.306. The t-value
is significant. Therefore the null hypothesis is
rejected. There is in fact a significant difference
between the male Exp. I group's pre-and post-test APDI
scores. This indicates that the treatment was
effective in the case of male respondents in Exp. group I.

For the <u>female sample in Exp. group I</u>, the calcu-
lated t-value = 5.63. Critical table value for t at
0.05 level of significance with 8 df = 2.308. The
calculated t-value is significant. Hence, the null
hypothesis is rejected. There is a significant
difference between the female Exp. I group's pre-and
post-test APDI scores. This shows that the treatment
was effective for female respondents in Exp. group I.

For the <u>male sample in Experimental group II</u>,
the calculated t-value is 5.12. The critical table
value for t at 0.05 level of significance with 8 df =
2.306. The calculated t-value is significant.
Therefore, the null hypothesis is rejected. There is a
significant difference between the means of pre-and
post-test APDI scores for the male Exp. group II.
Therefore, the treatment was effective for the male
Exp. group II.

For the <u>female sample in Experimental group II</u>,
the calculated t-value is 6.78. The critical table
value for t at 0.05 level of significance with 8 df =
2.306. The calculated t-value is significant. Therefore,
the null hypothesis is rejected. There is a significant

difference between the means of pre-and post-test APDI scores for the female Exp. group II. Therefore, the treatment was effective for the female Exp. group II.

For the male sample in control group, the calculated t-value = 1.32. The critical table value for t at 0.05 level of significance with 8 df = 2.306. The calculated t-value is not significant. Therefore the null hypothesis is upheld. There is no significant difference between the pre-and post-test APDI scores for male control group. This group did not receive any treatment and did not show any improvement in their self-concept.

For the female sample in control group, the calculated t-value = 0.97. The critical table value for t at 0.05 level of significance with 8 df = 2.306. The calculated t-value is not significant. Therefore, the null hypothesis is upheld. There is no significant difference between the pre-and post-test APDI scores for the female control group. This group did not receive any treatment and did not show any improvement in their self-concept.

Hypothesis No. 2: In this hypothesis, it was stated that there are no significant differences between the means of post-test scores on Adolescent personal Data Inventory (APDI) for the Experimental groups and the Control groups for the total sample of male and female respondents. Analysis of variance was used to test this hypothesis. Table 12 shows the ANOVA result.

TABLE 12[*]

ANALYSIS OF VARIANCE OF POST-TEST SCORES
ON APDI BY GROUPS FOR THE TOTAL SAMPLE OF
MALE AND FEMALE RESPONDENTS

SOURCE OF VARIATION	SUM OF SQUARE	DF	MEAN SQUARE	F-Ratio	SIGNIFICANCE OF F
TREATMENTS (or between groups)	23741.5	2	11870.75		
RESIDUAL (or within groups)	34619.1	51	678.81	17.49	s
TOTAL	58360.6	53	1101.14		

s = significant

*See comment on paragraph 4.1.2 (p. 86)

Critical table value for F = 3.15 at 0.05

level of significance with 2 df.

The result shows that the F-ratio which is 17.49
is significant at 0.05 level of significance. Critical
table value for F at 0.05 alpha level with 2 df = 3.15.
The null hypothesis is therefore rejected. There are
significant differences between the groups in their mean
scores on APDI at post-treatment level. In order to
determine each group's mean score in relation to the grand
mean, a multiple classification analysis was computed.
Table 13 shows each group's performance in relations to the
grand mean of 148.37.

TABLE 13

MULTIPLE CLASSIFICATION ANALYSIS OF POST-TEST

SCORES ON APDI BY GROUPS FOR THE TOTAL SAMPLE

OF MALE AND FEMALE RESPONDENTS

VARIABLE AND CATEGORY	N	UNADJUSTED DEV' N	ETA	ADJUSTED FOR INDEPENDENTS DEV' N	BETA
MODE					
i. EXP. I	18	13.07		13.07	
ii. EXP. II	18	16.52		16.52	
iii. C.G.	18	-29.59		-29.59	
			0.64		0.64
Multiple R Squared					0.406
Multiple R.					0.637

Grand mean = 148.37

The results of the multiple classification analysis when scores are adjusted for independents are as follows:

Grand Mean = 148.37

— Experimental group I registered a mean-score on APDI post-test 13.07 above the grand mean.

Experimental group II registered a mean-score on APDI post-test 16.52 above the grand mean.

Control group registered a mean-score on APDI post-test -29.59 below the grand mean. This result lends further support to the finding that the treatments were effective because the experimental groups showed greater improvement in their self-concept than the control group.

Also, Experimental group II who received treatment by the token economy technique (mode II) showed more improvement than the other two groups as evidenced in their post-test APDI mean-scores.

To further ascertain and confirm the direction of the differences noted in the ANOVA computation (see table 12) between the mean-scores on post-test APDI measure for the Experimental groups and the control groups for the total sample of male and female sample, t-test paired comparisons were computed. Table 14 shows the result.

TABLE 14

t-TEST PAIRED COMPARISON BY GROUPS ON POST-TEST APDI SCORES FOR THE TOTAL SAMPLE OF MALE AND FEMALE RESPONDENTS

GROUPS	N	MEAN	SD	OBTAINED t-VALUE	TWO-TAIL PROB
EXP. I Vs	18	161.44	36.16	0.34	ns
EXP. II	18	164.89	23.62		
EXP. I Vs	18	161.44	36.16	4.71	s
C G (Control group)	18	118.78	13.02		
EXP. II Vs	18	164.89	23.62	7.29	s
C G (Control group)	18	118.78	13.02		

Critical table value for t = 2.042 at 0.05 level of significance with 34 df.

s = significant

ns = not significant.

The t-test values obtained when the Experimental groups were compared with the control groups are as shown below:

Experimental group I Vs Experimental group II (Male and Female combined):

> Obtained t = 0.34
>
> df = 34
>
> Critical table value for t at 0.05 alpha level = 2.042
>
> The obtained t-value is not significant.

Experimental group I Vs. Control group (Male and Female combined):

> Obtained t = 4.71
>
> df = 34
>
> Critical table value for t at 0.05 alpha level = 2.042.
>
> The obtained t-value is significant.

Experimental group II Vs. Control group (Male and Female combined):

> Obtained t = 7.2(
>
> df = 34
>
> Critical table value for t at 0.05 alpha level = 2.042.

This result indicates that the treatments were effective because significant differences were found between the Experimental groups and the control groups. No significant difference was found between Experimental group I and Experimental group II for the total sample.

This shows that the two modes of treatment were equally
effective in improving the self-concept of male and female
respondents in the two Experimental groups.

Hypothesis No. 3:

In this hypothesis it was stated that there are no
significant differences between the means of post-test
scores on APDI for the Experimental groups and the Control
group for male respondents.

Analysis of variance was used to test this hypothesis
Table 15 shows the ANOVA result. The F-ratio is 21.73.
The critical table value for F at 0.05 alpha level with
2 df = 3.40. The calculated F-ratio is significant
indicating that there are significant differences between
the mean-scores of the Experimental groups and the control
group. The null hypothesis is therefore rejected.
This indicates that the Experimental groups of the male
sample improved greatly on their self-concept than the
control group.

TABLE 15 *

ANALYSIS OF VARIANCE FOR POST-TEST SCORES ON APDI FOR
THE EXPERIMENTAL GROUPS AND THE CONTROL GROUP FOR MALE
RESPONDENTS

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F-RATIO	SIGNIFI-CANCE OF F
TREATMENTS (or between groups)	23858.56	2	11929.28	21.73	s
RESIDUAL (or within groups)	13724.11	24	548.96		
TOTAL	37582.67	26	1391.94		

s = significant

*See comment on paragraph 4.1.2 (p. 86).

Critical table value for F = 3.40 at 0.05 level of significance with 2 df.

The result shows that the F-ratio which is 21.73 is significant at 0.05 level of significance. Critical table value for F = 3.40. The null hypothesis is therefore rejected. There are significant differences between the groups in their mean-scores on APDI at post-treatment level.

In order to determine each group's mean-score in relation to the grand mean, a multiple classification analysis was computed. Table 16 shows each group's performance in relation to the grand mean of 160.22.

TABLE 16

VARIABLE AND	N	UNADJUSTED DEV' N	ETA	ADJUSTED FOR INDE- PENDENTS DEV' N	BETA
MODE					
(i) EXP. I	9	30.22		30.22	
(ii) EXP. II	9	10.22		10.22	
(iii) C G	9	-40.44		-40.44	
			0.80		0.80
Multiple R. squared					0.635
Multiple F.					0.797

Grand mean = 160.22

The results of the multiple classification analysis when scores are adjusted for independents are as follows:

Grand Mean = 160.22

Experimental group I registered a mean - score on

APDI post-test. 30.22 above the grand mean.

Experimental group II registered a mean-score on APDI

post-test 10.22 above the grand mean.

Control group registered a mean-score on APDI post-test

-40.44 below the grand mean. This result lends further

support to the finding that the treatments were effective

because the experimental groups showed greater improvement

in their self-concept than the control group. Also,

Experimental group I who received treatment by the self-

control technique (Mode I) showed more improvement than

the other two groups as evidenced in their post-test

APDI mean-score.

To further ascertain and confirm the direction of the

differences noted in the ANOVA computation (see table 15)

between the mean-scores on post-test APDI measure for the

Experimental groups and the control group for the male

sample, t-test paired comparisons were computed. Table 17

shows the result.

TABLE 17

t-TEST PAIRED COMPARISON BY GROUPS ON POST-TEST

APDI SCORES FOR MALE RESPONDENTS

GRPINS	N	MEAN	S.D.	OBTAINED t-VALUE	TWO-TAIL PROB.
EXP. I Vs	9	190.44	28.37	1.48	ns
EXP. II	9	170.44	28.74		
EXP. I Vs	9	190.44	28.37	7.12	s
C G (Control Group)	9	119.78	9.06		
EXP. II Vs	9	170.44	28.74	5.04	s
C G (Control Group)	9	119.78	9.06		

Critical table value for t = 2.120 at 0.05 level of significance with 16 df.

s = significant

ns = not significant

The results of the t-test comparisons for the male sample are as follows:

Experimental groups I Vs Experimental Group II:

The obtained t-value = 1.48.

Critical table value for t at 0.05 level of significance with 16 df = 2.12.

The obtained t-value is not significant. This shows that there is no significant difference between the treatment groups of the male sample.

Experimental group I Vs. Control group:

The obtained t-value = 7.12

Critical table value for t at 0.05 level of significance with 16 df = 2.120. The obtained t-value is significant. This shows that there is a significant difference between Experiemental Group I and the Control group of the male sample.

Experimental group II Vs. Control group:

The obtained t-value = 45.04.

Critical table value for t at 0.05 level of significance with 16 df = 2.120. The obtained t-value is significant This shows that there is significant difference between the Experimental group II and the Control group of the male sample.

Table 17 further shows that the Experimental Group I has the highest mean-score (190.44) on post-test self-concept as against the other two groups. Hence Treatment Mode I (Self-Control Therapy) was more effective in the case of the male sample.

Hypothesis No. 4: In this hypothesis it was stated that there are no significant differences between the means of post-test scores on APDI for the Experimental groups and the Control group for female respondents.

Analysis of variance was used to test this hypothesis. Table 18 shows the ANOVA result. The F-ratio value is 19.36. The critical table value for F at 0.05 alpha level with 2 df = 3.40. The calculated F-value shows that there are significant differences between the

mean-scores of the Experimental groups and the control group. The null hypothesis is therefore rejected. This indicates that the experimental groups of the female sample improved more on their self-concept than the control group.

TABLE 18[*]

ANALYSIS OF VARIANCE FOR POST-TEST SCORES ON
APDI FOR THE EXPERIMENTAL GROUPS AND THE CONTROL
GROUP FOR THE FEMALE RESPONDENTS

SOURCES OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F-ratio	SIGNIFICAN-CE OF F
Treatment	7979.5	2	3989.75		
Residual	5153.25	24	206.13	19.36	s
Total	13132.75	26	486.40		

s = significant

*See comment on paragraph 4.1.2 (p. 86).

Critical table value for F = 3.40 at 0.05 level of significance with 2 df.

The result shows that the F-value which is 19.36 is significant at 0.05 level of significance. Critical table value for F = 3.40. The null hypothesis is therefore rejected. There are significant differences between the groups in their mean - scores on APDI at post-treatment level.

In order to determine each group's mean-score in relation to the grand mean, a multiple classification analysis was computed. Table 19 shows each group's performance in relation to the grand mean of 136.52.

TABLE 19

MULTIPLE CLASSIFICATION ANALYSIS OF POST-TEST SCORES

ON APDI FOR FEMALE RESPONDENTS

VARIABLE AND CATEGORY	N	UNADJUSTED DEV'N ETA	ADJUSTED FOR INDEPENDENTS DEV'N BETA
MODE			
i) Exp. I	9	-4.08	-4.08
ii) Exp. II	9	22.81	22.81
iii) C G	9	--18.74	-18.74
		0.78	0.78
Multiple R squared			0.608
Multiple R			0.779

Grand mean = 136.52

The results of the multiple classification analysis

when scores are adjusted for independents are as follows:

Grand Mean = 136.52

Experimental group I registered mean-score on APDI post-test -4.08 below the grand mean.

Experimental group II registered a mean-score on APDI post-test 22.81 above the grand mean.

Control group registered a mean-score on APDI post-test -18.74 below the grand mean. This result lends further support to the finding that the self-control treatment technique (Mode I) is not effective enough in the treatment of poor self-concept among female respondents. Experimental group II showed greater improvement in their self-concept

than both the Experimental group I and the control group as evidenced in their post-test APDI mean-score.

To further ascertain and confirm the direction of the differences noted in the ANOVA computation (see table 18) between the mean-scores on post-test APDI measure for the Experimental groups and the control group for the female sample, t-test paired comparisons were computed. Table 20 shows the result.

TABLE 20

t-TEST PAIRED COMPARISON BY GROUPS ON POST-TEST

APDI SCORES FOR FEMALE RESPONDENTS

GROUPS	N	MEAN	S.D.	OBTAINED t	TWO-TAIL PROB
EXP. I Vs EXP. II	9 9	132.44 159.33	9.13 12.02	4.16	s
EXP. I Vs C.G.(Control Group)	9 9	132.44 117.78	9.13 16.63	2.32	s
EXP. II Vs C.G.(Control Group)	9 9	159.33 117.78	12.02 16.63	5.23	s

Critical table value for t = 2.120 at 0.05 level of significance with 16 df.

s = significant

ns = not significant.

The results for the female sample are as follows:

Experimental group I Vs Experimental group II:

    The obtained t-value = 4.16

Critical table value for t at 0.05 level of significance with 16 df = 2.120. The obtained t-value is significant. This shows that there is a significant difference between Experimental group I and Experimental group II for the female respondents.

Experimental group I Vs Control Group:

    The obtained t-value = 2.32

Critical table value for t at 0.05 level of significance with 16 df = 2.120. The obtained t-value is significant. This shows that there is a significant difference between Experimental group I and those in the control group for the female respondents.

Experimental group II Vs Control group:

    The obtained t-value = 5.23

Critical table value for t at 0.05 level of significant with 16 df = 2.120. The obtained t-value is significant. This shows that there is a significant difference between Experimental group II and those in the control group for female respondents.

    A graphic representation of the mean APDI post-test scores in Tables 11 and 20 is shown in Figure I.

FIGURE 1: THE MEAN APDI POST-TEST SCORES FOR
MALE AND FEMALE RESPONDENTS FOR THE
THREE TREATMENT GROUPS

_____ Female respondents
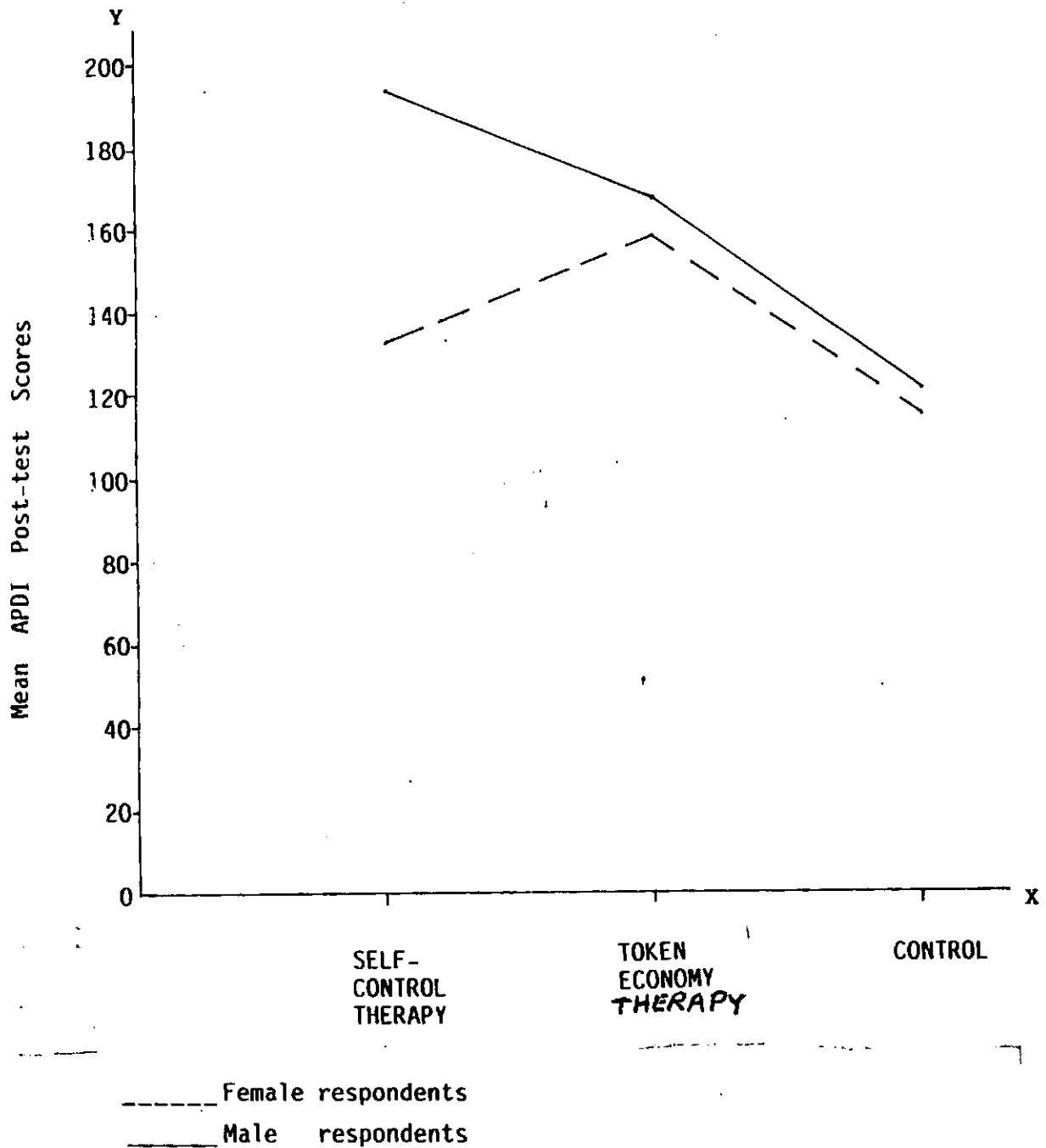
_____ Male   respondents

A graphic representation of the mean APDI post-
test scores for male and female respondents in the three
treatment groups (the self-control therapy, the token
economy therapy and the control therapy) is shown in
Figure I. From the diagrammatic representation of these
mean scores, it is observed that the boys improved greatly
on their self-concept with exposure to the self-control
therapy. Also that the boys exposed to the two treatment
techniques scored higher points than their female
counterparts. In other words boys appear to be superior
to girls in their performance in the two treatments.
Thus, there is an interaction between sex and the two
treatments applied in this study (as well as a difference
between the sexes). The interaction is ordinal as boys
recorded higher mean-scores than the girls in the two
treatment groups.

Hypothesis No. 5:

In hypothesis 5, it was stated that there are no
significant differences between the pre-test and post-test
scores on SPI for the Experimental groups and the control
groups for the total sample of male and female respondents.
t-test for correlated samples was used to compare the means
and the standard deviations of the male and female
respondents' pre-and-post-treatment scores on SPI by
groups. Table 21 shows the calculated t-values for the
total sample by groups while Table 22 shows the calculated
t-values for male and female respondents by groups.

TABLE 21

CORRELATED t-TEST ANALYSIS OF PRE-AND POST-TEST

SPI SCORES FOR THE TOTAL SAMPLE BY GROUPS

GROUPS	N	SCORES	$\bar{X}$	SD	OBTAINED t	TWO TAIL PROB
EXP. I (Mode I) Self-Control Technique	18	PRE-TEST	61.61	10.60	2.89	s
	18	POST-TEST	80.94	12.09		
EXP. II (Mode II) Token-Economy Technique	18	PRE-TEST	62.11	9.65	6.20	s
	18	POST-TEST	81.94	15.69		
C G (Control group)	18	PRE-TEST	61.83	7.63	0.94	ns
	18	POST-TEST	62.11	8.20		

df = 17

Critical table value for t at 0.05 level of

significance = 2.110.

s = significant

ns = not significant.

The results of the correlated t-test analysis of pre-and post-test SPI scores for the total sample by groups are as follows:

EXPERIMENTAL GROUP I (MALE AND FEMALE):

For the total sample of male and female respondents in this group, the critical table value for t at 0.05 level of significance with 17 df = 2.110. The calculated t-value = 2.89. The calculated t-value is significant. Therefore, the null hypothesis is rejected. This indicates that there is a

significant difference between the means of the pre-
and post-test SPI scores of all the respondents (male
and female) in Exp. group I. Therefore the treatment
was effective for both male and female respondents in
Exp. group I.

EXPERIMENTAL GROUP II (MALE AND FEMALE):

For the total sample of male and female respondents
in Experimental group II, the calculated t-value = 6.20.
The critical table value for t at 0.05 level of
significance with 17 df = 2.110. The calculated t-
value is significant. Hence the null hypothesis is
rejected. There is a significant difference between
the means of the pre-and post-test SPI scores of all
respondents in Exp. group II. Therefore the treatment
was effective for both male and female respondents in
Exp. group II.

CONTROL GROUP (MALE AND FEMALE):

For the total sample of 'male and female respondents
in Control group, the calculated t-value = 0.94. The
critical table value for t at 0.05 level of significance,
with 17 df = 2.110. The calculated t-value is not
significant. Therefore, the null hypothesis is upheld.
There is no significant difference between the means of
the pre-and post-test SPI scores of all respondents
(male and female) in the control groups.

TABLE 22

CORRELATED t-TEST ANALYSIS OF PRE-AND POST-TEST SCORES

ON SPI FOR MALE AND FEMALE RESPONDENTS BY GROUPS

GROUPS	SEX	N	SCORES	$\bar{X}$	SD	OBTAINED t. VALUE	TWO TAIL PROB
EXP. I (Mode I) Self-Control Technique	MALE	9	PRE-TREATMENT	62.11	9.62	13.11	s
		9	POST-TREATMENT	84.0	8.60		
	FEMALE	9	PRE-TREATMENT	61.11	12.07	6.43	s
		9	POST-TREATMENT	77.89	14.69		
EXP. II (Mode II) Token-Economy Technique	MALE	9	PRE-TREATMENT	61.33	7.40	35.13	s
		9	POST-TREATMENT	94.0	8.06		
	FEMALE	9	PRE-TREATMENT	62.89	11.91	5.82	s
		9	POST-TREATMENT	69.89	11.44		
C G (Control Group)	MALE	9	PRE-TREATMENT	62.33	4.33	0.56	ns
		9	POST-TREATMENT	62.44	4.13		
	FEMALE	9	PRE-TREATMENT	61.33	10.22	0.65	ns
		9	POST-TREATMENT	61.78	11.21		

df = 8

Critical table value for t at 0.05 level of

significance = 2.306

s = significant

ns = not significant

The results of the correlated t-test analysis of pre-
and post-SPI scores for male and female respondents are

as follows:

For the <u>male sample in Exp. group I</u>, the calculated t-value = 13.11. Critical table value at 0.05 level of significance with 8 df = 2.306. The t-value is significant. Therefore, the null hypothesis is rejected. There is in fact a significant difference between the means of pre-and post-test SPI scores for the male sample in Exp. group I. This indicates that the treatment was effective in the case of male respondents in Exp. group I. This indicates that the treatment was effective in the case of male respondents in Exp. group I.

For the <u>female sample in Exp. group I</u>, the calculated t-value = 6.43. The critical table value for t at 0.05 level of significance with 8 df = 2.306. The calculated t-value is significant. Hence, the null hypothesis is rejected. There is a significant difference between the means of pre-and post-test SPI scores for female Exp. group I. This shows that the treatment was effective for the female respondents in Exp. group I.

For the <u>male sample in Experimental group II</u>, the calculated t-value is 35.13. The critical table value for t at 0.05 level of significance with 8 df = 2.306. The calculated t-value is significant. Therefore, the null hypothesis is rejected. There is a significant difference between the means of pre-and post-test SPI scores for the male Exp. II group. This shows that the treatment was effective for the male Exp. group II.

For the <u>female sample in Experimental group II</u>, the calculated t-value is 5.82. The critical table value

for t at 0.05 level of significance with 8 df = 2.306. The calculated t-value is significant. Therefore, the null hypothesis is rejected. There is a significant difference between the means of pre-and post-test SPI scores for female Exp. group II. This shows that the treatment was effective for the female Exp. group II.

For the male sample in Control group, the calculated t-value = 0.56. The critical table value for t at 0.05 level of significance with 8 df = 2.306. The calculated t-value is not significant. Therefore the null hypothesis is upheld. There is no significant difference between the means of pre-and post-test SPI scores for the male control group. This group did not receive any treatment and did not show any improvement in their adjustment.

For the female sample in Control group, the calculated t-value = 0.65. The critical table value for t at 0.05 level of significance with 8 df = 2.306. The calculated t-value is not significant. Therefore the null hypothesis is upheld. There is no significant difference between the means of pre-and post-test SPI scores for the female control group. This group did not receive any treatment and did not show any improvement in their adjustment.

Hypothesis No. 6:

In this hypothesis, it was stated that there are no significant differences between the means of post-test scores on student Problem Inventory (SPI) for the

Experimental group and the Control groups for the total
sample of male and female respondents. Analysis of variance
was used to test this hypothesis. Table 23 shows the ANOVA
result.

TABLE 23*

ANALYSIS OF VARIANCE OF POST-TEST SCORES ON SPI

BY GROUPS FOR THE TOTAL SAMPLE OF MALE AND FEMALE

RESPONDENTS

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F-ratio	SIGNIFI- CANCE OF F
TREATMENT	4465.78	2	2232.5		
RESIDUAL	7842.22	51	153.77	14.52	s
TOTAL	12308	53	232.23		

s = significant.

*See comment on paragraph 4.1.2 (p. 86).

Critical table value for F = 3.15 at 0.05 level
of significance with 2 df.

The result shows that the F-value which is 14.52 is
significant at 0.05 level of significance. Critical table
value for F at 0.05 alpha level with 2 df = 3.15. The
null hypothesis is therefore rejected. There are significant
differences between the groups in their mean-scores on SPI
at post-treatment level. In order to determine each group's
mean-score in relation to the grand mean, a multiple classi-
fication analysis was computed. Table 24 shows each group's
performance in relation to the grand mean of 74.96.

TABLE 24

MULTIPLE CLASSIFICATION ANALYSIS OF POST-TEST SCORES ON SPI BY GROUPS FOR THE TOTAL SAMPLE OF MALE AND FEMALE RESPONDENTS

VARIABLE AND CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENTS DEV'N	BETA
MODE					
(i) Exp. I	18	5.98		5.98	
(ii) Exp.II	18	6.98		6.98	
(iii) CG	18	-12.96		-12.96	
			0.60		0.60
Multiple R Squared					0.363
Multiple R					0.602

Grand mean = 74.96

The results of the multiple classification analysis when scores are adjusted for independents are as follows:

Grand mean = 74.96

Experimental group I registered a mean score on SPI post-test 5.98 above the grand mean.

Experimental group II registered a mean-score on SPI post-test 6.98 above the grand mean.

Control group registered a mean-score on SPI post-test -12.96 below the grand mean. This result lends further support to the finding that the treatments were effective because the experimental groups showed greater improvement in their adjustment problems than the control group. Also, Experimental group II who received treatment by the token economy technique

(mode II) showed more improvement in their adjustment than the other two groups as evidenced in their post-test SPI mean-score.

To further ascertain and confirm the direction of the differences noted in the ANOVA computation (See Table 23) between the mean-scores on post-test SPI measure for the Experimental groups and the control group for the total sample of male and female sample, t-test paired comparisons were computed. Table 25 shows the result.

TABLE 25

t-TEST PAIRED COMPARISON BY GROUPS ON POST-TEST SPI SCORES FOR THE TOTAL SAMPLE OF MALE AND FEMALE RESPONDENTS

GROUPS	N	MEAN	SD	OBTAINED t-VALUE	TWO-TAIL PROB
Exp. I Vs	18	80.94	12.09	0.21	ns
Exp. II	18	81.94	15.69		
Exp. I Vs	18	80.94	12.09	5.47	s
C.G. (Control group)	18	62.11	8.23		
Exp. II Vs	18	81.94	15.69	4.77	s
C.G. (Control group)	18	62.11	8.23		

Critical table value for t = 2.042 at 0.05 level of significance with 34 df.

s = significant

ns = not significant.

The t-test values obtained when the Experimental groups were compared with the Control groups are as shown below:

<u>Experimental group I Vs Experimental group II (Male and Female Combined)</u>:

Obtained t = 0.21

df = 34

Critical table value for t at 0.05 alpha level = 2.042.

The obtained t-value is not significant.

<u>Experimental group I Vs Control group (Male and Female combined)</u>:

Obtained t = 5.47

df = 34

Critical table value for t at 0.05 alpha level = 2.042

The obtained t-value is significant.

<u>Experimental group II Vs Control group (Male and Female combined)</u>:

Obtained t = 4.77

df = 34

Critical table value for t at 0.05 alpha level = 2.042.

The obtained t-value is significant.

This result indicates that the treatments were effective because significant difference was found between the Experimental groups and the control groups. No significant difference was found between Experimental groups I and Experimental groups II for the total sample. This shows that the two modes of treatment were equally effective in

improving the adjustment of male and female respondents
in the two experimental groups.

Hypothesis No. 7: In this hypothesis it was stated that
there are no significant differences between the means of
post-test scores on SPI for the Experimental groups and the
Control group for male respondents.

Analysis of variance was used to test this hypothesis.
Table 26 shows the ANOVA result. The F-value is 46.64.
The critical table value for F at 0.05 alpha level with
2 df = 3.40. The calculated F-value shows that there are
significant differences between the mean-scores of the
experimental groups and the control group. The null
hypothesis is therefore rejected. This indicates that the
experimental groups of the male sample improved more on
their adjustment problems than the control group.

TABLE 26[*]

ANALYSIS OF VARIANCE FOR POST-TEST SCORES ON
SPI FOR THE EXPERIMENTAL GROUPS AND THE CONTROL
GROUP FOR THE MALE RESPONDENTS

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARES	F-ratio	P
Treatment	4676.19	2	2338.10		
Residual	1253.22	24	50.13	46.64	s
Total	5929.41	26	219.61		

s   =   significant.

*See   comment on paragraph 4.1.2 (p. 86)

Critical table value for F = 3.40 at 0.05 level of
significance with 2 df.

The result shows that the F-value which is 46.64 is significant at 0.05 level of significance. Critical table value for F at 0.05 alpha level with 2 df = 3.40. The null hypothesis is therefore rejected. There are significant differences between the groups in their mean-scores on SPI at post-treatment level. In order to determine each group's mean-score in relation to the grand mean, a multiple classification analysis was computed. Table 27 shows each group's performance in relation to the grand mean of 80.15.

TABLE 27

MULTIPLE CLASSIFICATION ANALYSIS OF POST-TEST

SCORES ON SPI BY GROUPS FOR MALE FRESPONDENTS

VARIABLE AND CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENTS DEV'N	BETA
MODE					
(i) Exp. I	18	3.86		3.86	
(ii) Exp. II	18	13.85		13.85	
(iii) C.G.	18	-17.71	0.89	-17.71	0.89
Multiple R Squared					0.788
Multiple R					0.887

Grand mean = 80.15

The results of the multiple classification analysis when scores are adjusted for independents are as follows:

Grand mean = 80.15

Experimental group I registered a mean-score on SPI post-test 3.86 above the grand mean.

<u>Experimental group II</u> registered a mean-score on SPI post-test <u>13.85</u> above the grand mean.

<u>Control Group</u> registered a mean-score on SPI post-test -17.71 below the grand mean. This result lends further support to the finding that the treatments were effective because the experimental groups showed greater improvement in their adjustment problems than the control group. Also, experimental group II who received treatment by the Token economy (Mode II) showed more improvement in their adjustment than the other two groups as evidenced in their post-test SPI mean-scores.

To further ascertain and confirm the direction of the differences noted in the ANOVA computation (See Table 26) between the mean-scores on post-test SPI measure for the experimental groups and the control group for the male sample, t-test paired comparisons were computed. Table 28 shows the result.

<u>TABLE 28</u>

<u>t-TEST PAIRED COMPARISON BY GROUPS ON POST-TEST SPI SCORES FOR MALE RESPONDENTS</u>

GROUPS	N	MEAN	SD	OBTAINED t-value	TWO-TAIL PROB
EXP. I Vs	9	84.00	8.60	2.54	s
EXP. II	9	94.00	8.06		
EXP. I Vs	9	84.00	8.60	6.76	s
C.G. (Control group)	9	62.44	4.13		
EXP. II Vs	9	94.00	8.06	10.42	s
C.G. (Control Group)	9	62.44	4.13		

Critical table value for t = 2.120 at 0.05
level of significance with 16 df.

s = significant

The results of the t-test comparisons for the male
sample are as follows:

Experimental group I Vs. Experimental group II:

The obtained t-value is 2.54. The critical table value
for t at 0.05 level of significance with 16 df = 2.120.

The obtained t-value is significant. This shows that
there is a significant difference between the treatment
groups of the male sample.

Experimental group I Vs. Control group:

The obtained t-value is 6.76. The critical table
value for t at 0.05 level of significance with 16 df = 2.120.

The obtained t-value is significant. This shows that
there is a significant difference between the Experimental
group I and the Control group of the male sample.

Experimental group II Vs. Control group:

The obtained t-value is 10.42. The critical table
value for t at 0.05 level of significance with 16 df =
2.120. The obtained t-value is significant. This shows
that there is a significant difference between the
Experimental group II and the control group of the male
sample.

Hypothesis No. 8:

In this hypothesis it was stated that there are no
significant differences between the means of post-test
scores on SPI for the Experimental groups and the control
group for female respondents. Analysis of variance was
used to test this hypothesis. Table 29 shows the ANOVA
result.

TABLE 29[*]

ANALYSIS OF VARIANCE OF POST-TEST SCORES ON SPI

FOR THE EXPERIMENTAL GROUPS AND THE CONTROL GROUP

FOR THE FEMALE RESPONDENTS

SOURCE OF VARIATION	SUM OF SQUARE	DF	MEAN SQUARE	F-ratio	SIGNIFICANCE OF F
Treatment	1173.51	2	586.76		
Residual	5093.90	24	212.25	2.76	ns
Total	6267.41	26	241.05		

ns = not significant.

*See comments on paragraph 4.1.2 (p. 86).

Critical table value for F = 3.40 at 0.05

level of significance with 2 df.

The result shows that the F-value which is 2.76 is not

significant at 0.05 level of significance. Critical

table value for F at 0.05 alpha level with 2 df = 3.40.

The null hypothesis is therefore upheld. There are no

significant differences between the female groups in their

mean-scores on SPI at post-treatment level. In order to

determine each group's mean-score in relation to the

grand mean, a multiple classification analysis was

computed. Table 30 shows each group's performance in

relation to the grand mean 69.85.

TABLE 30

MULTIPLE CLASSIFICATION ANALYSIS OF POST-TEST SCORES
ON SPI FOR THE EXPERIMENTAL GROUPS AND THE CONTROL
GROUPS FOR THE FEMALE RESPONDENTS

VARIABLE AND CATEGORY	N	UNADJUSTED DEV'N	ETA	ADJUSTED FOR INDEPENDENCE DEV'N	BETA
MODE					
(i) Exp. I	18	8.04		8.04	
(ii) Exp. II	18	0.04		0.04	
(iii) C.G.	18	-8.07	0.43	-8.07	0.43
Multiple R Square					0.187
Multiple R					0.433

Grand mean = 69.85.

The results of the multiple classification analysis when
scores are adjusted for independents are as follows:

Grand mean = 69.85

Experimental group I registered a mean-score on SPI
post-test 8.04 above the grand mean.

Experimental group II registered a mean-score on SPI
post-test 0.04 above the grand mean.

Control group registered a mean-score on SPI post-test
-8.07 below the grand mean. This result lends further
support to the finding that there are no significant
differences between the post-test scores of the three
groups' Experimental group I (Mode I) showed more
improvement in their adjustment than the other two groups
as evidenced in their post-test SPI mean-scores.

To further ascertain and confirm the direction of the differences noted in the ANOVA computation (See Table 29) between the mean-scores on post-test SPI measure for the experimental groups and the control group for the female sample, t-test paired comparisons' were computed.   Table 31 shows the result.

TABLE 31

t-TEST PAIRED COMPARISON BY GROUPS ON POST-TEST

SPI SCORES FOR FEMALE RESPONDENTS

GROUPS	N	MEAN	SD	OBTAINED t-VALUE	TWO-TAIL PROB
EXP. I Vs	9	77.89	14.69	1.29	ns
EXP. II	9	69.89	11.44		
EXP. I Vs	9	77.89	14.69	2.62	s
C G (Control group)	9	61.78	11.21		
EXP. II Vs	9	69.89	11.44	1.52	ns
C G (Control group)	9	61.78	11.21		

Critical table value for t = 2.120 at 0.05 level of significance with 16 df.

s   =   significant

ns =   not significant.

The results of the t-test comparison for the female sample are as follows:

Experimental group I Vs. Experimental group II:

The obtained t-value   =   1.29.

The critical table value for t at 0.05 level of significance with 16 df   =   2.120.

The obtained t- is not significant. This shows that there is no significant difference between the treatment groups of the female sample.

Experimental group I Vs. Control group:

The obtained t-value = 2.62

The critical table value for t at 0.05 level of significance with 16 df = 2.120.

The obtained t is significant. This shows that there is a significant difference between the Experimental group I and the Control group of the female sample.

Experimental group II Vs. Control group:

The obtained t-value = 1.52

The critical table value for t and 0.05 level of significance with 16 df = 2.120.

The obtained t-value is not significant. This shows that there is no significant difference between Experimental group II and those in the Control group of the female sample.

Table 31 further shows that the group under Treatment Mode I has the highest mean score (77.89) on post-test adjustment as against the other two groups. Hence Treatment Mode I (the self-control therapy) was more effective for the female sample.

A graphic representation of the mean SPI post-test scores in Tables 22 and 30 is shown in Figure II.

FIGURE II: THE MEAN SPI POST-TEST SCORES FOR MALE AND
FEMALE RESPONDENTS FOR THE THREE TREATMENT
GROUPS

_____ Female respondents
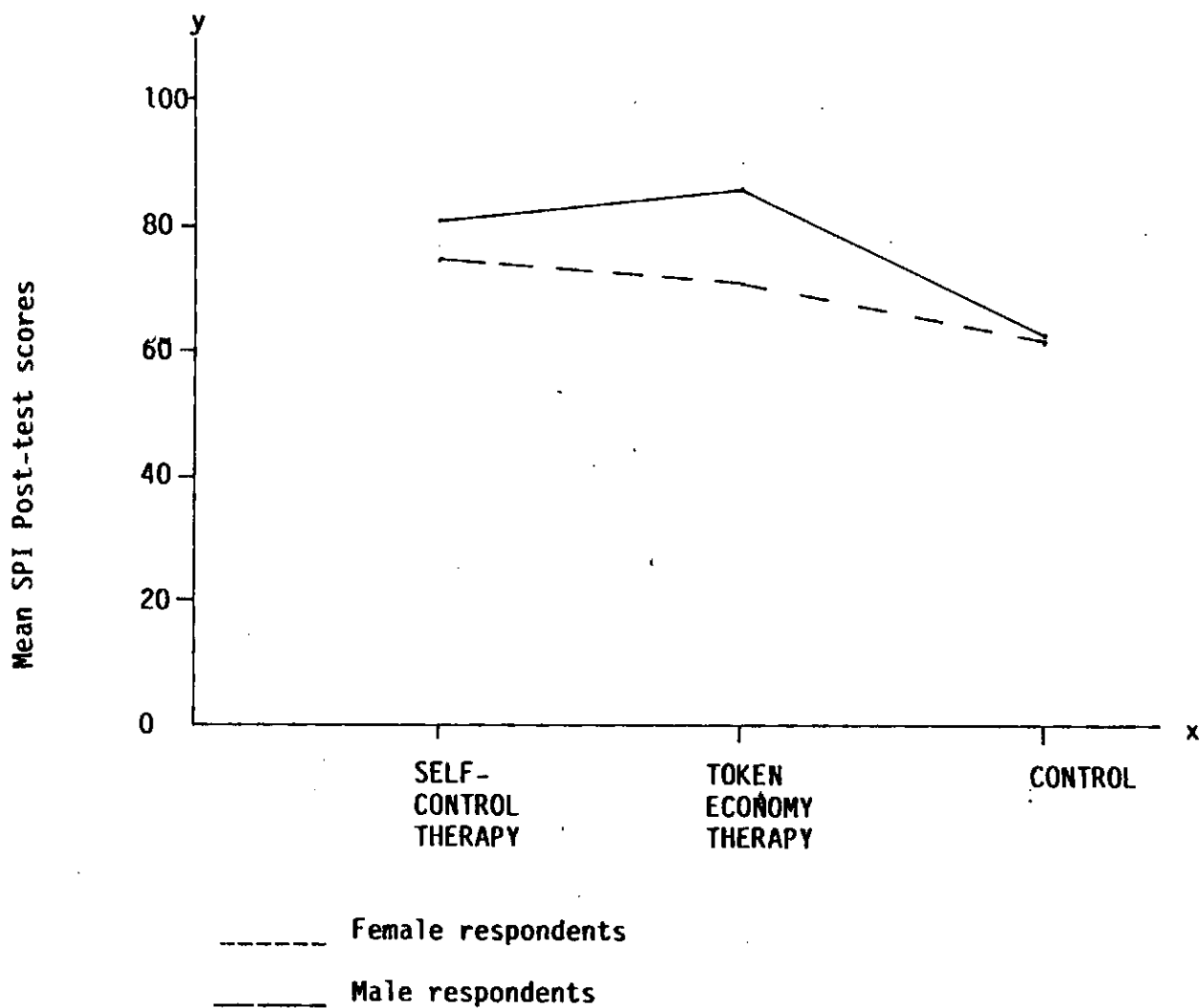
_____ Male respondents

A graphic representation of the mean SPI post-test scores for male and female respondents in the three treatment groups (the self-control therapy, the Token economy therapy and the control) is shown in Figure 11. From the diagrammatic representation of these mean scores, it is observed that the boys improved greatly on their adjustment problems with exposure to the token economy therapy. Also that the boys exposed to the two treatment techniques scored higher points than their female counterparts. In other words boys appear to be superior to girls in their performance in the two treatments. Thus, there is an interaction effect between sex and the two treatments applied in this study (as well as a difference between the sexes). The interaction is ordinal because boys recorded higher mean scores than the girls in the two treatment groups.

4.3.1   SUMMARY OF FINDINGS AND CONCLUSIONS:

1.   A significant difference was found between the
Experimental groups and the Control groups in terms of
their mean-scores on APDI at post-treatment level (see
ANOVA table 12 and t-test results in table 14). The
Experimental groups showed higher levels of self-concept
than the control groups. It is therefore concluded that
giving approved school juvenile delinquents treatment
improves their self-concept more than if they were not
given any treatment.

2.   No significant difference was found between the
Experimental group I and Experimental group II in the case
of the total sample of male and female respondents in terms
of their mean-scores on APDI at post-treatment level.
This indicates that the two modes of treatment (Modes I
and II) were equally effective in improving the self-
concept of male and female respondents in the two Experimen-
tal groups (EXP. I and II). (See table 14).

3.   A significant difference was found between the male
experimental groups and their control group counterparts
in terms of their mean-scores on post-treatment APDI measure.
The two experimental groups registered higher mean-scores
as against their Control group counterparts. It is
concluded that the treatments (self-control therapy and
Token economy) improve the self-concept of male juvenile
delinquents. (See tables 15, 16, and 17).

4.   A significant difference was found between the
Experimental groups of the female sample in terms of their
mean-scores on APDI post-test measure. This indicates
that the different modes had differential effects on the
self-concept of the female respondents. The Token
economy therapy (Mode II) was found to be superior to the
self-control therapy for improving the self-concept
of female respondents (see tables 18, 19 and 20).

5.   A significant difference was found between the female
experimental groups and their control group counterparts in
terms of their mean-scores on post-test APDI measure.
The two experimental groups registered higher mean-scores
as against their control group counterparts. It is
concluded that the treatments (self-control therapy and
Token econòmy) improve the self-concept of female juvenile
delinquents. (see Tables 19 and 20).

6.   A significant difference was found between the Experi-
mental groups and the control groups for the total sample
of the male and female respondents in terms of their mean-
scores on SPI post-test level (see tables 23 and 24). The
Experimental groups showed higher levels of adjustment
than the control groups. It is therefore concluded that
giving approved school juvenile delinquents treatment
improves their adjustment more than if they were not given
any treatment.

7.   No significant difference was found between the
Experimental group I and Experimental group II in the case
of the total sample of male and female respondents in

terms of their post-test SPI scores. This indicates
that the two modes of treatment (Modes I & II) were
equally effective in improving the adjustment of male
and female respondents in the two Experimental groups
(EXP. I and EXP. II) (See table 25).

8.   A significant difference was found between the
Experimental groups of the male sample in terms of their
mean-scores on SPI post-test measure. This indicates
that the different modes had differential effects on the
adjustment of the male respondents. The Token economy
therapy (Mode II) was found to be superior to the self
control therapy for improving the adjustment of male
respondents (see table 28).

9.   A significant difference was found between the male
experimental groups and their control group counterparts,
in terms of their mean-scores on post-test SPI measure.
The two experimental groups registered higher mean-scores
as against their control group counterparts. It is
concluded that the treatment (self-control therapy and
Token economy) improve the adjustment of male jevenile
delinquents (see table 28).

10.   No significant difference was found between the
Experimental group I and Experimental group II of the
female sample in terms of their mean-scores on SPI post-
test measures. This indicates that the two modes of treat-
ment (Modes I & II) were equally effective in improving
the adjustment of female respondents (see Table 31).

11.   No significant difference was found between the Experimental group II of the female sample and their control group counterparts in terms of their mean-scores on SPI post-test measure. This indicates that the treatment (Token economy) was not very effective for the female sample. (See Table 31).

12.   Graphic representations of the mean SPI and APDI post-test scores for male and female groups show that there are interaction effects of sex and mode of treatments. This confirms that the modes of treatment.affected the sexes differently (See Figures I and II).

4.3.2   OTHER FINDINGS:

1.   Male juvenile delinquents generally have higher self-concepts than their female counterparts (see Table 8). Males' pre-and post-test mean-scores on self-concept were 119.48 and 160.22 respectively. Females' pre-and post-test mean-scores were 118.81 and 136.52 respectively.

2.   Male juvenile delinquents generally have higher level of adjustment than their female counterparts (see Table 9). Males' pre-and post-test mean-scores on adjustment were 61.93 and 80.15 respectively. Females' pre-and post-treatment mean-scores on adjustment were 61.78 and 68.32 respectively.

3.   Males' response to the two treatment modes is higher than females' (see Table 8 and 9). At post-treatment phase, male juvenile delinquents had APDI mean-scores of 160.22 while their female counterparts scored 136.52. Similarly at post-test level, male

delinquents had a mean-score of 80.15 on SPI while their female counterparts had 68.32.

The next chapter, which is the concluding chapter, focused on the discussion of the findings, implications, recommendations and suggestions for further research.

CHAPTER FIVE

DISCUSSION OF FINDINGS, IMPLICATIONS, RECOMMENDATIONS

AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 INTRODUCTION:

This study examined the effectiveness of Kanfer's (1971) self-control therapy and Ayllon and Azrin's (1968) Token economy in improving the self-concept and adjustment problems of juvenile delinquents in two approved schools in Lagos. Two experimental groups and one control group comprising 27 male and 27 female delinquents were used.

Respondents assigned to Treatment Mode I (Exp. group I) were exposed to the self-control therapy. The group received 16 sessions of self-control therapy on a bi-weekly basis. Each session lasted for one and a half hours. The whole exercise lasted for ten weeks. Respondents assigned to Treatment Mode II (Exp. group II), were exposed to the Token economy therapy. The group had 2 main sessions. Members of this group were however seen as a group by the researcher daily during the first two weeks of treatment, twice a week during the next four weeks of treatment and once a week during the last two weeks of treatment. Each session lasted for one hour and the whole exercise lasted for ten weeks. The control group (CG) did not receive any treatment but members met as a group at the same time as those assigned to Treatment Mode I.

The major objective of the present study was to
find out the effectiveness of two treatment techniques
(self-control Therapy and Token economy) in assisting
juvenile delinquents in approved schools to improve on
their self-concept and adjustment problems. Eight null
hypotheses were stated and statistically analysed. This
chapter discusses the findings of the investigation based
on the results of the statistical testing of the hypotheses
stated. It highlights the implication of these findings
for scholars in the helping professions who may be
involved in mounting psychological supports for adequate
adjustment and the development of the mental health of
youths. It also highlights the implication of the findings
for counsellors and social welfare workers who are either
currently in the fied or in training.

5.2   DISCUSSION OF FINDINGS:

One major finding of this study is that both the
self-control therapy and the Token economy do improve
the self-concept of delinquent juveniles in approved
schools. This was shown in the result of hypothesis I.
Table 10 shows the results of the t-test analysis of pre-
and post-test APDI scores for the three groups for the
total sample of male and female respondents. The results
indicate that respondents in Experimental group I,
benefited from the treatment. The t-value for their pre-
and post-test APDI scores comparison was 5.23. This

value was significant at 0.05 level of significance. These groups were exposed to the self-control therapy (Mode I). The mean difference between the pre-and post-treatment APDI scores for the respondents exposed to Mode I therapy was 41.38. This indicates that the treatment improve their self-concept level as measured by the APDI. Therefore, the treatment was effective for respondents in Experimental group I. Similarly, respondents in Experimental group II also showed a significant increase in their mean self-concept level. The t-value for their pre-and post-test APDI scores comparison was 6.48 and this was found to be significant at 0.05 level of significance. The Exp. II respondents were exposed to the Token economy therapy (Mode II). The mean difference between the pre-and post-test APDI scores for respondents exposed to Mode II therapy was 44.95 which was higher than that of Exp. group I. This indicates that the treatment improved their self-concept level as measured by the APDI. Therefore, the treatment was effective for respondents in Experimental group II.

Respondents in the control groups did not receive any treatment and they were found to have registered no appreciable increase in their mean self-concept level. The t-value for their pre-and post-test APDI scores comparisons was 0.34 which was not significant at 0.05 level of significance. The mean difference between their pre-and post-test APDI scores was 1.34. The mean self-concept level of respondents in the control group remained almost the same at pre-and post-test phase because they were not given any treatment.

When the sexes were considered separately, some variations were found in the results of male and female samples. When one considers Table 11 male respondents in Exp. group I had a t-value of 9.20, when their pre- and post-test APDI scores were compared. This t-value was significant at 0.05 level of significance, indicating that the male respondents who received the self-control therapy improved on their self-concept. In addition to this male respondents who received the self-control therapy had 69.88 as the mean difference between their pre- and post-test APDI scores. Their female counterparts had a t-value of 5.63 when their pre-and post-test APDI scores were compared. This t-value was also significant indicating that the female respondents who received the self-control therapy improved on their self-concept. However in terms of the mean difference between their pre-and post-test APDI scores, the females had 12.88 which was comparatively lower than that of the male group. These results indicate that the males that received the self-control therapy (Mode I) benefited from the treatment more than their female counterparts. Male respondents in Experimental group II who were exposed to the Token economy therapy (Mode II) benefited significantly from the treatment. The t-value of 5.12 for the group's pre-and post-test APDI scores comparison was significant at 0.05 level of significance, thus indicating that the treatment was effective for male juvenile delinquents in Experimental group II. In addition to this, the male respondents in Exp. group II had 51.44 as the mean difference between their pre-and-post-test

APDI scores. Their female counterparts had a t-value of 6.78 when their pre-and post-test APDI scores were compared. This t-value was significant indicating that the female respondents who were exposed to the Token economy therapy (Mode II) also benefitted from the treatment. In terms of the mean difference between their pre-and post-test APDI scores, they had 38.44 which was lower than that of their counterparts. However, the treatment was effective for male and female respondents exposed to the Token economy therapy (Mode II).

Male respondents in the control group did not receive any treatment. A t-value of 1.32 was recorded for their pre-and post-test APDI scores comparison. This t-value was not significant at 0.05 level of significance, indicating that they did not improve on their pre-treatment scores. In terms of the mean difference between their pre-and post-treatment APDI scores, they had 0.89. The male respondents in the control group had a result that conformed with expectations. As for their female counterparts, a t-value of 0.97 was recorded for their pre-and post-test APDI scores comparison. This t-value was not significant at 0.05 level of significance, indicating no improvement of their pre-test scores. The mean difference between their pre-and post-test APDI scores was 1.78. The result is in agreement with expectations, as they did not receive any treatment.

From the preceding discussion it would be right to state that both male and female juvenile delinquents in approved schools can be assisted to improve on their self-concept if they are exposed to the two treatment techniques applied in this study.

Another finding of this study is that the two treatment modes (Mode I and II) were equally effective in improving the self-concept and adjustment of juvenile deliquents

in the approved schools. The results of the

statistical testing of hypotheses 2 attest to this

finding. In hypothesis 2 it was hypothesized that there

are no significant differences between the means of post-

test scores on APDI for the Experimental groups and the

control groups for male and female respondents. This

hypothesis was rejected. Table 12 shows the ANOVA result

indicating that significant differences exist between the

means of post-test scores on SPI for the Experimental groups

and the control groups for the male and female respondents.

The F-value of 17.49 was significant at 0.05 level of

significance. This result confirms that the treatments

were effective. To lend credence to this, the multiple

classification analysis result (see Table 13) shows that

subjects in Experimental group I obtained a mean-score

on APDI post-treatment measure 13.07 above the grand mean

of 148.37. Respondents in Exp. group II registered a

mean - score of 16.52 above the grand mean. Respondents

in the control group registered a mean-score - 29.59

below the grand mean. However, no significant differences

were found between the two Experimental groups (Exp. I

and Exp. II) in terms of their mean-scores on post-

treatment APDI measure (see Table 14). This indicates

that the two modes employed in this study for improvement

of self-concept were equally effective for the total sample

of male and female respondents. Therefore, either method

or both could be used in either male or female approved

schools for improving the self-concept of male and female

respondents. In summary, from the result of the

statistical testing of hypothesis 2, it could be concluded

that both the self-control therapy (mode I) and the Token economy therapy (mode II) are effective in improving the self-concept of juvenile delinquents in approved schools.

Unfortunately, the researcher is not aware of any study that has compared the effectiveness of the two treatment techniques employed in the present study in the treatment of juvenile delinquents in approved schools. However a Nigerian study in which the two techniques were employed (Akinranti, 1984) was carried out among prisoners who are adults and not juveniles.

The third hypothesis tested in this study stated that there are no significant differences between the means of post-test scores on APDI for the Experimental groups and the control group for male respondents. The result of the statistical testing of this hypothesis rejected this hypothesis. Significant differences were found between the means of post-test scores on APDI for the experimental groups and the control group for male respondents. Significant differences were found among the three groups in terms of their mean-scores on post-treatment APDI measure. Hence, hypothesis 3 was rejected. Table 15 shows the ANOVA result indicating an F-value of 21.73 which was significant at 0.05 level of significance.

In this study, it was also found that there are significant differences between the two treatment groups for female respondents as far as their mean-scores at post-test level were concerned. Also significant differences were found between the Experimental groups and the control group. Table 18 shows the ANOVA result

indicating an F-value of 19.36 which was significant at 0.05 level of significance. Also Table 20 confirms the result in Table 18.

Another major finding of this study is that the self-control therapy and Token edonomy do improve the adjustment of delinquent juveniles in approved schools. This was shown in the result of hypothesis 5. Table 21 shows the t-test analysis of pre-and post-test SPI scores for the three groups for the total sample of male and female respondents. The results indicate that respondents in Experimental group I benefited from the treatment. The t-value for their pre-and post-test SPI scores comparison was 2.89. This value was significant at 0.05 level of significance. Members of this group were exposed to the Self-control therapy (Mode I). The mean difference between the pre-and post-test SPI scores for the respondents exposed to Mode I therapy was 19.33. This indicates that the treatment improved their adjustment level as measured by the SPI. Therefore, the treatment was effective for respondents in Experimental group I. Similarly respondents in Experimental group II also showed a significant increase in their mean adjustment level. The t-value for their pre-and post-test SPI scores comparison was 6.20 and this was found to be significant at 0.05 level of significance. The respondents in Exp. group II were exposed to the Token economy therapy (Mode II). The mean difference between the pre-and post-test SPI scores for respondents exposed to Mode II therapy was 19.83 which was slightly higher than

that of Exp. I group. This indicates that the treatment
improved their adjustment level as measured by the SPI.
Therefore, the treatment was effective for respondents
in Experimental group II.

Respondents in the control group did not receive
any treatment and they were found to have registered no
appreciable increase in their mean adjustment level. The
t-value for their pre- and post-test SPI scores comparisons
was 0.94 which was not significant at 0.05 level of
significance. The mean difference between their pre-and
post-test SPI scores was 0.28. The mean adjustment level
of respondents in the control groups remained almost the
same at pre-and post-treatment phase because they were not
given any treatment.

When the sexes were considered separately, some
variations were found in the results of male and female
samples. Considering Table 22, male respondents in Exp.
I group had a t-value of 13.11 when their pre-and post-
test SPI scores were compared. This t-value was signifi-
cant at 0.05 level of significance, indicating that the
male respondents who received the self-control therapy
improved on their adjustment problems. In addition to
this, male respondents who received the self-control
therapy had 21.89 as the mean difference between the pre-
and post-test SPI scores. Their female counterparts had
a t-value of 6.43 when their pre-and post-test SPI
scores were compared. This t-value was also significant
indicating that the female respondents who received the
self-control therapy improved on their adjustment.

However, in terms of the mean difference between the pre-and post-treatment SPI scores, the females had 16.78 which was however lower than that of their male counterparts. These results indicated that the male group that received the self-control therapy (Mode I) benefited from the treatment more than their female counterparts.

Male respondents in Experimental group II who were exposed to the Token economy therapy (Mode II) benefited tremendously from the treatment. The t-value of 35.13 for the group's pre-and post-test SPI scores comparison was highly significant at 0.05 level of significance, thus indicating that the treatment was very effective for male juvenile delinquents in Experimental group II. In addition to this, the male respondents in Exp. group II had 32.67 as the mean difference between their pre-and post-test SPI scores. Their female counterparts had a t-value of 5.82 when their pre-and post-test SPI scores were compared. This t-value was significant indicating that the female respondents who were exposed to the Token economy therapy (Mode II) also benefited from the treatment. As for the mean difference between their pre-and post-test SPI scores, they had 7.0 which was far below 32.67 recorded for the male group.

Generally, the treatment was effective for male and female respondents exposed to the Token economy therapy (Mode II).

Male respondents in the control group did not receive any treatment. A t-value of 0.56 was recorded for

their pre-and post test SPI scores comparison. This t-value was not significant at 0.05 level of significance, indicating that they did not improve on their pre-treatment scores. In terms of the mean difference between their pre- and post-test SPI scores, they had 0.11. The male respondents in the control group had a result that conformed with expectations because they did not receive any treatment. As for their female counterparts, a t-value of 0.65 was recorded for their pre-and post-test SPI scores comparison. This t-value was not significant at 0.05 level of significance, indicating no improvement on their pre-treatment scores. The mean difference between their pre- and post-test SPI scores was 0.45. The result is in agreement with expectations as they did not receive any treatment.

In summary, from the results of the statistical testing of Hypothesis 5, it could be concluded that for the male respondents, the two treatment techniques had made great impact on them because the boys exposed to them improved tremendously on their self-concept and adjustment at post-treatment phase.

The level of responses of the entire male group was very high when compared with that of their female counterparts. As for the female group, although the two treatment techniques were found to have yielded some positive results, there is the need to point out that the performance of the female juvenile delinquents in this study was not high enough, especially when their mean

scores and difference between their pre-and post-
treatment scores were compared with that of boys.

Supports for this finding on sex-differences in
response to treatment are difficult to come by in the
literature as most of the studies on the treatment of
juvenile delinquents in approved schools have mostly
focused on male delinquents to such an extent that one
wonders if there are female juvenile delinquents.

The finding that token economy is very effective
in improving the adjustment of male juvenile delinquents
in approved schools supports the findings of researchers
such as Cohen et al, (1966), Burchard, (1967), Phillips,
(1968), Dranman et al, (1973) and Brown, (1979), to
mention but a few. The common objective of any interven-
tion programme is to improve the level of adjustment of
juvenile delinquents exposed to it. A typical juvenile
delinquent in the approved school is a young person with
poor concept of himself. He is a deviant who finds it
difficult to keep to the laid down rules and regulations
of the institution and the larger society. To be able to
cope effectively at the end of his committal with the
demands of the society beyond the gates of the approved
school he needs to attain certain level of self-concept
and adjustment. The assumption therefore is that if
juvenile delinquents are exposed to some behaviour
modification techniques such as the self-control therapy
the will have the opportunity of learning and acquiring

new skills. The researcher observes that in Nigeria the issue of delinquency goes beyond the gates of the approved schools. There are reports on the increase in the growth of crime among the juveniles and adults. It is envisaged that if the juvenile delinquents in the approved schools are effectively treated to reduce their anti-social behaviours they will not end up swelling the number of adult delinquents in the society.

In hypothesis 6 it was hypothesised that there are no significant differences between the means of post-test scores on SPI for the Experimental groups and the control group for the total sample of male and female respondents. This hypothesis was rejected. Table 23 shows the ANOVA result indicating that significant differences exist between the means of post-test scores on SPI for the Experimental groups and the control group for the male and female respondents. The F-value of 14.52 was significant at 0.05 level of significance. This result confirms that the treatments were effective. To lend further credence to this, the multiple classification analysis result (see Table 24) shows that respondents in Experimental group I obtained a mean-score on SPI post-treatment measure 5.98 above the grand mean of 74.96. Respondents in Experimental group II registered the grand mean of 6.98 above the grand mean of 74.96. Respondents in the control group registered a mean-score -12.96 below the grand mean. However, no significant differences were found between the two Experimental groups (Exp. I and Exp. II) in terms of their mean-scores on post-

treatment SPI measure (see Table 25). This indicates
that the two modes employed in this study for improvement
of adjustment were equally effective for the total sample
of male and female respondents. Therefore either method
or both could be used in either male or female approved
schools for improvement of the adjustment problems of
male and female juvenile delinquents. In conclusion,
from the result of the statisfical testing of hypothesis
6, it could be concluded that both the self-control
therapy (mode I) and the Token economy therapy (mode II)
are effective in improving the adjustment problems
facing juvenile delinquents in approved schools.

Another finding of this study is that got from
testing hypothesis 7 in which there was a significant
difference between the means of post-test scores on SPI
for Experimental group 1 and Experimental group II for
male sample. This means that the two treatment
techniques have differential effects on the male sample
as far as improving their adjustment is concerned. The
token economy was the most effective of the two methods.
(See Tables 27 and 28).

Another finding is that got from testing hypothesis
8 in which there was no significant difference between
the means of post-test scores on SPI for female
respondents in Exp. group II and those in the control
group. This suggests that the Token economy therapy was
not effective enough in improving the adjustment problems
of female delinquents (See Tables 30 and 31).

In summary, the results from hypotheses 1-8 confirm that juvenile delinquents in approved schools can benefit from intervention programmes. In other words juvenile delinquents in approved schools can improve on their self-concept and overall adjustment if exposed to either or both the self-control therapy and the Token economy. It follows therefore that authorities of approved schools should be free to apply any or both treatment techniques to the juveniles under their supervision.

5.3 Implication of the Results For Trainers of Social Welfare Workers and Counsellors

The major question that this study has answered is that two treatment techniques, the self-control therapy and the Token economy therapy are more effective than the current methods of treatment employed by the authorities of approved schools in treating both the male and female juvenile delinquents to improve on their self-concept and adjustment problems. With this result both treatment techniques should be seen as useful although the self-control therapy which is less expensive and which perhaps may have longer lasting effect since it involves learning of some new skills should be favoured.

The finding that the two treatment techniques have differential effectiveness for the sexes has great implications for trainers of social welfare officers and counselling personnel generally. There is the need for trainers of Social Welfare Workers to introduce some treatment techniques such as the two techniques used in

this study into the curriculum of Social Welfare Workers in training. In the same fashion counsellors in training should also be introduced to some of these treatment techniques.

The researcher observes that many Nigerian counsellors and social welfare officers in institutions like the prisons and the approved schools know little or nothing about the current behaviour modification techniques such as the self-control therapy and the Token economy. If they are ignorant of these new techniques, how can they apply them to improve on the adjustment of people with anti-social behaviours especially the juveniles? It is therefore suggested that trained counsellors and social welfare officers in charge of reformatory institutions should be given opportunity for in-service training from time to time, in order to update their knowledge on various treatment techniques available. Added to this, it is hereby suggested that workshops and seminars on some effective treatment techniques be organised by the various state Ministries of Social Development, Youth, and Sports for practising counsellors and social workers to ensure that they keep abreast of new developments in this area. These suggestions are in line with one of the requirements of a counsellor given by Olayinka (1986) which states that: "The tenth requirement is that there be developed in the counsellor, a specific knowledge concerning various types of treatment facilities, methods of proper referral ------ and a sense of obligations to

work in the community to meet the needs for such facilities."
The question on whether a therapist should change his
or her treatment technique on the basis of the problem,
the need and the personality of the client often arises.
A therapist in the researcher's opinion should be well
acquainted with various treatment techniques and should
be in a position to use at least two treatment techniques
in assisting a client who has a problem.

The present researcher strongly believes that a well-
planned and properly executed therapy (be it the self-
control therapy or the Token economy therapy) will help
the inmates of approved schools in improving on their
self-concept and adjustment problems.

The findings of this research have shown that compared
with the control groups juvenile delinquents exposed to
both the self-control therapy and the Token economy therapy
performed better. It therefore follows that many juvenile
delinquents in Nigerian approved schools can be assisted to
improve on their anti-social behaviours before the end of
their period of committal by exposing them to any of the
two treatment techniques. This will help them to improve
on their self-concept and anti-social behaviours. If done
this will raise their self-concept level, reduce the
frequency of displaying anti-social behaviours and the rate
at which some inmates need to be moved from one approved
school to the other.

The findings of this study may enhance the treatment
of criminally - minded juveniles. The findings may also
provide information which may be useful in the training

programme of Social welfare workers by the authorities concerned. Also the findings may provide a useful guide to all scholars in the helping professions who may be involved in mounting psychological supports for adequate adjustment and the development of the mental health of youths. The findings may specifically be useful to Developmental psychologists who is the Nigerian context may be constantly consulted to help in the modification of aberant patters of juvenile behaviour.

The findings of this study may also be useful to teachers in both primary and secondary schools who may be involved in the handling of some children with anti-social behaviours.

5.4   RECOMMENDATIONS:

On the basis of the findings of this research study the following recommendations are made:

1.   Trainers of Social Welfare Workers should introduce the practice of self-control therapy and Token economy therapy into the curriculum of their students. This is very crucial as on completion of their courses some of this category of students will in most cases be placed in charge of people who have behaviour problems. In particular those who will eventually find themselves in charge of prisoners and juvenile delinquents will have a lot to benefit from having access to the operation of these two treatment techniques.

2.   State Governments and in particular the Lagos State Government should endeavour to include at least a trained counsellor in the list of staff for each approved school and other similar reformatory/rehabilitatory institutions. If this is done approved school juvenile delinquents and other people with anti-social behaviours in institutions will have trained counsellors who can assist them to adjust their anti-social behaviours.

3. State Governments, and in particular
   the Lagos State Government should make
   provision for welfare officers in the
   field to go on short training/refresher
   courses where they can update their
   knowledge on current effective treatment
   techniques.

4. Workshops and seminars on current
   treatment methods should be organised
   by State Ministries of Social Development,
   Youth and Sports for both counsellors and
   social welfare workers in the field.

5.5 SUGGESTIONS FOR FURTHER RESEARCH

1. On the basis of the scope and limitations of this

   study, future researchers should endeavour to

   replicate the study using approved schools in other

   states of the Federation and if possible using a

   larger sample so that the research could have a wider

   scope and easy generalisation could be made. Boys

   and Girls should be used as has been done in this

   study so that comparisons can be made on sex basis.

2. Future researchers should also find out if there are

   significant differences in the effectiveness of either

   the self-control therapy or the Token economy Therapy

   with other treatment techniques.

3. A similar research could be done but with different

   treatment techniques to find out if female juvenile

   delinquents will be more responsive to other

   techniques apart from the self-control therapy and

   the Token economy.

REFERENCES

BOOKS

Achenbach, T.M. (1974): Developmental psychopathology. New York: Ronald Press.

Aichhorn, A. (1935): Wayward Youth. Vicking.

Akinboye, J.O. (1976): Adolescent Personal Data Inventory (APDI); Department of Guidance and Counselling. Ibadan: University of Ibadan Press.

Akinboye, J.O. (1982): Adolescent Personal Data Inventory (APDI) handbook. Ibadan: University of Ibadan Press.

Andrews, I.M. and Karlins, M. (1971): Requiem for Democracy. New York: Holt Rinehart and Winston.

Andry, R.G. (1962): Parental Affection and Delinquency in Wolfgang. New York: Savitz and Johnston.

Ausubel, D.P. and Sullivan, E.V. (1970): Theory and Problems of Child Development. (2nd ed.) New York: Grune and Stratton.

Ayllon, T. and Azrin, N.H. (1968): The Token Economy: A Motivational System for Therapy and Rehabilitation. New York: Appleton Century Press.

Bakare, C.G.M. (1977): Student Problems Inventory. Ibadan: Ibadan University Press.

Bandura, A. (1969): Principles of Behaviour Modification. New York: Holt, Rinehart and Winston.

Bandura, A. and Walters, R.H. (1959): Adolescent Aggression New York; Ronald Press.

Bandura, A. and Walters, R.H. (1963): Social Learning and Personality Development. New York: Holt, Rinehart and Winston.

Beck, A.T. (1976): Cognitive Therapy and the Emotional Disorders. New York: International University Press.

Bowly, J. (1946): Forty-four Juvenile Thieves. London: Tindall and Cox.

Boyd, W. (1962): "John Locke". (Translated and edited by Boyd, W.) New York: N Y Bureau of Publications.

Boyd, W. (1962): "The Emile of Jean Jacques Rousseau" (Translated and edited by Boyd, W.). New York: New York Bureau of Publications.

Braukmann, C.J. and Fixsen, D.L. (1975): Behaviour Modification With Delinquents In Progress in Behaviour Modification, Vol. 1, Hersen, M. et al edited New York: Academy Press.

Brookover, W.B. and Passalacqua, J. (1981): Comparison of Aggregate Self-Concepts for Populations with Different Reference Groups. In M. Lynch et al (eds) Self-Concept: Advances in Theory and Practice. Cambridge: Ballinger Press.

Calhoun, F.J. and Acocella, R.T. (1978): Psychology of Adjustment and Human Relations. New York: Random House, Inc.

Cohen, A.F. (1956): Delinquent Boys. London: Routledge and Kegan Paul.

Cohen, H. Filipiczak, J.A. and Bis. J.S. (1966): Contingencies Applicable to Special Education of Delinquents: Establishing 24-hour Control in an Experimental Cottage. Institute for Behavioural Research Inc., Silver Spring.

Cohen, H. Goldiamond, I. Filiczak, J.A. and Pooley R. (1968): Training Professionals in Procedures for the Establishment of Educational Environments. Institute for Behavioural Research Inc., Silver Spring.

Cohen, L.E. (1975): Delinquency Dispositions. Washington, D.C.: Government Printing Office.

Craighead, W.E., Kazdin, A.E. and Mahoney, M.J. (1976): Behaviour Modification Principles: Issues and Applications. Boston: Houghton Mifflin Company.

Davis, M.E. (1957): Modern Marriage and Family Living. Oxford: Oxford University Press.

Dollard, J. and Miller, N.E. (1950): Personality and Psychotherapy, New York: Mc Graw Hill.

Durojaiye, M.O.A. (1972): Psychological Guidance of the School Child. Ibadan: Evans.

Ellis, A. (1962): Reason and Emotion in Psychotherapy. New York: Lyle Stuart.

Eysenck, H.J. (1960): Behaviour Therapy and Neurosis. New York: Pergamon Press.

Eysenck, H.J. (1957): The Dynamics of Anxiety and Hypteria. London: Routledge and Kegan Paul.

Eysenck, H. (1966): Crime and Personality. London: Routledge and Kegan Paul.

Eysenck, H.J. and Rachman, S. (1967): The Causes and Cures of Neurosis. London: Routledge and Kegan Paul.

Fakayode, E.O. (1977): The Nigerian Criminal Code Companion. Benin: Ethiope Publishing Company.

Fox, L. (1966): Effecting the use of Efficient Study Habits. In R. Ulrich, T. Stachnik and J. Mabry (eds), Control of Human Behaviour. Glenview, Ill: Scott Foresman.

Glueck, S. and Glueck, E. (1964): Family Environment and Delinquency. London: Tavistock Publications.

Glueck, S. and Glueck, E. (1950): Unravelling Juvenile Delinquency. Cambridge: Harvard University Press.

Goldfried, M.R. and Merbaum, M. (eds) (1973): Behaviour Change Through Self Control. New York: Holt, Rinehart and Winston, Inc.

Guthrie, E.R. (1938): The Psychology of Learning. New York: Harper and Row.

Healy, W. and Bronner, A.L. (1936): Criminals - Their Making and Unmaking, New York: Macmillan.

Herbert, M. (1974): Emotional Problems of Development In Children. New York: Academic Press.

Homme, L. and Tosti, D. (1971): Behaviour Technology: Motivation and Contingency Management. California: San Rafael.

Hull, C.I. (1943): Principles of Behaviour. New York: Appleton Century Press.

International Encycloyaedia of the Social Sciences. (1972): New York: The Collier Macmillan and The Free Press. Vol. 15, 16, and 17.

Kanfer, F.H. (1975):   Self-Management Methods. In F.H.
Kanfer and A. Goldstein (Eds.)
Helping People Change: A Text book
of Methods. New York: Pergamon Press.

Kanfer, F.H. (1971):   The Maintenance of Behaviour by self-
generated stimuli and Reinforcement.
In A. Jacobs and L.B. Sachs (Eds).
The Psychology of Private Events.
New York: Academic Press.

Kanfer, F.H. and Goldfoot, D.A. (1973):   Self control and
Tolerance of Noxious Stimulation. In
M.R. Goldfried and Merbaum, M. (Eds.)
Behaviour Change Through Self Control.
London: Holt, Rinehart and Winston.

Kanfer, F.H. and Goldstein (1975):   Helping People Change.
A Textbook of Methods. New York:
Pergamon Press.

Kanfer, F.H. and Phillips, J.S.(1970): Learning Foundations of
Behaviour Therapy. New York: John
Willey and Sons.

Karp, F.B. (1932):   American Social Psychology. Boston:
Houghton and Mifflin Comp.

Kelly, G. (1955):   The Psychology of Personal Constructs.
New York: Norton and Company.

Krumboltz, J.D. and Krumboltz, H.S. (1972): Changing Children's
Behaviour. New Jersey: Prentice Hall

Lagos State of Nigeria (1973): Children and Young Persons' Act.
Lagos: Lagos State Printing Division.

Lange, J. (1931):   Crime as Destiny.
London: Allen and Unwin.

Lazarus, A.A. (1971a):   Behaviour Therapy and Beyond.
New York: Mc Graw Hill.

Lefkowitz, M.M. Evon, E.D. Walder, D. and Huessman, L. (1977):
Growing up to be Violent: A Longitudin-
al Study of the Development of
Aggression. New York: Pergamos Press.

Levinson, A. (1970):   The maladjusted Child
London: Allen and Unwin.

Lindner, R.M. (1944):   Rebel Without a Cause.
New York: Crune and Stratton.

Lombroso, C. (1899):   Crime, its Causes and Remedies.
Boston: Little.

Mahoney, M.J. (1974):   Cognition and Behavioural Modification
                          Cambridge: Ballinger Press.

Mc Clement A. et al, (1965): Temperament and Development,
                          London: Allen and Unwin.

Mead, G.N. (1934):   Mind, Self and Society. Chicago:
                          Chicago University Press.

Mednick, S.S. and Christiansen, K.O. (1977): Biosocial Bases
                          of Criminal Behaviour. New York:
                          Grardner Press.

Merton, R.K. (1968):   Social Theory and Social Structure.
                          New York: The Free Press.

Miller, N.E. (1951):   Learnable Drives and Rewards. In
                          S.S. Stevens (Ed.) Handbook of
                          Experimental Psychology. New York:
                          John Willey and Sons.

Miller, N.E. and Dollard, J. (1971): Social Learning and
                          Limitation. New YHaven: Yale
                          University Press.

Miller, S. (1975):   Experimental Design and Statistics.
                          London: Methuen.

Mowrer, O.H. (1960):   Learning Theory and Behaviour.
                          New York: Willey.

Nye, F.I. (1958):   Family Relationships and Deliquents
                          behaviour. New York: John Willey and
                          Sons.

Parnes, S.J. (1967):   Creative Behaviour Guidebook.
                          New York: Scribner's.

Patterson, G.R. (1969):   Behavioural Techniques Based on
                          Social Learning. An Additional Base
                          for Developing Behaviour Modification
                          Technologies. In G.M. Frank (Ed.)
                          Behavioural Therapy: An Appraisal and
                          Status. New York: McGraw Hill Book
                          Company.

Pavlov, I.P. (1928):   Conditioned Reflexes.
                          New York: International University
                          Press.

Proteet, J.A. (1973):   Behaviour Mddification.
                          Minneapolis. Burgess.

Quay, H.C. (1975):   Classification in the Treatment of
                          Delinquency and Anti-social Behaviour
                          in N. Hobbs (Ed.) Issues In the
                          Classification of Children. New York:
                          McGraw Hill Book Company.

Raab, E. and Selznick, G.J. (1966): Major social Problems New York: Row Patterson and Company.

Rodman, H. and Grams P. (1967): Juvenile Delinquency and and the family: A Review of Discussion In: Task Force Report on Juvenile Delinquency and Youth Crime. Washington: Government printing Press.

Rogers, C.R. (1951): Client-Centred Therapy. Boston: Houghton.

Ross, A.D. (1972): Behaviour Therapy. In B.B. Wolman (Ed.) Manual of Child psychopathology. New York: McGraw Hill Book Company.

Shaw, C.R. and McKay, H.D. (1942): Juvenile Delinquency and Urban Areas. Chicago: University of Chicago Press.

Shaw, C.R. and Moore, S.E. (1969): Gangs and Delinquent Groups. London: University Press.

Sherman, A.R. (1973): Behaviour Modification: Theory and Practice. California: Brooks/Cole.

Skinner, B.F. (1971): Beyond Freedom and Dignity. New York: Knopf.

Skinner, B.F. (1953): Science and Human Behaviour. New York: McMillan Press.

Skinner, B.F. (1960): Walden Two. New York: McMillan press.

Sutherland, E.H. and Cressey, D.R. (1960): Principles of Criminology. New York: Lippincott.

Taylor, I., Walton, P. and Young, T. (1973): The New Criminology. London: Routledge and Kegan Paul.

Thomas, W.I. and Zraniecki, F. (1927): The Polish Peasant In Europe. Cambridge: Riverside Press.

Thoresen, C.E. and Mahoney, M.J. (1974): Self-Contro: Power to the Person. California: Brook Cole Press.

Thorndike, E.L. (1913): The Psychology of Learning. New York: University.

Trasler, G. (1962): The Explanation of Criminality. London: Routledge and Kegan paul.

Ullman, L. and Krasner, L. (1961): A psychological Approach to Abnormal Behaviour. New Jessey: Prentice Hall.

Watson, J.B. (1924):   Psychology from the Standpoint of a Behaviourist. Philadelphia: Lippincott.

Wolf, M.M. Riley T, and Mess, H. (1965): Application of Operant Conditioning. Procedures to Behaviour Problems. In Ullman, L.P. and Krasner's (Eds.) Case Studies in Behaviour Modification. New York: Holt, Rinehart and Winston.

Wolpe, J. (1958):   Psychotherapy by Reciprocal Inhibition. Stanford: Stanford University Press.

Wolpe, J. and Lazarus, A.A. (1966): Behaviour Therapy Techniques. New York: Pergamon Press.

Woodworth, R.S. (1958): Dynamics of Behaviour. New York: Holt, Rinehart and Winston.

Yule, W. (1970):   Behavioural Treatment of Children and Adolescents with Conduct Disorders in Aggression and Anti-Social Behaviour in Childhood and Adolescent, Hersov, L. A. et al. (Eds). Oxford: Pergamon Press.

ARTICLES AND PERIODICALS

Abosi, C.O. (1986):   Comparative Study of Self-Concept Among Nigerian Deaf and Hearing Adolescents. Nigerian Journal of Curriculum Studies, IV, 1, January.

Agras, W. S. (1973):   Toward the Certification of Behaviour Therapists. Journal of Behaviour Analysis. 6, 167-173.

Akinboye, J.O. (1979):   Design for Behaviour Modification Programme in Nigeria. Nigerian Journal of Psychology, II and III, 39-48.

Alexander, F. (1930):   Criminality, International Journal of Psychoanalysis, II, 214-219.

Anant, S.S. (1967):   A Note on the Treatment of Alcoholics by a verbal Aversion Technique. Canadian Psychologist, 8, 19-22.

Anant, S.S. (1968):   Verbal Aversion Therapy with a Promiscuous Girl: A Case Report. Psychological Reports, 22, 795-796.

Anolik, S.A. (1983):   Family Influences Upon Delinquency: Biosocial and Psychosocial Perspectives. Adolescence. 18. 489-497.

Ashem, B. and Donner L. (1968): Covert Sensitization with Alcoholics. A Controlled Replication. Behaviour Research and Therapy, 6, 7-12.

Atkinson, R.A. and Green, D.R. (1974): Token Reinforcement System for Large wards of Institutionalized Adolescents. Behaviour Research and Therapy, 12, 181-190.

Bandura, A. and Perloff B. (1967): Relative Efficacy of Self-Monitored and Externally Imposed Reinforcement Systems. Journal of Personality and Social Psychology, 7, 111-116.

Bandura, A. and Whalen, C.K. (1966): The Influence of Antecedent Reinforcement and Divergent Modeling Cues on Patterns of Self-Reward. Journal of Personality and Social Psychology, 3, 373-382.

Barlow, D.H., Leitenberg, H. and Agras, W.S. (1969): The Experimental Control of Sexual Deviation Through Manipulation of the Noxious Scene in Covert Sensitization. Journal of Abnormal Psychology, 74, 596-601.

Beck, A.T. (1963):   Thinking and Depression-Idiosyncratic Content and Cognitive Distortions. Archieves of General Psychiatry, 9, 324-333.

Benowitz, M.L. and Busse, T.V. (1976): Effects of Material Incentives on Classroom Learning Over a Four-Week Period. Journal of Educational Psychology,68, 1, 57-62.

Benowitz, M.L. and Busse, T.V. (1970): Material Incentives and Learning of Spelling words in a Typical School Situation. Journal of Educational Psychology, 61, 24-26.

Berger, A. and Simon, W. (1974): Black families and the Moynihan Report: A Research Evaluation. Social Problems, 22, 145-161.

Bergin, A.E. (1969):   A Self-Regulation Technique for Impulse Control Disorders. Psychotherapy: Theory, Research and practice, 6, 113-118.

Berzonsky, M.D. (1978):   Ausubel's Satellization Theory: Application to some Research on Adolescence. Adolescence, 13, 167-180.

Brown, E.J. (1979):   A behavioural Approach to Adolescents in Trouble. Journal of Adolescence, 2, 77-87.

Brown, G.D. and Tyler V.O. (1968): Time out from Reinforcement: A Technique for Dethroning the 'Duke' of An Institutionalized Delinquent Group. Journal of Child psychology and Psychiatry, 9, 203-211.

Burchard, J.D. (1967):   Systematic Socialization: A programmed Environment for the Rehabilitation of Anti-Social Retardates. Psychological Report, 17, 461-476.

Cautela, J.R. (1967):   Covert Sensitization. Psychological Reports. 20, 458-68

Cohen, A. and Short, J. (1958): Research in Delinquent Subculture, Journal of Social Issues, 12, 3.

Daily Times, (26th April, 1988): Prisoners Escape in Suleja. Lagos, Nigeria, p. 24.

Daily Times, (10th May, 1988): Prisons and the Rest of Us. Lagos, Nigeria, p. 11.

Daily Times, (25th May, 1988): Akwa Ibom Prisons Unfit for Habitation. Lagos, Nigeria, p. 8.

Daily Times, (2nd Nov., 1988): You Might Fall Victim, Lagos, Nigeria. p. 11.

Daily Times, (2nd Nov., 1988): Court Halts Execution of Twelve Robbers. Lagos, Nigeria, p. 24.

Daterman, S. and Scarpatti, F. (1975): Female Delinquency and Broken Homes. Criminology, 1, 35-56.

Davison, G. C. (1968s): Elimination of a Sadistic Santasy by a Client-Controlled Counter Conditioning Technique. Journal of Abnormal Psychology. 73, 84-90.

Davison, G.C. (1968b): Systematic Desensitization As a Counter Conditioning Process. Journal of Abnormal Psychology, 73, 91-99.

Drennan, R.S.; Spitalnik, R. and O'Leary, K.D. (1973): Teaching Self-Control to Disruptive Children. Journal of Abnormal Psychology, 82, 10-16.

Eitzen, D.S. (1975): The Effects of Behaviour Modification On the Attitudes of Delinquents. Behaviour Research and Therapy, 13, 295-299.

Eysenck, N.J. (1967): New ways in psychotherapy. Psychology Today, 1, 37-47.

Farley, F.H. and Farley, S.V. (1972): Stimulus - Seeking Motivation and Delinquent Behaviour Among Institutionalized Delinquent Girls. Journal of Consulting and Clinical Psychology, 39, 1, 94-97.

Ferster, C.B.; Numberger, J.L. and Levitt, E.B. (1962): The Control of Bad Behaviours. Journal of Personality and Social Psychology, 7, 72-76.

Herburn, J.R. (1976): Testing Alternative Models of Delinquency Causation. Journal of Criminal Law and Criminology, 67, 450-460.

Kanfer, F.H. and Duerfeldt, P.H. (1967): Motivational Properties of S.R. Perceptual and Motor Skills, 25, 237-246.

Kazdin, A. and Bootzin, R.R. (1972): The Token Economy: An Evaluative Review. JABA, 5, 343-375.

Lazarus, A.A. (1971b): Behavioural Therapy for Children's Problems. Professional Psychology, 121, 349-353.

Lazaris, A.A. and Abramovitz, A. (1962): Treatment of Phobias. Journal of Mental Science, 108, 191-195.

Lazarus, A.A., Davison, C.A. (1965): Classical and Operant Factors In the Treatment of School phobia. Journal of Abnormal Psychology, 70, 225-229.

Leitenberg, H., Agras, W.S., Barlow, D.H. and Olliveau, D.C. (1960): Contribution of Selective positive Reinforcement and Therapeutic Instructions to Systematic Therapy. Journal of Abnormal Psychology, 74, 113-118.

Marsh, H.W., Barner, J. Cairns, L. and Tidman, M. (1983a): The Self-Description Questionnaire (SDQ): Age effects in the Structure and Level of Self-Concept for Pre-Adolescent Children. British Journal of Educational Psychology, 84.

Marsh, H.W., Parker, J.W. and Smith, I.D. (1983b): Pre-Adolescent Self-Concept: Its Relation to Self-Concept as Inferred by Teachers and to Academic Ability British Journal of Educational Psychology. 45, 173-187.

Marsh, H.W., Religh, J.. and Smith, I.D. (1983c): Self-Concept: The Construct Validity of Interpretation Based Upon the SDQ. Journal of Personality and Social Psychology, 45, 173-187.

Marsh, H.W., Smith, I.D. and Barnes, J. (1983d): Multitrait-Multimethod Analysis of the Ratings of Student Self-Concept. American Educational Research Journal, 46, 333-357.

Marsh, H.W. and Smith, I.D. (1982): Multi-trait - Multi-method Analysis of Two Self-Concept Instruments. Journal of Educational Psychology, 74, 450-460.

Marsh, H.W. (1984): Self-concept. The application of a frame of reference model to explain paradoxical results. The Australian Journal of Education, 28, 2.

Matza, D. and Sykes, G. (1961): Juvenile Delinquency and Substerranean Values. American Sociological Review. 26, 5.

McAdam, E.K. (1986): Cognitive Behaviour Therapy and Its Application with Adolescents, Journal of Adolescence, 9, 1-15.

McCord, J. and McCord, W. (1958): The Effects of Parental Role Model on Criminality. Journal of Social Issues. 14, 66-75.

McKissack, I.J. (1975): Early Socialization. The Baseline in Delinquency Research. International Journal of Criminology and Penology, 3, 43,- 51.

Miechenbaum D.H. et al (1968): Modification of Classroom Behaviour of Institutionalized Female Adolescent Offenders. Behaviour Research and Therapy, 6, 343-353.

Miller, C. et al. (1971): Children's Deviant Behaviour Within a General Population. Journal of Consulting and Clinical Psychology. 37, 16-22.

Nye, F.N. (1974): Emerging and Declining Family Roles. Journal of Marriage and the Family, 36, 238-245.

Oloruntimehin, O. (1970): The Role of Family Structure in the Development of Delinquent Behaviour Among Juveniles in Lagos. Nigerian Journal of Economic And Social Studies, 12, 2.

Orne, M.T. (1959): Actifact and Essence. Journal of Abnormal and Social Psychology, 58, 277-299.

Otubanjo, F. (1988): Criminals Paradise. Sunday Tribune, 29th May, P. 13.

Pemberton, D.A. and Benady, D.R. (1973): Consciously Rejected Children, British Journal of Psychiatry. 123, 575-578.

Phillips, E.L. (1968): Achievement Place: Token Reinforcement procedures in a Home Style Rehabilitation Setting for Pre-Delinquent Boys. JABA, 3, 213-223.

Phillips, E.L. (1964): Achievement place: Token reinforcement procedures in a home style rehabilitation setting for pre-delinquent boys. JABA, 3, 213-223.

Poole, E.D. and Regoli, R. M. (1979): Parental Support, Delinquent Friends and Delinquency: A Test of Interaction Effects. Journal of Criminal Law and Criminology, 70, 188- 193.

Reckless, W.C. (1962): A Non-Causal Explanation-Containment of Containment Theory. Exerpta Criminological 1, 131-134.

Rosenberg, M. (1973): Which Significant Others? American Behavioural Scientist, 16, 829 - 860.

Saigh, P.A. and Khan, S. (1982): Token Reinforcement in a Pakistani Classroom. The Journal of Social Psychology, 118. 11-16.

Saigh, P.A. and Payne, D.A. (1979): The Effects of Types of Reinforcer and Reinforcement Schedule on the Performance of Students. Psychology in School, 16, 106-110.

Schwartz, J.C. (1979): Childhood Origins of Psychopathology. American Psychologist, 34, 879-885.

Schwartz, J.C. and Getter, H. (1980): Parental Conflict and Dominance in Late Adolescent Maladjustment: A Triple Interaction Model. Journal of Abnormal Psychology, 89, 573-580.

Schwitzgebel, M. and Kolb, W. (1964): Treatment of behaviour problems. Journal of Abnormal Psychology, 68, 101-106.

Shavelson, R.J., Habner, J.J. and Stanton, G.C. (1976): Self-Concept-Validation of Construct Interpretations. Review of Educational Research, 46, 407 - 441.

Sistrunk, F. Clement, D.E. and Ulman J.D. (1972): Effect of Reinforcement Magnitude On Non-conformity. The Journal of Social Psychology, 86, 11-12.

Spence, K.W. (1959): The Relation of Learning Theory to the Technology of Education. Harvard Educational Review, 29, 84-95.

Stanton, H.E. (1975): The Use of Behaviour Modification to Achieve Humanistic Aims. The Australian Journal of Education, 19, 2, 146-155.

Sunday Times, (25th May, 1988): Time for Prison Reform, Lagos, Nigeria. p. 5.

Sunday Times, (1st May, 1988): Rise In Juvenile Delinquency. p. 2.

Sunday Tribune, (29th May, 1988): Criminals' Paradise. Lagos, Nigeria. p. 11.

The African Guardian Weekly, Magazine, (September, 1988). Kids in Crime, Lagos, Nigeria. pp. 8 - 11.

The Guardian, (13th June, 1988): Plans To Decongest prisons, Lagos Nigeria, p. 20.

The Vanguard, (2nd November, 1988): The Case of Convicted 12 Boys. Lagos, Nigeria. p. 1.

Tooley, J.T. and Pratt.S. (1967): An Experimental Procedure for the Extinction of Behaviour. Psychological Record, 17, 209-218.

Tyler, V.O. (1967): Application of Operant Token Reinforcement to Academic Performance of An Institutionalized Delinquent. Psychological Reports, 21, 249-260.

Whitlock, C. and Bushell, D. (1967): Some Effects of Back-up Reinforcers on Reading Behaviour. Journal of Experimental Child Psychology, 5, 50-57.

UNPUBLISHED MATERIALS

Ajayi, A. (1972): Some Cases Studies of Juvenile Delinquency in Ekiti Division of Western State of Nigeria. Unpublished B.Sc. Project, University of Ibadan, Ibadan.

Akinranti, G.K. (1984): Study of the Effect of Cognitive Restructuring on some socially Undesirable Behaviour of some Nigerian Prison Inmates. Unpublished Ph.D. Thesis, University of Ibadan, Ibadan.

Awakan, G.A. (1987): "An Interview on Anti-social Behaviours Among Juvenile Delinquents in Lagos State Approved Schools." Iseri, Lagos.

Ayeni, O. (1978): Some Family-based psychological Factors Associated with Juvenile Delinquency in Nigerian Children. Unpublished M.Phil Thesis, University of Ibadan, Ibadan.

Bolarin, T.A. (1987): The Interaction Between Family Variables and Juvenile Delinquency. Unpublished Research Paper, Lagos State University.

Erumere, M.O. (1985): A Comparative Study of some Psychological Characteristics of Delinquent and Non-Delinquent Juveniles. Unpublished M.Phil. Thesis, University of Ibadan, Ibadan.

Falua, O.S.O. (1987): Comparative Effects of Contingency Management and Self-Control on Non-Compliant Behaviour of Institutionalised Delinquents. Unpublished Ph.D. Dissertation Proposal, University of Ibadan.

Hammond, W.H. (1968): "Research into the Subsequent Histories of a sample of ex-approved school Boys," paper to a meeting of Approved School psychologists, Sunnirgale.

Ige, F.B. (1987): "An Interview on Anti-Social Behaviours Among Juvenile Delinquents in Lagos State Approved Schools," Iseri, Lagos.

Olayinka, M.S. (1986): "Essentials of Guidance and Counselling In the 6-3-3-4 System of Education." Paper Presented at Workshop on Guidance and Counselling for Year Tutors, Lagos State University.

Oloruntimehin, O. (1969):   Family Structure and Juvenile
                            Delinquency in the City of Lagos.
                            Unpublished M.Sc. Thesis,
                            University of Ibadan.

Omideyi, Z.A. (1979):   Descriptive Survey of a Nigerian
                            Prison (Agodi). Habitual and
                            Young Criminals. Unpublished
                            B.Ed. Thesis University of Ibadan.

APPENDIX I

TABLE 32

PRE-TREATMENT t-TEST RESULT FOR EQUIVALENCE OF

BOYS AND GIRLS ON APDI

SEX	N	MEAN	SD	OBTAINED t	TWO-TAIL PROB
MALE	27	119.48	22.84	0.07	ns
FEMALE	27	118.81	22.68		
TOTAL MALE AND FEMALE	54	119.15	18.34		

ns = not significant

FOR THE MALE AND FEMALE GROUPS:

      Obtained t-value = 0.07

      Critical table value for t at 0.05 level of

      significance with 52 df = 2.00

      Therefore the two sexes are equivalent groups.

APPENDIX   II

TABLE   33

t-TEST PAIRED COMPARISON BY GROUPS ON PRE-TEST APDI

SCORES FOR BOYS ON GROUP EQUIVALENCE

GROUPS	N	MEAN	SD	OBTAINED t	TWO-TAIL PROB
EXP. I Vs EXP. II	9 9	120.56 119.0	29.80 26.78	0.12	ns
EXP. I Vs CONTROL	9 9	120.56 118.89	29.80 9.40	0.16	ns
EXP. II Vs CONTROL	9 9	119.0 118.89	26.78 9.40	0.01	ns

ns   =   not significant

(i)   FOR EXPERIMENTAL GROUP I AND II:

Obtained t-value = 0.12.

Critical table value for t at 0.05 level of significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

(ii)   FOR EXPERIMENTAL GROUP I AND CONTROL GROUP:

Obtained t-value = 0.16

Critical table value for t at 0.05 level of significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

(iii) FOR EXPERIMENTAL GROUP II AND CONTROL GROUP:

Obtained t-value = 0.01

Critical table value for t at 0.05 level of

significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

Hence, the three groups for boys are equivalent

groups.

APPENDIX III

TABLE 34

t-TEST PAIRED COMPARISON BY GROUPS ON PRE-TEST

APDI SCORES FOR GIRLS ON GROUP EQUIVALENCE

GROUPS	N	MEAN	SD	OBTAINED t	TWO-TAIL PROB
EXP. I Vs EXP. II	9 9	119.56 120.89	9.59 14.79	0.42	ns
EXP. I Vs. CONTROL GROUP	9 9	119.56 116.0	9.59 14.40	0.62	ns
EXP. II Vs CONTROL GROUP	9 9	120.89 116.0	14.79 14.40	0.71	ns

ns = not significant

i) FOR EXPERIMENTAL GROUP I AND EXPERIMENTAL GROUP II:

Obtained t-value = 0.42

Critical table value for t at 0.05 level of

significante with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

ii) FOR EXPERIMENTAL GROUP I AND CONTROL GROUP:

Obtained t-value = 0.62

Critical table value for t at 0.05 level of

significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

iii) <u>FOR EXPERIMENTAL GROUP II AND CONTROL GROUP</u>:

Obtained t-value = 0.71

Critical table value for t at 0.05 level of

significance with 16 df = 2.120.

Therefore, the two groups are equivalent

groups. Hence, the three groups for girls

are equivalent groups.

APPENDIX IV

TABLE 35

PRE-TEST t-TEST RESULT ON EQUIVALENCE OF BOYS

AND GIRLS ON SPI

SEX	N	MEAN	SD	OBTAINED t	TWO-TAIL PROB
MALE	27	61.93	7.16	0.06	ns
FEMALE	27	61.78	11.01		
MALE AND FEMALE	54	61.86	9.20		

ns = not significant

FOR MALE AND FEMALE GROUPS:

Obtained t-value = 0.06

Critical table value for t at 0.05 level of

significance with 52 df = 2.00.

Therefore the two sexes are equivalent groups.

APPENDIX V

TABLE 36

t-TEST PAIRED COMPARISON BY GROUPS ON PRE-TEST
SPI SCORES FOR BOYS ON GROUP EQUIVALENCE

GROUPS	N	MEAN	SD	OBTAINED t	TWO-TAIL PROB.
EXP. I vs EXP. II	9 9	62.11 61.33	9.62 7.40	0.19	ns
EXP. I vs CONTROL GROUP	9 9	62.11 62.33	9.62 4.30	0.06	ns
EXP. II vs CONTROL GROUP	9 9	61.33 62.33	7.40 4.30	0.35	ns

ns = not significant.

(i) FOR EXPERIMENTAL GROUP I AND EXPERIMENTAL GROUP II:

Obtained t-value = 0.19.

Critical table value for t at 0.05 level of significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

(ii) FOR EXPERIMENTAL GROUP I AND CONTROL GROUP:

Obtained t-value = 0.06

Critical table value for t at 0.05 level of significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

(iii) <u>FOR EXPERIMENTAL GROUP II AND CONTROL GROUP:</u>

Obtained t-value = 0.35

Critical table value for t at 0.05 level of

significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

Hence, the three groups for boys are equivalent

groups.

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APPENDIX VI

TABLE 37

t-TEST PAIRED COMPARISION BY GROUPS ON PRE-TEST

SPI SCORES FOR GIRLS ON GROUP EQUIVALENCE

GROUPS	N	MEAN	SD	OBTAINED t	TWO-TAIL PROB
EXP. I Vs EXP. II	9 9	61.11 62.89	12.07 11.91	0.32	ns
EXP. I Vs CONTROL GROUP	9 9	61.11 61.33	12.07 10.22	0.04	ns
EXP. II Vs CONTROL GROUP	9 9	62.89 61.33	11.91 10.22	0.30	ns

ns = not significant.

i) FOR EXPERIMENTAL GROUP I AND EXPERIMENTAL GROUP II:

Obtained t-value = 0.32

Critical table value for t at 0.05 level of

significance with 16 df = 2.120

Therefore, the two groups are equivalent groups.

ii) FOR EXPERIMENTAL GROUP I AND CONTROL GROUP:

Obtained t-value = 0.04

Critical table value for t at 0.05 level of

significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

iii) <u>FOR EXPERIMENTAL GROUP II AND CONTROL GROUP:</u>

Obtained t-value = 0.30

Critical table value for t at 0.05 level of

significance with 16 df = 2.120.

Therefore, the two groups are equivalent groups.

Hence, the three groups for boys are equivalent

groups.

APPENDIX VII

ADOLESCENT PERSONAL DATA INVENTORY APDI

DATE: ....

AGE: ....

SEX: ....

NATIONALITY: ....

RELIGION: ....

STATE: ....

TOWN OR VILLAGE: ....

DIRECTIONS:

Please use the nine-point scale below to rate yourself on each of the following items. Rate the items most descriptive of yourself at the high end, those least descriptive of you at the low end, and those about which you are not sure of undecided at the middle. For each item record the number which represents your response on the blank space on the right side of the items.

Thus	"Least Like me"	"Most Like me"
Scale:	0 1 2 3 4 5 6 7 8	

EXAMPLE:

I am a happy boy ....7.........................

Seven is put in the blank space on the right side of the item because this statement is somehow "most like me" You can now start on the items.

SECTION A

1. I have warm social attraction for others ....

2. I am a responsible person ....

3. My life has great value for me ....

4. I am afraid of enemies ....
5. I am a submissive person ....
6. I am active ....
7. I am confident about what others think about me ....
8. I am concerned about what other people think ....
   about me.
9. I constantly feel insecure ....
10. I express my feelings freely ....
11. I am an optimistic person ....
12. I usually like people ....
13. I like to work hard ....
14. I can face my difficulty in life. ....
15. I am ambitious over attaining mastery of things ....
16. I am unreliable ....
17. I may lie in certain situations ....
18. I fear I would fail on anything I plan to do ....
19. I am self-centred ....
20. I always agree with my mates on all issues ....
21. I am dependably reliable ....
22. I often feel lonely ....
23. I am original in all ways ....
24. I am lazy ....
25. I am shy ....
26. I am always methodical ....
27. I like to generate new ideas all the time ....
28. I am always thirsty for knowledge ....
29. Life is meaningless ....
30. I like to be myself always. ....

APPENDIX VIII

STUDENT PROBLEM INVENTORY

Instructions

This is a list of problems that boys and girls in School usually have. Read slowly through the list and as you come to a problem which is troubling you, put a tick in the space provided before it. If you do not have a particular problem, leave the space in front of it blank. You can mark as many problems as you have in each section.

SECTION A

..... 1. Getting sick too often
..... 2. Getting tired very easily
..... 3. Often no appetite for my meals
..... 4. Gradually getting thinner
..... 5. Not as strong and healthy as I should be
..... 6. Too short for my age
..... 7. Too tall for my age
..... 8. Not very attractive physically

SECTION B

..... 9. Having less money than my friends
..... 10. Having no regular pocket money
..... 11. Too few nice clothes
..... 12. My family worried about money
..... 13. Wanting to earn some money of my own
..... 14. Parents working too hard
..... 15. Ashamed of the home we live in
..... 16. Borrowing money

SECTION C

..... 17. Not having many friends
..... 18. Nothing interesting to do in my spare time
..... 19. In too few student clubs and societies

..... 20. Too little social life
..... 21. Wanting to improve my appearance

..... 22. Too careless with my clothes and belongings.

SECTION D

..... 23. Afraid of close contact with the opposite sex

..... 24. Disappointed in love affair

..... 25. No girl friend

..... 26. No boy friend

..... 27. Being in love

..... 28. Loving someone who does'nt love me

..... 29. Afraid of losing the one I love

..... 30. Breaking up a love affair

..... 31. Wondering how far to go with the opposite sex

..... 32. Wondering if I will ever get married

..... 33. Thinking too much about sex matters

..... 34. Needing information about sex matters.

SECTION E

..... 35. Being talked about

..... 36. Being made fun of

..... 37. Not getting along well with other people

..... 38. Slow in making friends

..... 39. Being timid and shy

..... 40. Feeling inferior

..... 41. Being criticized by others

..... 42. Being left out of things

..... 43. Feeling very lonely

..... 44. Wanting to be more popular

..... 45. Finding it hard to talk about my troubles
..... 46. No one to tell my troubles to

SECTION F

..... 47. Being nervous

..... 48. Worrying too much

..... 49. Daydreaming

..... 50. Being careless

..... 51. Trouble making up my mind about things

..... 52. Sometimes wishing I have never been born

..... 53. To easily discouraged

..... 54. Forgetting things

..... 55. Failing in so many things I try to do

..... 56. Unhappy too much of the time

..... 57. Having bad luck

..... 58. Bothered by bad dreams.

SECTION G

..... 59. Parents making me go to church

..... 60. Disliking church services

..... 61. Parents old-fashioned in their ideas

..... 62. Can't forget some mistakes I've made

..... 63. Bothered by ideas of heaven and hell

..... 64. Afraid God is going to punish me

..... 65. Being tempted to cheat in class

..... 66. Having a certain bad habit

..... 67. Sometimes not being as honest as I should be

..... 68. Getting into trouble

..... 69. Having a guilty conscience

SECTION H

..... 70. Sickness in the family

..... 71. Being treated like a child at home

..... 72. Parents separated or divorced

..... 73. Father or mother not living

..... 74. Feeling I don't really have a home

..... 75. Parents favouring a brother or sister

..... 76. Death in the family

..... 77. Parents making too many decisions for me

..... 78. Disagreements between me and my parents

..... 79. Wanting love and affection

..... 80. Family quarrels.

SECTION I

..... 81. Wanting advice on what to do after leaving school

..... 82. Can't see any use in going to school

..... 83. Afraid I won't be admitted into a university

..... 84. Don't know how to look for a job

..... 85. Afraid of the future

SECTION J

..... 86. Missing too many days of school

..... 87. Not spending enough time in study

..... 88. Not really interested in books

..... 89. Unable to speak up in class discussions

..... 90. Afraid to speak up in class discussions

...... 91. Not getting studies done on time

..... 92. Not liking this school

..... 93. Can't keep my mind on my studies

..... 94. Don't know how to study effectively

..... 95. Don't like to study

..... 96. Poor memory

..... 97. Slow in reading

..... 98. Worrying about my marks

..... 99. Worrying about examinations

..... 100. Getting low marks

..... 101. Wanting to stop going to school

SECTION K

..... 102. Having no suitable place to study

..... 103. Forced to take subjects I don't like

..... 104. Text-books too hard to understand

..... 105. Teachers too hard to understand

..... 106. So often feel restless in class

..... 107. Too little freedom in class

..... 108. Not enough good books in the library

..... 109. Too much work required in some subjects

..... 110. Not getting along with a teacher

..... 111. School is too strict

..... 112. Lessons too dull

..... 113. Teachers lacking interest in students

..... 114. Teachers not friendly to students

..... 115. Not getting personal help from the teachers

..... 116. Teachers not considerate of students' feelings

..... 117. Teachers not practicing what they preach

..... 118. Too many poor teachers

..... 119. Unfair tests

..... 120. Students not given enough responsibility.

APPENDIX IX

TREATMENT PACKAGE

INTRODUCTION:

The subjects of this study are juvenile delinquents in two approved schools in Lagos. They are criminals before the law but have not been imprisoned because they are under age eighteen. Thus because of their tender age, they have been committed to be under the care and protection of the authorities of the approved schools. In short they are regarded as not having attained adulthood which in Nigeria starts from age eighteen.

The aim of the treatment programme adopted in this study is to ensure that subjects' behaviours are modified in such a way that their behaviours will cease to be a source of concern for the social welfare officers in their charge at the approved schools and the larger community when they are eventually released on the completion of their terms. The treatment aims at doing more than care and protection in that it intends to prepare the wards for life beyond the gates of the approved schools.

The contents of the treatment programmes - self control and Token economy, are decided upon by the following factors:

   i)   the records of criminal offences committed by wards;

  ii)   the socio-economic background of wards;

 iii)   the existing conditions in the approved schools where the wards now live;

  iv)   the problem of adjustment after discharge from the approved schools.

The treatment package is a reflection of all the four factors listed above and it will be discussed under the following headings:

    (a) Pre-Treatment Programme

    (b) Treatment Programme:

        (i) Self-Control Therapy

        (ii) Token Economy Therapy.

PRE-TREATMENT PROGRAMME:

The format discussed below was adopted in the pre-treatment programme:

THREE WEEKS PRECEDING THE COMMENCEMENT OF TREATMENT -
ACTIVITIES OF THE RESEARCHER WITH THE AUTHORITIES OF THE
APPROVED SCHOOLS.

WEEK 1

i) Obtaining of formal permission from the Lagos State Ministry of Social Development, Youth and Sports to use the inmates of the approved schools.

ii) Formal introduction of the researcher to the Principals of the approved schools by the officer designated to do this in the Lagos State Ministry of Social Development, Youth and Sports.

iii) Assembly of all resident social welfare workers in the two approved schools in a well-ventilated classroom with the Principals in attendance.

iv) Formal introduction of the researcher to the resident social welfare workers by one of the two principals.

WEEKS 2 AND 3:

i) Researcher tells the resident social welfare workers about the purpose of the programe and the need to give them some training that is prerequisite to the successful operation of one of the therapies i.e. the Token economy therapy.

ii) Joint formal training of the resident social welfare workers from the two schools on what token economy is, how to monitor wards for anti-social behaviours and the system adopted for the award of tokens.

ONE WEEK PRECEDING THE COMMENCEMENT OF TREATMENT -
ACTIVITIES OF THE RESEARCHER WITH THE INMATES OF THE
APPROVED SCHOOLS

FIRST DAY:

i) Assembly of all juvenile delinquents in each of the two
schools in a classroom. The researcher introduces
herself to the entire group by mentioning her names,
place of work, statement of objectives of visit, which
is to assist the wards to adjust to life while in the
approved schools and after their release from the
approved schools.

ii) Wards introduce themselves by mentioning their names,
place of birth, age, time of arrival in the institution
and expected date of release.

iii) Researcher assures wards by telling them the following:

a) that they should regard their stay in the
approved school as an opportunity offered by
the society to assist them in their development.

b) that many other young people or juveniles not
committed to the approved schools are not
necessarily better behaved than them only that
they have not been apprehended.

SECOND DAY:

i) Researcher assures wards of the confidentiality of
any information disclosed during any discussion.

ii) Researcher makes some general remarks about the current
Nigerian society. She points out how many parents
and guardians have little or no time for their children
or wards, and the alarming rate of divorce and
separation of parents. The purpose of this discussion
is to make the wards know that whatever be their lot

in the society, it is not in any way unique. As such these conditions should not be used as excuse to commit crimes.

iii) Researcher comments on life after discharge from the approved schools when wards will be left on their own without any or much intervention by the social welfare officers, parents and guardians. In addition wards are reminded of the need to be gainfully employed after their discharge from the approved schools. Researcher emphasizes the importance of the different types of trades (such as catering, carpentry, tailoring) that wards are made to learn in the approved schools. She points out that one of the main routes towards living a life free of crime is to be gainfully employed.

THIRD DAY:

Assembly of all the juvenile delinquents and distribution of the Student Problem Inventory (Bakare, 1977) for completion after which they receive the Adolescent Personal Data Inventory (Akinboye, 1976) for completion.

FOURTH DAY:

i) Balloting by wards so as to separate them into treatment groups and control groups;

ii) Assembly of treatment groups separately and at different times;

iii) Announcement of when and where the subsequent meetings will take place for the self-control group.

iv) Announcement of when and where the subsequent meetings will take place for the Token Economy group.

Explanation of conditions for the award of tokens will follow.

v) Announcements of when and where the subsequent meetings will take place for the control group.

FIFTH DAY:

INTRODUCTORY SESSION FOR ALL WARDS ON SELF-CONTROL AND TOKEN ECONOMY PROGRAMMES ON EDUCATION IN CRIMINAL LAWS OF NIGERIA.

The researcher holds a discussion with the wards during which they (the wards) are collectively briefed and educated on the criminal laws and punishments for violation of the laws against property, person and public order. The reason for selecting these laws specifically is that most of the wards had been committed to the approved schools because they were found guilty of breaking these laws.

TREATMENT PROGRAMME:
THE SELF-CONTROL THERAPY:

The self-control therapy is made up of 16 sessions. Each session lasts for one and half hours. Two sessions are held per week. The first and the tenth week of the ten week period are for introduction and revision of the self-control programme respectively. Post-test comes up two weeks after the termination of treatment.

Below is the description of each session:

Session 1: Thought processes involved in criminal Acts.

Step 1.   Researcher requests each ward to:

(i) mention the major offence that led to his commital to the approved school.

(ii) describe in detail one of the instances when the offence was committed.

Step 2:   Researcher asks the wards why they had to

commit the crimes at the time they did. Researcher

expects wards to give reasons that will justify

their actions such as:

(i)   poor parents who are unable to provide them

with their basic needs;

(ii)   neglect as nobody was ready to care for them

owing to parental separation;

(iii)   imitation of friends;

(iv)   frustration resulting from inadequate provision

of basic needs by their poor parents and also

neglect on the part of parents.

(v)   harsh parents who demand too much from them.

Step 3:   Researcher asks wards if every young person in

similar circumstances as their's must commit crimes

in order to survive.

Session 2: Improving Thought Processes

Step 1:   Researcher gives the answer to the question above

in the negative way and goes on to analyse the

situation. Wards are made to see the weakness in

the belief/thought/assumption that they have no

choice but to commit crimes because of their

conditions. Researcher points out the fallacy of

such belief/thought/assumption as emanating from:

(i)   erroneous idea - that there are many positive ways

of solving one's problems and that committing a

crime is never a solution to any problem. Researcher

asks the wards to look around and see if other

members of their families who are under similar

circumstances as them are present in the approved

schools.

She then points out that it is a wrong belief for
wards to think that they are destined to be criminals
because of their situation.

(ii) exaggeration - the tendency for the wards to claim
that their conditions are the poorest and as such
taking to crime is the only way out. Researcher again
asks wards to look around and see if other members of
their families are present in the approved school.
Researcher makes reference to some well-known
personalities in the Nigerian Society who were of
very poor parentage but who through dint of hardwork
made and are still making their impact felt in the
country (e.g. Obafemi Awolowo and Azikiwe).

(iii) inability to think deep and find meaningful and wise
solutions to their problems - as their conditions
may demand that they reach out and seek help from
people around them, become an apprentice to a trade
master and so on.

Wards are advised to face their various trades
as their being proficient in them will be of tremendous
help when they are discharged from the approved schools

Step 2: Researcher points out to wards that crime begins when
a person tries to find ways of justifying the
commission of the crime. Therefore to avoid committing
crimes one must not justify them. Rather wards
should find out the reasons why crime is not
justifiable and go over the reasons among themselves.
Below is a list of some specific rules of conduct in
form of self-statements which wards should learn to
say to avoid getting into trouble:

i) Whatever be my conditions or circumstances in life, I shall not turn to a criminal.

ii) I will always behave in a way that will make members of my family to be proud of me.

iii) I will not allow bad behaviour to lengthen my stay in this school.

iv) I will not return to any approved school after my release from here (present school).

v) I will always be satisfied with what I have.

vi) I will always do the right thing.

vii) I will not be a failure in life.

viii) I will keep all laws and regulations today.

Session 3: <u>This session is a reflection on the feelings that give rise to criminal acts.</u>

Step 1: Researcher talks generally about committing of crimes. Next she asks members of the group a question: How do you generally feel before committing a crime? From the discussion with the group, the following feelings are likely to be mentioned:

i) feeling angry;

ii) feeling cheated by others around;

iii) feeling helpless;

iv) feeling hopeless;

v) feeling neglected;

vi) feeling to revenge;

vii) feeling unloved;

viii) feeling unwanted.

Step 2: Researcher asks the wards how one acquires some or all the feelings listed above. Through the discussion with the group, the researcher makes members of the group to become aware of the fact that how each person

feels before committing a crime reflects the

interpretation which the person gives to his state

or condition. Wards are advised to always generate

positive feelings.

Session 4: Reflection on the Feelings that Give Rise to
Criminal Acts Concluded.

Step 1:   Researcher asks wards to think of whatever crimes

they have committed within the recent time. She

then asks: How do you feel after committing the

crime? Some of the feelings may include:

  i)   feeling alright or satisfied;

 ii)   feeling of being accepted by peer group;

iii)   feeling of not being cheated;

 iv)   feeling of guilt;

  v)   feeling hopeful;

 vi)   feeling sorry;

Step 2:   Researcher asks wards what explains the feelings

listed above. To round up the discussion,

researcher points out that the feelings expressed

at the end of committing a crime is a reflection

of the extent to which the expected objective of

committing the crime has been accomplished.

Session 5: Self-control Therapy On positive approach to
Problem-Solving.

Step 1:   Researcher starts by saying:

With reference to our discussion in the last

two meetings, what are some of the things each of

you should have done to prevent your being committed

to the approved schools? Researcher rounds up the

discussion by stating that:

You should have avoided committing the offence by:

i) giving correct and rational interpretation to your circumstances or conditions;

ii) telling yourself every time that you will not be a criminal;

iii) telling yourself that you want members of your family to be proud of you;

iv) telling yourself that you will be law abiding.

Step 2: Researcher starts by saying:

Knowing fully well that you cannot bring back the hands of the clock to relive your past, each of you should regard today as the first day of the remaining part of your lives which you have to monitor all on your own and ensure that it is crime-free. How can you prevent another committal to this or any other approved school or even being sent to prison at the completion of your present term? Researcher gives the answer to the question thus:

i) Think and find positive answers to this question: How can I cope with life in my present circumstances apart from taking to crime?

ii) The type of company or friends you keep will tell the type of person you are. So always keep the company of law abiding people.

iii) Always check your habits. Ask yourself if you are forming the right habit or not. For example are you living above your means?

iv) Establish specific rules of conduct for yourself.

Session 6: <u>Self-control Therapy on Positive Approach</u>
<u>To Problem Solving</u>:

Step 1: The researcher starts by saying:

As you go on in life always ask your-self the following questions:

i) What do I wish to become for the remaining part of my life? Is it an armed robber, a hired killer, a drug peddler, a drug addict, a murderer and so on? Or a decent professional for example a mechanic, a carpenter, and so on?

ii) Will my present activities contribute to this wish?

iii) What are some things that I should be doing now that I am not doing?.

Step 2: Researcher goes on by saying:

There are always temptations facing us. Whenever you are faced with temptation to commit a crime, do one, a combination or all of the following things:

i) Make a positive self statement for example, I will be a success in life.

ii) Think of some loved ones whom you mean a lot to and who will be very hurt by your action.

iii) Think of some loved ones who mean a lot to you and who will be very hurt by your action.

iv) Remind yourself that you want your family to be proud of you.

v) Congratulate yourself for something you have done well in life.

Session 7: Self-control Therapy on Violation of laws against property.

Stealing as an offence is common to all the wards and with reference to Fakayode (1977), it is the very first item on the list of offences against property:

  i)   Stealing by trick, by force, by finding, by mistake, by clerks, or servants;

 ii)   Receiving stolen goods;

iii)   Cheating;

 iv)   fraudulent false accounting;

  v)   Robbery;

 vi)   Burglary;

vii)   Malicious damage to property;

viii) Arson;

 ix)   Forgery;

  x)   Altering.

Researcher tells group members about the various offences against property as stated above. Researcher points out the implications of criminal laws and sanctions for their violation as wards grow older. Researcher entertains questions on property laws.

Session 8: Self-control Therapy on Violation of Laws Against Property:

Researcher asks group members to recall occasions when they engaged in the above activities noting the following for emphasis:

  i)   the content of the activity: time, place, number of people involved.

 ii)   the context of the activity: what led to the activity, and how the activity ended;

iii) how they felt just before engaging in the activity;

iv) how they felt after the activity;

Session 9: <u>Self-control Therapy on Violation of Laws against property</u>.

Step 1: Researcher asks group members to imagine the following:

i) how the person(s) against whom the offence was committed felt.

ii) possible outcomes of the activity, and how the activity ended;

iii) how they felt just before engaging in the activity;

iv) how they felt after the activity.

Step 2: Researcher asks group members to imagine the following:

i) how the person(s) against whom the offence was committed felt.

ii) possible outcomes of the activity on the person who committed the offence ·and on whom the offence was committed.

iii) effects of possible outcomes on the offender and other people who mean a lot to him.

Session 10: <u>Self-control Therapy on Violation of Property Laws concluded</u>:

Researcher asks group members to discuss how they will handle similar situations in future. Researcher gives the following guides as summary:

i) Recall the specific rules of conduct set for yourself;

ii) Under tempting situations learn to make some positive self statements to yourself;

iii) Ask yourself questions such as the following:

   a) Why am I interested in taking what does not belong to me?

   b) Will doing that portray me as I want to be portrayed?

   c) What other things can I do instead of taking what does not belong to me?

iv) Congratulate yourself for something you have done well in life.

v) Congratulate yourself for not committing the offence.

**Session 11: <u>Self-control Therapy on Non-verbal Aggression -
Introduction</u>:**

Step 1: Researcher identifies and discusses the two forms of non-verbal aggression namely:

   i) Physical violence against others, that is assault.

   ii) Fighting.

Step 2: Researcher reminds the group of what in the law constitutes assault:

> "the criminal offence of assault or what the psychologists regard as extreme physical aggression, occurs when any person strikes, or touches, or moves or otherwise applies force of any kind to another either directly or indirectly without his consent, or with his consent, if the consent is obtained by fraud" (Fakayode, 1977).

Session 12: <u>Self-control Therapy on Verbal Aggression</u>

Step 1: Researcher points out the implications of the criminal laws and sanctions for their violation as wards grow older.

Step 2: Researcher asks group members to recall the occasions when they engaged in the activities above noting the following for emphasis:

  i) the context of the activity; time; place and people involved.

  ii) the content of the activity; what led to the activity and how it ended.

  iii) how they felt before engaging in the activity.

  iv) how they felt after the activity.

Session 13: Self-control Therapy on Verbal Aggression Concluded:

Step 1: Researcher quickly goes over the last session's discussion. She then asks the group members to imagine the following:

  i) how the person(s) against whom the offence was committed felt.

  ii) possible outcomes of the activity on the person who committed the offence and on whom the offence was committed.

  iii) effects of each possible outcome on the offender and other people who mean a lot to him.

Step 2: Researcher asks group members to discuss how they will handle similar situations in future. The following guides are provided as a summary:

  i) Recall the specific rules of conduct set for yourself;

  ii) under tempting situations learn to make some positive self statements to yourself;

  iii) imagine the worst possible outcome of the activity;

  iv) ask yourself questions such as:

Will assaulting the person portray me as I
want to be portrayed?

v) leave the scene;

vi) ignore the person who may likely be assaulted;

vii) congratulate yourself for avoiding assaulting
others.

Session 14: Self Control Therapy On Fighting (affray):

Step 1: Researcher reminds the group of the legal
definition of affray:

> "an offence consisting in a fight
> between two or more persons in a
> public place"(Fakayode, 1977).

Step 2: Researcher asks members of the group to
recall the occasions when they have been
involved in fighting with focus on the
following:

i) the context of the fight, time, place and
people involved;

ii) the content of the fight - what led to it and
how it ended;

iii) how they felt just before the fight; and

vi) how they felt after the fight.

Session 15: Self-Control Therapy on Fighting:

Researcher asks members of the group to
imagine the following:

i) how the other party reacted;

ii) possible outcomes of the fight; and

iii) possible effect of each outcome on the
offender and other people who mean a lot to him.

iv) discussion of items i - iii above.

<u>Session 16</u>: <u>Self-Control Therapy On Fighting Concluded</u>:

<u>Step 1</u>:   Researcher asks group members how they will

handle similar situations in future. She

rounds up the discussion by telling them to:

i) Recall the specific rules of conduct set for

yourself;

ii) Under tempting situations learn to make some

positive self statements such as:

a) I am too decent to fight in the public;

b) I will not fight with anybody;

c) It takes two to fight and I will not be

one of the two.

<u>Step 2</u>:   Researcher asks group members to:

i) Imagine the worst possible outcome of the

activity.

ii) Ask yourself questions such as:

a) Is there anybody I can report the matter to?

b) Will fighting the person portray me as

I want to be portrayed?

iii) Avoid the trouble spots where fighting may

occur.

iv) Ignore an opponents who is bent on fighting.

v) Congratulate yourself for not fighting the

person.

<u>The Token Economy Therapy</u>:

The present study makes use of the token economy to

modify the behaviour of the sampled juvenile delinquents.

The main aim of adopting the token economy for use in this

study is to help wards behave themselves in accordance with the rules and regulations of the approved schools. To attain this objective, those who are of good behaviours are reinforced positively and those who are badly behaved are negatively reinforced by not earning any rewards in the ordinary sense and by reduction in their previously earned rewards. The therapy involves observation of behaviour of the wards.

The resident social workers who have been formerly trained by the researcher are responsible for the observations of the behaviours of wards. Observations are made between the time when the wards wake up to when they go to bed at night. The researcher is informed about whoever misbehaves among the group on every visit to the schools by the trained resident social workers.

The Token Incentives:

The token incentives are made up of food items and writing materials. The food items are in form of biscuits and sweets, while the writing materials are in form of erasers, pencils, and sharpeners. The researcher on the basis of her earlier discussion with the resident social workers and the wards believes strongly that these prizes represent meaningful rewards for the children. The food items are given to wards during the first six weeks of therapy while the writing materials are given during the last two weeks of therapy. The cost is approximately one naira and five kobo per child per week in the token economy group.

PROCEDURE:

1) Identification of the target behaviours considered to be sufficiently disruptive to warrant modification.

2) Identification of reinforcement preference through discussion with wards and the resident social workers.

The token reinforcement last for eight weeks. It is introduced to the wards through the following researcher's announcement:

"I have observed that there have been cases of disruptions in the school compound and these disruptive behaviours are affecting your adjustment. You have been scolded and punished in some instances repeatedly by the welfare officers in order to establish order without much success. As a result of this, I have decided on an alternative arrangement. From now on you will have the opportunity of receiving prizes (tokens), but in order to do this you will have to behave well."

Specifically I want you to avoid breaking the rules (no stealing, no lying, no fighting, no truancy, and being chased about over doing of chores).

The steps taken in the award of tokens are as follows:

Week 1:

i) For each day of this week, a subject who obeys all the school regulations and commits none of the offences listed as target behaviours throughout the day is entitled to all the tokens to be given for the day.

ii) A subject who violates any of the regulations
or who is found guilty of committing any of the
offences listed as target behaviours will lose
25% of whatever token is to be given for the day
in which the offence is committed.

iii) Token will be collected or issued out on the
following morning by the researcher to deserving
members of the group.

iv) A subject who commits up to two offences any day
loses all the tokens accruable for the day. In
other words, he will receive no token for the day.

Week 2:

i) Each subject on this programme for this second
week who obeys all regulations throughout the day
is entitled to all the tokens accruable for the
day.

ii) A subject who violates any of the regulations or
who is found quilty of committing any of the
offences listed as target behaviours will lose
40% of whatever token is to be given for the day
in which the offence is committed.

iii) Tokens will be issued every morning by the
researcher to deserving members of the group just
as in the first week.

iv) A subject who commits up to two offences in any
day loses all the tokens accruable for the day.
In other words he will receive no token.

Weeks 3 - 6:

    i)   Each subject on this programme for the third to sixth week who obeys all regulations throughout the day is entitled to all the tokens for the day.

    ii)   A subject who violates any of the regulations or who is found guilty of committing any of the offences listed as target behaviours will lose 60 percent of whatever token is to be given for the day.

    iii)   Token will be issued only twice a week by the researcher to deserving members of the group.

    iv)   A subject who commits up to two offences in any day loses all the tokens accruable for the day.

Weeks 7 and 8:

    i)   A subject who obeys all regulations throughout each day is entitled to all the tokens for the day.

    ii)   A subject who violates any of the regulations or who is found guilty of committing any of the offences listed as target behaviours will lose all the tokens accruable for the day.

    iii)   Tokens will be issued only at the end of the week (Sunday) by the researcher to deserving members of the group.

Removal of Contingencies:

    This is initiated by the following announcement:

    i)   The researcher has been quite pleased with the behaviour of wards.

ii) The observation continues but there will be some changes in how the tokens will be awarded.

iii) The researcher is confident that wards will continue to behave as they have behaved within the last eight weeks.

iv) The following wards have emerged as the best behaved and are granted "graduate" status, which means that they will have access to any back up reinforcers whenever they are available in the school.

Sessions:

Apart from the sessions for the award of tokens there are two main sessions during the first and the tenth week of the 10 week period. The two main sessions are used for instruction and informing members of the Token economy group about the change in the award of tokens respectively. Only the researcher awards tokens. Two weeks after the termination of treatment, post-test is given. The names of subjects who emerged as the best behaved and who are granted "graduate" status are announced to the entire group.

* To qualify for "graduate" status, a subject must be found to have been very well behaved and to have committed no offence all through the programme.