The Development and Evaluation of a Home-Based

Behavioural Approach to the Assessment and

Treatment of Hyperactive and Conduct Disordered

Children.

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Acknowledgements

Preface

I joined Martin Herbert at the School of Social Work, University of
Leicester in October 1974, as he required assistance in his work with
children presenting serious behaviour problems. A few months previously
he had become involved with the Paediatric Assessment Centre (PAC) at the
Leicester Royal Infirmary, acting as a consultant clinical psychologist
for children assessed there as being "hyperactive" or in some other way
problematic. These children were referred to him for a behavioural
assessment and treatment, and as their numbers increased help from another
psychologist became imperative. What was evident was the increased
vulnerability of physically disabled children to behaviour disorders.

My role in elaborating, evaluating and standardizing the evolving assessment
and treatment procedures soon emerged. These developments occurred within
the context of a community-based service, with the primary aim of providing
an effective and efficient therapy, - one which would produce favourable
changes in behaviour capable of being maintained after the withdrawal of
the therapists.

The focus of the procedures involved was not usually on any particular
aspect of activity (despite the fact that the majority of the children
was being referred for hyperactivity); rather it was on the more anti-
social, so called "acting-out" behaviour problems found in all the children
assessed. Behaviours such as temper tantrums, non-compliance and aggression
were reported by almost all the children's mothers and were usually perceived
by them as more problematic than any overactive behaviour. It appeared
that children with the basic problems of high or disorganised activity
patterns (often associated with a short concentration span) were especially

prone to the development of so-called conduct disorders. Indeed diagnosis of hyperactivity is often taken to include many problem areas other than motor activity, and discussion of this issue is taken up in chapter 2.

The decision to concentrate on the behavioural problems such as non-compliance and aggression was due to a personal interest which emerged with regard to why these problems developed and were maintained in these particular children.

In October 1975, Theresa Smith joined us and the team founded an agency called the Child Treatment Research Unit (C.T.R.U.) aided further by social workers on a nine-month training placement with us during their second year of a social work Diploma course. Theresa Smith's interest developed and focused on the meaning, the reliability and validity of the diagnostic label "hyperactivity" and the measurement and control of motor activity itself. Her work therefore complemented my own (advising parents on management techniques for anti-social behaviours), with her concentration on specific motor targets and use of inhibitory motor training with the children directly.

Not all the children seen in the pilot and research projects were referred for hyperactivity. The criteria for referral to the C.T.R.U. (and more specifically myself), became broader and more and more concerned with the presence of conduct disorder problems such as serious temper tantrums, and out-of-control behaviours such as persistent non-compliance. Some of the children were therefore presenting these types of behaviours without any evidence of problems to do with activity levels or concentration. They were often simply described as a management problem. All the children retained in the pilot and research projects can therefore be said (after

assessment had rejected inappropriate referrals) to have been manifesting

problems of a conduct disorder type, (see chapter 1), with many of them

additionally showing problems associated with hyperactivity. This means

that any evidence that accrues for the effectiveness of the procedures

detailed in this thesis is applicable for use with a fairly broad band

of children identified as displaying conduct disorders whether or not

associated with hyperactivity.

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Part I

Background Literature and Principles

Introduction:

The first three chapters cover some of the background literature relevant
to the procedures detailed in parts II and III.

Chapter 1 looks at the concept of conduct disorders, and places them
within a context of normal social development. Chapter 2 deals with the
literature describing hyperactive children and provides a picture of many
of the children in this project. Possible causes, therapeutic procedures
and issues such as prognosis are also dealt with. Chapter 3 considers in
more detail a sample of American papers describing examples of the training
of parents as behaviour therapists for their own children. This is the
area of literature most relevant to the treatment procedures devised for
use with the children referred to the C.T.R.U., as the American parents
were used as primary mediators of change in the so-called triadic model
of therapy. They were instructed on how to behave by professional behaviour
therapists, with or without manuals. This is the model of therapy used
in the present projects with little direct contact between the therapist
(myself mainly) and the child. Further, the children in the American
papers were presenting problems similar to those seen in children referred
to the C.T.R.U. as hyperactive or management problems.

Chapter 4 is concerned with a description of the basic principles of
contingency management (based upon learning theory) which are used when
training parents as behaviour therapists. Further, the practical applications
of these principles are evaluated in detail. Various ways of using the

principles to achieve desired changes in behaviour are described.

Chapter 1.

The Conduct Disorders.

1:1   ## The Concept of Conduct Disorders.

All the children seen through the pilot and research projects of this study

(see parts   II and III) were presenting with problems which could be

subsumed under the general heading of "Conduct Disorders".

In order to understand the meaning of this "label" the taxonomy of conduct

disorders (as opposed to emotional/personality disorders) needs to be

delineated in the context in which it arose: that is, from studies attempting

to arrive at meaningful and useful dimensions of behaviour disorders along

which all children range.

Two of the studies concerned with this task are now considered. Peterson,

1961, had 831 unselected kindergartan and elementary school children in

Illinois rated for degree of severity on 58 common problems (defined from

referral problems to a child guidance clinic). For analysis of the results,

the sample was divided into four groups by age   - kindergartan, first

and second grade, third and fourth grade, fifth and sixth grade, with two

teacher ratings available for each kindergartan child. Statistical analysis

produced two factors, the loadings on which were markedly similar for the

four age levels.

The first factor was named a conduct disorder dimension, and factor 2

a personality disorder dimension. Tables 1:1 and 1:2 show the variables

in each of these dimensions and gives the factor loadings as found for

the kindergartan group as an example.

Factor-Conduct Problem	Rotated Factor Loadings Conduct Disorder	Personality Disorder
Disobedience	74	03
Disruptiveness	73	-04
Boisterousness	68	-16
Fighting	54	-09
Attention-seeking	54	-12
Restlessness	64	04
Negativism	56	12
Impertinence	57	02
Destructiveness	59	-05
Irritability	53	01
Temper Tantrums	54	08
Hyperactivity	51	-06
Profanity	30	-07
Jealousy	23	06
Unco-operativeness	67	09
Distractability	56	29
Irresponsibility	60	22
Inattentiveness	54	39
Laziness in School	44	29
Shortness of Attention Span	48	37
Dislike for School	38	06
Nervousness	22	40
Thumb-sucking	29	09
Skin allergy	-16	01

Table 1:1   Factor Loadings on Conduct Disorder variables in Kindergartan

Children.

(from Peterson, 1961, p207)

Factor-Personality Problem	Rotated Factor Loadings	
	Conduct Disorder	Personality Disorder
Feelings of Inferiority	12	59
Lack of self-confidence	12	60
Social Withdrawal	-03	50
Proneness to become flustered	07	54
Self-consciousness	-13	55
Shyness	-16	62
Anxiety	01	50
Lethargy	-06	52
Inability to have fun	-15	49
Depression	00	47
Reticence	06	45
Hypersensitivity	06	40
Drowsiness	02	39
Aloofness	-16	51
Preoccupation	09	47
Lack of interest in environment	24	40
Clumsiness	16	43
Daydreaming	14	53
Tension	21	41
Suggestability	04	41
Crying	15	27
Preference for younger playmates	28	08
Specific fears	-09	24
Stuttering	11	27
Headaches	19	07
Nausea	-10	01
Truancy from School	27	00
Stomach-aches	10	-01
Preference for older playmates	-14	01
Masturbation	08	-18
Hay fever or asthma	15	05

Table 1:2   Factor Loadings on Personality Disorder variables in

Kindergartan Children.

(from Peterson,1961 p 207).

Although factors can be seen to affect conduct and both to be expressions of personality, it was felt that the distinction between the two was clear. In Peterson's opinion in the first group, impulses are expressed and society suffers, in the second group, impulses are inhibited and the child suffers.

Further analyses looked at sex differences and showed boys as displaying more severe conduct disorders than girls at all age levels. Kindergartan and primary school boys also showed more personality disorders than girls, but at the two highest age levels this trend was reversed and girls displayed more personality disorders than boys.

Quay and Quay, 1965 conducted further work along similar lines to extend the findings to children in their early adolescence.

259 children in the seventh grade and 259 in the eighth grade were rated on the Peterson checklist by their social studies teacher, and a subsection of these was rated a second time by another teacher. From statistical analysis, two factors were again shown which accounted for 83% of the communality in the seventh grade children. Factor I was related to inferiority, shyness, withdrawal etc., and was labelled "personality disorder" ; Factor II was clearly one of aggressive acting-out behaviour and was labelled "conduct disorder". When compared with earlier studies of these factors, for example, Peterson, 1961, there appeared to be a considerable degree of concordance with conceptually similar factors.

The results from grade eight produced three factors accounting for 84% of the communality. Factor I had its highest loadings on the variables of pre-occupation, short attention span, lack of interest, inattentiveness, laziness, irresponsibility and daydreaming. This cluster of behaviours

was taken to suggest an "immaturity" syndrome which although not found

in the seventh grade, had been identified tentatively with juvenile

delinquents, for example, Quay 1964. The further two factors were again

the conduct disorder factor and a personality disorder factor.

The authors concluded that the factors they had shown bore considerable

similarity to studies of rated problem behaviours in other populations

and felt that the general outlines (at least) of personality and conduct

disorders were ubiquitous when children of age-range 5 to 19 were studied.

Their third factor was seen as a sub-division of the personality dimension

which occurred at about age 12 to 14, and which was related to immaturity

or regression.

Many other studies carried out on different child populations in different

countries have similarly produced behaviour clusters suggesting such a

bipolar dimension of excess approach behaviour and excess avoidance

behaviour. It must also be noted, however, that in practice many children

show characteristic problems of both the personality and conduct disorder

dimensions and so fall into a category of mixed disorders.

Table 1:1 listed the types of problems commonly associated with the concept

of a conduct disorder, and it is with these problems which the rest of

this chapter (and indeed thesis) will be concerned.

Any individual child would not be expected to present all the possible

problems associated with a conduct disorder but many children do show

several of these problems at any one time. One particular type of child

showing many of these problems is the child referred to as "hyperactive".

Not only are such children over-active in a purely motor sense, they also

have problems with distractability, unco-operativeness, temper tantrums

disobedience, disruptiveness, attention-seeking etc., (see chapter 2, section 2:1). In fact, in many cases, the two terms are used synonomously (see Herbert 1978), a child labelled hyperactive being almost automatically understood to be displaying other related problem behaviours such as those mentioned above, (and therefore also fitting the description of a conduct-disordered child). The main distinguishing feature between the two terms should be the presence of a problematic high or disorganised level of motor activity, defined as being unacceptable in the social millieux of that child. The hyperactive child can therefore be seen as a specific type of conduct-disordered child, that is, one who has problems with overactivity as one of his defining charateristics but is also usually showing a number of further problems as in table 1:1.

Much of what is said in chapter 2 ("The Hyperactive Child") therefore is relevant to any child who has been described as conduct-disordered, particularly if the over-activity is seen usually as partial evidence for a more general conduct disorder in that child, rather than as primary evidence of an organic or neurological condition or developmental immaturity.

Chapter 2 will be concerned with these controversial matters and will consider specific areas such as the aetiology and treatment of hyperactivity (with emphasis on the activity component of the syndrome), therefore the following section of this chapter will be used to place the conduct disorders in the context of normal social development.

The final section will then look briefly at two of the problems presented by the conduct-disordered child, and suggests ways of formulating these so as to produce a therapeutic model.

(1) Socialisation and the development of compliance:

The study of the socialisation of the individual covers a vast area of

psychological and sociological thinking. Within this section however,

the topic will be considered from only a relatively limited orientation -

that is, the processes which are postulated by social learning theorists

(mainly) to dispose a child to act in accordance with the rules, values

and prescriptions of his society.

This viewpoint was adopted as it appeared to be the most productive in

generating a theoretical model and practical strategies for helping

beleaguered parents with the kinds of problems these children manifested

at home and elsewhere.

One of the most important aspects in the development of a child's disposition

to confrom to the rules of his society, is naturally enough, the development

of an initial bias towards compliance to parental teaching. Not only is

compliance a necessary condition of such socialisation, but its absence

- serious and persistent non-compliance, is recognised as a major component

of the conduct disorders, for example, Levy, 1955, hence the need to consider

the development of compliance (and where it may go wrong), in the present

thesis.

The earliest signs of compliance in a child appear towards the end of the

first year of life, when for the first time, the parents begin to make

demands upon their child, and these increase as the infant becomes a toddler

whose interactions with the environment multiply as he becomes increasingly

mobile and verbal.

Before looking at the acknowledged child-rearing measures that parents

use to teach older children the rules of society (and of the family) and

the effect of these, it is first interesting to look at a study by Stayton

et al., 1971, which considered what they called the origins of socialisation

by looking at infant obedience and maternal behaviour.

Stayton et al. initially put forward the various assumptions about

socialisation which are widely held and which are relevant to the present

discussion.

The first assumption is that a child, in the process of being socialised,

acquires a set of specific roles, attitudes and responses that typically

conform with social pressures. A child may learn these responses because

he has been reinforced for them, or he may imitate the behaviour of the

person with whom he identifies. It is implied that a child therefore acquires

a willingness to comply with these specific roles, rules and response

patterns at the same time that he acquires the behaviours themselves.

Equally it is plausible to postulate the most important step in the

socialisation process as being the development in the child of a willingness

to behave as his elders wish him to. The specific content of parents'

demands will vary, but this development of an initial unspecified disposition

towards compliance may be critical for the effectiveness of all further

socialisation pratices. If the child then lacks this tendency he may remain

a stranger to his society.

The second assumption concerns recognition of the central problem of

socialisation, and the question is asked "What must be done to a child in

order that he act in accordance with the rules of his society?". This then

implies that children who are normally socialised become so only as a result

of specific intervention tactics designed to foster social learning or identification. It also implies that children who appear deviant or unsocialised have become so because these socialisation procedures were inadequately applied.

The third assumption implies that there is a fundamental antagonism between a child and his society - between natural behavioural tendencies and cultural constraints. But equally defensibly, a further assumption is that as man has evolved as a social species, infants will be genetically biased towards certain social behaviours and will be preadapted to ordinary expectable social environments, thus children are sociable from the beginning.

Stayton et al. felt the important common theme in these assumptions to be the disposition for obedience, which does not require as a condition for its acquisition a rigourous and specialised training regime. However, this is expected only to occur within a social environment similar to that in which the species was adapted and so any deviations from the proper environment may produce anomolies in social behaviour.

This was used to generate specific hypotheses which were tested in the study. The hypotheses were that an infant whose mother is accepting, co-operative and sensitive to signals will tend to obey her verbal commands and prohibitions more consistently than an infant whose mother is rejecting, interfering and insenstive. Further that this tendency to comply is independent of his mother's specific socialisation tactics or disciplinary procedures.

The hypotheses were tested out on data obtained from 25 mother-infant pairs observed at three week intervals for four hours throughout the first year

of life (15 were boys, 10 girls). In the last three months of the study
(children from ages 9 months to 12 months) data was obtained on three
maternal variables (sensitivity-insensitivity, acceptance-rejection,
co-operation-interference) on three maternal behaviours (frequency of
verbal commands, frequency of physical interaction and extent of floor
freedom permitted to the child) and on four infant variables (sex, I.Q.,
compliance to commands and internalised controls).

The results showed that the measures assessing the quality of the mother's
interaction with her infant were highly intercorrelated, and further,
the infant's compliance to commands was strongly and positively related
to all three indices of quality of mother-child relationship.

The two measures of maternal discipline - frequency of verbal commands
and of physical intervention were shown to be positively correlated,
and neither these practices or the amount of floor freedom permitted the
infant was significantly related to compliance to commands.

Thirdly the infant's use of internalised controls was not significantly
correlated with compliance to commands, but internalised controls were
positively related to I.Q., to the amount of floor freedom permitted to
the baby and to maternal sensitivity, acceptance and co-operation.

The authors concluded that a disposition towards obedience emerges in a
responsive, accomodating social environment without extensive training or
discipline, or other massive attempts to shape the infant's course of
development.

This study is felt to be relevant because it draws attention to the

importance of the total mother-child interaction, showing that it is not always particular disciplinary techniques which produce the disposition to compliance in very young children, but that the manner of the mother and the relationship with her baby can be very crucial. Although the Stayton et al. study concentrates more on the effect of maternal variables and behaviour, the effects of many variables in the child may well be equally important and such effects will be discussed later in this section.

The disposition to compliance or a willingness to comply is therefore the beginning of the development of compliance in the child. Serious problems at this stage due to noxious factors (for example, adverse temperamental attitudes, parental rejection etc.) on either the infant or parental side of the interaction may well hinder many of the subsequent attempts at socialisation. Just as the study defined types of maternal behaviour which produced high levels of compliance in the infants, so also may there be types of maternal behaviour which will produce high levels of non-compliance. Further, as maternal behaviour is now acknowledged to be very influenced by the behaviour of the infant (Bell, 1968) interactions leading to problems in socialisation at this early stage may be triggered by either or both of the interacting parties (Herbert, 1974).

Looking past this stage the family's role is then to provide more specific (detailed, appropriate and consistent) socialisation learning experiences, if the child is to learn the categories of behaviour which are "good" and those which are "bad", and so comply with society's demands (the beginning of moral development). Such experiences, viewed from a social learning point of view, provide reinforcements (social rewards such as encouragement) when the child is performing "good" behaviour (combined with the cognitive structuring of the explanations given), and they tend to punish and suppress

"bad" behaviour. Positive experiences in particular are necessary to shape prosocial behaviour patterns with which they are associated (based on the learning theory finding that positive reinforcement produces enduring patterns of desired behaviour, whereas punishment often only leads to short-term suppression of undesired behaviours).

However, sanctions applied to undesirable behaviours do appear to be important in the development of what we call "conscience". Anxiety aroused by punishement (especially love-orientated techniques such as parental disapproval) becomes associated with the external and internal stimuli manifested at the time, and can then be elicited on future occasions by similar situations. As anxiety is a powerful response, it then tends to inhibit responses which have previously led to the production of anxiety (a process known as passive avoidance conditioning).

Problems can be expected to arise at this stage, in which external events are acting as differential reinforcers (strengthening desirable responses and inhibiting undesirable ones), in various ways.

Inconsistencies in the use of either rewards or punishments may lead to faulty acquisition of appropriate responses. If a child cannot predict when he is behaving in a manner which will lead to a reward or to a punishment then it can be postulated that his production of desirable prosocial behaviours will be hampered, and his production of anti-social behaviours will continue past any appropriate point. Further use of excessive amounts of punishment may produce severe anxiety in the child with a resultant over-inhibition or may spark an aggressive response in the child towards his caretakers, (particularly if the punishment is of

a physical pain-producing nature).

A later stage in moral development advances beyond the predominantly behavioural (or externalised) control processes (for example, avoidance of punishment or responsiveness to rewards) and involves ever more sophisticated cognitive structuring of social (and more specifically moral) behaviour. The cognitively maturing child's perception of rules, and his internalisation of these are developing apace with the resultant effect that behaviour is no longer purely dependent on external control. Internalised rules allow one to not merely avoid externally imposed consequences, but also to avoid anxiety or guilt (post-transgressional anxiety) which have their source within the individual. They also provide mediating reinforcement for the individual, to sustain behaviours which do not provide immediately forthcoming external rewards. Nevertheless a large component of the variance concerning factors controlling behaviour in children, remains external to the child (situation specificity). These must be assessed in terms of an individual with a unique learning (reinforcement) history and consitutional make-up interacting with different social environments.

Conditions conducive to the acquisition of internalised rule formation have been delineated (Wright, 1971) as follows:

(1)   Strong ties of affection between parents and children.

(2)   Firm moral demands made by parents upon their youngsters.

(3)   The consistent use of sanctions.

(4)   Techniques of punishment that are psychological rather than physical
      (that is, methods which signify or threaten withdrawal of approval
      and love).

(5)   An intensive use of reasoning and explanation.

All disciplinary encounters share three components which were discussed

by Hoffman, 1970, and will be considered briefly here:

A. Power assertion:

   Physical punishment has been shown to be the least effective

   disciplinary technique. This appears to be due to the fact that it

   often arouses anger and aggression in the child, and also models

   the use of such a behaviour to the child (a behaviour which is

   normally not allowed).

B. Love withdrawal:

   This involves the parents temporarily removing their approval,

   attention etc. from the child following undesirable behaviours.

   This produces anxiety in the child about threatened withdrawal of

   love, and so makes the child more susceptible to adult influence.

   This disciplinary technique however can only succeed within an

   environment of affection and emotional ties between the child and

   his parents. If the relationship is weak the child will not be

   concerned about the withdrawal of his parents' love. Further to

   be effective the sanction needs to be applied consistently and

   reliably, for if an undesirable behaviour is rewarded on some

   occasions, then it may become very difficult to subsequently

   condition feelings of anxiety to that particular behaviour.

C. Induction:

   This involves giving reasons and explanations to the child for why

   he should behave in a certain way, and includes pointing out the

   possible effects of his behaviour for himself and those around him.

   As the child matures, the way he cognitively structures a situation

   will determine whether or not anxiety is elicited by that situation

(anxiety now being under the control of internal stimuli as well as external stimuli). What appears to happen is that the immediate antecedents of a behaviour (the impulses to perform that behaviour) then come to elicit anxiety. Whether the child will acquire the attributes of guilt or resistance to temptation depends upon the timing of their parents' sanctions. Evidence suggests that punishment preceding a forbidden behaviour maximises resistance to temptation (Aronfreed, 1964). Explanations then help the child recognise when he is about to commit a forbidden act, and help him discriminate when and how to behave in particular ways.

Looking back to the five conditions which are conducive to the acquisition of internalised rule formation, it is equally feasible to postulate that the opposite of these conditions (or their ommision) will be conducive of a lack of acquisition of internalised rules. Parents who make few or inconsistent moral demands of their children, who punish inconsistently or excessively (particularly using physical techniques), without explaining why the child has to be sanctioned may well be storing up problems for themselves or their child, especially if the bond of affection with the child has not been firmly established.

Empirical studies have shown that typically children with conduct disorders come from families where there is discord and quarrelling, where affection is lacking, where discipline is inconsistent, ineffective, and either extremely severe or lax, where the family has broken up through divorce or separation, or where the children have had periods of being placed "in care" at times of family crisis. Farrington and West, 1971; Knight and West, 1975; West, 1969.

The above discussions have focused on the parental side of the parent/child

interaction

and need to be balanced by considering ways on which the child himself
can effect his own process of socialisation particularly with respect to
this development of compliance. It was suggested when discussing the
Stayton et al. study that the mother's behaviour could well be determined,
in part at least, by the behaviour of her child over this period or
previous to it. Ways in which attributes of the child can affect the
socialisation process by producing less than optimal responses in their
parents will now be considered.

(2)   The Effects of Individual Differences on Socialisation.

Here, three causes of individual differences in children will be considered
with particular reference to how such differences may affect the socialisation
process through which the child must pass and so influence the development
of compliance or non-compliance.

A.   Personality and Genetics:
Eysenck is one of the main proponents of the view that heredity affects
behaviour via personality. The personality dimensions of extraversion,
neuroticism and tough-mindedness are believed to be significantly
influenced by genetic factors, and in their turn they are believed to be
closely linked with the conduct disorders, delinquent behaviour and
psychopathy. It is postulated that children must acquire the capacity to
inhibit anti-social behaviours such as stealing, and the extent to which
they acquire this capacity is dependent on individual differences in
conditionability, anxiety arousal, extraversion,toughmindedness and class
differences in socialisation training.

Briefly, a child who is high on neurotioism and extraversion will show
a distinct tendency to be labelled as a "conduct problem", while a child

high on neuroticism and introversion is more likely to be labelled as having a "personality problem". It is proposed (Eysenck, 1964) that neuroticism and extraversion-introversion interact complexly to determine some of the individual differences in the success or failure of socialisation. As training in socialisation is thought to involve the acquisition of conditioned fear responses (see p. 14) then individual differences in the acquisition of these responses - due to the personality characteristics of a person - would be an important factor in explaining why some people do not become "as socialised" as the majority of the population. There is evidence to suggest that introverts form conditioned responses more swiftly and persistently than do extraverts (Eysenck, 1967).

B.   Organic Factors:

Pasamanick and Knobloch, 1960, suggest that there is convincing empirical evidence of correlations between complications of pregnancy and birth, and behaviour disorders in children. Such complications are particularly evident in hyperactive and disorganised children and suggest an organic influence on these states.

However, later work found no evidence of correlations between conduct problems and organic indicators (for example, Paine et al., 1968), but the whole area is complicated by the uncertainties concerning the taxonomy of conduct disorders.

Sameroff and Chandler, 1975, reviewed studies of perinatal effects and concluded that the significance of such events was usually small when compared to the influences of socioeconomic factors on both prenatal and postnatal development.

C. Temperamental Factors:

Studies of children in recent years have shown consistently that they are
not just passive recipients of stimulation (for example, Bell,1968;1971),
but rather that they actively reach out into their environment and behave
in a manner consistent with their temperamental style.

Thomas et al., 1968, demonstrated a number of temperamental characteristics
which could be identified even in early infancy. They were - level of
activity, rhythmicity of eating sleeping and bowel movements, distractibility
from ongoing activities, approach or withdrawal response to a new object
or person, adaptability to changes in the environment, attention span or
persistence, intensity of reaction, threshold of responsiveness or
sensitivity,and general quality of mood. Further, most of the babies could
be assigned to general types of temperament, called "easy children",
"difficult children" and those who were "slow to warm up".

The authors followed 136 New York children from birth for many years,
regularly reassessing their temperamental characteristics, and as the
children grew older closely watching the development of any psychological
disorders. A number of children (34) showed what were called active symptoms
(similar to conduct problems) and a further eight showed passive symptoms
(similar to personality problems). The remaining children were classified
as a non-clinical group. Comparisons of these three groups of children
on their temperamental attributes showed that they differed in significant
ways. Children presenting with active symptoms were more likely to have
been more active, be less adaptable, have a lower threshold of
responsiveness, be less rhythmic, more distractible and less persistent.
Children presenting with passive symptoms were more likely to have a poorer
general mood, and be more likely to withdraw than approach.

A factor analysis based on intercorrelations on the nine categories of behavioural style identified a factor called factor A, which had high loadings on mood, intensity, approach/withdrawal and adaptability, and showed relative consistency over the first five years of life.

A comparison of the clinical and non-clinical groups showed that over the first five year period, and beginning at about the third year, the clinical group began to deviate markedly from the non-clinical group in the direction of negative mood, marked intensity, tendency to withdraw and be non-adaptive. The children who possessed these patterns of behaviour became known as "difficult children", and were far less likely to grow up without behaviour problems. (70% of the temperamentally difficult children were reported to develop such problems compared to 31% of the whole group who developed problems).

Two studies in Britain produced similar results. Rutter et al., in 1964, followed a group of children from infancy and compared characteristics of behavioural reactivity of the 21 who came to psychiatric notice with the 71 who did not. The clinical cases differed significantly from the others in that they were more irregular, non-adaptive, intense and exhibited more negative mood. Further, these temperamental characteristics were present before the onset of the overt symptoms, and did not themselves constitute the first signs of behavioural disturbance.

A later study, Graham et al., 1973, assessed 60 children between three and seven years of age, each of whom had at least one mentally ill parent, for both temperamental difficulties and behavioural disorder. They again found that certain temperamental characteristics, espeically low habit regularity and fastidiousness, were predictors of the development of later

psychiatric disorder.

What can reasonably be inferred from these studies is that children differ
in their susceptibility to problem development as they grow older. It
is not likely that any precise combination of temperamental characteristics
per se leads to the appearance of a behaviour disorder, but that it is
the interaction between these characteristics and the child's environment
which eventuate in psychiatric referral. Parents faced with a temperamentally
difficult child will find the task of socialising the child along the
lines discussed above (pages 13 to 18) more exacting, and they will need
to be more resourceful and often patient if they are to succeed in teaching
their child to behave as they wish. From the earliest stage (described
in the Stayton et al. study) when the mother/infant interaction needs to
be positive and rewarding through the process of rewarding desired
behaviours and suppressing undesired behaviours, to the eventual aiding
of the child's internalisation of moral codes and rules, the responses
of the child to his parents' behaviour will constantly be important. Many
parents with the best of intentions may find themselves unable to be
consistent and firm when faced with an unpredictable, intensely reacting,
bad-tempered child! Such children often seem to stay at a negativistic
stage usually associated with two and three year olds (with the child
rebelling against the demands from his parents that he must become more
independent), their parents being defeated by the strong-willed
oppositional behaviour of their child. Confrontations with the child are
often avoided or faced only sporadically, with inconclusive results or
humiliating retreat. The parents can then begin to loose confidence in
their effectiveness as parents and feel that their child is beyond their
control. (Herbert, 1978).

Conclusions:

The reasons why a conduct disorder develops are obviously many and inter-related. Parents have the task of conveying to their child the mores of the society that they live in, and they may or may not know the best way to go about doing this. Further, they may have a child who is very susceptible to their disciplinary techniques and who will present few problems whatever they do, or they may have a child who will cause them problems no matter how well they follow guidelines available.

If at least some willingness to comply does not appear in the child (for whatever reason) the child will be much less likely to accord with the more complicated rules his parents will try to teach him later. A child out of his parents' control (in the respect that they cannot predictably produce compliance in him), is likely to continue behaving in a style characteristic of a much earlier stage, and never seems to work his way through the process of socialisation. A child showing extreme personality traits of extraversion and neuroticism, with a history of pregnancy and birth difficulties, or with a difficult pattern of temperamental traits, would appear to be less likely to emerge as desired from the socialisation process involved with the development of compliance, and therefore be more likely to develop non-compliant patterns of behaviour and conduct disorder type problems.

1:3   Two Examples of Conduct Disorder Problems.

(1)   Non-compliant and Coercive Behaviour.
A normative study by Johnson et al., 1973, showed that non-compliance comprised nearly one-third of children's deviant behaviour. It is commonly noted amongst those who work with problematic children that there is a

general tendency to be unco-operative with requests, and further to actively go against such requests at times.

Non-compliance frequently is also accompanied by other difficult behaviours used with the effect of terminating the requests being made to the child. Such behaviours like temper tantrums and aggression are then classed as "coercive" behaviours. Coercive power involves the use of aversive stimuli, threats and punishments to gain compliance or to avoid doing something. Parents too when faced with non-compliance from a child are likely to try to use coercive behaviours, and very negative cycles of coercion can start (see chapter 3 section 6 for further discussion of coercion).

Children are exposed in early life to learning experiences involving non-compliance and coercive behaviours. Patterson, 1975 believes that by the age of three an American child has learned all of the 14 noxious behaviours recognised in his behaviour code (for example, cry, tease, whine, yell, disapproval, non-comply) for even if parents avoid the use of such behaviours, the child cannot be protected from seeing them used in the nursery, school, by peers and on television.

With increasing age, certain coercive behaviours are no longer acceptable to parents, and they then become the target for punishment to reduce their rate. If all goes well, the high rate of whining, crying and yelling behaviours found in two and three year olds, will have decreased by the age of four and by five years; most children will be using less negativism, non-compliance and negative-physical actions then younger siblings (Patterson, 1974a).

If a child's level of non-compliant and coercive behaviours does not reduce as expected, reasons for its continuing high frequency must be sought.

Johnson et al., 1973 demonstrated a fairly high correlation between overall
parental negativism and child deviance, and a later study by Johnson and
Lobitx, 1974, showed that if parents were asked to increase their own rate
of ignoring or commanding their children, and of being negative, restrictive
disapproving and non-compliant then the rates of deviant behaviour in the
children increased.

Modification:
The evidence above concerning the effects of negative parental behaviour
on a child's level of non-compliance and other deviant behaviours, when
added to information about the possible development of non-compliant
behaviour in the previous section, would suggest that providing a consistent
predictable _positive_ environment with highly structured rules would help
reduce levels of non-compliance, and help the development of self-control
in the child.

The principles of contingency management - detailed in chapter 4 - provide
guidelines for setting up such an environment for a child. Examples of
their use with these children are given in chapters 3 and 6 so will not
be covered here, except to say that the results of applying learning theory
via contingency management to non-compliant children has been successful
in large numbers of reported cases.

(2)   Aggressive Behaviour.
Although biological factors do influence aggressive behaviour, children
are not born with the ability to perform specific acts such as damaging
property, assaulting people to produce pain, or using verbal abuse. The
ability to do these things must be acquired through learning, by direct
experience or by observing the behaviour of others (Bandura, 1973).

Aggressive behaviour once learned is then maintained by the consequences which it produces. If an aggressive act is rewarded, either from the environment or by self-reinforcement, then it will tend to be repeated. With children, aggressive acts may often be rewarded by achieving for the child something that he wanted, or by stopping his parents making demands on him.

A very young child has strong demands for the immediate gratification of all its wants, and an infant will lash out at the source of events that frustrate, restrict or irritate him. Young children find it very hard to be patient or to be generous, and their social interactions include much aggressive, conflict-ridden behaviour (Dawe, 1934). Boys show more aggressive behaviours from early in life for example, McFarlane et al., 1954, and behaviours such as temper tantrums continue later in boys.

Work looking at the effects of parents' disciplinnary techniques (Becker, 1964) showed that parental permissiveness of aggression increased the child's tendency to behave aggressively. A combination of lax discipline with hostile attitudes in the parents produced very aggressive and poorly controlled behaviour in the offspring. A lax parent is one who gives in to the child, allows him a great deal of freedom, is submissive and inconsistent. A parent with hostile attitudes is mainly unaccepting, and disapproving, failing to give affection or explanations to the child, and tendency to use a lot of physical punishment.

Modification:
Two categories of influence on aggressive behaviour need to be considered
1)   Those which instigate the aggression such as physical or verbal attacks, frustration, conflict, exposure to aggressive models, and

2)   Those that maintain aggression, that is, direct, vicarious and
self-reinforcement.

Again the principles of contingency management can be used to generate
ways of managing and reducing aggressive behaviour. Identification of the
discriminative stimuli can be made and such stimuli removed or altered,
followed by the consistent applications of sanctions to the appearance
of aggressive behaviour, and the reinforcement of alternative behaviours.
As with non-compliant behaviour, the aim is for a consistent and predictable
environment, in which the parents are positive towards the child and do
not model the behaviours which they wish to reduce (see chapters 3,4, and 6).

Conclusions:

It is suggested that non-compliant/coercive behaviour and aggressive
behaviour and other conduct problems can be understood in terms of social
learning theory. Such behaviours produce reinforcement for the child and
if they are not consistently disciplined they can continue well past
the age at which children normally use such behaviour regularly. If such
behaviours are continuing then the use of contingency management principles
can provide a structured consistent environment in which the child can
start to learn new, more adaptive behaviours, and can finally be shown
that the undesirable behaviours no longer produce reinforcement. The need
for a positive approach from the parents with a cessation of their own
coercive and negative physical behaviours is further prescribed by a
contingency management approach, and this helps the parents provide the
conditions condicive to the acquisition of internalised rule formation,
(page 15), and also the conditions necessary for the previous stages
of moral development.

The role of the child must not be forgotten however in the appearance and

maintenance of conduct disorder type problems, as extremely difficult children make it very hard for their parents to apply any sanctions or even rewards consistently. It is further suggested that a knowledge of contingency management principles can help the parents of such children greatly by providing them with a structured format to follow and principles to turn to when prescriptions for their own behaviour are needed.

Chapter Two.

Hyperactivity in Children

The four sections of this chapter will be used to pose, and hopefully

to answer, a series of important questions about "Hyperactivity".

This will be done by looking at some of the literature available at the

present time. The pre-occupation with hyperactivity, as indicated by

publications of papers and books on the topic has been growing steadily

since the 1950's; even before that time, people were interested in

describing children with such problems, and investigating the possible

causes. This ill-defined problem area of hyperactivity has a multitude

of ramifications, and only a small number of these can be covered here

in any detail.

The main questions will be:

(1)   What is hyperactivity, and how can it be assessed?

(2)   What causes hyperactivity, that is, what is its aetiology?

(3)   How can hyperactivity be treated?

(4)   What is the prognosis for the hyperactive child?

2:1   What is hyperactivity and how can it be assessed?

A.   Clinical Description:

        The description of hyperactive children varies as they grow

older, and although the label would suggest otherwise, no one specific

problem is pathognomic of hyperactivity, that is, can be taken alone

to indicate the presence of the syndrome. There would appear to be many

"symptoms" of hyperactivity - where a symptom refers to a particular

problem shown by the child, which may indicate a more generalised disturbance

of functioning. These change both in number and importance as the child

grows older.

The clearest way therefore to describe the hyperactive child, is to look
at the various stages of development in the growing child, and the type
of problems that seem to be most important at that time. The general format
for this is that used by Ross and Ross (1976) in their book -
"Hyperactivity Research, Theory and Action" (Chapter 2.).

Infancy.   Some of the main descriptions applied to the hyperactive child
at this age are: irregular, unpredictable, irritable, demanding,
unsatisfied, and rarely smiling. The latter is of great importance to the
interaction of the mother and infant, with the lack of smiling having
potentially serious implications for both the mother-child relationship
and the infant's cognitive development. (Ambrose, 1969).

Often the child is extremely active, making nursing and routine care
difficult, and as he starts to become more mobile, he has to be watched
constantly. He cries readily in a high pitch or a monotonic scream, and
often cannot be comforted.

The concatenation of such patterns of behaviour provides what can only
be termed a "difficult" infant, who can strain the patience of the most
tolerant of mothers. A longitudinal study by Sander (1962, 1969) on
mother-child relationships of young mothers and their normal first-born
infants, suggested a potentially serious consequence of these difficult
infants might be a pervasive and lasting damage to the mother-child
relationship. This study identified and defined a sequence of five levels
of adjustment during the first eighteen months of life, and showed that
the degree of harmony in the mother-child relationship at any level was

dependent on the successful resolution of adaptation at the previous level. It appeared that hyperactive infants and their mothers often had difficulty in achieving resolution of even the first level (the initial regulation of biological activities over the first three months of life), and many had difficulty in eliciting a response as positive as smiling or social play from their restless infants (second level, the reciprocal exchange - smiling behaviour extending to motor and vocal exchanges in months four to six.).

Other studies supported this finding of a marked lack of harmony in the early mother-child relationship (for example, Battle and Lacey, 1972). However, these findings cannot be interpreted as indicating the direction of effect, and it must be remembered that just as a difficult infant may elicit negative affect from his mother, so an indifferent or rejecting mother may produce a fretful, restless or unresponsive infant. What can be said is "once a pattern of hyperactive behaviour is established, whatever the origin, both members of the dyad usually will contribute to the problem through an interactive process that maintains and exacerbates it" (Ross and Ross 1976, p30). Any early intervention must be with the purpose of preventing this from occurring or interrupting it if it has started.

Pre-school   The pre-schooler who is described as being hyperactive, is a serious management problem for his parents, as he shows a combination of high mobility, lack of fear, and an apparent inability to learn from experiences.(for example, Nichamin, S.J., 1972).

The early problems shown in infancy also tend to continue, the irregularity of biological functions (for example, eating, sleeping, toiletting), of

mood (swings from good to bad mood) and of movements (for example, inability
to sit still, with frequent shuffling, or running about). Violent temper
tantrums well above average in frequency and intensity can occur,
usually heightened by low frustration tolerance and a need for instant
gratification. The child often evokes negative responses in others through
aggressive and destructive behaviour, although sometimes he can function
reasonably well in a one-to-one situation. Succeeding at tasks is extremely
difficult, often because of a short attention-span or poor learning abilities
and a series of rejections and failures can lead to the establishment of
a poor self-esteem. This history of failing can precipitate the resort
to attention-seeking behaviours such as destruction, disobedience and
showing-off, for these are the things at which the hyperactive child can excel!
The hyperactive child seems to have great difficulty in controlling
himself from doing things which children like to do, but are normally
forbidden, for example, touching things. He is impulsive, not stopping to
think of consequences, and very drawn to things around him. (Hence the
difficulties often experienced with hyperactive children in supermarkets).

Speech may be delayed, exacerbating his other problems, and maybe leading
to a general slowness of development. However, usually physical growth
and development is normal with running seeming to be more common than
walking and often with a kind of driving quality which mother can identify
and yet not explain. He can be extremely persistant at times and is often
an artist at getting into places in which he should not be, and out of
those in which he is supposed to be. (A high proportion of children seen
in a study of accidental poisoning were diagnosed as hyperactive -
Stewart et al., 1970a.) Likewise, he persists at mischief and destruction
while giving up easily on constructive tasks.

For the mother of a hyperactive child the conclusion that she is doing

something wrong and that her child's problems are due to the fact that she is a "bad" mother is easily reached. Adding this onto what may have been a poorly established relationship when the child was an infant, can only make the interaction more difficult. Then the vicious circle of the mother rejecting or ignoring the difficult child, who promptly becomes more difficult to gain the attention he craves; can easily commence.

<u>Middle Childhood</u>   Difficulties which started in the pre-school years can continue in the home even though the child spends much less time with his parents now. Often the child is still very active and frequently also clumsy and prone to wandering about when he is supposed to be sitting still. Problems caused by attention-seeking behaviours will continue as the child can become more disruptive of family life, particularly as he becomes physically larger and stronger. The changeable quality of his nature still remains, with the child swinging from good to bad moods - often only making things worse as the parents get a taste of what the child can be like during the good periods.

The succession of failures experienced by the child, often linked with parental rejection due to the maladative responses frequently made, may by this stage have led to a poor self-concept in a child who quite often then appears to be unhappy and unsmiling. Peer relationships also do not normally go smoothly, as social skills are often inadequate because of problems occurring previously. Also, as many of these children like to be dominant without the skills to achieve this in an acceptable manner, they tend to become both verbally and physically aggressive and easily become unpopular.

The continuing high level of motor activity is found aversive by many adults in particular but also by quieter children. Unfortunately, the

hyperactive child can be socially unacceptable to others, even when he
is displaying normally acceptable behaviours but at too high a rate (for
example, Patterson, 1964). The child can therefore be easily confused about
what is and what is not socially acceptable and required of him, which
contributes to feelings of resentment at others' treatment of him. His
lack of skills also makes him appear immature which again makes fitting
into social groups more difficult.

At school, all the child's problems can combine to make the acquisition
of educational skills very difficult. Wandering about and doing whatever
draws his attention does not make for popularity with teachers, nor does
it aid the learning processes. The child can also possess a large repertoire
of disruptive attention-seeking behaviours by this time which can easily
get out of hand if the teacher does not handle the child firmly from the
beginning. Generally, hyperactive children seem to do less well at school
when matched with control groups; Minde et al., 1971, showed that many
hyperactive children had uneven cognitive patterns and a preponderance
of verbal difficulties of a magnitude that made satisfactory academic
progress in a class seem unlikely.

A study performed by Stewart, M.A., 1970(b) compared 37 schoolchildren
(32 boys and 5 girls) aged five to eleven years who showed pronounced
levels of overactivity and inability to maintain concentration, with a
control group of first grade children. The controls were generally
matched apart from age which was disregarded as the presence of hyperactivity
had long been established. Mothers of both groups were interviewed with
a questionnaire that covered the child's present and past symptoms, his
medical and developmental history, his school record and the family
history. The results showed a striking difference between the two groups
on the following 27 measures. (Table 2:1 below).

Measure	Hyperactive Children	Control Children
Overactive	100	33
Does not finish projects	84	0
Fidgets	84	30
Cannot sit still at meals	81	8
Does not stay with games	78	3
Wears out toys, furniture, etc.	68	8
Talks too much	68	20
Does not follow directions	62	3
Clumsy	62	8
Fights with other children	59	3
Unpredictable	59	3
Teases	59	22
Does not respond to disc pline	57	0
Gets into things	54	11
Speech Problem	54	25
Temper tantrums	51	10
Does not listen to whole story	49	0
Defiant	49	0
Hard to get to bed	49	3
Irritable	49	3
Reckless	49	3
Unpopular with peers	46	0
Impatient	46	8
Lies	43	3
Accident prone	43	11
Enuretic	43	28
Destructive	41	0

Table 2:1   Percentage of hyperactive children showing problem
behaviours, compared to a control group (from Stewart, 1970b)

<u>Adolescence</u>   In adolescence all the problems accrued from earlier life including difficult es at home, lack of social skills, poor self-image etc., now interact with all the problems that normally beset adolscents, for example, concern about one's future, peer acceptance, physiological changes and heterosexual adjustment.

There may be a marked reduction in activity level (Bradley, 1957), but this does not alleviate the remaining problems.

As the present study is concerned with the hyperactive child, the provision of more information on these children in adolescence will be delayed until the section on prognosis. (See section 2:4).

<u>Conclusions</u>

The main conclusion from looking at these descriptions of children classified as hyperactive, is that the term used diagnostically has in fact no clear meaning. Factor analytic studies (for example, Werry, 1968) confirm the absence of homogeneity. Hyperactivity is no more than a useful short-hand term (like conduct disorder) which describes a vague constellation of problem behaviours which vary from child to child, and within a child from year to year. Although hyperactivity can not be described precisely, I have retained the term as a matter of convenience, and use it in the sense that referrers use it: as a loosely defined behavioural syndrome consisting of some common, but also some diverse, symptoms. On the whole the common symptoms which appear to cause a child to be so classified, can be divided into four main types which are as follows:

1)   The presence of a high level of motor activity (running a lot, wandering about etc.) combined often with a short concentration span and a high degree of distractibility leading to nomadic perambulations.

Along with large amounts of energy which enable the child to keep going

for long periods of time, and often with little need for sleep. The child

may also appear "driven".

2)   A high level of impulsivity and lack of inhibition over the

child's behaviour, he tends to do what he wants, when he wants. Along with

this is often a low frustration tolerance, and an insistence on immediate

gratification, that is, a lack of patience on the child's part.

3)   Quick excitability so that the child is aroused rapidly by

events and may become hysterical or angry easily and apparently loses

control over his own behaviour.

4)   A temperament prone to mood swings, stubborness, defiance

and a strong desire for attention.

The degree to which these many symptoms need to be present or the number

of them necessary for the child to be called hyperactive has not been

agreed upon. The many other behaviour problems which can follow, for example,

temper tantrums, aggression, destructiveness, lack of social skills, etc.,

may or may not be taken as primary symptoms, and children showing these

but not high activity levels, are on occasion referred to as hyperactive

because of their high reactivity levels to social situations. In the present

study, children not showing high activity levels and problems with

implusivity and excitability are not usually referred to as hyperactive;

instead their problems are designated as conduct disorders (with which

hyperactivity overlaps) (Herbert, 1978), and they are referred to as

management problems.

B.   The Assessment of Hyperactivity:

There are many ways of assessing hyperactivity because there
are so many facets to the syndrome and also because there are so many
interpretations of what the term hyperactivity implies: Various types of
assessment procedures will be mentioned briefly.

(1)   Interviews with the Parents - The aim of such an interview is to
obtain specific factual information about events, happenings and
behaviours, and also to observe the attitudes and feelings concerning
these events expressed by those involved. Information about current problems
is required and a past history of the child's general development and
problems which have occurred. Finally, some family history is useful (for
example, Stewart, 1970b.

(2)   Interviews with the Child - Such interviews must be gauged to the
child's age, intelligence, interests and presenting problems. The main
aims are to collect information on the behaviour of the child during the
interview and to elicit information from the child about current events.

(3)   Questionnaire Rating Scales   - These are available for completion
by the child's parents, teachers, etc. The utility of these seems to depend
on the nature of the questions asked which need to be specific and not
general statements. For example, Behar's 1974 Pre-school behaviour
questionnaire; Bell et al. , 1972.

(4)   Physical and Neurological Examinations - These can be used to check
for defects of the senses, abnormalities of speech, and the presence of
a treatable or progressive neurological disease, or detection of minor
neurological abnormalities. For example, Werry, 1968.

(5)   Laboratory Studies - The electroencephalogram, neurological

evaluations, chromosome studies, metabolic and biochemical studies may

be useful and are now used for research studies. For example, Warren et al.,

1971; Satterfield, 1975.

(6)   Psychometric Studies - An evaluation of general intelligence,

academic achievement, language and motor function, memory and perception

is needed.

(7)   Direct Observation of Motor Activity - This involves observing the

child for a unit of time, subdivided into cells of a few seconds duration,

during which particular behaviours are noted as occurring on an all-or-

none basis. For example, Doubros and Daniels, 1967.

(8)   Direct Measurement of Movement - Activity is measured as it occurs

by mechanical means, for example, stabilmetric cushions, self-winding

calendar watches with hands that advance as it moves through space, or

telemetric devices that involve a transmitter attatched to the child to

constantly monitor movements. For example, Christensen and Sprague, 1973;

Millichap et al., 1968; Montagu and Swarbrick, 1975.

Some combination of these assessment techniques would usually be employed

to obtain a general picture of the child's behaviour, along with

observations of family interactions when possible.

2:2   What causes hyperactivity?

           There are now considered to be many aetiological factors

involved in the development of hyperactivity, and aetiological sub-groups

of hyperactivity seem to be accepted. For example, Ney, 1974, designated

four types of hyperactivity : (1) Genetic hyperactivity which includes

children who have been hyperactive from early in ancy and whose prenatal
and perinatal histories were normal.

(2) Behavioural hyperactivity refers to children whose hyperactivity
was conditioned by parental handling.

(3) Minimal brain damage dysfunction describes children with early
continuous hyperactivity and histories of abnormal pregnancies or perinatal
events.

(4) Reactive hyperactivity occurring in children from chaotic
home environments.

Ross and Ross, Chapter 3, identify four major categories of aetiological
influence that have been investigated, these are; genetic, organic,
psychogenic and non-social environmental factors.

A.   Genetic Factors:
Several sets of findings have suggested that a relationship
between genetic factors and hyperactivity may exist. There is unequivocal
evidence that animals can be selectively bred for high or low activity
level, (McClearn, 1970).

First degree relatives - It has been shown that there is an increased
prevalence of psychiatric disorders in the families of hyperactive
children, and that hyperactivity passes from one generation to the next,
(Morrison and Stewart, 1971; Cantwell, 1972), but no distinction is made
between genetic and environmental modes of transmission in these two
studies.

Twin Studies - There have been no validated twin studies of hyperactive
children, but activity levels in normal twins showed hereditability factors
of 0.82 for males and 0.58 for females (Willerman, 1973). However, because

hyperactivity may be qualitatively different from a very high level of
activity it is not certain that these results can be generalised to
hyperactive children.

Adopted children - Three studies have suggested the existence of a
hereditary factor in the transmission of hyperactivity, as biooogical
relatives reported a higher level of prevalence of childhood hyperactivity
than did adoptive relatives or controls (Cantwell, 1972).

The type of gene system proposed to fit the data available is one of
polyfactorial transmission in which a sizeable number of different
hereditary and environmental influences interact to produce the behaviour
with the hereditary component being polygenic   that is, reflecting the
activity of many genes rather than of a single gene. (Morrison and Stewart,
1973).

B.   Organic Factors:
      Although hyperactivity does occur in children with severe
and demonstrable brain damage, there is little empirical evidence to
support the view of brain damage as a major aetiological factor in
hyperactivity. (See the study by Werry, 1968, considered in detail at the
end of this section).
Brain dysfunction is exceedingly difficult to demonstrate, but may be
aetiologically related to hyperactivity. Several theoretical formulations
are based on the interaction of the excitatory and inhibitory systems
within the central nervous system. For example, Satterfield, 1975, in
Cantwell, D.P. 1975 (Ed.)'s book, "The Hyperactive Child" reports his
findings that support a hypothesis that hyperactive children have
insufficient central nervous system (C.N.S.) inhibition, and a low C.N.S.

arousal. Levels of pre-treatment C.N.S. arousal level were negatively

correlated with the severity of the child's behavioural disturbance -

the lower the arousal level, the greater his problems with motor control,

attention span and impulsivity. The lack of inner control is taken to

cause a flooding of the brain with sensory signals arising from within

and without, any of which may trigger a motor response. The child's

behaviour is therefore controlled by stimuli, relevant or irrelevant

over which he has no control, he is drawn from within or without by

stimuli which would be ignored (inhibited) by normal children.

Delayed maturation - there is physiological and psychological support

for a sub-group of hyperactive children characterised by delayed and/or

irrelular maturation, for example, Oettinger et al., 1974, who showed

that school children diagnosed as minimal brain dysfunctioned were

significantly retarded in bone age as compared to standard norms, with

two thirds of subjects falling below norms. Lags or deficits in the

highest levels of the C.N.S. have also been shown in children diagnosed

as minimal brain damaged (Peters et al., 1975).

C.   Psychogenic Factors:

Studies of psychogenic factors concentrate on environmental

or intrapsychic variables which may influence the appearance of symptoms

of hyperactivity in a child. Importantly, the attitudes and actual behaviour

of the child's mother are investigated. There appears to be support for

the view that there is an interaction between any predisposing constitutional

factors in the child, and his mother's responses to him which may lead to

the production of "hyperactive" reactions in the child (Bettleheim, 1973.)

For example, a baby who is irregular in his feeding and sleeping patterns

may irritate his mother who is already suffering from lack of sleep, and

she in turn will treat the child with less patience and exacerbate the problems by upsetting him. Likewise, at an older age a stubborn child may discover that refusing to do as asked leads to his mother becoming upset and to much fuss being made of him and more serious defiance may later occur.

Henderson et al., 1973, 1974, believe that either the child or the mother can trigger off the difficult relationship, a fact which is not always considered when the mother is immediately blamed for her child's problems. Temperamental differences in neonates have been clearly identified, and the effect of these on the child's early relationship with his mother has to be remembered (Thomas et al., 1968).

The learning process is important in such an aetiology of hyperactivity, as early behaviour patterns can be set up by direct reinforcement of psychological needs, or abnormal behaviour can be used as a coping response within difficult situations, which is then strengthened by social reinforcement, for example, the child who discovers that being defiant not only prevents him from having to do certain things, but also provides him with a lot of attention. This occurring particularly in the pre-school years is likely to have a strong influence on the development of the more social behaviour problems of the hyperactive child such as temper tantrums, aggression and defiance.

D.   Environmental Factors:

Various environmental factors have been put forward as having a role in the aetiology of hyperactivity.. Studies have shown an association between hyperactivity and a history of exposure to lead, and children with confirmed lead poisoning show a behavioural pattern

of hyperactivity, short attention span and distractability (for example, Wiener, 1970).

Radiation stress has been suggested, and work has shown that children are more irritable and have less concentration when exposed to X-rays leaking from fluorescent lighting, as compared to being in modified lighting with lead shields on the cathodes, Mayron et al., 1974.

Numerous reports have also linked hyperactivity with allergic conditions particularly food additives, and it is a possibility that the allergens may directly affect the C.N.S. by causing non-inflammatory swelling of the brain. (Mayer, 1975.).

An Empirical Analysis of the Minimal Brain Dysfunction Syndrome

This study was reported by Werry in 1968, and will be looked at here as an example of the type of work trying to establish aetiological factors and the basic handicaps of the minimal brain dysfunction symdrome (M.B.D. syndrome). The term M.B.D. is used synonymously with hyperactivity by many authors, hence the relevance of this study to the present discussion.

The technique used was factor analysis made on the basis of measures from all the potential areas of dysfunction. These measures were taken from children with a significant proportion of the criteria of M.B.D. (defined by a task force of the National Institute of Blindness and Neurological Diseases, in 1963), namely the co-existence of learning and/or behavioural difficulties with "C.N.S. deviations (cognitive, motor and behavioural)".

The subjects were 103 chronically hyperactive children, apparently physically healthy, of normal intelligence, who were subjects in a

continuing study of hyperactivity at Montreal Children's Hospital. They
had received a variety of measures covering most areas of the M.B.D.
syndrome and derived from psychiatric, neurological, electroencephalographic
(E.E.G.) examinations, history from mothers, inspection of hospital
obstetrical records and psycholgical tests. The children's mean age was
8.52 years, plus or minus 1.42 years, 91% were boys, 52% had an abnormal
E.E.G. and 64% had an abnormal neurological status.

Sixty-seven variables were identified and subjected to factor analysis
and ten independent rotated factors were extracted. Generally, the common
variance was fairly evenly distributed among the ten factors, suggesting
heterogeneity of dysfunctions in M.B.D.

Factor I, Motor Inco-ordination, accounts for 16% of common variance and
is an almost pure neurological factor.
Factor II, Impaired Drawing Ability, 12% of variance.
Factor III, Dysgnosia - Dyspraxia, 10% of variance, reflects severe language
executive and body image items.
Factor IV, Psychopathology - poor environment, 10% of variance, reflects
both psychopathology and sociofamilial pathology.
Factor V, Immaturity, 10% of variance, reflects chronological immaturity
Factor VI, Electrophysiological instability, 9% of variance appears to
be an epileptiform centracephalic rather than a slow diffuse dysrhythmic
type of abnormality.
Factor VII, Subcortical Neurological Impairments, 8% of variance, is composed
of subcortical signs.
Factor VIII, 8% of variance, is difficult to interpret and may represent a
"nonsense" factor.

Factor IX, Impaired Cognitive Performance, 8% of variance, reflects

impaired intellectual performance.

Factor X, Abnormal Paranatal Status, with loadings from other historical

data, 7% of variance.

The conclusion made was that these results were in accordance with two

previous studies, and the principal findings are that there is a very

low degree of interrelatedness between neurological, cognitive, behavioural

medical-historical and E.E.G. dysfunctions suggesting perhaps that each

is a reflection of different aetiological factors. Certainly the existence

of an homogenous "brain damage" dimension in its simplest sense is refuted.

(Werry, 1968, p15.). However, particular clusters of combinations and

degrees of different dysfunctions may reflect particular aetiologies or

neuro-anatomical deficits. This could only be answered by grouping children

according to their estimated factor scores and then an intensive study

of aetiology and response to varying kinds of treatment, long-term prognosis

etc. , could be carried out.

A review of the aetiological literature is confounded by the lack of

certainty about the criteria defining hyperactivity. A condition which

can be used synonymously with broad terms like minimal brain damage and

conduct disorder is unlikely to be explained in terms of a unitary causation.

Indeed the evidence suggests the operation of a multiplicity of causal

influences, some of which interact, to produce the different aspects of

problematic behaviour covered by the generic term "hyperactivity".

2:3   How can Hyperactivity be Treated?

The two main types of therapy to be considered are pharmacological

treatment and behaviour therapy approaches. Various other approaches
will be mentioned briefly.

A.   Drug Treatment:

        Stimulant Drugs

        These have been for some time the drug of choice for the treatment
of hyperactivity in children, and have been the most widely studied.

A recent review by Barkley, R.A., 1977, covers a large number of research
reports (110) on the use of stimulant drugs. He sets out to answer five
specific questions about their use:

1)   How effective are these drugs in treating hyperactivity?

        A large number of studies were compared according to the type of
drug used. Table 2 summarises the   results:

Drug Used	Improved	Not Improved
Amphetamines	74	26
Methylphenidate	77	27
Magnesium pemoline	73	27
Placebo studies	39	61

Table 2:2   Percentage of children improved or not improved by stimulant
             drugs compared to placebo studies

Looked at together an average of 75% of the children treated improve, while
25% remain unchanged or are made worse. These figures clearly exceed the
30% average improvement rate for placebo treatments. It must be said that
there is no concensus on what "improvement" means, so a variety of specific

variables need to be measured. (See question 3.).

2)   What side effects are generally found to accompany stimulant

    drug therapy with hyperactive children?

    The most frequent side-effects noted were insomnia, or sleep

disturbances, and decreased appetite. Less often, weight loss, irritability

and abdominal pains are reported. Other side-effects of less frequency

are such as headaches, sadness, nausea, nightmare, constipation, nervous

tics and several others.

Many side-effects were found however to be temporary and modified by

reducing dosages. One side-effect which was reported not to disappear

unless the drugs were stopped was suppression of weight and height gain.

Some increase in rate was made after the child was taken off the drug, but

not enough to compensate, and the effect lasted all the time that the child

took the drug (that is, no tolerance was built up) - Safer et al., 1972.

Another severe side-effect reported on seven instances was stimulant induced

psychosis, but all symptoms of visual and tactile hallucinations with the

psychotic episodes subsided when the treatment was discontinued.

3)   What effects do these drugs have on various biochemical and

    psycho-physiological characteristics of these children?

    and

4)   On behaviour and test performance of hyperactive children?

    Biochemical effects   Changes have been reported in plasma dopamine-

    β - hydroxylase (D.B.H.) levels in response to methylphenidate.

Significant reductions were shown but these did not correlate with changes

in behavioural ratings (Rapoport et al., 1974). No changes in urine pH

values, liver functioning or blood count have been reported.

Psychophysiological effects No change has been reported in respiration, and conflicting results have been reported for skin temperature, pulse and/or blood pressure. Changes in heart rate have been frequently reported and some studies have shown decreased heart rate. It has been suggested that heart rate deceleration is a correlate of attentional processes, and this suggests that the stimulants are altering these processes in hyperactive children.

Other studies are reported, but to summarise, in most cases it was found that hyperactive children are stimulated or energized by the stimulant drugs rather than being sedated. These results were taken to suggest that C.N.S. inhibitory systems may be stimulated by these drugs, thereby enhancing the ability of the cortex to screen out distracting stimuli. Excitatory systems may also be stimulated thereby augmenting the impact of certain stimuli on the cortex. As a result the hyperactive child is better able to focus his attention upon a task while inhibiting impulsive responding.

Behavioural Rating Scales Virtually all research performed has found rating scales to be sensitive to stimulant drug use.

Parental rating scales in general appear to show that parents are attuned to changes in their children's behaviour as a function of treatment with stimulant drugs. Whether or not parental ratings accurately reflect actual changes in the child's behaviour is another question - particularly because there is usually little information on the relationship of the scales to more empirical correlates of the same construct.

Teacher rating scales likewise seem to be sensitive to stimulant drug treatment, particularly factors specifically related to hyperactivity.

Other Psychological Tests and Measures   Studies using intelligence

test scores have found equivocal results generally. Any changes found

are likely to be due to improvement of concentration and attention span

(Conners, 1972).

Achievements tests have shown improvement in only a few studies and again

this is likely to be due to increased concentration (Weiss et al., 1971a).

Attention span itself has been shown to be significantly lengthened (for

example, Rapoport et al., 1971; Conners et al, 1969; Anderson et al., 1974),

and while studies measure different abilities, they appear to have in

common the fact that each is strongly influenced by the child's ability

to concentrate on the task and to inhibit impulsive responding.

Tests of drawing and copying abilities in general have not typically shown

changes due to stimulant drugs.

Measures of activity levels using rating scales suggest strongly that there

is a reduction of activity level across all situations. However, when

objective measures are used the picture becomes more complex. Drug effects

on activity level were found to be due to: i) the situation in which the

measures are taken (for example, free play vs. structured setting) ii) the

type of activity leasured (wrist, ankle, locomotor etc.) and iii) the type

of instrument used (actometers, pedometers, ultrasonic generators etc.).

To summarise the studies comparing these factors, it appears that in

comparison to measures of attention span, changes in measures of activity

level during drug treatment are less predictable. Changes depend on a

number of factors and cross-situational variability in the types of

activity level being studied, for example, Barkley and Ullman, 1975.

5)   What are the long-term effects of maintaining hyperactive children

on stimulant drugs?

Almost all the studies (for example, Minde et al., 1972; Huessy

et al., 1974), report little change in outcome at the time of follow-up

as a function of stimulant drug therapy. Yet, a dramatic change in attention

span and activity level had been observed as the short-term effect in

innumerable studies. It is thought that while concentration may be improved,

decreased interest in and affective reactions to the environment may cancel

out the short-term effects, thus making the long-term gain from drug therapy

essentially nil. (Rie et al., 1976 a & b).

In conclusion it is felt that future research should concentrate on the

efficacy of using stimulants in combination with other modes of therapy

such as behaviour modification. The value of pharmocotherapy with children

would seem to be only in the ability of the drugs to facilitate changes

in the child such that certain responses become more or less likely to

occur. Whether or not these responses do occur must rely upon additional

efforts at restructuring the crucial environmental variables which influence

the child's long-term psycho-social adjustment. (Christensen, 1975; Werry,

1970). Extra emphasis needs to be made to the parents that much of this

restructuring must come from them in order to stop them sitting back and

letting the drug "cure" their child.

Other Drugs Two other C.N.S. stimulants have been used, caffeine and

magnesium pemoline.

Caffeine - Research on the use of this is not far advanced and the results

are conflicting. Schnackenberg, 1973, found caffeine in coffee useful for

children who showed side-effects to methylphenidate with a decrease in signs of hyperactivity, but Garfinkel et al., 1975, found methylphenidate significantly more effective.

Magnesium Pemoline (Cylert) - This drug has a long duration of psychostimulant activity making one dosage per day possible. There have been few studies but the consistency of improvement over placebo, coupled with the absence of troubling side-effects is taken to be promising

Tricyclic Anti-depressants - These anti-depressants, especially Imipramine, (Tofranil), have been found effective in treating some hyperactive children. However, there is little documentation of the range of safety and side-effects which can be severe, limiting any use of Imipramine.

Phenothiazines - Chlorpromazine (Thoradazine) and Thioridazin (Mellaril) have also been used, but with few controlled studies. Generally it appears that these drugs have no consistent effects on attention span. Side-effects are reported frequently, and in general use these drugs appear to be inferior to stimulant medications in effects on behaviour and cognitive functioning.

B.   Behaviour Therapy:

A main alternative to the use of drugs with hyperactive children is to try to modify their behaviour through (1) Manipulations of the environment around them using the people involved as therapists, or (2) by conditioning the child himself to behave in a different manner; that is, with a psychologist as the main influence on the child.

Altering the environment, particularly in the home, will be dealt with in detail in chapters 3 and 4, and so will not be elaborated here.

Briefly, the parents, or other caretakers such as nursery nurse or teacher, make use of reinforcement procedures to increase the frequency of appropriate behaviours in the child, and remove such reinforcement as is required to decrease inappropriate behaviours. The behaviours chosen are usually those of the type best known as conduct disorders, for example, temper tantrums, defiance, aggression, destruction, swearing etc. Many of the children discussed in chapter 3 also had hyperactivity as a referral problem, so that although only these more social problems were dealt with in the studies considered, many of the children would probably* fit the description of the child given in section 2:1.

The studies which will be looked at in this section deal with what seem to be possibly the more intrinsic problems of the child, that is, motor activity and concentration span. The studies involve the psychologist more as a provider of reinforcement, though teachers may be involved as intermediaries to dispense reinforcement when cued by the therapist.

The three studies involve children diagnosed as hyperactive, and not on medication of any sort.

Patterson, G.R. in 1965 reported on the application of conditioning techniques to the control of a hyperactive child. The subject was a nine-year-old boy, Earl, referred for marked hyperactive behaviour and academic retardation. He was in almost continuous motion in the classroom and impossible to control unless in the immediate presence of the teacher. He was easily distracted and frequently aggressive often for no apparent reason. He was avoided by other children.

Assessment - Most of Earl's "hyperactive" behaviour could be described by the inappropriate occurrence of - talking, pushing, hitting, pinching, looking

about the room or at the window, moving out of place and moving while seated. He was observed for several hours, during which these responses were tabulated for each 30 second interval.

Procedure: Once the main baseline was established, conditioning sessions were initiated each preceded by a 20 minute baseline period. The first conditioning session lasted five minutes, the fifteenth lasted up to thirty minutes. Earl was reinforced when he was sitting at his desk attending to a book, by a light flashing which was mounted on a box on his desk. There was also a counter to keep a record of the number of times that the light flashed. Earl was told that each flash meant that he had earned one sweet. Earl had to attend for a full ten seconds to earn a sweet. The rest of his class were included, as the final number of sweets earned were shared among the whole class and the other children therefore encouraged Earl. Later sessions of reinforcement used pennies instead of sweets. A lot of social reinforcement from the other children for Earl was observed.

Results: There was a significant decrease in the number of responses per minute when comparing the first baseline with later sessions. The presence of the observer was found to be a discriminative stimulus for Earl's attending behaviour. Earl's behaviour was little different from that of other boys with whom he was compared. The teacher reported him to be less hyperactive and destructive on the playground and that he seemed to play with other children more. She also reported some small reduction in his overall behaviour rate in the classroom, but she was very concerned at this point with his learning difficulties. To achieve more generalisation of Earl's improvement it was suggested that conditioning in a wider range of settings would be necessary and at different times of day.

This work was continued and a further study was reported by Patterson, G.R. et al., 1965. Two subjects were used, Raymond was ten years old and evaluated by his teacher as being hyperactive. A control child, Ricky, was ten years old and he showed almost continuous movement of arms and legs and non-attending behaviour. Both children were brain damaged - Raymond had atrophy of the right cerebral hemisphere and Ricky had damage to his left parietal region due to a head injury.

Assessment: Both subjects were observed in the classroom over two weeks to establish the specific characteristics of their non-attending behaviour. Each had seven categories of non-attending behaviour and these were observed following a time-sampling procedure for a minimum of ten minutes a day, four days a week and a baseline established over twenty days of recording. During the last half of this period, Raymond was taken from the class briefly each day to adapt to the conditioning procedure and apparatus.

Adaptation Procedure: Raymond was made to sit at a desk and had a small radio receiving unit with an earphone attatched to his back. He was then asked to work and told that when he heard a buzz it meant that he had earned a sweet. The therapist activated the earphone and put candy in a cup on the desk for each ten-second period during which he did not display non-attending behaviour. This was done over a period of none days.

Conditioning Procedure: Observations of both boys' behaviour were made on eight days in the next phase, followed each day by a conditioning session for Raymond during which he wore his receiver and earphone in the class, and earned sweets for everyone to share. The trials were increased from seven to twenty minute trials. Follow-up observations were then made on eight days.

Results: During the baseline period, Raymond showed a higher frequency of non-attending behaviours, but not significantly so. In the adaptation period this trend was reversed but again not significantly. In the conditioning phase, there was significant reduction in Raymond's non-attending behaviour, which was maintained during the final phase.

Doubros, S.G. and Daniel, G.J.,   in 1966, reported an experimental appraoch to the reduction of over-active behaviour, in which uncontrolled social reinforcement (the classmates' involvement) and conditioning awareness (the boys were given instructions as what was required of them), were controlled as much as possible. The subjects were six mentally retarded boys, who were hyperactive. None were on medication at the time of the study, but two of the subjects had medication disoontinued for the study.

Assessment: The children were observed in a playroom with a one-way glass screen, and a token dispenser placed on a toy cabinet in the room. The dispenser also had a buzzer and a small light which activated the token dispensal - operated from the observation room. A checklist of hyperactive behaviour was first constructed and then recorded on a time-sampling basis. Baseline observations were made for eight days, after an initial two weeks to classify the behaviours for recording.

Conditioning Procedure: During ten minute aessions the children were given a token whenever they made constructive use of time during the absence of a behaviour operationally defined by the hyperactivity checklist. They were told to play with the toys they wished, and that the tokens would be given to them for doing well and that they could be exchanged for sweets. This was done on sessions over thirty days and was phased out on four further days. A follow-up of six days was made.

Results: There were strong tendancies towards a reduction in hyperactivity
early during the conditioning period, with improvement continuing at a
relatively low rate after. The nomadic type of play activity (changing
toys constantly) was reduced following conditioning particularly with noise
producing toys. Constructive use of time increased to a moderate degree
during the latter part of conditioning. The reduction in rates of the
hyperactive behaviours continued during the extinction and follow-up
phases. It was noted that the most hyperactive boys showed a more
remarkable behavioural change than those who were not as high on the
behaviour checklist.

A study by Ayllon,T. et al., 1975 was designed to see if behavioural
techniques could be as effective as drugs in controlling classroom
misbehaviour. Three children were involved, all diagnosed as clinically
hyperactive, and all receiving drugs to control their hyperactivity.
Paul was nine years and, Dudley was ten and Crystal was eight years old.

Assessment: Hyperactivity was defined by the Becker et al., 1967, response
categories - seven behaviours incompatible with learning. Also mathematics
and reading performance were defined in terms of completed work. A
baseline was established by observing the children in the classroom, and
these three children were picked as being the most hyperactive from an
initial six children referred.

Procedure: Each subject's daily level of hyperactivity and academic
performance were measured through all phases, the child therefore served
as his own control.

Phase 1 - on medication, the three children were observed whilst on medication

for seventeen days. This was then stopped on day eighteen, and two more days were allowed for the effects of medication to disappear.

Phase 2 - off medication, a three day baseline was again obtained of hyperactivity and academic performance.

Phase 3 - no medication, reinforcement of mathematics, in this six-day period, the teacher introduced a reinforcement system for mathematics - each child had a card which was checked by the teacher for each correct academic response. The checks were then exchanged for back-up reinforcers.

Phase 4 - no medication, reinforcement for mathematics plus reading. In this six-day phase, both mathematics and reading were reinforced with checks while observations continued.

Results: When the medication - methylphenidate (Ritalin) was removed, the levels of hyperactivity doubled or tripled. However, with systematic reinforcement for academic performance, hyperactivity for all three children decreased to a level comparable with their Ritalin controlled behaviour. Academic performance in both Crystal and Paul was very low on medication and improved with reinforcement as the hyperactivity levels lowered again. Dudley showed a higher initial level of academic performance but still showed an increase due to reinforcement without medication. The findings show that reinforcement of academic performance suppresses hyperactivity and the academic gains produced by the behavioural programme contrast with the lack of academic progress under medication. Evaluation of the multiple baseline data upheld the conclusion that the token reinforcement was responsible for the academic achievements. The control gained was quick, stable and independent of the duration and dosage of

medicine previously received. The increases in levels of hyperactivity
when medication was removed supports the view that drugs can be effective
in controlling hyperactive behaviour, (referring only to motor activity
and concentration factors). Therefore it seems that Ritalin and other
drugs used to control hyperactivity may result in compliant but
academically incompetent children.

C.   Combined Drug and Behaviour Therapy Studies:

          A study by Christensen and Sprague, 1973, was used to investigate
a combined treatment technique aimed at the reduction of in-seat activity
as measured by a stabilimetric cushion. Reinforcement was delivered
contingent upon reduced seat movement to two groups of children, one
group only, also receiving Ritalin, the other a placebo. Seat activity was
reduced in both groups, but the children who received Ritalin displayed
rates of movement which were considerably lower than the placebo group.
The placebo group also showed an immediate increase in movement once
reinforcement contingencies were removed, but the children in the drug
group showed no comparable extinction effects.

The conclusion was drawn that the combination of pharmacotherapy and
behaviour modification might be a potent therapeutic approach to the
remediation of hyperactivity (referring only to motor activity).

A further study by Christensen in 1975, reported the effects of combining
methylphenidate and a classroom token system for hyperactive children.
Sixteen hyperactive institutionalised retarded youngsters (age range nine
to 15.8 years, with a mean of 11.8 years) were used, ten males and six
females. The subjects were assigned to one of two classes with eight children
in each. The children were measured by stabilimetric cushions, teacher
ratings, measures of academic performance and time sampled observations

of non-attending, attending and deviant behaviours.

Procedure: There was a two week baseline and then an intial instatement of behaviour modification conditions - a token reinforcement system administered by the teacher, followed by a two week reversal condition, and a final instatement of behaviour modification procedures for four more weeks. Drug trials were tested within the behaviour modification stages so that medication was only given while behavioural manipulations were also in effect. One group received active medieation in the first behaviour modification procedure and placebo in the second, and vice versa for the second group.

Results: Analyses of the results showed that there were significant treatment effects on measures of academic productivity, teacher rating of classroom behaviour and direct observation. All effects were in the direction of improvement. Procedures in presence of the placebo were just as effective as in the presence of medication. Direct comparisons between drug and placebo conditions likewise revealed essentially no drug effects. The conclusion drawn was that for the treatment of hyperactive, retarded persons, behaviour modification is a viable alternative to drug therapy, particularly as behavioural programmes can be tailored to control specific problem behaviours in the environments where they are most troublesome, and so behaviour modification can be viewed as a more flexible therapeutic tool than drugs whose effects are generally diffuse and non-specific.

Conclusions: From the above three sections, it appears that medication for hyperactive children has its main use in reducing motor activity and increasing attention span. However, this is a non-specific effect, and without further help for the child's many diverse problems - usually already

established by the time medication is prescribed, then any long-term

help for the child does not appear to be acheived. Medication cannot

teach the child either academic or socially appropriate behaviours, all

it can do is to make the child more receptive, by the increased attention

span, and the fact that the child at least stays put for long enough to

be taught constructively.

D.   Specific Skills Programmes:

        Short-term intensive programmes have been developed to equip

the hyperactive child with specific skills necessary to modify his response

patterns which are a detriment to his ability to function effectively.

Two types of programmes will be looked at briefly.

Self-Instructional Training: Early in the mastery of a voluntary act,

speech serves a useful supportive and guiding function . Then with practice

the verbalisations disappear. This process forms the basis of a theory

proposed by Luria, 1961, to explain the socialisation of children. Three

stages were proposed by which the initiation and inhibition of voluntary

motor behaviours come under verbal control. During the first stage, the

speech of others, usually adults, controls and directs a child's behaviour.

In the second stage, the child's own overt speech becomes an effective

regulator of his behaviour. Finally, the child's covert, or inner, speech

assumes a self-governing role. (Details can be found in Meichenbaum and

Goodman, 1976).

This theory was then used as a basis for a hypothesis by Palkes et al.,

1968, - that training a hyperactive child to use self-directive verbal

commands in the performance of a task would result in an improvement in

performance. A study was conducted to see if the use of verbal commands

such as "stop", "look", "think" would effect an improvement in performance. The results obtained with the children doing maze tests was that the children who were taught to verbalise self-commands made fewer mistakes.

Another study by Meichenbaum and Goodman, 1971, showed that there was less verbal control of non-verbal behaviour by impulsive children. They therefore devised a treatment programme following five steps; 1) An adult model performed a task while talking to himself out-loud (cognitive modelling). 2) The child performed the task under direction of the model's instruction (overt, external guidance). 3) The child performed the task while instructing himself aloud (overt self-guidance). 4) The child whispered the instructions to himself as he went through the task (faded, overt self-guidance). 5) The child performed the task while guiding his performance via private speech.

Studies showed significantly improved performances on a range of tasks after such training, which remained at follow-up when 60% of the trained children were observed to talk to themselves during sessions.

Inhibitory Motor Training: Flynn and Hopson, 1972, proposed that hyperactivity can be controlled by providing the child with an inhibitory motor training programme. The basic assumption is that hyperactivity is an imbalance of excitatory and inhibitory processes, and with this imbalance the child reacts indiscriminately and receives negative feedback, his behaviour then becoming increasingly random, disorganised and hyperactive. A programme of sequential motor exercises were therefore developed to train and develop the inhibitory functions of the hyperactive child.

Ross and Ross, 1971, developed a training programme to increase the range

and rate of speed of response, and also to bring motor activity under voluntary control. This was used in one hyperactive child who after 36 hours of training could successfully inhibit motor responses on command and was indistinguishable from his peers in this respect.

The self-control exercises referred to in Chapter 11 below, which some of the children were instructed in by Theresa Smith (a C.T.R.U. therapist) are of this type, combined, in parts, with a talking through procedure based on the previous section. There were three main aims behind the use of these exercises.

1)   Body Control and Awareness

2)   Self Control

3)   Co-ordination.

The exercises designed to meet each of these aims will be described briefly.

Body Control and Awareness:

The child is required to do the following for progressively longer periods of time which become progressively more difficult.

1.   Keep parts of the body and then the whole body still.

2.   Move parts of the body in turn keeping all others still.

3.   Move very slowly, on the spot, copying the therapist's arm and leg movements, at the same time talking through the exercises - utilising the stages for verbal control described previously.

4.   The child has to perform various activities in slow motion while talking through what he is doing. A useful technique here is to have the children pretend they are the "6 million dollar man" (a television series with frequent slow movement action shots).

5.   A further exercise involves the child performing an activity slowly at first and then speeding up (for example, being a train, or walking

like a soldier) gradually until he is going as quickly as possible. Then
the therapist claps his hands and shouts "stop" at which the child must
stop immediately and stand still for a minute.

Self Control:

Whenever a child feels the first signs of a reaction within
him, such as an aggressive outburst, or a mounting over-excitement, he
is instructed to stop on the spot and to count slowly to ten, aloud at
first and then to himself.

Co-ordination:

A variety of exercises are worked at to suit the child, for
example the use of finger exercises for a child with fine motor control
problems.

These exercises (particularly body control and awareness) were used for
eight children, and of these, six were reported to show improvements in
both their ability to perform the exercises and in general motor control.

Conclusions: The use of self-instructional techniques and inhibitory
motor training appear to offer a further way of treatment for the hyperactive
child, and may offer some alternative to the use of medication for motor
activity control.

2:4   What is the Prognosis for the Hyperactive Child?

There is scant evidence concerning the prognosis for the hyperactive child.
What data there is will be evaluated by considering two reports on follow-
up studies.

The first is by Weiss, G. et al., 1971b, of children who had long-term
and sustained hyperactivity (reported by both parents and teachers), aged
between six and thirteen years, with no major brain damage or dysfunction,
and I.Q. on the W.I.U.U. greater than 84, and living at home with at least
one parent: The number of children fitting these criteria and also who
had been seen at least four years previously was 64. Although the children
had all been treated initially with chloropromazine as part of a study,
or other drugs later on, only five were still receiving medication at the
time of follow-up.   *

Evaluative Measures: A variety of techniques ranging from clinical ratings
to psychometric tests, an E.E.G., data available from schools and courts,
and time-sampling of classroom behaviour. Also a variety of informants
or observers were interviewed, for example, parents, teachers, "blind"
observers and professionals. A control group was set up for a 30% to 50%
sub-sample of the hyperactive children at the time of follow-up, and they
also underwent most of the measures. However, these controls had to be
different from the ones used in initial referral for practical reasons.
Also a further set of measurements which had not been used previously was
given at follow-up and compared to the control subjects.

Results: Hyperactive behaviour (that is, restlessness) which had been
previously the main problem was no longer the chief complaint five years
later. A highly significant reduction in mean hyperactivity score was
obtained. In the classroom situation, "blind" observers found hyperactive
children to show more organised behaviour unrelated to classroom activity,
that is, sedentary activities like playing with pencils rather than
inappropriate locomotion. It was concluded that the children did not
entirely outgrow their restlessness, but rather express it in less gross

or disturbing ways. Distractability was still a major problem, and while
aggressiveness appeared to have improved, it still fell short of normalcy.
The children were now reported to be emotionally immature and with a lack
of ambition and severe lack of ability to maintain goals. It seemed that
the children were now highly aware of their many past failures and had
a markedly low self-esteem, with low expectations of success. 30% of the
children were described as having no steady friends at follow-up, and 25%
had a history of anti-social behaviour. Initially, only two of this 25%
had had a history of anti-social behaviour. The teachers' observations
confirmed the views that although hyperactivity, distractability and
aggressiveness had diminished somewhat over five years, their behavioural
and social adjustment was still significantly inferior to normals.

Academically, the hyperactive children were very poor, and this
underfunctioning was present in 80% of the children. On cognitive testing,
the children showed few changes but were noted to be over-concerned about
accuracy and good performance - especially in the children with very low
self-esteem. It was felt that these children's poor performance might be
the result of an inappropriate approach to situations rather than a lack
of desire to succeed.

The number of children showing abnormal E.E.G.'s did not differ though
the test-retest reliability for each individual child was low. No changes
in family status of the children were found.

Children who were succeeding at school, had a higher I.Q. at initial
assessment, with a trend towards lower hyperactivity and distractability
scores. Those who at follow-up had a history of overt anti-social behaviour
differed from the rest at initial evaluation by having higher aggression

scores and from families rated as significantly more pathological. A poor mother-child relationship, poor mental health of parents and punitive child-rearing practices were the items which discriminated the families of the ultimately delinquent children. No other initial evaluation predicted anti-social behaviour.

A study by Borland and Hackman, 1976, was designed to study adults who had conformed to criteria of hyperactivity twenty to twenty-five years earlier. The purpose of this was to study which of the symptoms of the hyperactive child syndrome still persisted in adult men, and to identify possible relations between these symptoms and adult social and psychiatric status.

Clinic records were reviewed of boys between four and eleven years of age on referral in 1950 to 1955. Those showing the hyperactivity syndrome were identified by criteria established by Mendelson et al., 1971; 37 were chosen and follow-up information on twenty of these was collected, (the others refused or were not found). Siblings were used as controls. The interviews used followed the one used by Robins, 1966, and each took two hours to complete. School records were also collected when possible.

Results: Findings indicated that men who were hyperactive twenty to twenty-five years ago were not experiencing serious social or psychiatric problems as adults. A large majority had completed high school, a few had gone to college, each man was steadily employed and self-supporting and most had achieved a middle-class status. However, half of the men who had been hyperactive continued to show a number of major symptoms of hyperactivity (for example, nervousness, restlessness, difficulty with temper, impulsiveness, easily upset). Nearly half of the men had problems

of a psychiatric nature and despite normal I.Q. scores and levels of education,, men who were hyperactive had never achieved a socioeconomic status equivalent to their brothers. Psychiatric problems in parents of the men were severe in relatively few cases and problems of this nature did not stand out as important events in the memories of the subject.

The number of symptoms persisting in the men who were hyperactive were not directly related to measures of social and psychiatric status, although men who had seen a doctor for nervous problems had the greatest number of symptoms at interview. The findings suggest that emotional problems in everyday life may result from the persistence of symptoms of hyperactivity. The problems of impulsiveness, restlessness and difficulty in concentrating were felt to have been more serious problems in adolescence rather than in later life, and these conditions were causally related to relatively poor school performance.

The persistence of symptoms of hyperactivity was reflected in their work patterns as adults, these men worked more hours each week and changed jobs significantly more often than their brothers. They appeared to be industrious and many had part-time or extra jobs. Work was often regarded as a means of avoiding feelings of restlessness and nervousness in periods of inactivity.

Conclusions: The short-term follow-up showed some improvements in the hyperactive children, for example, a reduction in motor activity, but on the whole the children were not doing well at school, and were suffering more from low self-esteem and were lacking in self-confidence more than previously. Many were also having problems making friends and a quarter of them had a history of anti-social acts acquired between the initial

evaluation and the follow-up. As adults, the group of men studied were still showing symptoms of hyperactivity to an extent when compared with their brothers, and they were felt to have been less socioeconomically successful than their brothers, with half of them suffering from some problems of a psychiatric nature.

The prognosis at present time does not therefore seem a good one. Little information is given in these two studies on the help the children had been given, although all of the Weiss et al., study had been on medication at one time. As the adults in the latter studies were children in the 1950's before hyperactivity as such was a diagnostic evaluation, it can be presumed that they probably had less help with their early problems than did the children in the first study.

It can also probably be concluded that without extensive individual help tailored to the child's needs, that the prognosis is one of continuing problems in to adolescence and adulthood.

Chapter 3.

Training Parents as Behaviour Therapists

- A Review of the Literature.

The practice of using parents as behaviour therapists for their own
children started in the late 1950's, and has been growing rapidly since,
especially in America. Little work in this field has been reported in
Britain and Europe (and then not primarily for conduct disorders), therefore
all the reports reviewed below are American.

The number of studies now available in this field are too extensive to
be comprehensively reviewed in the space available in this thesis. (See,
for example, Berkowitz and Graziano, 1972; O'Dell, 1974). A sampling
procedure was therefore followed, to illustrate in more detail the main
types of work that have been carried out. The articles chosen have been
classified initially in terms of two factors -
1) The means of conveying the therapy to the parents: that is, whether
   the parents were seen individually or in groups with other parents.
2) The setting for the therapy session for the parents: that is, in the
   clinic or in their own home.
This splits the articles into three main groups; individual therapy in
the home, individual therapy in the clinic, and group therapy in the clinic,
(sections 3:2, 3:3, and 3:4 respectively). In reviewing the articles, attention
will be paid to -
1) The extent of the involvement of the parents in the actual modification
   of their child and the planning of such modification, and
2) The means by which the learning principles involved were conveyed
   to the parents.

Section 3:5 considers two studies which used both individual and group therapies. Section 3:6 will be used to look at the work of Patterson, G.R. and his colleagues in Oregon as an example of a centre that has evolved for the treatment of children whom they term "socially aggressive".

Before considering the literature it is first relevant to look at the concepts behind the use of parents as behaviour therapists for their own children.

3:1   The Triadic Model of Therapy

In the conventional psychotherapeutic model, the professional therapist interacts with the patient or client directly, and this is known as a dyadic interaction. The aim of this interaction is to alter attitudes or beliefs held by the client , or to provide insight into his actions, so that outside of the therapeutic situation altered behaviour patterns will occur. However when an analysis following learning therapy is applied, it is usually apparent that any problem behaviours being presented by the client are often due to an _interaction_ between that client and his environment. The therapist himself is not usually involved with the appearance of these problems, and in fact may never witness their occurence. This is especially true with problem behaviours in difficult children, who often chose to be difficult only when out of sight of strangers. Therefore to produce behavioural changes in the client's life in general (that is, in the time not spent in a dyadic therapeutic interaction), a triadic model of intervention presented itself as a viable alternative. In such a triadic model, the therapist becomes an advisor or teacher to the important people in the client's environment, (the parents or teacher

usually in the case of a child). Any therapeutic techniques are then only

recommended by the therapist and are carried out by these "Important Others".

This has the advantage of allowing therapy to continue for many hours a

day, and also helps to overcome the problem of generalisation often found

in dyadic therapy. Because the therapy is actually applied within the

environment where it is needed, that is, where the problem behaviours occur,

then the therapist is not faced with having to find ways to make any changes,

which have occured in his client in the therapeutic situation, generalise

to his everyday life. This is a problem which faces any type of dyadic

therapy - behavioural or psychodynamic - and the shaping of the client's

normal environment is becoming recognised as more and more important.

A full explanation of the triadic model can be found in Tharp and Wetzel,

1969, "Behaviour Modification in the Natural Environment". They explain

the pure form of this system with this simple diagram:

Figure 3:1   The Consultative Triad

The "mediator" involved can be anyone who is involved with the client in

everyday life, in the present case, the parents function as mediators.

Again the target can be any person presenting problem behaviours, but in

our case, the "target" represents the child referred for therapy. I and

my colleagues act therefore as the "consultant" conveying information to

the mediator to be used on the target.

The model can become more complex especially when the sources of reinforcement
(the main tool of the mediator) are not wholly in the hands of this
mediator. There is then the involvement of "others" who also act on the
"target" and influence his behaviour, without any interaction with the
"consultant".
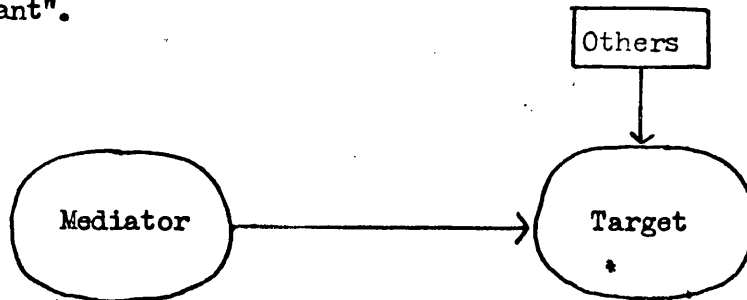
Figure 3:2   Target's source of social reinforcement

"Others" therfore present a source of uncontrolled reinforcement for the
target and must be minimised as much as possible. This can be partially
achieved by the use of multiple mediators, so that any "Important Others"
are also drawn into a consultative triad, but unfortunately, this is often
practically difficult.

The main mediator chosen is therefore the one who has the most powerful
control over the available reinforcers, as they may frequently have to
outweigh the possibly punishing effects to the target of an "other's"
reaction to a behaviour. Tharp and Wetzel explain this interaction of
mediator and others in terms of plus(+) and minus(-) signs, (+ referring
to a reinforcing outcome, and - to a punishing one). In order for a
behaviour to be strengthened then the overall effect on the target from
all sources must be a positive one.

A further extension of this model takes into account sources of reinforcement
for the mediator. The mediator is also affected by the people around him
and also needs to be reinforced to continue with his mediating behaviour.

Sources of reinforcement to the mediator are importantly from the
consultant, from his close environment (for example, spouse, other children)
and from the target. The system of + and - signs can be applied to the
mediator just as it was for the target, and an overall + effect must be
present for any appropriate mediating behaviour to continue. (This tells
the consultant importantly that before the target begins to show
improvements then his own reinforcement to the mediator is especially
necessary).

To quote from Tharp and Wetzel on their conclusions about the model -
"In theoretical analysis, it becomes apparent that the central issue
must become the maintenance of the mediator's desired behaviour. Since
the key agent for control is the mediator, the target's behaviour is a
near-strict function of the effectiveness of the mediation. Therefore,
behaviour modification in the natural environment stands or falls on the
effectiveness of the behaviour of the mediator." (Page 51).

The effective training of parents to be therapists for their own children
is therefore the central issue in the type of therapy used in the present
study. The term "therapy" will be used to describe the whole process of
conveying information to the parents and through them to the child. On
occasions examples of direct therapist involvement with the child (a dyadic
interaction) may be mentioned, as a system of modelling the behaviour
expected of the mediator is sometimes used in the process of teaching the
parents.

3:2   Individual Therapy in the Home

Work involving the therapist entering the home is rarer in the literature

and only five articles will be reviewed here. (The use of observers in the home does not count here, only the therapist himself).

Hawkins, R.P. etal., 1966 reported the use of behaviour therapy in the home with a four-year-old boy. The boy, Peter, was referred for tantrums, disobedience and constant attention seeking. He had been previously diagnosed as being of borderline intelligence, hyperactive and possibly brain-damaged.

Assessment: The therapists observed the child and his mother in the home and noted that many of Peter's undesirable behaviours appeared to be maintained by attention from his mother. Any punishments also involved much attention or were circumvented by the child. The problems were also discussed.

Therapy: This was in the form of two or three sessions a week when, initially, detailed observations of Peter's behaviour were made (baseline period) and nine objectionable behaviours chosen for treatment. The mother was then signalled by the therapist as to whether she was to (A) tell Peter to stop what he was doing; (B) place him in his room and lock the door; or (C) praise him, and give him physical contact. This was done on six sessions and then the baseline reinstated for a further six sessions. Then no contact was made for 24 days, and finally three follow-up observations were made.

Results: There was a large decrease in rates of objectionable behaviours in both therapy periods, with an increase (but not to initial baseline level) in the reversal condition. During the follow-up sessions Peter's behaviours stayed at a low rate.

Involvement of the Mother: In this study, it was the mother who carried out all therapeutic procedures with the child, but she had no involvement in the decision as to what these should be, and no discussion of the principles are reported. However, she was given effective help with the implementation of the programme, and generalisation to other times of day were reported.

O'Leary, K.D. et al., 1967, reported the modification of a deviant sibling interaction in the home. Two brothers, Barry, 6 years, and Jeff, 3 years, were involved. Barry had been previously diagnosed as seriously disturbed, hyperactive, aggressive and destructive. He was referred for fighting with Jeff, destructive acts and tantrums.

Assessment: The therapist and an observer watched the boys at play and learned that there was much commanding behaviour by Barry which would be followed by fighting if Jeff did not comply.

Therapy: A baseline was established through observations for the boys' behaviour with the mother out of the room, then an experimental period was instituted with the therapist reinforcing co-operative responses in the children. First sweets were used and then a token system was introduced. A second baseline was then taken with the therapist absent. In the second experimental period the mother was instructed to run the token system and also a Time-out system was introduced for kicking, pushing etc. Hand signals from the therapist were used to tell the mother when to use the tokens or Time-out. The therapist was then slowly faded out.

Results: There was an increase in co-operation in the first experimental period, but this dropped in the second baseline. In the second experimental

period co-operative behaviour increased greatly again and the need for Time-out decreased.

Involvement of the mother: The therapist initially implemented the programme but then the mother took gradually over its full use. No discussions of the procedures took place with the mother before the therapy but effective help with implementation was again given. Later advice was given on the use of differential attention for problems in other spheres of Barry's life, and a bell and pad was used to*eliminate nocturnal enuresis.

Wahler, R.G., 1969, reported a study of two highly oppositional children. Both sets of parents reported difficulties in getting their children to obey parental requests, and found their children stubborn and negativistic.

Assessment: Observers in the home established a baseline of oppositional and co-operative behaviour, and also of social approach behaviour in the children. Parental attention and instructions were also observed.

Treatment: The parents were instructed in the use of a Time-out and differential attention programme after a brief explanation of reinforcement theory. The therapists were present at four and seven sessions (first and second family respectively) to help with the implementation of the programme and to discuss its use. A reversal to baseline conditions was implemented for evaluative purposes and then a return to the programme was instructed.

Results: First Child: Frequency counts of oppositional behaviour were much lower during treatment sessions when his parents gave attention to compliance, although the rate of instructions was constant in all periods.

A high level of co-operative behaviour was achieved, and social approaches to his parents increased greatly.

Second Child: reacted similarly, frequency counts of oppositional behaviour were lower during treatment sessions, while instructions from parents did not vary in rate. Social approach also increased.

Involvement of the Parents: The parents used the programme after brief discussion of principles and were given help with implementation by the therapist.

Laviguer,H. in 1976 reported the treatment of two difficult children using both their parents and siblings as therapists. The first child was a twelve year old girl described as withdrawn and hostile, with a ten year old sibling. The second child was a nine year old boy described as rude and demanding with a ten year old sibling.

Assessment: Observers were used to establish baselines of appropriate and inappropriate behaviours by the child and the attention paid to these by the parents and siblings.

Therapy: The parents were instructed and cued by the therapist for five sessions to reinforce the child's appropriate behaviours and ignore or Time-out inappropriate behaviours. Discussions were then held at the end of a session to give further suggestions. In the next five sessions, the siblings were also instructed to differentially reinforce the target child, and were themselves reinforced for doing so. In two further phases, more problem behaviours were involved in the programme, first by the parents and then by parents and siblings.

Results: First Child: The desirable behaviours increased in frequency with parental manipulations. Sibling involvement helped decrease the inappropriate behaviours of the target child, and the sibling also showed changes in her own behaviour (towards more appropriate behaviour). The two girls also began to play more together although this was not included in the programme.

Second Child: The sibling did not keep well to the programme in treatment sessions, but he did still show increases in his own desirable behaviours. The target child's appropriate behaviours also increased, and inappropriate behaviours decreased with parental treatment alone.

Involvement of the Parents: No discussions on general principles were reported, but the parents were helped to put the programme into practice, and the siblings were also involved as far as possible.

The fifth article uses slightly different therapeutic techniques. Herbert,E.W. and Baer,D.M. in 1972, reported the use of self-recording of attention by mothers of difficult children. Both children involved were five years old and described as hyperactive, and showed several behaviour problems. Their mothers had already completed simple behaviour modification exercises at home following an instructional control.

Assessment: Home observations were made over a six month period to develop an observation code and to establish baselines of parent attention, inappropriate and appropriate child behaviour.

Therapy: The mothers were given wrist counters and written instructions about counting her attention to appropriate child behaviour and asked to use this for one hour a day when they were being observed, and one hour when they were not. No further instructions were given. Later the counters

were taken away. As a further study, one mother was given a second counter to record attention to inappropriate behaviours and also asked to try to decrease this at the same time.

Results: The percentage of maternal attention following appropriate behaviour increased as did such behaviour. Removals of the counter did not produce a reversal of the behaviours instead the increased level stablised. Recording attention to inappropriate behaviour had no effect. The results were obtained despite inaccurate parental self-recording.

Involvement of the mothers: The mothers were only told that self-recording could change what they did but not what the effect might be. No further help was given for the problem behaviours but the study was explained to them at its completion. All interviews were held in the home.

Conclusions from Individual Therapy in the Home

The first four studies all involved the parents inplementing management programmes with the aid of the therapist but with little discussion of the principles involved. Observations were made by the therapist or observers on all occasions and not by the parents. In the fifth study both parents and observers kept records of the child's behaviour, but no other management programme was used. However, the techniques used in all five studies were reported to be successful.

3:3   Individual Therapy in the Clinic

The seven studies following were conducted so that the parents only saw the therapist within the clinic situation, however management programmes

in the home were used in three cases. In the first two cases, all involvement

was in the clinic, and in the final two studies observations were made

in the home, but no advice given on home management (purposefully to see

if principles learned in the clinical situation generalised into the home).

1) Clinic only, no home programme.

Wahler,R.G. et al., 1965, reported the use of mothers as behaviour therapists

for their own children. The subjects were three boys from four to six years

old, and their mothers. The parents were first interviewed to obtain

descriptions of problem behaviours and the parents' reaction to these (the

behaviours were, for example, commanding and co-operative behaviours).

Then the mother and child pair were observed in a playroom for three 20-

minute sessions to obtain a baseline of behaviour both of the child and

his mother.

Therapy: The therapist then gave the mother instructions before further

sessions and also gave signals with a light initially telling the mother

how and when to respond to her child. Later the mother had to respond

without a signal and the light was used to tell her if she had reacted

appropriately. A reversal to baseline was then used.

Results: The first two children showed a reduction of deviant behaviours

when differential attention was used, and strengthened again during the

return to baseline conditions. The third child however, did not show a

decrease in deviant behaviour until a punishment procedure was used

(isolation).

Involvement of the Mother: The mother was initially cued to behave

appropriately but then responded independently. No discussions of general

principles were reported and the parents only followed simple instructions. The study was taken to be a demonstration of maternal control of her child's behaviour and the problems at home were not further mentioned.

Forehand and King,H.E., 1977, reported on the effects of parent training on behaviour and attitude change. Eleven children (ten males, one female) and their mothers were the subjects, the primary complaints being non-compliance to commands, tantrums and attention seeking behaviours. Age ranged from $3\frac{1}{2}$ to $7\frac{1}{2}$ years with a mean of five years two months. Also eleven non-clinic mother-child pairs were selected as a "normal" control group.

Assessment: All sessions were held in a room with a one-way window through which interactions were observed and recorded. Baseline sessions were used for seven clinic mother/children pairs and eleven non-clinic pairs. The child's compliance and the parents' commands, questions and rewards were recorded. Also the Parent Attitude Test (P.A.T. Cowen et al., 1970) was given to each mother of clinic children during the baseline and at the three month follow-up session and to the non-clinic mothers at their one observation session.

Therapy: Twice-weekly 20-minute sessions were aimed at making the mother a more effective reinforcing agent, they involved observations of interactions, discussions about the use of reinforcement in the observations and at home, modelling of reinforcement techniques by the therapist, practice of these techniques by the mother using a role-play situation with the therapist and then with the child. Feedback by a bug-in-the-ear or by signal cards was given. The mother was asked to practice at home for two five-minute sessions a day and to identify two behaviours at home that she

wished to increase. Use of rewards for this purpose was discussed and
the parents asked to implement the rewards: when a criterion on rewarding
had been met the parents were trained to use Time-out by instructions,
modelling and role-play. Use of this at home was discussed. A follow-up
session was held three months after termination of the treatment, with
child and mother playing.

Results: Behavioural criteria established for the study were achieved
in a mean of nine treatment sessions, and changes were maintained at the
three month follow-up. After treatment and at follow-up the mothers used
more rewards than the non-clinic mothers and their children complied more.
On the P.A.T. mothers perceived their children as better adjusted after
treatment, and not significantly different from the way non-clinic mothers
saw their children.

Involvement of the Mother: The parents were well trained in the use
of learning techniques but little discussion took place on general principles.
The results of any use of the techniques at home are not reported.

2) Clinic Sessions with a home programme.
Shah,A.,1969, reported his involvement with a mother of a four-year-old
girl. The mother was reacting severely to Mary's difficult behaviour and
beating her frequently.

Assessment: The mother kept a diary of incidents with Mary and how she
reacted to them, also how she felt at the time and what she was doing.

Therapy: The use of physical punishment was not allowed, and the mother
was instructed in the use of Time-out early in a behavioural chain. The

use of a large number of positive reinforcers was instructed. The mother was also asked to go to bed earlier and to use progressive relaxation to sleep and alleviate tension at other times.

Results: The child's behaviour improved and a warm positive relationship between Mary and her mother was established. A follow-up two years later indicated maintenance of improvements.

Involvement of the Mother: The mother carried out the programme by herself, after basic principles had been explained and the details of the programme described.

Wagner, M.K., 1968 reported his use of an operant conditioning programme with an eleven year old girl and her parents. The girl manipulated her parents through crying, whining and demanding behaviour.

Assessment: The parents were interviewed for a history and instructed to observe the child and list inappropriate behaviours and possible rewards. The child was seen briefly for psychological testing.

Therapy: A programme was used to reward the child for appropriate behaviours for example, independent self-sufficient behaviours, and to ignore inappropriate behaviours, for example, crying, with occasional deprivation of priviledges for severe disobedience.

Results: Within four months the child had improved considerably in her behaviour and had stopped crying whining and having tantrums, also the mother/child interaction was reported to be more mutually rewarding.

Involvement of the Parents: The procedures were described to the parents and carried out by them, but no discussion of the principles behind them was reported.

Johnson,J.M., 1971, reports his involvement with parents whose children were showing disturbing meal-time behaviour. The children were a boy of nine and a girl of eleven, who objected to eating food prepared by the mother, over a long period of time.

Assessment: The parents were interviewed about their children's behaviour and their own responses to this. They then observed the behaviours at home.

Therapy: Principles of behaviour modification were described to the parents and the procedure to be used was explained. Hypothetical situations were discussed and some role-play of meal-times (with the therapists taking the children's parts) was used and a videotape of this shown to the parents for feedback. After baseline observations of disturbing behaviours the father had to send the children to their room if the disturbances continued after a request to stop. The children were allowed to eat what they wanted to at this time. Later the mother slowly introduced non-preferred foods which had to be eaten in small amounts before preferred foods were allowed.

Results: The sending from table caused a rapid reduction in the amount of disturbance. Introduction of non-preferred foods caused an increase briefly but this decreased again. The non-preferred foods were also accepted.

Involvement of the Parents: The parents carried out the whole of the programme after a discussion of principles, but the programme was planned

by the therapist.

Christpherson,E.R. et al., 1972, reported the use of token reinforcement
with children. Two sets of parents with a total of five children with
problem behaviours such as lack of helping in the house, whining and
bickering. The children ranged from five to ten years of age, (three boys
and two girls).

Assessment: The parents were seen to obtain data on problem behaviours,
and to establish the responsibilites of the children in the house. Baselines
of problem behaviours and household chores were recorded for three weeks
in the first family without the children's knowledge, and in the second
family with the children simply being told to do a certain number of chores
but with no consequences applied.

Therapy: A point system was used in both families. The children earned
points for completion of chores, and children in the first family were
fined when the problem behaviours occured. The parents were instructed
in the use of point systems and the first family were shown a film. Both
families were given a paper on setting up point system, and some role-play
was used. The first family were visited at home at the end of the first
day to encourage correct use of the programme, and on a further few occasions
to check the parents' recordings.

Results: Fifteen problem behaviours were successfully modified in the
first family and six in the second, with only a small amount of the
therapist's time.

Involvement of the Parents: The parents implemented the programmes

themselves, but the general principles were not discussed and the programme followed lines detailed in the paper used for the parent training.

3) Clinic Sessions with home observations.

Resinger,J.J. et al., 1976, reported on the use of a toddler management programme. Six mother-child pairs were used the children ranging in age from two to four years and presenting problems such as disobedience, tantrums and destructiveness.

Assessment: The mother-child pairs were observed in the play room, using a number of toys, looking at responses to commands. Interviews were also used to assess marital status (no problems as opposed to having problems).

Therapy: The mothers were instructed in the use of differential reinforcement, instructions were given before sessions and suggestions for improvement were given after each session. A reversal phase was used for evaluation and then the differential reinforcement was reinstated. No solutions for home problems were provided but the mothers were encouraged to draw upon her clinic experience to solve problems. All clinic sessions were recorded by trained observers. Twelve months later, follow-up observations in the home were made once a week for three weeks.

Results: All mothers demonstrated the ability to apply the techniques within the clinic structure. Independent follow-up observations indicated that all mothers retained competance to generalise use of intervention techniques across environments and also that the mothers who had reported marital difficulties were notably less able to demonstrate generalisation than their counterparts.

Involvement of the Mothers: The mothers followed instructions with no

discussion of the principles being reported.

This work was continued in a paper by Reisinger,J.J. and Ora,J.P., 1977.

Initially an experiment was used to demonstrate that there was a sufficient

correspondence between direct and audio recording methods of data collection.

Then the parent training system used in the previous study was used on

four mother-child pairs in a playroom setting recording normally and also

by audio equipment. Home sessions were also observed by normal recording.

The observers left audio-tape recording equipment in the home which was

activated automatically once they had left the home. Clinic and home tapes

were then scored blind.

Results: These indicated that in the presence of visible observers,

parents can generalise training procedure across environments and that

in the presence of a less obtrusive "observer" (the tape recording equipment),

parents continue to function as behaviour change agents for their children

by transfer and retention of clinic intervention strategies in their home.

Conclusions from Individual Therapy in the Clinic.

Individual therapy in the clinic took the form of either specific training

in the playroom, or consultative sessions with the parents. As in the previous

section, the parents were mainly instructed in how to behave and did little

of the programme planning themselves. Success was reported in all cases,

both in the clinic and at home.

3:4   Group Therapy in the Clinic.

Hirsch,I.S., 1968, briefly reported on the training of mothers in groups

as therapists. Thirty mothers were involved, and they were assigned to a no-wait group (N=15) or a wait group(N=15) who began treatment when the no-wait group finished. Each group was then assigned to a large group of ten, or a small group of five. All groups received the same treatment,- lectures dealing with the principles of behaviour modification and discussion of the practical problems they were encountering at home. The mothers were asked to apply what they had learned at home and keep records of this. The mothers were also tested on three occasions for signs of anxiety and depression.

Results: The mothers' records of behaviours at home exhibited improvement directly related to treatment. Also the anxiety and depression scales decreased significantly during treatment. The size of group had no effect.

Involvement of the Mothers: The mothers took the responsibility for setting up programmes in the home with some discussions to aid them with specific problems.

Hall,R.V. et al., 1970, and Hall,R.V. et al., 1972, reported on the use of parents as behaviour therapists. In the first paper, one parent was involved (+ two teachers - not dealt with here) and in the second, four parents. The parents in all five cases were enrolled in courses dealing with the management of behaviour, specifically designed to help school personnel. The courses involved lectures, films, quizzes and discussion groups to present basic information and examples of studies carried out by researchers and previous class members. The parents used their knowledge gained at these courses to set up programmes in their own homes. The behaviours which were to be modified were:

1)   Clarinet playing and reading time in a ten-year-old girl.

2)   The wearing of an orthodontic device in an eight-year-old boy.

3)   Routine household tasks in a ten-year-old girl.

4)   Whining and shouting in a four-year-old boy.

5)   Speed of dressing in a five-year-old girl.

All recording was done by parents (helped by a classmate from the course
in one case) and baselines were first established.

Results: A multiple baseline design was used for the first child's
behaviour and both behaviours increased when bedtime was made contingent
on their occurence and duration.

The other four programmes used a reversal design. The wearing of the ortho-
dontic device was increased by a reinforcement system, as was the performance
of household tasks. Extinction was used to decrease whining and shouting
and a contingent. punishment (specific bans of television watching) stopped
the excessive dressing time. The reversal designs demonstrated behavioural
control, though reversal phase never produced complete return to baseline
frequencies.

Involvement of the Parents: The parents took responsibility for planning
the programmes and recording, also for reliability checks on recording
in the first four cases.

Rinn,R.C. et al., 1975 reported a three year evaluation of a class in
which parents of behaviourally-disordered children were instructed in the
use of the principles of operant learning. The parents were referred
because of child-management problems such as temper-tantrums, school
attendance deficits and enuresis. 1,128 parents were involved, and the
mean age of the 639 children involved was 8.7 years.

Twenty-four courses were conducted over the years 1971 to 1973, a fee was paid initially, one third of which was refunded if parents attended the classes, arrived on time, completed homework assignments and produced a positive change in the targetted behaviour. Admission to all classes after the first one was dependent on homework completion. The classes involved specifying behaviours, recording behaviours and establishing baselines, identifying rewards and punishers, developing programmes and recording its effects. There were five weekly 2-hour sessions.

Results: 92% of the last programme sheets (completed by parents at each session) showed 68% to 100% goal attainment for the problem behaviour, (much improved). 3% showed 33% to 67% goal attainment (moderately improved) and 5% showed 0% to 32% goal attainment (not improved).

A follow-up questionnaire was also used in which 54% reported data showing much improved, 30% showing moderately improved and 16% showing not improved. The initial effects of training decreased from the last session to follow-up and never increased. Children whose parents completed the training were more likely to reach the goals than those whose parents were placed in a no-training control group. Data also showed that parents were satisfied with the course and that the cost was less expensive to the parents and the mental health centre who ran the classes than the usual single-family approach.

Involvement of the Parents: The parents took responsibility for the planning and use of the behavioural programmes and kept records of its use.

Tavormina, J.B., 1975 reported on the relative effectiveness of behavioural

and reflective group counselling with parents of mentally retarded children. Fifty-one mothers of mentally retarded children were used for the initial evaluation and again were evaluated two months later. At this time, the mothers were assigned to treatment (N=38) or control conditions (N=13). The treatment subjects were then divided into four groups. Two of these employed behavioural methods (ns=11+8) and two used a reflective approach (ns=10+6). Treatment groups received a series of eight weekly $1\frac{1}{2}$ hour sessions and the control group received no treatment. At the end of the two months, the control group were taken into treatment. The reflective groups followed principles suggested by Ginott, 1959, and discussions were focussed on major principles of reflecting feelings, setting appropriate limits and providing appropriate activities. Group discussions applied these principles to each mother's situation.

The behavioural groups were taught the principles and application of operant techniques using "Parents and Teachers" - Becker, 1971, as a general outline. Results were measured by a parent attitude survey, a problem behaviour checklist, observations of the mother and child in the clinic, recordings of the frequency of occurence of target behaviours in the home by the parents and ratings of the disruption these caused in the home, and a follow-up multiple choice questionnaire.

Results: Both types of counselling had a beneficial effect relative to the untreated controls, but the behavioural method resulted in a significantly greater magnitude of improvement. The consistency of these results across measures strongly suggested that the behavioral technique was the treatment of choice for counselling parents of the retarded, as it provided a consistent and effective was of dealing with specific problems in raising their retarded children.

Involvement of the Parents: Again the parents had to plan their own

programmes and record target behaviours throughout, although help was given

with specific situations.

Glogower,F. and Sloop,E.N., 1976, again compared different strategies of

group training of mothers as behaviour modifiers. Eight mothers were involved

with children ranging from five to thirteen, and problems such as temper

tantrums and non-compliance. The mothers were put into two groups, matched

for the age, I.Q., sex and type of problems of their children.

Four of the mothers attended sessions focussing on general principles and

also on target behaviours (combination training group), the other four

mothers were in a specific focus group and their sessions only dealt with

modifying specific target behaviours. There were ten weekly two hour

sessions, with a deposit paid before, refunded later only after perfect

attendance. Evaluation before the sessions started was done by video

observing of mother and child in the clinic, and a behavioural adjective

checklist. During the first four weeks of the combination group the focus

was on teaching general principles by lecture and discussion with a

programmed text also read. The next six sessions were used to discuss

target behaviours and programmes for modifying these. The specific focus

mothers first discussed observation, recording and baseline measures and

then discussed specific programmes. Parents kept records of targetted

behaviours throughout the sessions. Another video was made after the tenth

week and the adjective checklist was repeated. Follow-up data was collected

five months later and a baseline was kept for one week of the behaviours

previously modified.

Results: The combination training programme enabled mothers to be able

to deal effectively with a wide range of problems, and it also had a considerable impact on parent-child interactions in play and command settings, and upon parents' perceptions of their children. The specific focus group mothers demonstrated some improvements on these measures but not as marked as the combination group. Follow-up evaluations showed that improvements initially achieved by combination group mothers tended to be more stable.

Involvement of the Parents: The parents set up the majority of the programmes by themselves and recorded their use, though help was given with specific problems during classes.

3:5   Studies using both Individual and Group Therapies.

Salzinger,K. et al., 1970, reported on a two year project with training parents of brain-injured children in the use of operant conditioning procedures. Two samples of families were involved, seven in the first year seen on an individual basis for one hour every second week and eight in the second, seen in second-weekly group sessions for two hours. Families were obtained from an association for brain-injured children.

The parents were first trained to observe and keep records, then a series of lectures and discusions on conditioning was begun, and a detailed manual was given for reading. Programmes were worked out after this, in the first year the therapists wrote the programmes, but in the second year they were worked out through group discussion. The parents kept records of the effects of the programmes, laboratory observations were made of the mother-child pairs before and after the programmes and the parents filled out a questionnaire at termination about any changes that had occurred. Home observations were made in the first year, but discontinued

as they were felt to add little useful information that could not be gained in other manners.

Results: All parents who carried out the modification programmes reported success in changing their children's behaviour. Others failed to show good comprehension of what to do or did not attempt to carry out the programmes.

Success and failure tended to relate to the parents' level of formal education and to their performance on written tests of knowledge of operant conditioning and of verbal ability. No conclusions were drawn about the use of individual versus group therapy, but it was felt that the general approach in both years of educational groups or individual consultation was not enough for some parents who probably required practice in controlled learning environments.

Involvement of the Parents: This varied, but required more of the parents in the second year than in the first as the programmes were worked out by the therapists in the first year. Recordings were done by the parents in both years.

Mira,M., 1970, reported briefly on a behaviour modification programme for parents and teachers. 113 children were referred to the programme for many different problem behaviours for example, screaming, hitting, toiletting and head-banging. They were aged from 18 months to 16 years. Only 82 cases were actually involved for various reasons.

In the first six months of the programme parents were seen in group sessions mainly, but on comparison of professional time involved the parents seen individually required less time and therefore all further consultations

were on an individual basis. Training involved pin-pointing problem
behaviours, recording the behaviours and setting up programmes to change
consequences for these behaviours. In only 11% of the cases were parent
and child seen together in the clinic for direct parent training. Evaluations
of results were made by observations and records kept by the parents. Also
to be counted as successful the parent must have completed two behaviour
modification projects.

Results: Of the 82 cases where a parent (or teacher) came, 39% recorded
no successful modification, many of the group however being drop-outs.
15% significantly modified one presenting problem behaviour and then dropped
out, and 46% modified at least two behavioural targets in their child.
18% of the people involved were teachers but they managed only 12% of the
successful cases.

Involvement of the Parents: The parents had to devise and implement
their own programmes, recording their child's behaviour throughout.

Conclusions from Group Training.

The previous eight articles have reported many successes in the training
of parents in groups. The parents' involvement in these studies have been
much greater as in all the groups, parents were given several sessions on
managing difficult behaviours and the principles to use in the planning
of management programmes. The parents then devised their own programmes
and kept records throughout. The use of groups was to make the professional
time involved in such educational sessions more economical, but the report
from Mira, 1970, that group sessions were more expensive may show that
such groups may not be necessarily the way of choice in training parents.

In the studies which involved some experimental conditions, it appeared that the mothers who were taught general principles showed better use of management programmes at follow-up, and that parents who completed the training produced the greatest changes in their children. Success with their children's behaviour problems was also shown to have a tendancy to relate to the parents' level of formal education. One study comparing this form of behaviour therapy with another type of therapy produced results in favour of the use of learning principles - at least with mentally retarded children as used in the study.

3:6   The Work of G.R. Patterson and Colleagues.

The social learning project at the Oregan Research Institute has been working with "socially aggressive" children from the mid-1960's. The socially aggressive child is described as one who can show aspects of out-of-control behaviours such as physical assaults, destructiveness, commanding behaviour, teasing, yelling, temper tantrums, non-compliance etc. It was felt that these children showed behavioural patterns typical of a normal three-year-old, therefore showing their socialisation to be severely delayed. This means that the children do not learn the social skills necessary to obtain and maintain satisfactory social contacts with either adults or peers.

Such socially aggressive behaviours as mentioned above can be viewed as variations on a theme involving pain control techniques among family dyads, a behavioural process which has been labelled as "coercive". The coercion hypothesis describes the means by which children's noxious responses can serve as a punishment or negative reinforcement for the behaviour of other family members. The basic notion is that an aversive stimulus such as hitting teasing or crying is applied contingently and repeatedly to accelerate

or decelerate some behaviours exhibited by the other member of the dyad. Over a long series of trials, both members' behaviours are altered because their own behaviour tends to turn off aversive stimuli provided by the other family member. An aggressive child therefore teaches his siblings and parents to accelerate their own rates of coercive behaviours, and the entire family is disrupted.

Three different mechanisms are thought to be involved in the acquisition of coercive or socially aggressive behaviours: a) instinctual patterns, b) modelling and c) reinforcement. The process described in the previous paragraph shows how reinforcement can be involved. Modelling is important because children learn many behaviours from watching their siblings and parents interact, and can equally observe and learn coercive behaviours as more socially acceptable behaviours. Instinctual mechanisms are also thought to play a part for example in behaviours such as crying, as the neonate's repertoire of screaming and crying may have a survival value. Such behaviours, normal but still coercive, quickly train their mothers into providing necessary food and temperature control for the infant, as the noxious stimuli only stop when the child is satisfied.

Children who are labelled socially aggressive are characterised by a longer duration of bursts of inappropriate behaviour, and by shorter time intervals between such bursts. They are more likely to present a second noxious presponse immediately after the first one. Their noxious behaviours are exhibited with greater intensity, and are also likely to run off with a fairly high probability in extended strings of aversive behaviours (Patterson, G.R., 1975).

There appear to be stimulus events which can trigger the aggressive child's noxious behaviour, and likewise events which keep the behaviour going once

it has started. For example, if parents try to punish the child (by nagging, threatening, yelling, spanking, etc.) for engaging in coercive behaviours, then the child is very likely to retaliate with a repetition of the initial behaviour and the situation will then deteriate.

The child's socially aggressive behaviour therefore appears to be under the control of observable external stimuli, the most powerful of these probably being amongst the other family members. In order to try to identify the controlling stimuli, in situ observations were used to describe the interactions of the family members. Work on an analysis of stimulus control (Patterson, G.R. and Cobb, 1972) for noxious responses showed that any focussing upon reinforcement control alone was incomplete, and that stimulus control was also necessary if the treatment of deviant behaviour was to be fully effective. This therefore pointed to the conclusion that any therapy should focus specifically upon altering the behaviour of family agents who set the occasion for the child's noxious behaviour in the first place. One complication of this emphasis on stimulus control in terms of the people present is that any effects gained with one group of people would not necessarily generalise to another situation and new people. Studies (for example, Wahler, 1969b), backed this hypothesis, and it appeared necessary to devise separate treatments for each setting.

The Patterson group therefore concentrated their work upon training the parents to change their child, the technique chosen being that of improving parenting skills, and finding ways to maintain any changes in the parents' behaviour which occurred.

Parenting Skills:

It is hypothesised that effective parenting is based upon application of

a systematic programme of skills. These skills are detailed in Patterson,G.R. 1973.

First an effective parent must have clearly specified terminal behaviours for the child, and they must work on these behaviours on a daily basis. The goals are very specific for example, to increase an appropriate behaviour and they reflect the child behaviours valued by the sub-culture in which the parents reside. The parents must first monitor the frequency of occurrence of the specific behaviour, then take steps to set occasions on which the desired behaviour is likely to occur and then provide consistent reinforcement for approximations towards the correct behaviour. Adequate socialisation requires that the mother track, arrange and consequate literally hundreds of such miniature programmes.

An important concept to teach parents is that behaviour is controlled by contingencies and is not some reflection of mysterious processes within the child. Then parents are taught to observe their child's behaviour, and to describe it in specific behaviouristic language.

Next the parents must be able to plan programmes for behaviour change. This involves specifying a terminal behaviour, conceptualising the process of reaching that goal by a series of small steps and being able to specify the contingencies which are necessary to maintain the child's behaviour during and after the programme. During the use of a programme the child's behaviour must be constantly observed and he must be reinforced whenever the desired behaviour occurs.

It is assumed that some of the parents of aggressive children have not learned these parenting skills, and instead rely more on the use of

aversive stimuli and punishment. Others have the skills but lack the contingencies from the environment necessary to maintain the behaviour.

Parent Training Techniques:

The main premise upon which parental training was based was that the parents would acquire specific skills more readily and generalise their use to a greater extent if they understand the general principles of social learning theory. The way this is achieved is by giving the parents a programmed text (either "Living with Children" - Patterson and Guillon, 1968, or "Families" - Patterson, 1971) to read and then discussing the principles. Parents are helped to define and pin-point problem behaviours and then are asked to record the occurrence of these over specific periods. A contract is then negotiated between the parent and child. This carefully pin-points the behaviours to be accelerated or decelerated and when a specified behaviour occurs it earns (or loses) points that are recorded on the contract. Later the points are exchanged for back-up rewards which are pre-selected by the child. Immediate rewards may be used at first, with these gradually faded to a daily reward token system. Parents are encouraged to give the child positive social reinforcers, and the use of these may be modelled. Ways of handling unwanted behaviours are also decided upon. Response cost (loss of points on the contract) is used, and also Time-out if necessary. The use of Time-out first being role-played with the parents.

Telephone contacts are made daily in the first week to check what is happening. Further sessions are used to discuss the progress of the contract and to practice techniques such as effective family discussions - involving concentration on positive aspects of behaviour, and not allowing criticisms etc.

Observations: The intial assessment of the problems is aided by a series of observations made in the home by observers trained in the use of a behavioural code. Six to ten observations are made prior to the intervention, that is, prior to the parents being given the programmed text, and the observations are also carried out during the intervention, usually immediately after reading the text, after four and eight weeks of intervention and at termination. Follow-up observations are made at one, six and twelve months later.

This covers in general the procedures followed during an intervention without considering details of the parent training or of the programmes used, etc. The usefulness of this approach and some of the results obtained will be looked at by considering five articles utilizing these procedures.

Patterson,G.R., 1974b reported on interventions for boys without conduct problems. This was a summary of results from treatment programmes of 27 children in the home, 14 of whom also received help in the classroom (not dealt with here). The treatment procedures used for the families were as follows:

(a) the parents were required to read "Living with Children" or "Families".

(b) they then learned to define, track and record a series of targetted deviant and/or prosocial child behaviours.

(c) they were assigned to a parent training group where modelling and role-playing procedures were used to illustrate appropriate techniques.

(d) they learned to construct contracts that specified contingencies for a list of problem behaviours occurring at home and/or school.

Where necessary, training sessions were used in the home with the experimenters modelling the desired parenting skills.

Observations were made during the baseline prior to intervention, after
the parents had read the text, after four and eight weeks of intervention
and at termination. In follow-up they were made at monthly intervals for
six months and then in the eighth, tenth and twelfth month,

Criteria for evaluation were based on observers' data and also on parents'
daily reports of symptom occurrences. The 27 children were matched with
controls who were also observed to obtain normalised data on rates of
deviant behaviour to compare with the observations of the children in
treatment.

Results: A comparison of mean total deviant behaviour (calculated from
the observations) showed a significant reduction from baseline through
to termination. At termination, two out of three boys showed reductions
of 30% or more from the baseline level, six showed increases. During the
month following termination there was an increase in deviant behaviour
for half of the families, and many at this time received a booster with
very limited professional time involved. At later follow-ups the families
were still significantly improved over their baseline levels.

The parent daily reports showed significant reductions of targetted behaviours
during treatment and follow-up data showed a non-significant trend towards
increased improvement.

Within these 27 cases, two experimental studies were carried out.

Walter and Gilmore, 1973, reported their study on 12 of the above families.
The children involved were boys aged from five to fourteen years, exhibiting
severe out-of-control behaviour. After the initial intake interview, the
first three families were assigned to a treatment condition, the next three

to a placebo group, the next three to treatment, and the final three to
a placebo group. The procedures for treatment were as described above,
using the text "Living with Children". These parents attended a weekly
structured parent group session in which each couple received 30 minutes
to construct programmes for targetted deviant behaviours. At least two
experienced therapists were present and they utilised role-play, modelling
and didactic instruction to teach the principles of behaviour management.
After four weeks of group meetings, intervention observations were carried
out (observations having first been made before intervention).

The placebo group consisted of all the same procedures but with no
programmed text and no therapist present at group meetings. Parents were
given tape recorders initially to duplicate the attention of book reading
period, and asked to make recordings about problems for future meetings.
As in the treatment condition, placebo families were telephoned regularly
to stimulate co-operation and to answer questions.

The observations were used for evaluation along with parent checklists,
an expectancy questionnaire, laboratory observation data (of parents
interaction in the group) and professional contact data.

Results: The study was designed so that both placebo and treatment
groups received the same amount of therapist time, however, the treatment
group did receive more telephone time. The results from the expectancy
questionnaire completed after the intake interview, and before and after
each group meeting, showed no significant differences between the groups
at any time. The targetted deviant behaviours in the treatment group
showed a 61% decrease, while children in the placebo group showed a 37%
increase in deviant behaviour. Parent data corroborated this. No significant

changes were found in the laboratory data.

Wiltz and Patterson, 1974, reported an evaluation of parent training
procedures on twelve boys aged six to fourteen years. The boys were
divided into two groups, - treatment and control groups, with six boys
in each. Observations were made on each prior to intervention in the
treatment group. The control group were informed of a five week delay
between the observations and treatment. The treatment group used the
programmed text "Living with Children" and met in groups with no more than
five sets of parents and up to four therapists. There were five weekly
meetings. During these, the initial individual programmes were discussed,
and then parents set up second programmes without direction. The control
group were then brought into treatment.

Observations were made after five weeks of meetings and for the controls
after five weeks of waiting.

Results: There was a significant decrease of targetted behaviour in
the treatment group. But only non-significant decreases were seen in
non-targetted behaviours (that is, not included in any programme). There
were not changes in the control group's targetted deviant behaviours (chosen
in the initial interview), and a slight increase in untargetted deviant
behaviour.

Although not coming from the Oregan Research Institute, the following study
was carried out at the University of Oregan using Patterson's procedures.

Eyberg and Johnson, 1974, reported a multiple assessment of behaviour
modification with families. 17 families were involved, 16 boys and 1 girl

from four to eleven years of age.

Treatment outcome was measured by

1) parent observation data, that is, the parents recording their own child's behaviour during a baseline week and over the intervention,

2) verbal report measures - questionnaires to measure improvement were given prior to the first treatment session and at termination,

3) home observations - these were made for five days previous to intervention and after the final session,

4) standard situations - the mother/child, and mother/father/child interactions were observed in a clinic playroom with six five-minute situations.

Therapy: The parents were assigned to one of four groups, in order to study contingency contracting for the parents and the order in which problems of varying difficulties were treated. All parents paid a fee, but those in the contingent group also paid a contract deposit which would be returned on attendance at sessions and completion of treatment assignments. Also the contingent group were not allowed to come to treatment sessions until daily tasks had been completed. Treatment sessions involved discussing the assessment, reading a manual written for parents and covering social learning theory and techniques of behaviour modification. The therapist and parents together devised programmes for the children.

Results: Parents subjected to contingency contracting were significantly superior in completing assignments, dealing with more problems and achieving higher ratings on co-operation. There were no effects associated with the order of treated problems. Examination of outcome results indicated a fairly high degree of treatment success as measured by parent collected observational data, parental attitude towards the children and parental attitude to the

process and outcome of treatment. Only a modest degree of success was evidenced by data taken by observers in the home and in standard situations in the laboratory. This might show that major changes were made in the parents' attitudes rather than in the child's behaviour, or it might be a function of the family being less affected by the observers on the later observations and not trying as hard to minimise the child's deviant behaviour. Thirdly it may be explained by the fact that observations often did not directly assess the problems treated such as bed-time problems or activities with neighbourhood peers.

It was felt that this discrepancy with Patterson's reported decrease of 60% in targetted deviant behaviours on observations could be due to the relative lack of experience of the experimenters compared to Patterson's group or the giving of less time, (11 hours compared to Patterson's $31\frac{1}{2}$ hours). A successful outcome for the 12 families was however concluded, taking the multiple measures of outcome as a whole.

One final paper by Ferber,H. et al., 1974, replicated Patterson's parent training procedures with seven families. Ten observations were made during baseline, two per week during intervention and five follow-up observations at two months after termination. Four weeks after termination the parents were interviewed for their perceptions of the programme and twelve months later they were telephoned to ask how the child was functioning, if they were using any behaviour modification strategies and what they were doing differently because of the programme.

Results: Three of the families showed positive short-term changes in multiple measures, but only one showed substantial long-term change. It was felt that the differences may have been due to the therapists having

less experience than Patterson's group, some minor procedural differences in training, or differences in the subject populations not apparent from existing data. The aim of the study was to find the utility of packaged programmes as compared to Patterson's more prolonged interventions with boosters when necessary. However, the results seemed to indicate that packaged programmes were too inflexible for many families.

Conclusions: The work reported from Oregan generally produces a successful outcome in two out of three families, and involves the parents in learning the principles involved, and in setting up programmes with therapist help and then by themselves. Help in other areas is often given and therapist time involved is lengthy. However, the results they achieve appear better than those of shorter more packaged interventions such as Ferber, et al., 1974.

Chapter 4.

Principles of Contingency Management
and their use with Children.

4:1   Principles of Reinforcement and Punishment

The main principle utilized in the design of treatment programmes in both
pilot and research projects is that of positive reinforcement. This was
defined originally by Skinner,B.F., 1953, as -

"Positive reinforcement involves the presentation of a stimulus (a rewarding
event or object) after a response (operant) is emitted, it has the effect
of increasing the strength of that response."

In other words, when a response is followed by a reward it will increase
in frequency.

The reverse condition of this principle is also important, for if the
rewarding stimulus is witheld after a response is emitted, this has the
effect of decreasing the strength of that response. So when a response
is not followed by a reward, it will decrease in frequency.

The stimulus which functions as a rewarding event or object is generally
referred to as a reinforcer, or reinforcing event, because it strengthens
or reinforces the event which it follows, that is, makes it more likely
to occur again.

The main aims of the treatment programmes in the present projects were to
present reinforcement at the appropriate time after a desirable behaviour

had occurred, and to withold the reinforcer after the occurrence of an undesirable behaviour. The purpose therefore of any assessment procedures before a treatment programme is to identify the events which will have a reinforcing effect on the child's behaviour, to see when and how these are being delivered at present, and to identify the reinforcers which are maintaining any undesirable or inappropriate behaviours (with an aim to removing them if possible).

There are two further principles to be mentioned before the use of positive reinforcement is considered in detail.

The first is called negative reinforcement and involves the removal of an aversive stimulus after the occurrence of a response. This, like positive reinforcement, tends to strengthen the response and lead to an increase in its frequency. The fourth principle is that of punishment and involves the presentation of an aversive stimulus after a response, this has the effect of weakening the strength of that response, so leading to a decrease in its frequency. (Travers, 1963).

The assessment procedures must therefore also identify those events which have a punishing effect for that child and look at what punishments are being used at present and with what effect.

It is very important to bear in mind here that both reinforcing events and punishing events must be defined by their effect on behaviour - A reinforcing event is one which leads to an increase in the frequency of a behaviour that it follows, (or holds the frequency constant), a punishing event is one which leads to a decrease in the frequency of a behaviour that it follows.

These definitions are therefore tautological and the events which function as reinforcers or punishers can only be discovered empirically, that is, only the effect which the event has on a previous behaviour can tell us whether the event was a reinforcing or punishing event. If the behaviour is strengthened and increased in frequency, the event was a reinforcer and if the behaviour was weakened and decreased in frequency, the event was a punishment. This analysis must hold, no matter what was previously believed to be the status of the event.

In most instances in the rest of this thesis, the terms reinforcer, reward or punishment refer to outcomes or events presented to the child from the people in his environment. No specific attempt was made to teach the children self-control, that is, the internal self administering of consequences but the clear spelling out of the contingencies ("if you do this, then that will happen") made it much easier for a child to foresee the effects of his own behaviour and alter this accordingly. That this occurred could be verified from the older children who would talk about what was happening.

4:2   Response Increment Procedures
           (Increasing the Frequencies of Behaviour)

This is done mainly by the use of positive reinforcement, that is, giving a reward after an appropriate behaviour, but negative reinforcement may also be employed at times.

Before looking at ways of giving reinforcement, and how they have been used, it is necessary to first look at what a reinforcer can be by looking at different types of rewards.

(a) Rewards

There are three main types of rewards:

(1) Social rewards - involving people

(2) Material rewards - involving tangible objects

(3) Activity rewards - involving doing things.

These can be used to the exclusion of one another or in any combination.

(1) Social rewards: (or people rewards)

Whenever two people interact in any way, there is a liklihood that

the interaction will be rewarding to both of them. Having the attention

of another person seems to be a desirable event to most people, and

especially to children. This attention can involve simply looking at

the other person, but it usually becomes more rewarding when it includes

some physical contact or verbal exchange.

Physical contact appears to be a primary reinforcing event (as does attention)

in that its rewarding properties do not have to be learned, and in that

everyone seeks it to some extent at least, again especially as children.

Verbal interactions are primarily reinforcing in that they involve the

giving of attention, but the content of the statements only come to have

reinforcing value through a learning process of pairing with more primary

reinforcers (see pairing below). Praise and expressions of love can then

take on a very strong reinforcing value once the child is old enough to

understand, though even before this a pleasant tone of voice will probably

have taken on such value.

A very important aspect of these social reinforcers is that the actual

fact of giving attention to a child can outweigh the content of such

attention even when this is meant to be punishing, for example, scolding

or smacking. Because the attention at this time is very focussed on the
child and given in an emotional manner (quite often) what was perceived
by the adult as a punishing event can turn out to be a reinforcing one.
This seems to happen particularly with children who seek large amounts
of attention and don't seem to mind what this attention involves. This
has to be borne in mind when any use of punishment is made. (see below).

(2) Material rewards:

These split further into two types, the edible rewards and the non-
edible.

Edible rewards: Food again has a primary reinforcing value, and because
it is an actual basic necessity of life, when a person is hungry its
reinforcing value is powerful. There are children who do not seem much
interested in food otherwise, and even have very small appetites, but
most will eat for pleasure even when not particularly hungry. Many
foods and drinks fall into this category, but the most reinforcing
type for a certain child has to be assessed with reference to that
child.

An important consideration with the use of food is satiation, for eventually
as a person eats, all hunger disappears and more food can even become aversive.
Care has to be taken to keep below satiation point or all reinforcing value
is lost. Here the use of tokens as rewards can be important as these can
be exchanged for a final food reward (see inedible rewards). Even with the
use of tokens however, a long-term satiation must also be avoided, in that
a child given the same food reward repeatedly may grow tired of this and
it will then loose its reinforcing power. This must be guarded against by
changing the reward as necessary or giving the child a choice on each
occasion.

Inedible rewards: These are mainly objects which a child likes to

have, for example, toys, new clothes, trinkets etc. Tokens however

also fall into this category, and again are very useful in conjunction

with these inedible rewards. An object which the child likes or wants

can be given as a reward after an occurrence of a wanted behaviour,

or tokens can be given instead to be later exchanged for such a reward

(see "Pairing"). Again a form of satiation, in that the child may

become bored with repeated similar rewards must be guarded against

by using a range of objects and often giving a choice.

One alternative is to give the child money as an immediate reward or to

give tokens which are then exchangeable for money. The child is then allowed

to spend his money as he wishes, or save it for something he wants. This

is also useful in teaching a child the value of money and how to save.

The use of any material rewards however may involve some financial outlay

for the people using such rewards. Where such financial resources are not

available other types of reward should be used.

Luckily many tokens which can be used with children can be very cheaply

purchased or even simply drawn on paper, for example, stars or shapes,

or smiley faces, and at least initially such tokens seem to have (for most

children) built-in reinforcing properties; in that children enjoy collecting

them, even without trading them in later for other backup rewards. However,

this property seems to be short lived, especially without the use of back-

up reinforcers. Even with the use of other rewards, the desire to earn

tokens seems slowly to fade (see later discussions of my use of star charts),

but initially a child's enjoyment of the tokens as such can greatly enhance

a treatment programme and help to get it off to a successful start.

(3) Activity rewards:

Any activity which a child enjoys engaging in can be of reinforcing value to them. Some popular activities seem to be those which involve play materials in a constructive or imaginative fashion, those which involve great amounts of motor activity - often outside the home-, or watching television/reading a book etc.

Because many such activities can not be immediately produced as a reward again tokens can be used to exchange for a chosen activity. Plans can then be made so that an activity is available in return for a number of tokens say once a day. Again a range of activities should be available to stop boredom with a particular kind, and a choice may be offered to the child when a reward has been earned.

For a child who seems to have little interest in most activities, the Premack principle can be used. This states that a high prob ability behaviour (that which the child would do if unconstrained in a given situation) may be used as the reinforcer for a low probability behaviour. (Premack, 1959). So the reward for engaging in a desirable but low probability behaviour (one which needs increasing in frequency) will be the opportunity for the child to do as he likes for a period of time.

Combining the Rewards:

The use of material and activity rewards should always be combined with social rewards as much as possible, because the latter can be used frequently even on a long-term basis, whereas other rewards cannot usually (especially material rewards). For a child who responds mainly to primary reinforcers such as food, combining this with praise teaches the child to value such verbal statements from those around him. This pairing process is particularly

important with tokens which initially may have little or no reinforcing
value of their own. Pairing these with large amounts of social contact
and with other rewards makes the child value the tokens which he can earn.

Even when material or activity rewards have a reinforcing value for a child,
this value is often increased by a combination with social rewards - children
especially like to play with other people, and share their activities.
Even if it is not possible for those giving the reward to join in, they
must make at least an initial fuss of the child.

Different types of rewards are considered in Tharp and Wetzel, 1969 (pages
86-96), and a Reinforcer Identification List is to be found in Gelfand
and Hartman, 1975 (page 297).

(b) The use of positive reinforcement

The use of positive reinforcement will be considered by looking at
four sub-principles which govern the effectiveness of rewards, and
how these can be used to produce maximum efficiency.

(1) Timing

Research has shown that in both animal and human learning, for rewards
to have their greatest effect, they should come immediately after the
behaviour which is to be increased in frequency, Cohen,1969. The longer
the time gap, the less the effect the reward will have on this behaviour
that is, the tendancy to repeat the behaviour will not be as great,
and eventually there will be no association between this behaviour
and the reward. If there is such a delay between the behaviour and
the reward, the liklihood that a second behaviour will be interposed
between the two increases. It will then be this second behaviour which
is closer in time to the reward, which will be affected and will increase

in frequency.

Problems with giving a reward immediately are aided by the use of the second sub-principle - pairing.

(2) Pairing:

A stimulus that was not originally a reinforcing one can become one through being associated with one that is reinforcing. (Pavlov, 1927; Travers, 1963). Through this process, words of praise etc, when paired with more primary rewards become very reinforcing, maybe more so than the original reward was. These events which have acquired reinforcing properties by the process of pairing are called conditioned or secondary reinforcers.

Appreciation of verbal statements (for example, approval, love, praise, etc), is probably one of the most important pairing effects that we learn as much of our lives are controlled by verbal interactions with others and through our own verbal thought processes for self-control. Much use of verbal statements is therefore made in designing treatment. programmes so that events or outcomes are verbally labelled to the child.

Another useful pairing effect for use in treatment programmes is the giving of reinforcing value to tokens, for example, Kasdin and Bootzin, 1972.

Tokens:

The process of establishing tokens as rewards, especially for younger children, involves pairing the giving of a token after the occurrence of a desired behaviour, with the opportunity of exchanging the token immediately for another reward, for example a sweet, (giving praise at the same time for earning the token). After repeating the process the child learns the exchange value of the token and will be interested

in earning tokens by performing certain desirable behaviours. The pairing of tokens with praise also makes the earning of tokens more enjoyable and more rewarding.

Once the value of a token has been learned, a larger number of tokens can be asked for before the final reward is given, that is, the sweet. This will be done gradually increasing from one to two to three tokens etc. and the value of the final reward can be increased at the same time as it is now being given less often, for example, three sweets instead of one. The use of praise and congratulations however must always be given with each token earned for this helps to maintain the value of the token.

With an older child this slow process is not usually necessary, for a verbal explanation is often enough, Gelfand and Hartman, 1975. The child is told that when he has, say four, tokens he can exchange them for something he wants, and the tokens are then given along with congratulations after the occurrence of a desired behaviour. When the specified amount has been collected the child is then allowed to exchange them for another final reward.

The final reward used in such an exchange is called a backup reward, in that it backs up and maintains the value of the tokens. The backup reward can be varied to prevent satiation effects, and often a choice of rewards is useful, maybe requiring different numbers of tokens. This is often referred to as a reinforcement menu, and can be used with children of varying ages - becoming more complicated as they get older and their cognitive grasp of the system increases.

Contracts:

Following on from the use of tokens is the use of contracts. Even in a very simple reward programme involving tokens, a contract is entered

into in that the people dispensing the tokens agree to exchange a number of these for backup rewards, and the child is aware of such agreements. Formalised contracts take this a step further in that the contract spells out concisely the amount and type of behaviours required on the child's part and the amount and type of reinforcers he will receive in return for this. This is usually written down in detail, and maybe signed by those involved - especially with older children. This helps to produce committment on the part of the child, and stops either party trying to change the agreed rules. In the main such contracts are kept in a positive form with rewards given for the occurrence of. desired behaviours, however it may be necessary at times to include about what will happen if the contract is broken, Gelfand and Hartman, 1975. This type of response cost will be discussed in the next section on reducing behaviours.

As mentioned earlier, the use of backup rewards such as food or special activities cannot be maintained indefinately. Therefore, once the desired behaviour has increased in frequency to the level required and has stayed at this level for some time, then the process of fading out the rewards can be started. This involves the use of the third sub-principle, scheduling.

(3) Scheduling:

Reinforcement schedules can be categorised along two dimensions, the interval between reinforcements may be a function of either time elapsed or the number of responses made. These intervals may be either regular or irregular giving four basic schedules (Reese, 1966). In the present study, the schedules of reinforcement used were always based on the number of responses made and not on time elapsed (which takes no account of the behaviours during the period). The schedules used were therefore either fixed ratio or variable ratio as opposed to fixed and variable interval.

Initially a fixed ratio schedule of 100% is used, and on this reinforcement is given every time a desired behaviour occurs. This produces the quickest learning (Karen, 1974), and to achieve this schedule,(known as continuous reinforcement) conditioned reinforcers such as tokens and social reinforcers are very important, for these can be given both quickly and reliably in many situations.

Any percentage of responses under 100 that is rewarded is known as partial or intermittant schedule of reinforcement.(This can be anything from 1% to 99%). Rewards given on a partial schedule can be given in the two ways mentioned above - on a fixed schedule, that is a reward given to say, every second or third occurrence of a behaviour, or on a variable ratio schedule - a reward being given on the average of say, every second or third occurrence of a behaviour.

If a behaviour to be increased in frequency is rewarded on a partial schedule then the speed of learning will be slower and will follow a different pattern depending on whether a fixed or variable ratio is used. (Reese, 1966). The closer the schedule is to continuous, the quicker a behaviour will be learned and this must be aimed at whenever a fully continuous schedule is not possible because of environmental constraints, (Karen, 1974).

Once a behaviour has increased in frequency to the desired level and has maintained at this level, fading of rewards is done by changing onto a partial schedule of reinforcement, (Karen, 1974).

A slowly decreasing number of responses is then rewarded with the giving of a token or other material or activity reward. Initially however, it

is best to keep social rewards, particularly verbal statements, on a continuous schedule. It is then possible to fade out all reinforcers except the more natural and long-term social rewards. If during the process the frequency of behaviour begins to drop, an increase in the number of rewards may be necessary until a steady occurrence is re-established. This process seems possible because many social rewards take the place of the other rewards which have been withdrawn, and because self-control has started with self-praise and satisfaction with one's own behaviour.

Once a behaviour is being maintained by social rewards, these too can be reduced onto a partial schedule of reinforcement - again seemingly possible because self-reinforcement and other more general positive social events increase - and the frequency of the behaviour will hold constant. Social rewards will rarely be removed altogether, and likewise other rewards will probably still be given on an intermittant basis, so there will still be enough external reinforcement to help keep a behaviour continuing.

When a behaviour has been occurring at the desired frequency, this change to partial schedules of reinforcement has another beneficial effect; behaviours maintaining on such schedulesare more resistant to extinction, that is to a disappearance of the behaviour, Reese, 1966. This is because once the child is used to only being rewarded occasionally for a behaviour from those around him, he will continue to emit this behaviour "just in case", and will do so on many occasions before extinction will occur. How soon a drop in frequency will occur has to be gauged for each child and each behaviour, and the schedule of reinforcement must be kept at a high enough percentage for this not to happen.

When a contract has been made, this has to be faded with the agreement of the child, one way to do this is to involve the child more and more

In determining the behaviours required and the rewards he will get for
these. The child's responsibility for the contract is then increased and
he is additionally reinforced for this. As the child becomes more
accomplished in setting up his own reinforcement contingencies then the
other party can fade out, (Homme et al., 1970).

(4) Shaping:

This fourth sub-principle is important when reinforcement of a desired
behaviour is not possible because the child never actually performs
the behaviour, that is, it is not part of his behaviour repertoire.
The process then has to start with actually teaching the behaviour
before its frequency of occurrence can be increased.

The term shaping refers to the way in which a behaviour is gradually shaped
to an end result by rewarding successive approximations towards this,
Reese, 1966. The behaviour is broken down into small stages, the first
being a behaviour which the child is capable of and the occurrence of this
is rewarded. Next, slightly more is expected of the child before a further
reward is given, and this amount is slowly increased until the final
behaviour is approached. The original use of the term shaping involved
no use of verbal instructions or demonstrations of what is expected and
can therefore be used with severely retarded children with little or no
verbal comprehension , for example, Wolf, et al., 1974.

However, normally when used shaping also involves methods of prompting
and also modelling.

Prompting:

Prompts can be either verbal or physical. With an older child with
good comprehension, verbal instructions may be enough to get him to
perform a totally new behaviour. However, often physical guidance is

also necessary - the child's body being guided into performing the behaviour. Again the child is initially rewarded for an approximation of the desired behaviour and the behaviour expected of the child before he is rewarded is slowly made more difficult. As the behaviour is learned physical prompts can be removed, and verbal prompts can be reduced from detailed instructions to short reminders of what to do and then eventually to just naming the behaviour, (Gelfand and Hartman, 1975).

Modelling:

Demonstrating to the child the behaviour that is expected of him can be a quick way of teaching a new behaviour, each demonstration gradually getting more complicated and the child being rewarded as he copies correctly. The combination of modelling with physical and verbal prompts and the use of successive approximations towards a goal provides an effective way of teaching a child a completely new behaviour.

Shaping can also be used in improving the quality of an already existing behaviour. For instance, sitting still is a more useful behaviour if it lasts ten minutes instead of ten seconds, and by slowly increasing the amount of time a child must sit before being rewarded, this behaviour can be improved.

The detailed ways in which these principles have been used in the present projects to plan reinforcement programmes will be dealt with in Chapter 6, section 6:2B.

(c) Reinforcement History

The way in which a child has been used to being rewarded throughout his life-time has two important effects on how reinforcement will function.

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First it can be important for a person to perceive a causal relationship between his own behaviour and the reward he obtains (Rotter, 1966). Whether the correct relationship is perceived may depend on the way in which rewards have been given in the past, for example, how reliable they were in arriving after desirable behaviour.

This also ties up with a person's expectancy or anticipation that their behaviour will lead to the production of desired rewards or consequences, which again is dependent on how rewards have occurred in the past.

A reinforcement history which involves a non-contigent earning of rewards (rewards given with no consistent realtionship to particular behaviour) or rewards only given on a very low variable ratio of reinforcement (rewards only after a very small percentage of desirable behaviours), will make it very difficult for the child to perceive that it is his own behaviour which causes rewards to be forthcoming, and he will hold little anticipation of rewards for behaving in a desirable manner. He will therefore have little incentive to behave appropriately (as his parents wish), and will engage in behaviours which more predictably give him what he wants, for example, defiance leading to large amounts of attention.

One aim of a therapeutic programme therefore is to start showing the child that his own desirable behaviour will predictably cause rewards to happen, so that he can anticipate such rewards and so give him an incentive to behave well.

A further effect that a child's reinforcement history has is to determine what is rewarding for that child. A child who is not rewarded by verbal interactions may not have experienced the normal interactions which produce such a conditioned reinforcer and such interactions will then have to be

included in the therapeutic programme.

(d) Negative Reinforcement

This can help lead to an increase of appropriate behaviours, because

the child learns that if he engages in certain activities an ongoing

punishment will be terminated. Thus a child may make the required

response when his mother starts to smack him for not doing something,

and he will then come to produce this response as soon as a warning

of the smack is given. Likewise, in Time-out, a child learns that in

order to end his isolation he must sit quietly, and such a behaviour

will be provided sooner on each occasion, until he is quiet throughout.

He is therefore allowed to leave the Time-out room as soon as his

minimum period of time is over.

For this process to work therefore it involves first the presentation of

aversive stimuli or punishing events, and so it can only be made use of

within a programme where such events occur, and a combination of this with

positive reinforcement for the production of appropriate responses will

make it more effective.

4:3   Decreasing the Frequencies of Behaviours

This can be done mainly in two ways. The first involves witholding the

reward which is reinforcing an undesirable behaviour, and the second

involves using a punishing outcome immediately after the occurrence of

such behaviour. These two are not mutually exclusive and used together

can be very effective.

The use of any punishing events (the use of aversive stimuli) needs careful

consideration because of a number of possible side-effects, for example, it can produce disruptive and undesirable emotional behaviour, it may have an initial general suppressing effect on behaviour other than the target behaviour (that being punished), there may be avoidance of the punishing agent or aggression directed towards the punishing agent (Azrin and Holt, 1966), or it may produce elicited aggression against nearby and innocent bystanders (Ulrich and Azrin, 1962). Punishment is also sometimes effective only in the presence of the punitive agent (Risley, 1968) or only as long as the punishment procedure is in effect (Azrin, 1960).

Because of these effects (and others to be considered in part of this section), punishments are rarely used in a treatment programme (particularly pain-inducing punishments) until all else has failed and a behaviour must be reduced. There are however other events which can have a punishing effect (that is, they would weaken the behaviour that they follow) without making use of a strong aversive stimulus likely to produce the effects just mentioned. Such events (Time-out and response cost) will be looked at after the process of witholding reinforcement (extinction) has first been considered.

(a) Extinction

Extinction refers to the process by which the reward which has been maintaining a behaviour is witheld immediately after the occurrence, that is, contingent withdrawal which puts the behaviour onto what is called an extinction schedule of the behaviour. One has therefore to know exactly what the reward is, and be in the position to withold this whenever necessary. If this is possible then the behaviour will gradually decrease in frequency and finally extinguish, that is the frequency will become zero.

The length of time this takes however depends on two factors - what schedule of reinforcement the behaviour was on before (Reese, 1966), and how efficiently

the rewards can be witheld now: As mentioned earlier, behaviours being maintained on a partial schedule of reinforcement are fairly resistant to extinction, because the behaviour occurs quite often without being rewarded anyway. It can therefore take a long time for such a behaviour to fade. If however the behaviour has previously been on a continuous schedule of reinforcement, the change to an extinction schedule is obvious and the behaviour will disappear more rapidly when reinforcement is not forthcoming. In the former case, the rate of extinction, that is, the speed with which the behaviour decreases in frequency, may be very slow and may not be of much use in a treatment programme when an undesirable behaviour is a hindrance to the rest of the programme.

The efficiency of witholding rewards during an extinction schedule is also of great importance - again because any giving of the reward inadvertantly puts the behaviour onto a partial schedule of reinforcement which acts against the extinction process. This is made more likely because of an effect which often occurs at the beginning of an extinction procedure - that is, the frequency of the behaviour may initially increase before it starts to decrease (Sulzer, et al., 1968). This seems to be a kind of testing-out phase and all rewards must be witheld during this time if the behaviour is not to be actually made worse (by being rewarded for increased intensity or frequency) -see Herbert, E.W., 1973.

If these factors are known and consideration is taken of them, then the extinction procedure can be very effective, for example, Williams, 1959; Harris et al., 1964. Such a procedure is of most use with behaviours which can be allowed to continue because they are not injurious to anyone involved for example, crying tantrums, low intensity fighting behaviour, pestering, and which do not seem to have intrinsic rewarding properties. Behaviours which may therefore not be suitable are - serious fighting, defiance (if

the child is continuing with chosen activities), destruction of objects,
fire-setting, etc, In such behaviours extinction may work if the rewards
from others are much more important than any intrinsic rewarding properties,
but it is usually only possible to tell this by an empirical test, that
is, by starting an extinction process. Also if it is likely that any
escalation of such already difficult behaviours could not be tolerated
to any extent then extinction may not be a possible treatment choice.

In such circumstances, a process which also involves a mild punishing
event combined with witholding rewards may be of more use. This is known
as Time-out,

(b) Time-Out

> The full name of this process is Time out from positive reinforcement
> but the way in which it differs from extinction is that no positive
> reinforcement is available for any behaviour as long as the Time-out
> is in effect, This is usually obtained by isolating the child so that
> any rewards from other people are witheld completely. It is this
> isolation from other people (often from his normal environment) that
> appears to have a punishing effect for a majority of children -
> especially for those known to be attention seeking.

This therefore overcomes the fact that a pure extinction process leaves
the child in his normal environment continuing with whatever behaviour
he wishes to engage in which he may find very reinforcing, for example,
if a child is ignored for being defiant he may then continue to watch
television which he enjoys greatly, and this therefore reinforces his
defiance.

It also helps to overcome the problem of identifying which rewards exactly

should be witheld from a child for the extinction procedure to work. Because all external rewards are witheld the chances that the important one which maintains the behaviour is so removed are greatly improved. This will only be likely to fail when the main reward is one which the child provides himself, for example, self-satisfaction or when the behaviour is intrinsically rewarding such as in self-stimulation behaviours. With such a behaviour however, Time-out is not doomed to fail (as an extinction procedure would be), because of the additional punishing effect. If the punishing effect, that is, the tendancy to reduce the frequency of the behaviour, outweighs the reinforcing effect, that is the tendancy to increase the frequency of the behaviour, then there will be an overall punishing effect and a slow decrease in frequency.

Time-out will work most effectively when the only rewards maintaining a child's behaviour were given from those people around him and when he finds the isolation very dislikable. In such a case, all rewards are removed and the punishing effect is very strong and Time-out will be very efficient and quick - a behaviour decreasing rapidly in frequency after only a small number of Time-outs. If some rewards remain in the Time-out, for example, access to toys, or if the isolation is not so dislikable then the process will probably be slower. Time-out is likely to fail if the main rewards are not at all removed, for example, self-satisfaction in having aroused the people around him enough to warrant a Time-out, or if the child does not object to the isolation - maybe finding ways to amuse himself.

One way of overcoming the problem just mentioned, that is, satisfaction in having aroused the people around is to always send the child to a Time-out in as calm a manner as possible and as soon as an unwanted behaviour has occurred, or started. This cuts down possible rewards from engaging in the behaviour, and also possible rewards from being handled in an

emotional manner. Many children seem to be very rewarded by seeing their parents becoming angry or upset with them or each other, and as far as possible this has to be avoided. Time-out is useful for this in that the child can be quickly removed from the situation and if the parents must, they can always argue once the child has gone.

To overcome the second problem of the child not disliking the isolation or even enjoying it, it is often necessary to put the child in as boring a place as possible (Leitenburg, 1965). A hallway or bedroom without toys will often suffice. With some children this is not necessary because the isoaltion is so dislikable to them that where they are seems to have little effect as long as they are alone, But it is probably best to keep the Time-out place as uninteresting as possible just in case the child starts to amuse himself.

The time a child is left in Time-out is usually kept fairly short - often under ten minutes, and the method often employed is to give the child a minimum number of minutes, for example five, after which he can be allowed back if he is behaving appropriately, (not crying or engaging in destructive behaviours) (see Zeilburger et al., 1968). If however, he is not behaving appropriately at the end of this time, he is left until he has met a further criterion, for example a minute of appropriate behaviour. The time taken to reach the second criterion may be quite long initially especially if the child is having a tantrum, or crying/shouting in objection to the Time-out. But the time taken to reach the criterion decreases as the child learns he is not allowed back until he is quiet and calm.

Time-outs which are made very long by those in charge, that is the minimum time in Time-out is lengthy, for example, 30 or 60 minutes, can be disadvantageous in that the child becomes so bored that he may start to

engage in inappropriate behaviour to amuse himself or in an attempt to escape, after a period of quiet appropriate behaviour. Work has shown that short Time-outs (a few minutes) can be effective especially if the person has not previously experienced longer ones (White et al., 1972). Long periods of isolation also remove the child from his normal learning situation and is in effect wasted time in which the child has no chance to learn appropriate behaviours.

Because two of the main effects of Time-out seem to be that it is instituted quickly and calmly instead of a lot of prolonged attention being given to the child and that any further environmental rewards are totally withheld, there is then little need for the child to be severely punished by a prolonged period of isolation. For this reason, the case histories in Chapters 7 and 11, usually involve short Time-outs. (Any very long Time-out, for example, several hours, can be looked upon more as a pure punishment technique and will be mentioned later).

The child who engages in seriously destructive behaviour within Time-out presents a problem to its use, however, if, for example, the child attempts to break windows or destroy furniture in the room. Practical ways around this can sometimes be found (see later discussions), but the problems can increase especially with older and stronger children. In such cases the decision not to use Time-out may be made, but fortunately with young children as in the present studies, problems rarely arose which could not be overcome. It is usually suggested that a child who engages in destructive behaviour within Time-out is if possible, made to help clear up and is given a further few minutes of Time-out as a consequence. Importantly, if Time-out is being used a child must not be approached if he is engaging in inappropriate behaviours whilst in Time-out whenever possible, or else any ongoing disruptive behaviour will be reinforced.

It may be felt necessary with some children to give one reminder of what they must do before they can return, but otherwise no contact or attention must be given to the child and no conversation with the child must be entered into.

When the child has reached the criterion for the end of Time-out, then he is told he can return to the place he was removed from, and no further mention of the Time-out is made. If the child choses not to return he is simply left to come as he wishes. Once he is back with the other people, if he starts to behave appropriately then rewards for such behaviour must be given as they normally would, but if he immediately engages in more inappropriate behaviour then the Time-out must be repeated if necessary.

A testing out phase when Time-out is first used does seem to occur in some cases, but the effect is not as marked as with extinction and is therefore easier to cope with. It is necessary to be aware that this might happen however, so that the Time-out is used repeatedly at first if necessary until the child learns that this is now the consequence for certain types of behaviour, and begins to avoid engaging in such behaviours. Problems of more generalised avoidance (see punishment discussion) do not generally seem to occur with Time-out and fears that the child will feel rejected also do not seem to be true (in the experience of our unit).

From a self-control point of view, it seems to help many children if a verbal warning (that is, a verbal discriminative stimulus) is given before the Time-out is instituted, after the Time-out has occured several times, the warning then seems to be quite effective in stopping any further inappropriate behaviours, and with time even the warning may become unnecessary, the child taking over and warning himself apparently.

(c) Response Cost

Another combination of witholding rewards and giving a punishment

occurs in the process known as response cost. This involves taking something valued from the child as a consequence for his engaging in an inappropriate behaviour whilst being careful to also withold any other possible rewards which were previously maintaining the behaviour (see Kasdin, 1972). Things which can be removed immediately can be priviledges for example, switching the television off, taking the child home immediately if outside, or something which the child possesses or wants, for example, toys for a certain length of time, or removing a meal. If the child is collecting tokens a set number of these may be removed, or a reward written into a contract may be forfeited, for example, Phillips et al., 1971.

As far as possible this is done in a calm unemotional way and pleading from the child for it not to happen is ignored. If necessary a Time-out may be instituted if the child begins to object strongly, and often a response cost can be added to the use of a Time-out to enhance the effectiveness of this.

With older children, the response cost need not be absolutely immediate, for example, a child may not be allowed to watch a favourite T.V. programme later in the day, or may be sent to bed early.

Another type of response cost is that an undesirable event may occur if the child has failed to reach an overall minimum standard of behaviour. For example, if the child who has three Time-outs in a day may be sent to bed 30 minutes earlier, whereas if he had only had two he would have been allowed to go at his normal time. This type of response cost may work well within the context of a contract, and with at least school-age children because the consequence is delayed and not immediate, and not tied to one specific occurrence of behaviour but to a more generalised standard.

Problems with such a system can occur if the costs become too high and
reinforcement too low. Once a child has nothing to loose he can no longer
be punished by a response cost. There may also be an adverse effect on
the incentive to earn tokens if these can be subsequently lost, and this
may produce an adverse reaction in the child who is objecting to the loss
of tokens just earned may present extra problems.

(d) Other punishments and problems of use.

The normal concept of a punishment is that it must provide a painful
experience either in the physical sense (smacks) or in a more
emotional sense (being told that you are not liked or will be sent
away). In a behavioural sense neither of these type of events is a
dependable modifier in that they quite often do not produce a long-
term decrease in the frequency of the undesirable behaviour that they
follow. However, because they do often produce a short-lived suppression
of the undesirable behaviour, anyone using these procedures may themselves
be reinforced and they will be more likely to use them again. The fact
that only a suppression is produced and not any true decrease in the
behaviour is not perceived, or if it is an alternative cannot be always
found.

For a smack to be a punishment to a child, the noxious effect - the pain
produced or the dislike of having upset his caretakers enough to provoke
them to such a behaviour, must outweigh any possible rewarding elements
intrinsic to the event. Such possible rewards are many, firstly the amount
of attention given along with the smack can be great. The attention may
be prolonged, the smack being lead up to by a long number of threats
which may or may not usually culminate in the threat being carried out.
Such attention is often as intense as it is emotional, and the reinforcing
properties may then easily outweigh the pain of a smack - if it is painful
at all. The effectiveness of a smack often seems to depend less on the

actual pain produced (which is rarely that much) than on the dislike of
upsetting someone with whom the child is emotionally involved or wishes
to please . Smacks from someone who the child has no wish to please are
then likely to fail. Also unfortunately with many difficult children the
desire to get attention is greater than the desire to please and so
provoking a smack can be very reinforcing. When working with hyperactive
children it has also to be borne in mind that many have a high threshold
for pain and so may be fairly unmoved by a smack as it has little painful
effect on them. Likewise with verbal threats and statements, the rewarding
effect of the attention involved may often outweigh the child's dislike
of having such things said to him - especially if he has learned that the
threats are empty ones and that any promises which are made of what will
happen if he behaves are broken. Even if smacks or verbal scoldings upset
the child or frighten him, they do not let a child know how to avoid
repeating his behaviour, in that they do not teach an alternative
appropriate behaviour which the child could produce in place of the one
which leads to punishment. This problem affects extinction and Time-out
procedures as well and will be dealt with in the next section (4:4).

A further problem is that the child is often being shown that to control
people, one must use physical punishment and hurtful statements, and will
therefore tend to use such tactics when they try to control others .
Children who are frequently smacked may be more likely to try to use
physical strength to control their environment and the people around them
and how can a child understand that he must not hit other people when he
is being punished for this by being hit!

A further important problem is the side-effect that punishment techniques
may have -especially if they are of the smacking or scolding nature.
Disruptive and emotional behaviours may emerge in response to the

punishment, and the child may start to hit back both physically and verbally (see discussion at the beginning of 4:3). Such behaviours can be extinguished in the use of Time-out because they are ignored, but if the caretakers themselves are constantly using such tactics the child is likely to also continue using them. (Vicarious learning occurs here in that the child learns to use behaviour by seeing the positive consequences they have for others). Such emotional side-effects can often then lead on to an actual avoidance of the people involved (rather than the desired avoidance of a specific behaviour) because the child intensely dislikes such confrontations.

One final problem that occurs with all punishment techniques is that if they are used alone with the desired effect, a child's overall level of rewards will decrease as many behaviours which used to lead to rewards now no longer do so. This may then cause the child to seek alternative ways of getting rewards and these may not be appropriate, especially if the child is given no guidance in this. Again this is helped by the use of DRO (see next section) and need not be a hindrance to the use of punishment.

On the positive side, punishment can be used successfully in providing long lasting suppression of undesired behaviour, if these considerations are taken into account. Physical pain can be used in very carefully controlled situations, and can be necessary to decrease serious behaviours such as self-inflicted injury, or behaviours which otherwise threaten the child's life, Lang and Melamed, 1969. Other punishments : such as a prolonged isolation period which in no way harms the child, can be so dislikeable that a warning of it being repeated can be enough to control further behaviour. Likewise, loss of certain valued things can lead to a quick extinction of behaviours.

(e)   Stimulus change

The aim of stimulus change is to alter or remove entirely the stimuli
which have been identified as the events which constitute the eliciting
or discriminative stimuli for an inappropriate target behaviour. This
may be simple in some cases when the discriminative stimuli (S*) identify
a specific place which could be avoided for a period of time. Likewise,
certain people may be avoidable, or routine activities may be
changeable. A general change of daily routine may help reduce certain
target behaviours, or the establishment of a routnne may have a
beneficial effect so that the child is presented with new stimuli for
appropriate behaviours.

When the stimulus for a target behaviour is a key person in the child's
life, then maybe some aspect of the person can be changed, for example,
their tone of voice and manner when giving commands or reinforcement. When
the stimulus is a key place for the child such as his bedroom or living
room then it may be possible to alter this environment, for example,
removing tempting objects from reach.

The aim with these changes is usually to remove the stimuli at first, but
to then slowly reintroduce them along with large amounts of reinforcement
for appropriate reactions on the part of the child. Breakable objects can
be slowly returned while rewarding the child for not touching, or visits
to certain places can be started gradually with the child being reinforced
for keeping quiet or by his parents, for example in the supermarket.

The initial removal of the stimulus can be worth the effort because if a
target behaviour can be decreased through this means, for this will aid
the child's general improvement and may ease his mother's anxieties to
some extent. A structured reintroduction can then be implemented when the

child is under better control, and after he has learned to gain attention

and approval in appropriate ways through his management programme.

4:4   The Differential Reinforcement of other Behaviours. (D.R.O.)

When it is decided that an extinction or punishment procedure is not

suitable for the child involved (for example, because it might be unwise

to decrease the quantity of reinforcement the child is getting, or if

the child reacts very adversely to Time-out), then an alternative procedure

can be used to decrease unwanted behaviours.

The main concept is to differentially reinforce other appropriate behaviours

which occur but to ignore as much as possible or manage as necessary, the

other unwanted behaviours. In this way, as other appropriate behaviours

increase in frequency there will be less likelihood of the unwanted behaviour

occuring as it does not produce the positive reinforcement gained from

other behaviours (for example, Patterson, et al., 1965).

To make this more effective, a specific competing behaviour is chosen for

reinforcement, so that while the child is engaging in this in order to

receive reinforcement, he cannot be performing the unwanted behaviour.

For example, compliance is reinforced to reduce defiance, and quiet

co-operative play is reinforced to reduce fighting or arguing.

In the programmes designed in this study, an effort was made to

specifically reinforce the opposing behaviours to a target behaviour

when this was possible, as well as generally reinforcing the child when

he was co-operative or quiet and "well-behaved".

Part II

The Pilot Project

Introduction

These four chapters cover my early work over the first fifteen months
during which time the procedures used in the research project were
developed.

Chapter 5 gives a detailed account of the behavioural analysis used (even
though this was not fully developed until near the end of the pilot project)
because the way in which it was used later evolved during this time. Also
in this chapter are accounts of other information gathered about the child
and the techniques used for this. Chapter 6 starts with a discussion of
the formulation of the children's problems and describes the treatment
procedures decided upon as a result of the formulations.

The methodology used in these early cases and the results of the treatment
programmes are looked at in chapter 7, and chapter 8 draws conclusions
from the pilot project and gives plans for the future research project.

Chapter 5.

Pilot Assessment Procedures

Assessment procedures during the pilot project have two main aims. The first is to collect information about the child's current problem behaviours so that a functional behavioural analysis of these can be made, with a view to formulating why the problems continue and how they can be changed. The second is to collect any background information about the child and his family which may 1) be of relevance to the treatment of current problems and 2) help to show how the problems have arisen.

Because this is a pilot project, the background information collected varied from case to case, with the intention of discovering and deciding upon those factors which might be of importance for consideration in the research project. Therefore it is not possible to do any detailed inter-case comparison of such factors in this pilot project.

5:1   Information Collection.

Before considering the type of information collected to fulfil the aims of assessment, it is first necessary to look at the ways in which this information can be sought. These can be listed as:

1)   The strutured interview: administered verbally to the parents of
     the child, with open-ended questions. The questions used are on
     specified topics but with the actual content of each question variable
     as necessary to elicit the wanted information.

2)   The questionnaire: (a) administered verbally to the parents with

open-ended questions of set content, or (b) given in writing to the parents to complete with open-ended and/or multiple choice questions.

3) Observation Procedures: (a) Recording by the parents of ongoing events during the assessment period, to produce a baseline of present behaviour. (b) Formal observation by therapists - recording ongoing interactions without any involvement in them. (c) Informal observation by the therapist - noting ongoing interactions in the family while conducting interviews or discussions.

4) From previous assessments: whenever possible records of previous assessments can be consulted, especially the medical and developmental background of the child.

In the pilot project, most of these methods were used with the exception of the written questionnaire and formal observations.

5:2   Interview setting and structure.

Each occasion when the parents or child were met will be referred to as an interview. The form this interview took could vary considerably from occasion to occasion, but during the assessment period it would mostly consist of structured interviewing and filling in questionnaires whilst informally observing family interactions.

(a) Interview setting - place and people

The place - The first interview in 18 out of the 31 pilot cases was held at the Paediatric assessment Centre (P.A.C.) at Leicester Royal Infirmary, as these cases were referred from this unit. These initial interviews were therfore arranged by the P.A.C. usually after their own assessment period was completed.

This interview would be held in a large play-room, where the parent(s)

could be interviewed while the child could amuse himself if he wished.

In a small number of cases (3) the mothers and children were met during the P.A.C. assessment when they were seeing the centre's clinical psychologist, as I was helping with the psychological assessments at this time.

The remaining 13 cases were referred from other agencies, and the parent(s) were initially interviewed in their own home (except one father who was seen at the School of Social Work).

All subsequent interviews with the parents were held in the family home.

The people - Of the 18 cases first interviewed at the P.A.C., 12 of these interviews were conducted jointly by myself and Dr. M. Herbert (M.H.) , four were conducted by myself and two by M.H. and another colleague (J.M.).

The mother was present on all but 2 of these initial interviews, when the father was seen alone, and the father was present with the mother only on one occasion.

The child was met on most of these initial interviews, and only on one occasion was separated from his parent during the interview.

Of the 13 cases first interviewed at home, four interviews were conducted by myself, three by myself and M.H., and six by myself and another colleague.

The mother was present at all except one of these interviews, and the

father was present at four. The child was also met on all except two occasions.

Subsequent interviews always involved the mothers, and the fathers were seen whenever possible. However, there were cases when the fathers were only seen briefly or only on one or two occasions.

If the child was at home during the interview, the decision of whether he remained with his parents was left to them. Often the child was present during most of the interviews, though they would usually not be actively involved - unless they chose to be.

(b) Interview structure

Format - Initially the parents were encouraged to talk freely about the problems they were experiencing with their child. They were then questioned with more structure about possible behaviour problems with the aim of finding whether the child was presenting hyperactive behaviours or showing signs of a conduct disorder.

If this was so, then if possible, target behaviours were defined and the parents were asked to start recording the occurence of two or three of these -usually the target behaviours coming from the excess category of behaviours. If they were willing to they would also be asked to keep a diary of the antecedants and consequences of the target behaviours.

If clear target behaviours did not emerge but the child was showing evidence of conduct problems, then sometimes the parents were asked to keep a general dairy of problems which occur up to the next interview.

The second (and sometimes third) interview would then be used to
define target behaviours if necessary and to start the parents
recording the occurrence of these, or to collect more information
for (1) the behavioural analysis (section 5:3) or for (2) background
data (section 6:4, 5:5). The second and third interviews during the
pilot phase could also be used for giving advice on handling conduct
problems or for planning a management programme - if a baseline of
the target behaviours has been established.

The collection of the background information during the pilot phase was
usually not completed during the assessment interviews (that is, before
advice was given or a programme planned), but often continued during later
interviews. This was because there were usually only two assessment
interviews in the pilot phase (or at most three).
Screening - The first and second interviews were used also to screen the
cases as to whether they were 1) suitable for a management programme or
advice, or whether they should be 2) referred to a colleague, or whether
3) the intervention should be terminated.

Eight cases fell into the last two categories, four being referred to a
colleague for further treatment, and four being terminated (two after
one interview, two after two interviews), either because the case was
inappropriate, or the parents did not want further help. These cases as
a group are classified as Pilot Intervention Type 1 (P1), and were not
followed up.

Some cases (5) were seen more than twice, but for varying reasons a
baseline of target behaviours was not established, and only advice was
given. Contact with these families was more prolonged (several interviews)

and they are classified as Pilot Intervention Type 2 (P2).

The remaining 18 cases were all presenting conduct problems, and the assessment lead to the establishment of a baseline frequency of target behaviours.

These cases are classified into three further categories depending on the type of help given. These are:

Pilot Intervention Type 3 (P3) - advice given after the baseline, usually over a short period of time (6 cases).

Pilot Intervention Type 4 (P4) - a management programme planned and implemented, but no record of its use. Contact with the family over a longer period of time (2 cases).

Pilot Intervention Type 5 (P5) - management programme planned and implemented and its use recorded by the parents. Contact with the family over an extended period of time (10 cases).

The cases when advice alone was given (P2 and P3) were sometimes presenting less serious problems than the P4 and P5 children, or the parents did not wish to carry out a management programme.

5:3   The Functional Behavioural Analysis of Current Behaviour
       Problems.

A functional behavioural analysis of a behaviour is concerned with not only the characteristics of the behaviour, (as would be a static analysis) but also with the situations that precipitate the behaviour - the antecedants, and the reactions of those around to the behaviour - the consequences. It also takes into account the basic characteristics of the person presenting the behaviours (the organismic variables, see background

information on the child). Such an analysis was chosen to give all necessary information needed for the planning of treatment programmes following the principles discussed in chapter 4. Details about the antecedents of a behaviour help to decide whether any stimulus change is a necessary part of the programme (section 4:3), and details of the consequences help plan changes to be made in the use of rewards and punishments following the occurrence of certain behaviours (sections 4:2, 4:3, and 4:4).

Although it may seem from the larger amount of space given over previously to the discussion of consequences that these are more important than the antecedents, it must be remembered that it is eventually the discriminative stimuli (S^o) which control whether a behaviour occurs or not, and so any use of consequating (giving a specified consequence to a behaviour) must be made with full awareness of the S^o to which the consequences need to be linked. An assessment of the antecedents or S^o's for a behaviour is therefore equally important as the assessment of consequences, and both must be considered when later planning a treatment programme (chapter 6).

The collecting of information for the behavioural analysis follows four stages.

1) Defining Target Behaviours

The first priority is to define precisely the problem behaviours which the parents wish to concentrate upon. This process focuses on specific separate behaviours and each behaviour chosen is then known as a target behaviour, or T.B. Such a behaviour can be either in the category of excess behaviours (those requiring a decrease in frequency) or of deficit behaviours (those requiring an increase in frequency). Because of the type of child dealt with in these projects, the T.B.'s chosen for analysis

were invariably of the excess variety. This is not to say that behaviours of the deficit type are not closely considered later, and subsequently used in the treatment programmes, but the main recognisable problems presented by these children require reduction. Such behaviours are also often easier to define and monitor during assessement and treatment so giving a means for evaluating any results obtained.

Definition of the target behaviours is then done precisely and in terms of observable behaviours and actions. This is to ensure that the behaviour can be easily recognised when it occurs by all concerned and therefore closely monitored and handled on every occasion, as specified in the treatment programme. It may be necessary at times to include a number of different but very similar or closely linked behaviours together under one global name. Such a group of behaviours would then be monitored and dealt with as one. For example, a child may present several similar behaviours such as hitting with his fist, biting, and kicking, and these may be collectively named as fighting or aggression once the component parts have been defined individually. Any of these behaviours will then subsequently be recorded as aggression to simplify the recording process. This collection of behaviours together under a global name also must only be done when the behaviours appear to have very similar antecendent and consequent events. This will usually also be the case when the behaviours are separate parts of a behavioural sequence seen as a single behaviour, for example, a temper tantrum. Tantrums often are made up of several component parts occurring in sequence, and both the components and the sequence should be defined before the behaviour can be referred to as a tantrum, for example, the child first shouts abuse, then runs to a door and slams it, then throws himself on the floor and screams.

If the parents have difficulty in deciding upon fairly specific problem behaviours it may be helpful to ask them to keep a note of problems which arise over the next few days, this will help show the type of problems a child is presenting. Another useful technique is to ask the parents to give a detailed description of what happens during a day in the life of the child. This will pick up any problem areas with the child which can be further examined for possible target behaviours.

2) Retrospective Behavioural Analysis

By detailed questionning of the parents as to events over the last few weeks, a retrospective analysis of the target behaviours can be made. The questionning follows the mnemonic "A-B-C", where A refers to the antecedents of a target behaviour, B to details of the target behaviour, and C to the consequences following the target behaviour. These will be looked at in turn for the types of detailed information necessary for each.

A - antecedents

Where the behaviour occurs, who is with the child, when it occurs and what was happening at the time. (This gives information on the S^0 which inform the child that reinforcement is likely to occur and are therefore likely to elicit the target behaviour).

B - behaviour

Definition of the target behaviour, and of any component parts and their time sequence if they appear to be linked.

An estimate of how often the target behaviour has usually occurred per day or per hour over the last few weeks. If this varies, a range of frequencies needs to be estimated.

An estimate of the usual duration of the target behaviour, again if this varies a range of possible durations is needed.

Details as to how intense the behaviour is, and if this varies from occurrence to occurrence, with descriptions. Consideration is also taken at this point of how appropriate the behaviour is for this child with reference to background information available, that is with reference to organismic variables such as age, stage of mental or physical development, presence of handicaps etc.

C - consequences

How do all the people present react to the child during and after the occurrence of the target behaviour. Do they react in different ways to each other, or do they themselves react differently on different occasions. Does the child get any recognisable reward after his behaviour, that is, any social, material or activity reward, or do his parents try to punish him in any way. How does he react to such consequences. Is the target behaviour repeated immediately or in the near future. Do the parents think the child gains any other sort of reward from his behaviour, for example, self-satisfaction, what evidence do they have of this. If the target behaviour involves a passage of time, when does it eventually stop.

The use of this analysis and the details required were refined over the pilot project cases, and in most of the pilot case histories, all this information was not collected systematically (as it is in the research project). However, the main aims of the analysis were the same and therefore the details have been included here instead of in chapter 9 (Research Assessment procedures) so that the way in which the problems are formulated will be clearer.

3) Parental Recording of Target Behaviours

Whilst the information for the behaviour analysis is being collected, recording of current occurrences of the target behaviours can be started. Once each target behaviour has been defined, the parents are asked to

make a note whenever a target behaviour occurs. This is done by
writing a code letter referring to the target behaviour, on a chart
which is ruled into days of the week and hours of the day. When the
target behaviour occurs the code letter is put into the space which
refers to the hour of the day in which it occurred. This system then
gives a tally or frequency count of how often each target behaviour
occurs in each hour or each day, which can be represented graphically.
This gives what is known as a baseline frequency over several days.
The number of target behaviours which can be recorded in this way
depends on the probable frequency of each, and on the mother's capability.
Usually two or three can be recorded. Other details such as duration
of a target behaviour can be recorded at the same time if the parent
making the recording is able. This can be done by writing a suffix to
the code for the target behaviour telling the number of minutes the
behaviour lasted. For example, a tantrum could be recorded as T10 if
it lasted ten minutes. Such a procedure is more complicated in that it
involves knowing when a target behaviour starts and finishes (which
is not always so easy to define) and requires the parent to do some
clock-watching (which may not be easy for a busy mother). Generally,
a frequency count has to be sufficient, and if possible an occasional
note of the length of the target behaviour when this is very important,
for example, with a tantrum or crying. This is in order to verify the
information collected in the retrospective behaviour analysis.

If possible a further type of recording is useful to help with the behavioural
analysis. This is the keeping of a diary in which the parents briefly note
also the antecedents and consequences of as many occurrences of a target
behaviour as possible along with details of the behaviour on this occasion.
For the parents to do this they require more time to devote to recording,

a certain level of understanding of the task, and the necessary skills
of coherent writing (not always present in the poorly educated or immigrant
families).

4) Current Information for the Behaviour Analysis

At the beginning of any interview (being used for collecting background
information) whilst the parents are recording target behaviours, a
discussion of what target behaviours have occurred in the last few
days and what exactly happened will produce extra information which
can be added to the retrospective behavioural analysis. If this differs
from the retrospective information, reasons for this can be discussed,
and the frequency over the recent days can be compared with the estimates
made before recording started (or soon after).

Also because the children were frequently present when the interviews
were carried out, their interactions with the parents could be observed,
and on occasions the target behaviours themselves could be seen.

5:4   Background Information on the Child.

1) The following areas of current information were covered during the
assessment phase as much as possible:

a) The assessment of the presence of behaviours associated with
hyperactivity. This was done by completing a questionnaire designed
by myself, covering all possible associated behaviours as found in a
brief survey of the literature on hyperactivity. The children could
then be scored on the types of hyperactivity associated behaviours
they were presenting - see appendix 1.

b) The mental and social functioning of the child.
Measurements of the child's intellectual and social quotients were

obtained whenever possible. This information was obtained mainly from previous assessments by the P.A.C. during the pilot study.

c) Handicaps of any kind

The presence of any type of handicap is noted, the possible areas usually covered are - vision, hearing, gross motor, fine motor, speech, brain damage, general health. Again much of this information was collected from previous P.A.C. assessments.

d) Likes and dislikes of the child

Possible types of rewards and punishments which could be used with the child are discussed, as are the child's likely reaction to these.

e) Appropriate behaviours

Appropriate behaviours which the child engages in are considered, and those which could be used in a DRO programme (section 4:4) are analysed in more detail using the format detailed previously.

2) Historical data on the child's development was collected, but to differing extents with many of the cases. This falls into several categories:

a) The pregnancy and birth of the child, neo-natal complications, and problems experienced in the first few months of the child's life.

b) Developmental milestones, toilet training and medical problems up to present time.

c) How and when the target behaviours developed, other problems which have occurred, especially since the child became mobile.

5:5   Background Information on the Family.

1) The parents - the following areas were covered with several of the pilot cases.

a) Psychiatric history, medical treatment for depression or anxiety. Evidence of personality traits which may cause interpersonal problems

for example, a high anxiety level.

b) Marital or financial problems, any other important pressures on the family which may affect the child indirectly.

c) Parents attitudes to the general topic of child rearing. Any strong attitudes caused by their own up-bringing.

d) Parents relationship with the child.

e) Parents handling of problems with the child in the past, especially the target behaviours. The sorts of rewards and punishments that they use for any behaviours of the child.

2) The Siblings

a) Problems presented by the siblings, and how these are handled.

b) Parents relationship with the siblings.

Chapter 6.

Formulation of the Problems and the Planning and

Implementation of Treatment Programmes.

6:1   General Formulation of the Problems.

Once the assessment procedures have been completed and a behavioural
analysis of the target behaviours along with relevant background data has
been obtained, then a formulation has to made of why the child-continues
to present problem behaviours. Such a formulation was made for all pilot
cases except those of type P1.

The aim of the formulation is not only to try to explain why the problems
continue, but also to say how they can be managed to produce an improvement
in the child's behaviour. Further, some possible reasons for the development
of ongoing problems might be discussed especially when this may be of
relevance to the planning of treatment.

The formulation is made in terms of the operant conditioning principles
discussed in chapter 4, and the main information needed is about the
antecedents and consequences of (1) any problem or inappropriate behaviours,
and (2) any appropriate behaviours that the child currently engages in.

This will then be used to plan new ways of managing any problem behaviours
(including the target behaviours) with the aim of reducing their frequency,
and ways of teaching the child to spend more of its time engaged in
appropriate behaviours (see sections 6:2, 6:3).

The current background information on the child provides details of
organismic variables and is used to help decide exactly what behaviour
is considered to be appropriate for that child, that is, what can be expected
of that child at his age, with whatever handicaps etc. that he may have.
It may be that the parents' expectations of the child may be unrealistic
(too high or too low) and these may have to be altered somewhat through
discussion before a management programme can be implemented.

The historical data on the child gives some information on the learning
history of the child, and helps predict whether a target behaviour may
be more or less difficult to reduce in frequency. Behaviours which have
been continuing for a long period with a partial schedule of reinforcement
may be the most difficult to extinguish. Also being able to hypothesise
why a target behaviour has developed may help the parents feel less guilty
if they can see that they were given little choice as to how to react in
the past, for example, if a child was ill a lot as a baby, and had to be
given constant attention.

Further information about the parents helps formulation as to whether
they are motivated enough to carry out instructions, or if they will be
able to do so in the light of their own personal problems or attitudes to
child rearing. During the pilot phase any parents who wished to carry out
a programme were so helped whether or not they appeared to have other
serious problems. The aim then was to monitor their use of the programme
to see if other problems, for example, a poor marital relationship, affected
this. But a minimum level of motivation had to be present before even
advice could be given.

Information on the siblings is necessary to decide whether they need to
be included in the programme or if they can help with its implementation.

Formulation of Inappropriate Target Behaviours:

The behavioural analysis gives information as to (1) why a target behaviour occurs, that is, which S^os act as cues for deviant behaviour and (2) what actual consequences occur which may be reinforcing and therefore maintaining the target behaviours - often at a high frequency.

Any management of the target behaviours which will lead to a decrease in frequency must therefore utilise either stimulus change, some type of extinction and/or punishment technique, or D.R.O.

Stimulus change:

Many target behaviours appear to be precipitated by verbal interactions with the child, so a change in these can help reduce the target behaviour frequency. Unrealistic requests made to the child can be stopped, as can requests which the child cannot understand (usually because they are not simple enough verbally).

If a target behaviour is precipitated by a specific place then it may be possible to avoid taking the child to this place for a short time at least, or if the time of day is important then it may be possible to change the child's routine so he is less likely to engage in the target behaviour at the usual time because he is involved in something else.

It is unlikely that such changes will lead to a disappearance of the target behaviour, therefore plans have to be made on how to handle the target behaviour when it does occur.

Extinction and/or Punishment:

In all the pilot cases formulated the main reinforcing consequence for

the target behaviours was attention from the parents (and sometimes from the siblings), combined at times with activity or material rewards. For example, a child is smacked and shouted at, or he may be allowed to stay up instead of going to bed, or he may be given sweets to stop him crying.

The main consequence needing to be removed for all the target behaviours is that of attention from the parents, especially when this attention is emotionally charged and therefore even more rewarding. An extinction procedure may be combined with a response cost and can be used when the target behaviour can be allowed to continue and if a temporary increase in frequency can be tolerated. Otherwise the use of Time-out may be necessary as a consequence for many of the target behaviours. Smacking and scolding/ shouting have to be banned as much as possible, and target behaviours handled in a calm matter-of-fact manner. If this calmness is not likely to be achieved throughout an extinction process then again Time-out would seem to be necessary.

All other types of identified rewards must also be witheld from the child during or as a consequence of target behaviour.

D.R.O.:

Any behaviour which the child engages in which is opposed to the target behaviours, that is, which excludes the possibility of the target behaviour occurring, is to be reinforced with social rewards, that is, attention and praise, combined with other rewards identified for the child. (see 4 :4).

Formulation of Appropriate Behaviours.

Information on the consequences for the appropriate behaviours a child engages in will show whether it is functional for the child to spend

most of his time performing such behaviours or not. In many cases, it appeared that the children get very few rewards for engaging in such appropriate behaviours and often get ignored at such times - whereas their problem behaviours guarantee attention.

The aim of any programme to encourage a child to increase his appropriate behaviour, is to start to guarantee him attention for engaging in such behaviours. This means identifying certain appropriate behaviours and rewarding them each time they occur. The rewards to use are those which that child seems to find most reinforcing. Attention is always given along with any material or activity reward that the child likes - identified during the assessment and any reward which is maintaining a target behaviour is likely to be transferable to an appropriate behaviour.

The appropriate behaviours chosen are usually any which the parents wish to see the child engaged in, and particularly are those which exclude the possibility of a target behaviour occurring. If however the parents are expecting unreasonably good behaviour from the child, then the parents wishes may have to be modified to an extent in the light of the child's capabilities. If the child is lacking any basic skills, for example, for self-help, then these will have to be taught through shaping procedures using the rewards identified for that child.

Again the antecedents for any desired behaviour may be alterable so that the child gets many new opportunities for engaging in such behaviour, and is actively encouraged to do so. A verbal reminder of what is expected of the child may help as may the reminder of the possible consequences - of especial help sometimes at the beginning of a reward system.

6:2   <u>Planning of the Programme.</u>

Once such a specific formulation has been made of the antecedents and consequences of both the target and desirbale behaviours which could possibly be altered, then a management programme can be planned which will incorporate such changes. This programme will provide the parents with instructions on how to react to their child when specific behaviours occur or how to alter the possible antecedents of the behaviours.

The actual details of such a programme must be worked out with the parents in the light of their home circumstances, so the first step in the planning of the programme is a discussion with the parents of the formulation, the principles it is based on, and the possible practical operation of any instructions for managing behaviours.

Discussions with the Parents:

    The first aim is to explain the principles on which the formulation is based and then to explain how the parents are maintaining the problem behaviours by their inappropriate management. Care is taken not to blame the parents for the problems, but to help them understand that with especially difficult children quite often the usual methods of discipline are not always effective. Because these children often find it harder to learn what they can and cannot do, then any inconsistency on the part of the parents may have inadvertently shown the child that he can get away with behaving in dnappropriate ways at least some of the time. Also as many of these children have been difficult temperamentally from a very young age - strong willed, stubborn, easily frustrated, attention-seeking to an extreme extent etc. - the parents have quite often been forced for several reasons to give in to the will

of the child in the past.

The parents need to be convinced that they must now face the will of the child and start to win some of the battles which may occur when they start to try and change their reactions to the child. Many already know what they must do and realise that they have been giving in to the child to get peace, and ignoring him when the peace occurred as they had come to even dislike the child at times. These parents only need the help to put into practice what they have been unable to do before. Parents who do not see their child in this way need more explanation of why the problems are occurring and sometimes persuasion to get them to try out a management programme. If they are motivated - and they usually are because their life has become so difficult - then they will often be willing to try with help and guidance.

Most parents seemed relieved at least, to at last be offered instructions about what to do in specific situations instead of the usual global advice they have been given before (for example, "Be firmer!", "Love him more!").

Throughout any discussion emphasis is made of the positive side of the child and how he must be rewarded for behaving appropriately. Many parents unfortunately expect even quite young children to behave appropriately without any form of external reward. They then question the use of rewards as being bribery. The answer which satisfies most is that it is better to get the child behaving appropriately through the use of rewards which can later be removed when the child has learned to value his own good behaviour, than to continue as at present, with the child caring little as to whether he is clean- tidy - obedient etc.

If the parents agree to use a management programme - or at least management techniques - then next the details of this are decided upon. Each target behaviour is discussed and the way in which the parents must handle it are worked out. If it is possible to change any antecedents to the target behaviours then this too is planned. (The pratical uses of extinction and Time-out will be considered below). Next the appropriate behaviours that are to be rewarded are chosen and the system for rewards is worked out. The rewards which the child values are decided upon and often at this point the child is consulted as to his likes. If possible a more generalised "good behaviour" is also rewarded as well as specific appropriate behaviours, a time lapse without problems is often useful for this. (Practical uses of rewards and star charts will be considered later).

All such details are planned according to the home of the family, for example, where a Time-out can be given, or what financial resources a family has for rewards, such matters can be of great importance and many practical problems can be avoided as much as possible by careful consideration beforehand of what is likely to happen if the parents strongly object to one technique, for example, Time-out, or the use of sweets. Then a programme must be planned which they will agree with - for otherwise they are unlikely to use it systematically and it will therefore be of little use anyway.

Examples of Programmes Planned:

A Managing Inappropriate Target Behaviours:
   Practical use of the principles can be looked at in four sections -
   stimulus change, extinction, Time-out, and response cost.
1) Stimulus change:
The main type of stimulus change used in the pilot cases was the alteration

of the form of requests made to the children. Commands were simplified
and made in a firm tone of voice (expecting complaince and not defiance
as before). They were to be repeated only once, and a warning of the
consequence of not obeying is given with the second request. The warning
is then acted upon with no further requests made.

Other verbal changes were made in response to requests from the children
when a request is made which the parents do not wish to fulfil, then the
child is answered simply and briefly and only on one occasion, the parent
is not to be drawn into long explanations and arguments which may trigger
further problem behaviour.

Changes in situations were sometimes acheived by removing a child from
a certain place initially and slowly reintroducing the situation under
more controlled conditions for example, the supermarket or friend's home.

Changes in timing could be achieved by making new opportunities for a child
to engage in a behaviour or by changing routines for example, in the
morning.

If some target behaviours seemed to be provoked by other children or by
adults saying things to the child (for example, scornful or teasing remarks)
or taking things from him, then such events would be stopped as much as
possible. Again if the events were such that the child should be able to
cope with them, then such events could be reintroduced later while the
child was taught through reinforcement how to cope in a more appropriate
manner.

2) Extinction:

This was mainly used in two ways, to ignore behaviours which were not harmful

in any way, for example, whining, crying, being silly, or showing off, or by witholding more tangible rewards which a child had been obtaining through the use of his target behaviours. For example, many children eventually were given sweets/ice-cream/money after they had engaged in a tantrum, or had been pestering (continually repeating a request), or even at times being defiant. Many parents gave in, in such a manner, to get peace, and had to be warned that at first peace would take quite a while to arrive! It was rare to find parents who had used such tactics on every occasion their child had a tantrum or pestered, but the fact that they all did occasionally seemed to maintain the behaviours (the child being on a partial schedule of reinforcement and therefore very resistant to the behaviour being extinguished). With such extinction techniques, parents had to be warned that the process would not produce immediate results and that for extinction to work they would have to tolerate the behaviour for a while without ever giving in again to the child's demands.

Techniques which helped when the child was being ignored was for the parents to make sure that they did not even look at the child, and engaged in some other activity for example, talking or reading a book. To help with not giving tangible rewards, it was recommended that these should not be readily available to tempt the child, and if they were to be used as rewards the parents must only give them to the child at specific times when the child had earned them and at no other time,

3) Time-out:

When the target behaviour was one which lasted for more than a few seconds, then a command was given to the child to cease engaging in the behaviour, followed by a warning of the possible consequence of Time-out and then if the target behaviour was still continuing a Time-out was to be implemented immediately. The child was sent or taken to the place chosen for Time-out

and the door shut. If the child had to be taken then he was not spoken to and eye contact was to be avoided. If the child was crying or engaging in a temper, just before he was left, the instruction - "you can come back when you're quiet" could be given.

The child was then left until the minimum time chosen was past, or until he had been quiet for a minute or two - whichever came first. The minimum time varied from about three to five minutes. The child was then told that he could come back and nothing else was said, except to comment on him now being quiet if he had been crying. If the child chose not to return then he was left to come in his own time.

The place used for Time-out was usually the child's bedroom, or sometimes the bathroom or hallway. Wherever possible toys were to be removed from the room, so that there was little for the child to occupy himself with. If the child engaged in destructive acts while in Time-out he was sometimes left for another few minutes after this had been discovered and he was never allowed back from Time-out until he had stopped engaging in such acts and they were completely ignored. Usually the latter was sufficient and most children only cried or shouted in Time-out, or maybe kicked the door.

With some children - especially older ones - it was necessary to put a catch on the door to stop them trying to come out of the Time-out when they chose. The need for this when the parents knew the child would not stay was explained, and if the parents did not wish to do this then an alternative to Time-out would be needed. Repeatedly taking a child back into Time-out would probably give him enough attention to make the whole procedure ineffective.

Other practical precautions which could be taken were for example to make sure that 1) the window in the room was locked (some children knew how to escape this way and were likely to try, and maybe injure themselves by falling) or 2) any hard objects were removed if the child was likely to throw things.

Once the child had returned to the rest of the family, the Time-out was not to be mentioned, and if the child started to behave appropriately then he was to be rewarded for this. If he instead started to behave inappropriately and repeated the target behaviour then the procedure for Time-out was to be repeated.

Sometimes if the child seemed to be taking advantage of the warning, that is engaging in the target behaviours many times but stopping when warned of Time-out, then the warning would not be given and the Time-out used as soon as the target behaviour started. This procedure was also used for target behaviours such as hitting which were of very short duration and were finished before a warning could be given. The child would then be quickly put into Time-out, the parent saying nothing or simply; "No, you must not ....".

4) Response Cost:

The only other type of consequence used for a target behaviour was response cost, when the child was fined for engaging in an inappropriate behaviour. Again a warning was given after a command for the behaviour to stop, and if the target behaviour continued then the fine would be taken. This could be done by starting with the child having a number of tokens and removing one for each occurrence of the target behaviour, or else tokens earned first on a reward system could be removed. Sometimes a Time-out would be given for the target behaviour and the child told that this meant he would

also loose a token. If a Time-out was not to be used then any continuation of the target behaviour was to be ignored. Only behaviours which were suitable for extinction could therefore be handled in this way, though the use of the response cost could aid the use of an extinction procedure as long as it was not necessary to ignore the child absolutely - the instituting of a response cost necessitating the giving of some attention to the child so he would know that he had been fined.

B Managing Appropriate Behaviours:

   This falls into two main categories, straightforward and the use of a token system.

1) Positive Reinforcement:

Basically any reward which had been identified for the child could be used when he was engaging in an appropriate behaviour. Most importantly much attention was given, if possible some time being given exclusively to the child - if only for a few seconds. Physical contact if pleasureable to the child was given, and the child praised in specific terms as much as possible, for example, "You are a good boy for doing ...... for your mother" (labelling what the child has done correctly can help him learn what is expected of him).

The use of material or activity rewards was decided according to the likes of the child and the practical constraints in the situation. With younger children, for example, two years old or early three years, then an immediate food reward was often useful (for example, a sweet, a piece of fruit or some nuts). For older children however, the use of tokens probably provided a more efficient rewarding system less likely to suffer from satiation effects. Activity rewards were useable without a token system at times, especially for particular target behaviours which only needed

to occur once a day, for example, getting ready for bed. Such a behaviour could then be followed by a set time in which the child could play a favourite game with his mother or listen to a story etc. Likewise some material rewards could be given at such a time, for example if the child dressed himself within ten minutes in the morning he was given a wrapped biscuit to take to school.

Any such use of rewards was made immediately the appropriate behaviour started so exactly what was to be considered appropriate behaviour was first defined, so that the parents knew when they were to reward the child. A useful procedure was to use a timer, set at slowly increasing periods of time, and the child was rewarded when the buzzer went if there had been no incidents of inappropriate behaviours. Likewise this could be done on a less formal basis when the child was rewarded several times a day for having behaved well over the last half-hour or the morning etc.

The types of behaviour usually chosen for rewarding were self-help skills (for example, dressing, and washing), helping parents (for example, tidying-up), playing well without causing trouble, either by themselves or with others, or any behaviours which kept the child from engaging in the target behaviours, for example complying with any requests, or being patient, that is, not having a temper when refused something or told to wait.

Shaping procedures were often used by expecting a little more of the child every few days before the rewards were given: For example, the child has to dress himself quicker, or do more of the dressing himself, or he has to play for longer periods without causing trouble. Always the reward was given for what the child could achieve now - maybe only two minutes of trouble-free playing at first - and this was slowly improved upon.

2) Token Systems:

For children of three and over, tokens (usually gummed stars or shapes)
could be used as rewards, and were given along with much social attention
and praise whenever the defined appropriate behaviour had occurred. For
younger children the tokens were immediately paired with a reward and the
number needed for a reward slowly increased, with older children (five
years on) the value of the tokens were simply explained and then the tokens
were traded in later. An agreement was reached with the child as to what
he could buy with his tokens and there was often a choice of things available,
and it was explained to the child what he had to do to earn the tokens,
and again there were usually several ways of earning them. A chart was then
put onto a wall or door onto which the child could stick his stars or shapes
when they had been earned so that all the family could see what was
happening. Every member of the family was asked to encourage the child to
earn his stars and to praise him when he achieved one.

The types of behaviour rewarded are the same as mentioned in the previous
section - either specific appropriate actions or a time period without
any problems.

The use of tokens seemed to help the parents in particular remember to
reward the child for each occurrence of an appropriate behaviour, and this
was important as during the first stage of a programme these appropriate
behaviours were to be on a continuous schedule of reinforcement as much
as possible.

6:3   Implementation of the Programmes.

Once the parents have agreed to the idea of a management programme based
on operant conditioning principles and the details of the programme have

been planned, the next stage is to implement the programme.

This can be done either with or without the presence of the therapist. Quite often the reward programmes were started with the therapist present as soon as the rewards and behaviours which earned the tokens had been decided upon - for this would on most occasions involve the presence of the child. The therapist can then demonstrate how to praise the child and give the tokens, or can back up the parents' use of the tokens by additionally praising the child. At first situations can be set up for the child to see how a star chart works and he will be asked to do something simple so that a token can be given and what this means explained.

Starting a programme for the target behaviours may not be possible with the therapist present as some children will not engage in the target behaviours while people they do not know well are present. However, if possible, it is best to arrange to be with the parents when they are likely to have to use the ignoring or the first Time-out, especially if the child is likely to cry for a long time or attempt to escape from Time-out. Some moral support and the assurance that the child will stop crying can be of great help to mothers starting to use Time-out.

Other parents are quite happy to start to use the programme without any help, but arrangements to see them very soon after its start need to be made (within a day or two).

Monitoring the Early Stages:
The parents should be asked to continue recording the occurrence of the target behaviours which they recorded during the baseline, and if a Time-out is given to indicate this also on their chart. This gives a daily

record of the number of target behaviours, and this can be monitored

to see if any change occurs in the frequency of the target behaviours in

relation to the baseline.

If a token system is being used then this gives a continual record of the

times a child was rewarded in this manner, though it would be impossible

to keep a record of each occurrence of praise. Sometimes the giving of

sweets or other material or activity rewards can be noted on the parents'

charts (along with the target behaviour) so that it can be seen whether

the behaviours which are so rewarded start to occur more frequently.

It is mainly however the number of target behaviours which is used to decide

whether the programme is having the desired effect or not. If the number

of target behaviours starts to decrease, or if there is an initial increase

followed by a decrease then it is likely that the programme is having the

desired effect. Care must be taken to watch for the increase of other

undesirable behaviours at this time as this may indicate that the child

is not receiving enough reinforcement for its appropriate behaviours and

may be seeking reinforcement by starting new problem behaviours. This does

not appear to happen if great importance is placed on the reward side of

the programme, and if the parents start to interact much more positively

with the child.

If the frequency of the target behaviours does not drop, then the programme

must be looked at closely to see why it is not succeeding. The way that

an extinction procedure is being carried out may mean it is not being

effective, and it may be necessary to change to a Time-out programme if

the parents find they cannot ignore a target behaviour after all. A lack

of change may also point to a lack of sufficient attention and reinforcement

being given to the child, and an increase in this, partioularly for the behaviours which oppose the target behaviours, will be necessary.

Problems with the use of Time-out also may cause it to be ineffective, and the parents' use of the Time-out must be closely discussed and watched if possible. The Time-out must be given immediately the target behaviour starts and with a minimal amount of attention, and the child must not be talked to once he is in Time-out. These are things which many parents find difficult to do; and with which they may need some coaching.

If the use of the programme is correct but the target behaviours are still not decreasing, then the programme itself must be looked at for faults and any necessary alterations made. New rewards may have to be included which will suit a particular child better, or a response cost may need to be added onto the use of Time-out. Monitoring of the programme throughout its use by the parents means that such alterations can be made without too long a delay. During the first month of a programme visits will be made to the family probably twice a week, or even more in the first few days. If the programme appears to work fairly smoothly weekly visits may be all that is needed after the first week or so.

Monitoring the later stages:

Once the programme has been finally settled upon and has started to have the desired effect, then visits to the family are made weekly and may be brief if there are no problems. Discussions of happenings over the past few days are held, and the parents are given the support necessary for their continual use of the programme. Records of the target behaviours are collected and translated into graphical data which can be shown and explained to the parents. This way, they can see how the frequency of the

target behaviours are changing which they find very rewarding.

The therapists' main role at this time is, therefore, to act as a reinforcing agent for the parents and to encourage them to continue with the programme. If problems are encountered with the use of the programme, then the reasons can be sought and any changes made fairly quickly. At times, the parents may tend to let up on their use of the programme when the child has improved considerably and this may cause the target behaviours to start increasing in frequency again. The use of Time-outs etc. must therefore be kept to the correct instructions, and also be kept on a continual schedule, that is, the Time-out is given every time a target behaviour occurs. Equally the importance of keeping the rewards occurring predictably and frequently needs to be emphasised at times.

Fortunately as the child's behaviour starts to improve and the number of target behaviours decreases, the general relationship between the child and his parents usually starts to improve and this gives a boost to the use of the programme which can often then start to be less formal. As the child starts to be able to interact more in an enjoyable way with his parents, so the need to seek attention in inapproriate ways decreases, also as the parents start to enjoy their child more, the need for token and other reward systems becomes less necessary, as they start to naturally give their time and attention to the child.

Visits are made to the family every one or two weeks on average over this period of the programme.

6:4   <u>Fading out Programmes and the use of Follow-ups.</u>

The fading out of a programme for handling inappropriate target behaviours
follows more easily than that for appropriate behaviours. This is because
if the programme is effective, the target behaviour will be decreasing
in frequency and therefore the programme for managing the behaviour will
be needed gradually less often: When the frequency of the target behaviour
has reached the desired goal, then recording of the programme's use is
stopped, but the parents are asked to continue handling the behaviour in
that way whenever it reoccurs in the future.

Programmes for rewarding appropriate behaviours need to be faded out by
the parents slowly replacing any tangible or activity rewards with social
ones alone, increasing gradually the occasions on which only praise is
given. Stars can be faded by making them harder to earn, and by increasing
the cost of the back-up reinforcers. By this system a star-chart can be
altered to a pocket money system if the programme is to continue on an
ad hoc basis.

With many children once they are behaving more appropriately, they begin
to enjoy many rewards for this other than those in the programme, they
then do not seem to miss the stars and/or other rewards when they are
withdrawn. With many children it is possible to negotiate with them to
stop the stars, they often feel ready for this, especially if impressed
with the feeling that they are "a big boy (or girl) now". The main problem
is to ensure that the parents do not stop giving the social praise and
encouragement when the stars are withdrawn, and this has to be emphasised
to them.

Visits to the home are now made after increasingly longer periods of time.

During the programme, usually two weeks is the longest time without a
visit, during the fading out, three or four weeks may pass on one or two
occasions, after this most families are not seen for three months, and
then not for several months after that. The families are always asked to
contact us at anytime should they wish to discuss anything or if they would
like us to make a visit.

If the child's problems have re-appeared during the time between such
follow-up visits then the programme may be re-implemented - usually known
as a booster programme. This seems to be necessary usually if the parents
have slipped back into treating the child as they did before the initial
programme, that is, operating the old contingencies of giving attention
and rewards for inappropriate behaviour and often ignoring appropriate
behaviour.

6:5   The use of advice on Management.

After the formulation of a child's problems has been made, it may be
decided that the problems are not severe enough to warrant a full management
programme, or the parents may decide that they do not wish to use such a
programme.

In either case, advice can be given on ways of handling specific instances
and the use of ignoring, Time-out and rewards can be explained to the parents
in both general principle and practical use.

Visits can then be made to the family for a short period to discuss specific
instances and for general support, and then some follow-up visits can be
offered.

Chapter 7.

Methodology and Evaluation of Results.

7:1   Methodology.

The procedure detailed in the last chapter evolved during the use of the
first few management programmes, and progressed as it did because of the
need to effectively produce change in a child's behaviour in a relatively
short time, rather than following any pre-determined experimental design.
The aim was first to try and find what could be done to help these children
and their families and then to try to evaluate the therapeutic procedure
which emerged within the constraints of the working situation. (see chapter
11).

That is not to say that basic experimental design was not held in mind
when the use of the management programmes was started, but that when a
decision had to be made as to whether to demonstrate behavioural control
(as a pure research experimental design would) or to try to help the family
as quickly and simply as possible, then the latter was always chosen. For
this reason the simple design of recording the frequency of a target
behaviour in the baseline and later during the programme was adhered to,
using only within-subject design, and not using reversal of contingencies.

Before looking in more detail at the reasons why this simple design was
kept to it is first necessary to look at some of the possible alternatives
to understand why they were rejected.

Within-subject design:

1) The first design advocated for demonstrating control over a behaviour (that is, that a behaviour can be altered by an experimental operation) is frequently referred to as the ABAB design - where A refers to baseline conditions and B to the experimental condition, this is also therefore known as the reversal design.

This design calls for reinstatement of the baseline conditions after a change has occurred in the frequency of behaviour being affected by the experimental conditions. If the behaviour then returns to its baseline frequency there is reasonable justification for the inference that the experimental conditions in fact were the cause of the change in frequency which initially occurred. A further change on the second implementation of the experimental conditions adds weight to this inference.

This design has the advantage over the simple A-B design used in the present study in that it shows more clearly that it is the experimental conditions themselves that produced any changes in the behaviour's frequency rather than any other possible happening in the environment at that time.

Inherent Problems of the ABAB design:

The effects of an experimental condition may not always be reversible, especially when this has involved teaching the subject a skill of some kind. Many skills once learned are not easily forgotten even without external reinforcement and are therefore irreversible. With other more social behaviours it may be impossible to produce a return to baseline frequencies of behaviour, because it is no longer possible to return to baseline conditions. This is most likely to occur in any work done in natural settings where control of all conditions possibly affecting the

subject becomes impossible. Once the initial changes in the subject's
behaviour have occurred this may lead to uncontrollable changes in
relationships between the subject and his environment, and as these are
often positive and desirable (for example, a mother will begin to enjoy
playing with her child and will find time to do this more), to try to
reverse these changes could be as unethical as difficult - nor would
many parents be willing to co-operate.

Further, if some kind of internal reinforcement is now having a controlling
effect on the subject's behaviour (for example, self praise), then even
a total reversal of external environmental conditons would not be expected
to produce a return to the baseline frequency of behaviour.
2) An alternative design is that of t e multiple-baseline across behaviours.
This involves establishing a baseline frequency for two or more behaviours,
and then implementing experimental condtions for only one of the behaviours
whilst keeping baseline conditions for the other(s). The behaviour exposed
to the experimental condition should then change while the other(s) remain
at baseline level. A second behaviour can then be brought into the
contingency to see the effect on this behaviour's frequency level. If each
behaviour only changes as it is brought into the experimental contingency
then it is a powerful demonstration that the experimental condition exerts
control over the behaviours.

Inherent Problems with the Multiple Baseline Design
In order to only effect one behaviour at once, the behaviours must first
not be inter-dependent or highly inter-related with one another. If such
an inter-relation exists then altering the frequency of one behaviour will
lead to the alteration of the second without any implementation of the
experimental conditions to this second behaviour.

Another problem, again more important in natural settings as opposed to laboratory conditions, is the holding of baseline conditions for one behaviour whilst implementing experimental conditions for another. This calls for quite a high level of skill on the part of the therapist/ experimenter particularly if the two conditions are conflicting and the behaviours similar.

Control subject Designs:

An alternative to having to manipulate baseline and experimental conditions for each subject is to have a control subject for whom a baseline level is established but to whom the experimental conditions are not applied, to see if any change occurs in the baseline level of behaviour due to other factors apart from the experimental conditions. If all environmental events are kept the same for both subjects except the use of the experimental conditions, then any differences in the behaviour of the two subjects which then occur, can be put down to the effects of the experimental conditions, for example, an increase in the frequency of a behaviour in the experimental subject, not occurring in the control then would appear to be due to the experimental conditions.

Inherent Problems with Control Subject Designs:

For a control subject design to be valid, then the subjects in the control and experimental groups must be closely matched so that a comparison between the two groups can be made. Both subjects must be emitting the same behaviour (posing problems of equating problems in different subjects), at a similar frequency and be of broadly similar general characteristics, for example, age, sex, handicaps etc. One of the main uses of a control subject is to compare the use of the experimental conditions with the passage of time during which the child is maturing so a large disparity

in age or other factors between the subject and his control may cancel
out this important comparison, (the passage of three months in a two
year old probably producing far more maturation effects than in an eight
year old, or in a bright child compared to a mentally retarded one).

An alternative to matching is to use random allocation to a control or
experimental group however, this requires a larger number of subjects.

A further problem with using control subjects is the ethical question
that only half of the subjects can be put into therapy, at least initially
and the control groups must wait.

Reasons for Rejecting these Designs:
All the inherent problems already mentioned are exacerbated by the situation
in which the present study was carried out, that is, the family home with
the parents acting as therapists. There were no facilities for training
parents to a high standard of discriminative behaviour (which would have
required videos, one-way mirrors, many practice sessions etc.), and all
the parents had to cope with the use of a management programme while
keeping the rest of their lives running fairly normally for the sake of
the rest of the family. Time therefore was limited and effects wanted within
a fairly short period.

Without expertise in discrimination the use of multiple-baseline seemed
in most cases to be unlikely, but more importantly it was felt that many
of the behaviours would be inter-related in that they seemed to have a
common source - attention seeking from the parents often within the frame-
work of a now poor parent-child relationship. Any change in a particular
behaviour due to the use of a management programme was therefore likely

to affect this basic factor and therefore influence the appearance of other behaviours. For example, if a child's defiance was successfully decreased by the use of Time-out and rewarding complaince, then the basic relationship between that child and his parents was usually found to be improved, making the appearance of other attention-seeking behaviours less likely as the child learned to get attention in more socially acceptable ways.

For this same reason the reversal design did not seem feasible, for if such an improvement in the general relationships in a child's life improved due to the management programme, it would not be only very difficult to re-establish baseline conditions, it also would be unethical. Also it seemed very unlikely that any parent once having obtained an improvement in his/her child's behaviours would willingly start to behave in the necessary way to bring the old problems back. This is not to say that this did not eventually happen in some cases, particularly where using the management programme was hard work (for example, with a child who objected to Time-out), but in all cases, the main aim was to establish the management programme as a means of disciplining and rewarding a child which would maintain after an involvement with the family. Trying to obtain reversal experiments would not have helped this aim at all and when reversal did occur, usually by the parents slipping back into their old ways, the new contingencies were always re-established as soon as possible.

Control groups were not used mainly because of the number of referrals of the type of child required was not large enough to provide sufficient cases for two groups, and also because, luckily, time was never so short that all cases referred could not be dealt with staight away and as fully as necessary.

It was also decided that although we had to keep to the simple A-B design, that is baseline followed by programme, that there was enough evidence within this design - particularly when repeated several times, to allow us to evaluate the work, This conclusion can be backed up by looking at the discussion of this design - known as a Time-series experiment, by Campbell,D.T. and Stanley, J.C., 1963 in their book "Experimental and Quasi-experimental Designs for Research".

They define a time-series design as the "presence of a periodic measurement process on some group or individual and the introduction of an experimental change into this time series of measurements, the results of which are indicated by a discontinuity in the measurement recorded in the time series". Because the parents implementing our management programmes kept a continuous record of target behaviours before and after implementation of the programme, this provides the data necessary to evaluate a time-series experiment.

Any experimental design can be assessed for its usefulness by the sources of internal and external invalidity which it allows to contaminate the experimental results. Of the eight sources of internal invalidity a time-series experiment only fails to control for history, and so a rival hypothesis is that it was not the experimental condition (that is, the programme) but a more or less simultaneous event that produced the change in the measurement recorded in the time-series. When a time-series experiment is used therefore the ruling out of any such extraneous factors for change is important, or at least these must be documented, If there is any periodical shift in the time-series related to external events then any observational series must be arranged to hold known cycles constant or else be long enough to include several such cycles in their entirity. The other sources of internal invalidity do not affect the time-series experiment (they are - maturation, testing, instrumentation, regression,

selection, mortality and interaction of selection and mortality).

Regarding external validity 1) the experimental effect might be specific to the population subject to the testing, that is, there might be an interaction of the testing (or in our experiments, observations) with the effects of the experimental conditions. (Testing invalidity coming from the effect of taking a test upon the scores of a second testing).

Secondly there may be an interaction of selection and the experimental conditions which refers to the limitation of the effects of the experimental variable to that specific sample and to the possibility that this reaction would not be typical of some more general population for which the naturally aggregated exposure-group was a biased sample.

Campbell and Stanley make several other suggestions to aid the use of a time-series experiment 1) that the time relationship between the introduction of the experimental variable (that is our management programme) and the manifestation of an effect should be specified in advance 2) that the experimental variable should be specified in advance before examining the outcome of the time-series and 3) a single experiment is never conclusive and the time series experiment should be repeated many times before a principle can be established.

It would therefore seem that the time-series experiment can be very useful, especially if used while bearing in mind 1) particularly other events occurring concomitantly with the therapeutic intervention, and the fact that 2) the results may only apply to the specified type of subject used and 3) that there may be an interaction between the effects

of our observations with the effects of the actual management programme.

7:2   Evaluation.

To be able to say that an intervention has had the desired effect within
a time-series experiment, then a discontinuity of measurement must be
demonstrated. How to fully demonstrate this is a complex issue which is
dealt with in more detail in chapter 11, but during the pilot phase of
this study the simplest technique was used - visual analysis of the
graphed frequency data from the baseline and programme.

The main changes being looked for were decreases or increases in the
frequency of behaviour which started after the implementation of the
programme. For this reason, baselines were kept for two weeks in most cases,
with the aim of getting a fairly stable frequency count, that is, not
increasing or decreasing.

The importance of keeping the records was always impressed on the parents,
and their use explained, and demonstrated as the graphs were drawn. Most
parents appeared to like to see these graphs and were pleased to see the
wanted decreases in target behaviour frequencies. (The graphs therefore
became useful reinforcements for the parents).

All conclusions made from the graphed data were always tempered by the
parents verbal statements of how their child had changed (or not as the
case may be) and in many cases by our own observations of parent-child
interactions. For this reason some of the graphical data appears to show
greater improvements than were felt to occur, or more importantly, may
fail to show the extent of any improvement. It was always felt that the
parents' statements about the child were as important as the data,

particularly where there were many changes in unrecorded behaviours.
This is due to the limitation of using parent recording, as only one or
two target behaviours can be followed, and these may or may not give an
overall picture of any changes in the child - especially as all the recording
was done on anti-social unwanted behaviours and no systematic records
were kept of the increase in appropriate behaviours. As explained earlier
(chapter 5) this was done to simplify the recording task for the parents
as it was felt that asking them to do too much would then result in poorer
quality recording or maybe with them opting out of this completely.

The quality of the case histories and graphical data in the pilot study
varies considerably. This was due to the fact that initially little was
known about how to conduct the assessment or implement a management
programme. However, each of the main cases will be looked at in turn,
for it was from these that decisions on how to standardise the assessment
and programme use were made. The greater awareness of the need for better
recording and data grew during the pilot study and several of the cases
are lacking on this point.

The nine case histories which will be evaluated are those which fall into
the category "Pilot Intervention Type 5" (see chapter 5). The rest of the
pilot cases which fell into intervention types 2,3 and 4 will then be
considered briefly as to their outcome (No information is available about
intervention type 1 as no follow-ups were made).

Andrew aged four years, five months on referral for hyperactivity and behaviour problems at home.

Background:

A child with delayed speech development, and I.Q.=74, had been difficult since birth, cried a lot as a baby and seemed discontented. Slight complications of the pregnancy and birth. Hyperactivity score =82 - high. One elder brother of nine years, no problems. Parents - mother 31 years, a housewife (but a trained teacher) and father 30, a teacher. Marriage presented as good, similar views on child rearing, but father stricter, mother suffered from nerves and some depression in recent years. On librium briefly two years previously. Finds little enjoyment in Andrew.

Behavioural Assessment:

Target behaviours were aggressive tempers and disruptive meal-time behaviour. A baseline was kept of degree of aggressiveness during each one hour period (scored 0 to 4). No specific recording of meal-times was made.

Main antecedents to aggressive tempers were requests made at meal-times to Andrew and the main consequences were large amounts of attention and Andrew getting his own way.

Formulation:

Andrew's poor behaviour was being maintained by attention from his mother, especially as there was a poor relationship and his mother found Andrew unenjoyable.

Programme:

To use Time-out to decrease attention given in the meal-time disruptions balanced by a treat at the end of a trouble-free meal (an apple.).

Time-out was given in the bathroom, with little problem (Also given occasionally at other times of day.)

Results:

Average aggressiveness score for meal-times appeared to be three from the baseline, after implementation of the programme, the score varied mainly from 0 to 2 (fig. 7:2). There was also an overall decrease in problematic behaviour between baseline and two follow-ups (two months and four months after the programme), as shown on figure 7:1. The slight increase at the second follow-up appeared to be due to his mother starting several new interests and rewarding Andrew was emphasised and Time-out re-instituted for tempers for a short period.

Parents' reports:

Change for the good in Andrew. Improvement of mother/child relationship.
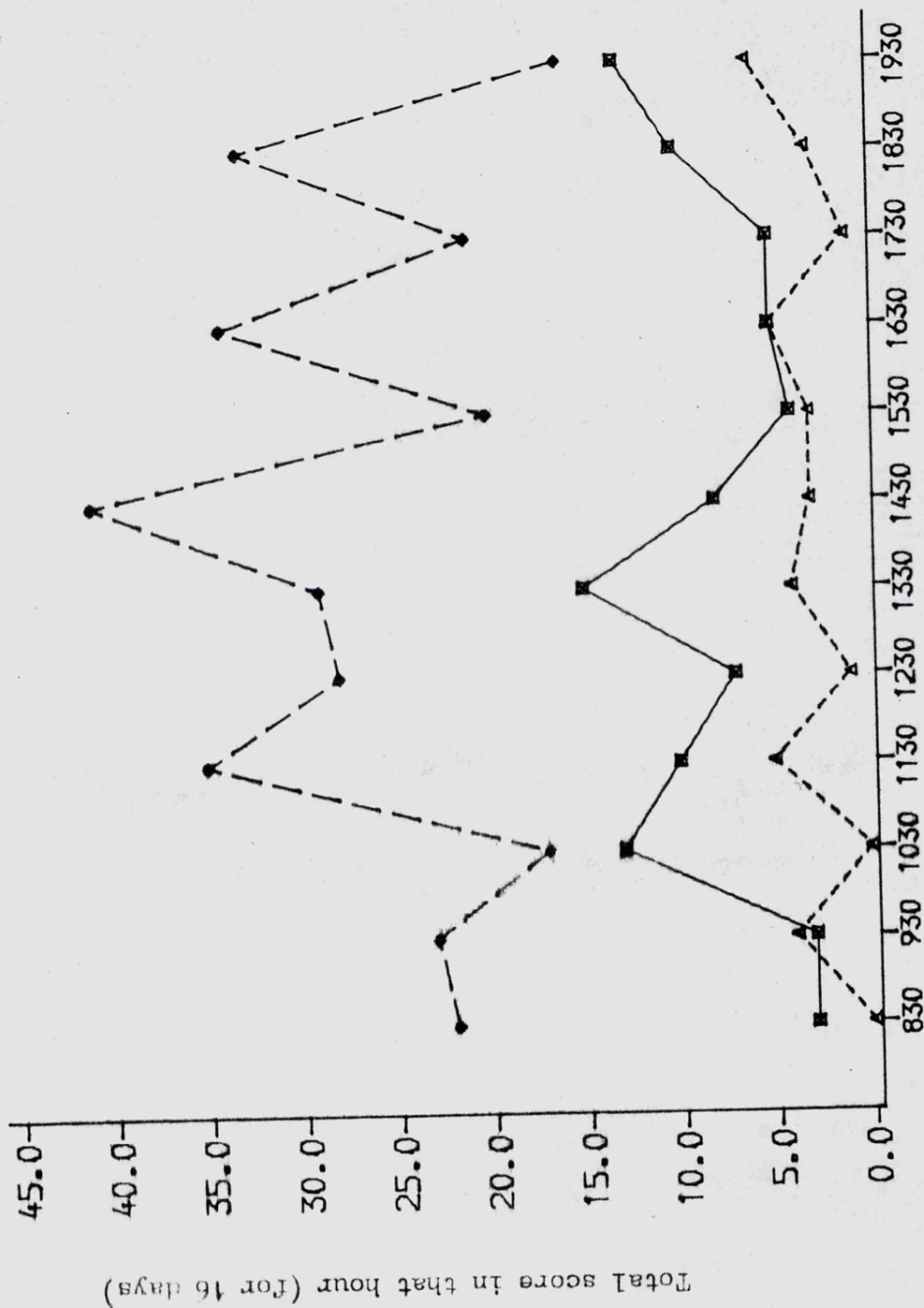
Fig. 7:1. Andrew P5-1   Aggressiveness scores during

Total score in that hour (for 16 days)

Baseline ◇ — ◇
two-month follow-up △- - -△
four-month follow-up □——□
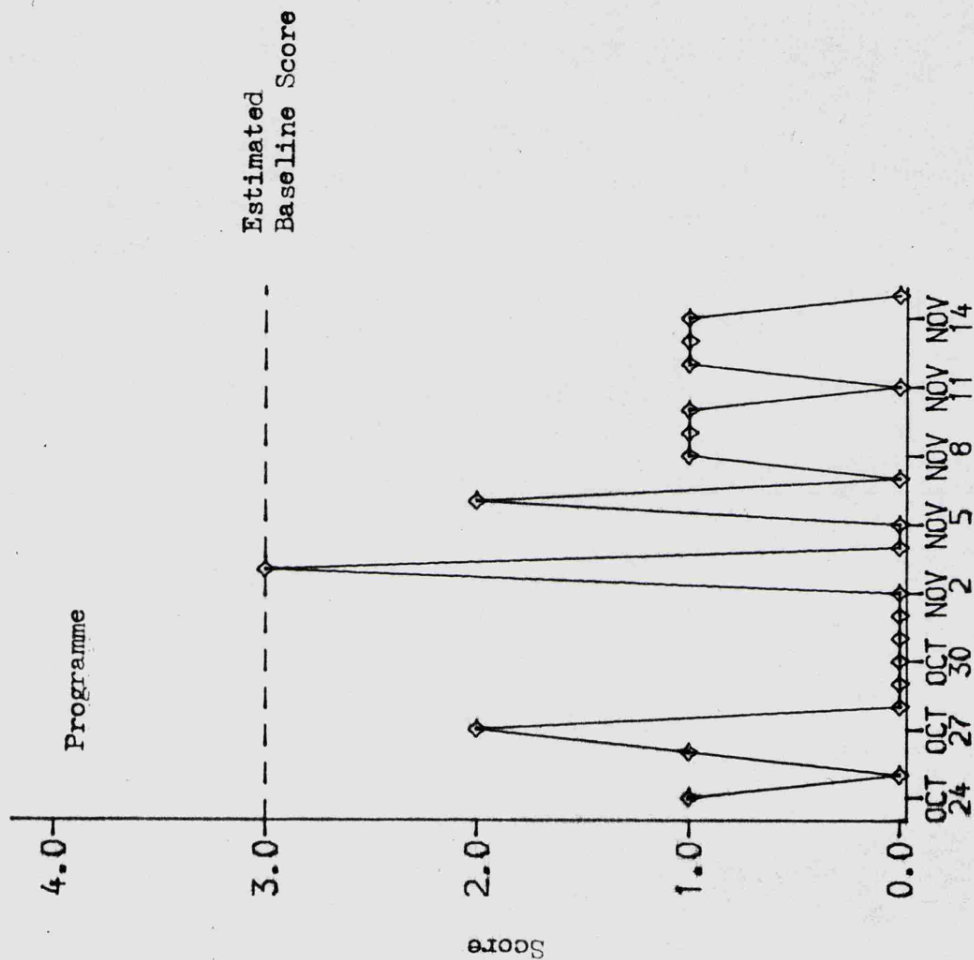
Fig. 7:2 Andrew P5-1 Programme ◇ Aggressiveness score at meal-times.

Case P5-2

Sarah aged 6 years, 11 months on referral for hyperactivity and behaviour problems at home.

Background:

A child with speech delay and poor co-ordination, diagnosed minimal cerebral palsy, I.Q. = 71. Adopted and no details of birth. Slow development, difficult behaviour to control. Hyperactivity assessment - score 82 - high. Brother of nine, no problems, sister of five, no problems. Parents - mother 32 years, a hosiery worker, father 38, hosiery worker. Marriage appeared problematical - apparently due to problems with Sarah. Mother has suffered with nerves, her relationship with Sarah is very poor.

Behavioural Assessment:

Target behaviours were non-compliance and temper tantrums. Baseline on non-complaince was kept for one week. Main antecedents for both non-compliance and tantrums were requests from her parents. Main consequences were large amounts of attention/getting her own way.

Formulation:

Sarah's non-compliance and temper tantrums were being maintained by attention, especially as little attention was given to her at other times.

First Programme:

Time-out for non-compliance and tantrums balanced by praise for compliance and any good behaviour. Record of Time-out was kept for four weeks.

Results:

Some improvement in Sarah's behaviour though the baseline may not have been comparable as targets were not closely defined-see Fig 7:3.

Second Programme:

Several weeks later Sarah's behaviour showed no further improvement according to her parents, so a star chart was started to try to give Sarah more

reinforcement and correct use of Time-out was emphasised. However, the parents discontinued this when Sarah was put on Ritalin (after three weeks).

Results:

Contact was kept with the family to monitor the effects of Ritalin, and to keep the management programme in operation as much as possible. Sarah became much calmer with the Ritalin, and her parents were pleased with her progress.

Parents' report:

Six months after referral Sarah was felt to have improved and to be easier. to control.
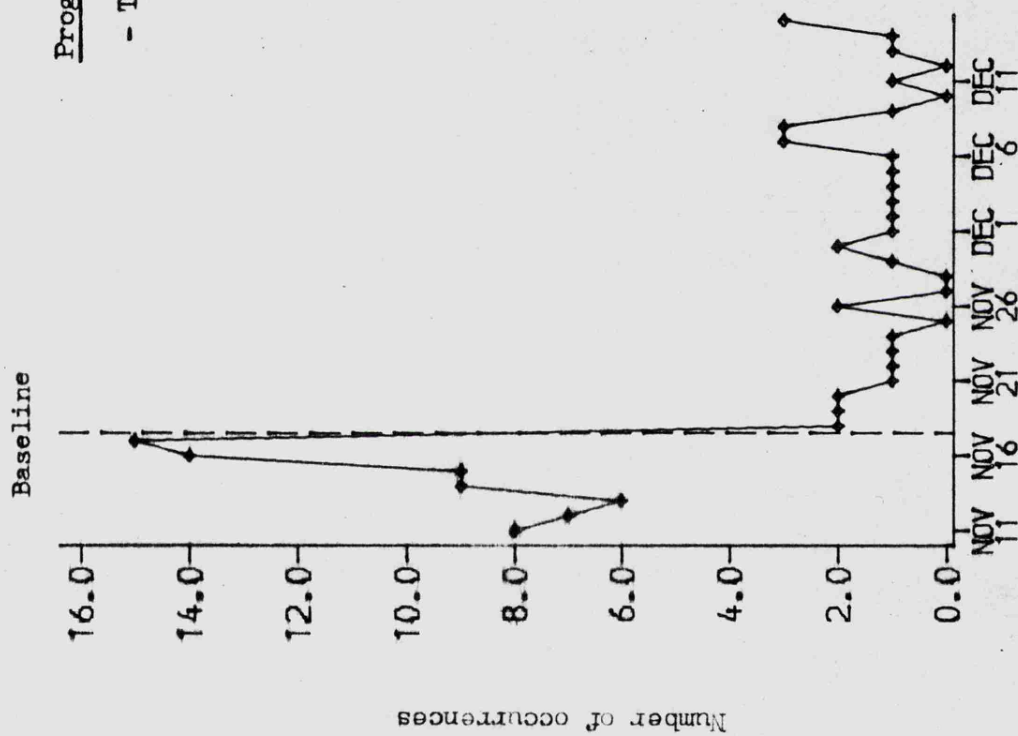
Fig. 7:3 Sarah P5-2 Baseline and Programme

<u>Case P5-3</u>

Jane aged seven years, ten months on referral for hyperactivity and behaviour problems at home.

Background:

A child with mild left hemiparesis and epilepsy. Below average intelligence. Slow development after respiration problems at birth. Hyperactivity assessment score = 91 - high. No siblings. Parents - mother, 32 years, part-time cleaner, father, 36 years, driver. Marriage - problems over Jane. Life better since re-housed recently. Mother has needed sleeping tablets, and suffered from depression four years ago. Her relationship with Jane is poor, only occasionally getting on well with her and dreading her at times.

Behavioural Assessment:

Target behaviours - non-compliance, and attention-seeking (following mother, pestering). A baseline was kept of whether Jane was engaging in these target behaviours or not in each fifteen minutes that she was with her mother. Main antecedents for the non-compliance were requests from her mother, and the main consequences for both behaviours were a large amount of attention and Jane getting her own way much of the time.

Formulation:

Jane's poor behaviour was being maintained by attention, while much of her good behaviour was being ignored.

First Programme:

A response cost was instituted and Jane lost 1p for each episode of non-compliance or attention-seeking. This was done by removing marbles from a jar. At the end of the week she was given 1p for every marble left in the jar. (Starting with 35). She was to be praised and played with when she was good.

Results:

Some improvement initially but this started to decrease and there was no further improvement. Records not interpretable.

Second Programme:

The number of initial marbles was increased and Jane could earn marbles by doing specific things for her mother.

Results:

Programme never instituted and contact broken briefly when father gave Jane money. Contact kept for five more months on advice basis.

Parents' report:

At the end of this time, the parents reported improvement in Jane's behaviour and wished for no further help.

N.B.   No chart as records too complex to interpret graphically.

Case P5-4

Craig aged four years, six months on referral for behaviour problems with
mother.

Background:

A child with normal development except slightly delayed speech. Also reduced
vision in left eye and some hearing impairment, both not discovered until
over three years. I.Q. = 113. Hyper-activity assessment score = 37 - low.
Birth no problems, suffered three months colic, but an easy baby otherwise.
One elder brother of seven years, no problems except nocturnal enuresis
and younger brother of six months. Parents - mother of 28 years, housewife,
separated from Craig's natural father, cohabiting with boyfriend who acts
as a substitute father - 24 years old, engineer. Cohabitation is stable.
Mother has no psychiatric problems but under stress when left husband when
Craig was two. Her relationship with Craig is close.

Behavioural Analysis:

The main target behaviour was Craig talking to his mother's hand instead
of to her. This was recorded for nine days.

No specific antecedent was indentifiable and the consequence varied from
ignoring Craig, through to telling him off.

Formulation:

Craig's mother's response to the talking to hands has been inconsistent
and she is probably maintaining it with unpredictable attention.

Programme:

Mother had to instruct Craig once to talk to her and not her hand whenever
the behaviour occurred, and was then to walk away from Craig if he continued.

Results:

The talking to hands disappeared completely after two weeks (there were

five instances in the baseline period), and did not reappear. Contact was

maintained for two months to give advice on other aspects of Craig's

development. Programme records lost.

Parents' report:

The main target behaviour was removed completely and his mother was pleased

with this and advice on handling other behaviours.

N.B.   No graph given as data missing.

Wayne, aged four years, eight months on referral for hyperactivity and behaviour problems at home.

Background:

A child with mild right hemiparesis and a strabismus. Serious difficulties during the birth - a Caesarian at 26 weeks, in an incubator for three months; problems with sleeping and feeding as a baby. Difficult behaviours present continually. Hyperactivity assessment score = 90 - very high. I.Q. = 84. Elder sisters of thirteen and six years, no problems. Parents - Mother, 39, part-time cleaner; Father, 38, charge hand. Marriage - unstable, husband unsupportive to wife and has suffered from psychiatric problems. Mother on valium after Wayne's birth, but nothing since. She left her husband briefly when Wayne was about two years. Her relationship with Wayne is close but fraught.

Behavioural Assessment:

The main target behaviour was temper tantrums, a baseline was kept for 17 days. Main antecedents - when requests were made of Wayne or he could not have what he wanted. Main consequence - Wayne was given much attention and often what he wanted, especially from his father.

Formulation:

Wayne's temper tantrums were being maintained by attention and Wayne's successful manipulation of his parents.

Programme:

Initially a star chart alone was used to reward Wayne for any appropriate behaviour and the tantrums were to be ignored as much as possible. The stars were changed to marbles, and then after six weeks, Time-out for the temper tantrums was added.

Results:

There was some improvement before the use of Time-out, but the tantrums

decreased much more after, eventually the frequency reaching less than

one a day (from five a day) - see Fig 7:4.

Parents' report:

Pleased with the change in Wayne and reduction of his tantrums.

N.B.   Father then started not using Time-out and Wayne's tantrums increased

somewhat again. Contact was maintained to support the mother for many months

and Wayne was later re-referred and became Research case R5-6.
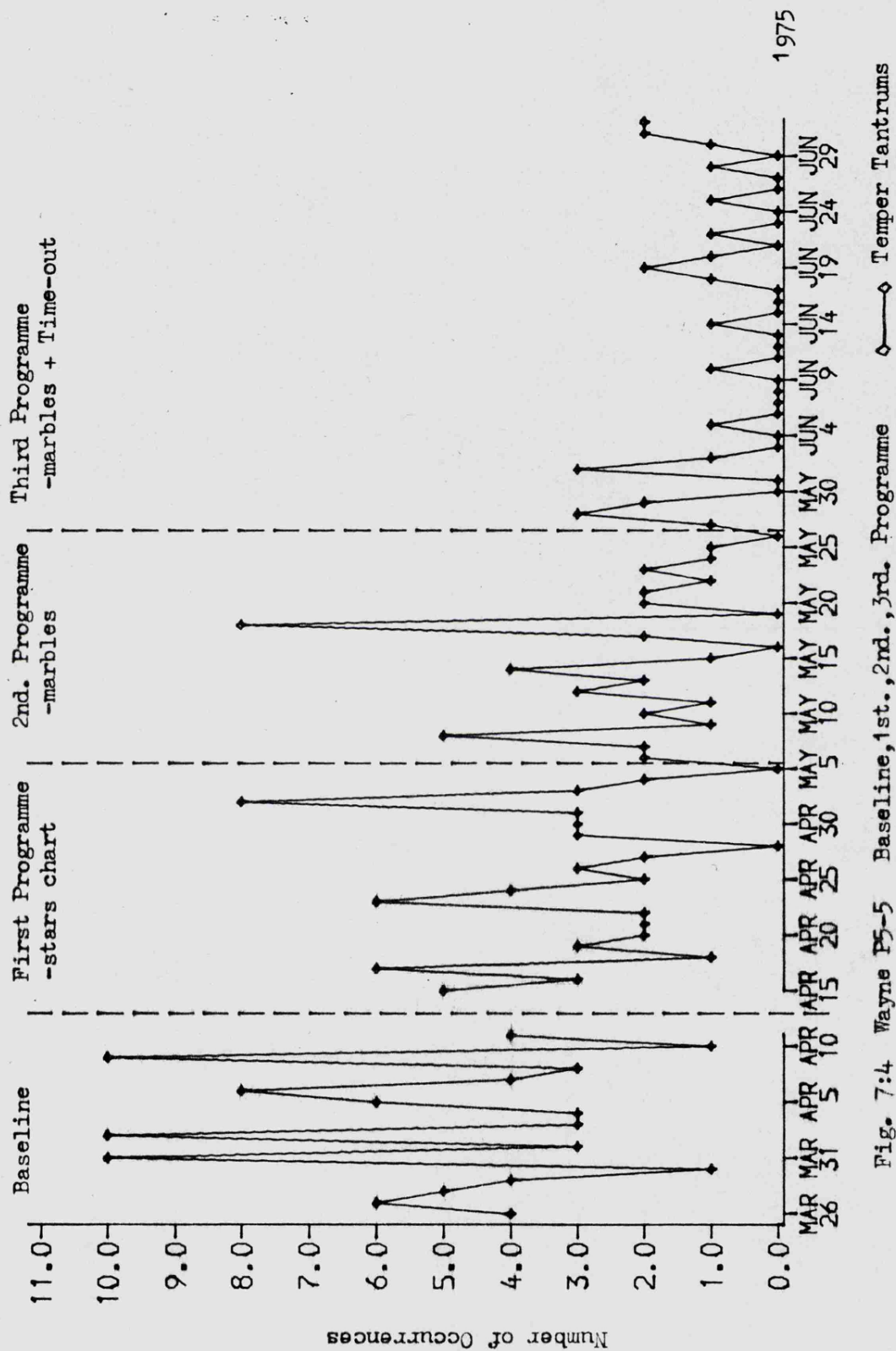
Fig. 7:4 Wayne P5-5 Baseline, 1st., 2nd., 3rd. Programme

<u>Case P5-6</u>

Julie aged five years, two months on referral for diurnal enuresis.

Background:

A deaf child after natural mother had rubella during the pregnancy. Now
adopted. A strong willed child, but mother not worried about her general
behaviour. Hyperactivity assessment score = 35 - low. I.Q. not known,
probably average. Two elder brothers, fourteen and eleven, two elder sisters
sixteen and thirteen, no problems. Parents - mother, 36, housewife, father
40, builder's agent. Marriage stable. Child has good relationship with
all the family.

Behavioural Assessment:

Target behaviour was diurnal enuresis (nocturnal enuresis also present
but not worried about). Recording alone went on for three months as Julie
was starting to use the toilet occasionally. Antededents - not known, though
more likely if Julie is playing. Consequence - these are variable from
ignoring to a smack.

Formulation:

As Julie's wetting had not decreased greatly after three months it was
felt that it was still being maintained by her mother's inconsistent
handling.

Programme:

To reward Julie for using the toilet by giving her a smartie and praise,
(sson changed to a smartie and a star), and to ignore the wetting as much
as possible. This was discontinued after six weeks when the school holiday
started.

Results:

The programme made no improvement in Julie's toiletting behaviour, and her
mother decided to stop it, as she felt that Julie would start to use the

toilet more when she was ready. Four months later on follow-up the wetting

had improved somewhat and Julie had had her first dry night-see Fig. 7:5.

Parents' report:

Programme made little difference to Julia's wetting.
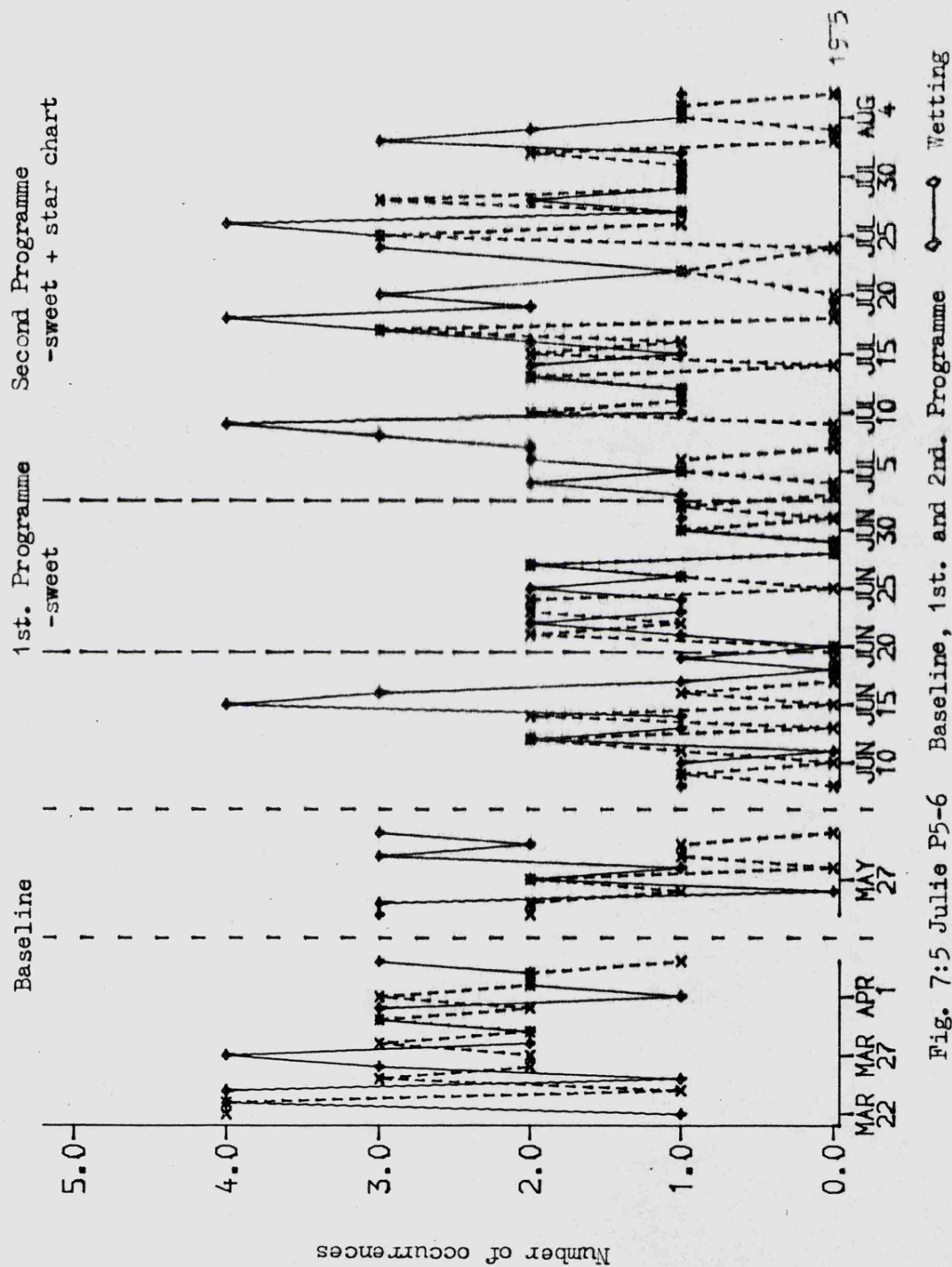
Fig. 7:5 Julie P5-6 Baseline, 1st. and 2nd. Programme

o—o Wetting   *---* Use of Toilet

<u>Case P5-7</u>

James, aged three years, eight months, on referral for management

problems.

Background:

A child with fairly normal development, and no handicaps. Breathing problems

after birth, in an incubator. Feeding problems as a baby. Later developed

a temper, and did not like mixing with other children. Hyperactivity

assessment score = 61 - mainly high on emotional problems. I.Q. - average.

Younger sister two years, no problems. Parents - mother 26 years, housewife,

father 29 years, self-employed businessman. Marriage - appeared fairly.

stable, but problems over James. Mother suffers with nerves on occasions,

and her relationship with James was not very close.

Behavioural Assessment:

- The target behaviours were defiance and temper tantrums, and a baseline

of these was kept for twelve days. Main antecedents - request to James

from his parents, main consequences - large amounts of attention, and

things being done for him.

Formulation:

James defiance and tantrums were being maintained by attention, and by

allowing him to be lazy.

First Programme:

Time-out for defiance and tantrums combined with praise and a sweet for

complying to a request - later also stars were given.

Results:

There was some decrease in the defiance (tantrums were very rare), but

this continued to occur after the initial drop in frequency - see Fig. 7:6.

Second Programme:

Meal-times and clearing toys away were causing problems so ways of handling

these using Time-out were decided upon.

Results:

Recording of these was only kept for a short time, and without a baseline,
but it appeared to help somewhat.

Parents' report:

James' mother felt that there was an improvement in James and she was much
happier knowing how to deal with him when he was difficult. Over the
next few months, James' behaviour maintained its improvements.
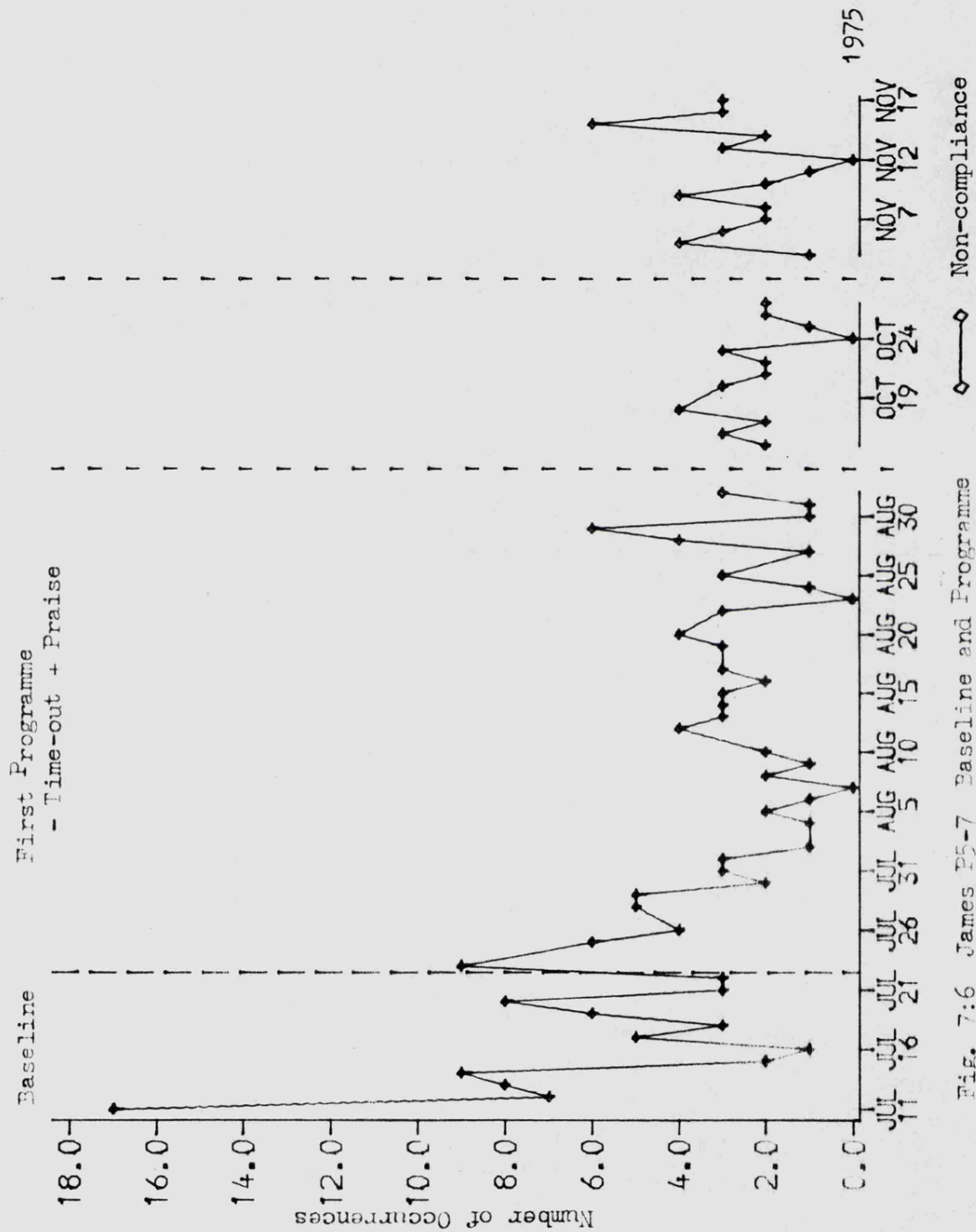
Fig. 7:6 James P5-7 Baseline and Programme

Case P5-8

Jason, aged four years, eleven months on referral for hyperactivity and
behaviour problems.

Background:

A child born a twin after a breech birth. No problems until the twin died
at 17 months, then he became very difficult to control. Speech a little
delayed. I.Q. = 70. Hyperactivity assessment score = 78 - high. An elder
sister - eight years, and a younger one of three years. No problems.
Parents - mother 34 years, housewife; father 29, ambulance driver. Marriage
- parents were separated initially but were reunited during the programme.
Mother's relationship with Jason was close but she found him exhausting.
Mother suffered from depression after the twin's death.

Behavioural Assessment:

Target behaviour was disobedience, and a baseline was kept for ten days.
Main antecedent - requests from mother. Main consequence - attention from
his mother and getting away with things.

Formulation:

Jason's disobedience was maintained by his mother's attention whenever he
was naughty or would not do as he was asked.

First Programme:

Time-out for disobedience, with praise for compliance or good behaviour.
Stars were given later for periods without disobedient episodes to keep
Jason rewarded for appropriate behaviours.

Results:

A decrease in the episodes of disobedience from five a day to under one
a day.

Second Programme:

Jason's behaviour deteriorated after starting school, and a booster programme

of Time-outs was used four months after these were last recorded.

Results:

This helped decrease the disobedience again - see Fig. 7:7.

Parents' report:

Jason improved at first, but began to get more difficult again. (His mother needed reminding to keep using the Time-outs and often went back to giving attention at the wrong time.) Using the Time-out systematically again helped, and Jason seemed to need this discipline constantly.
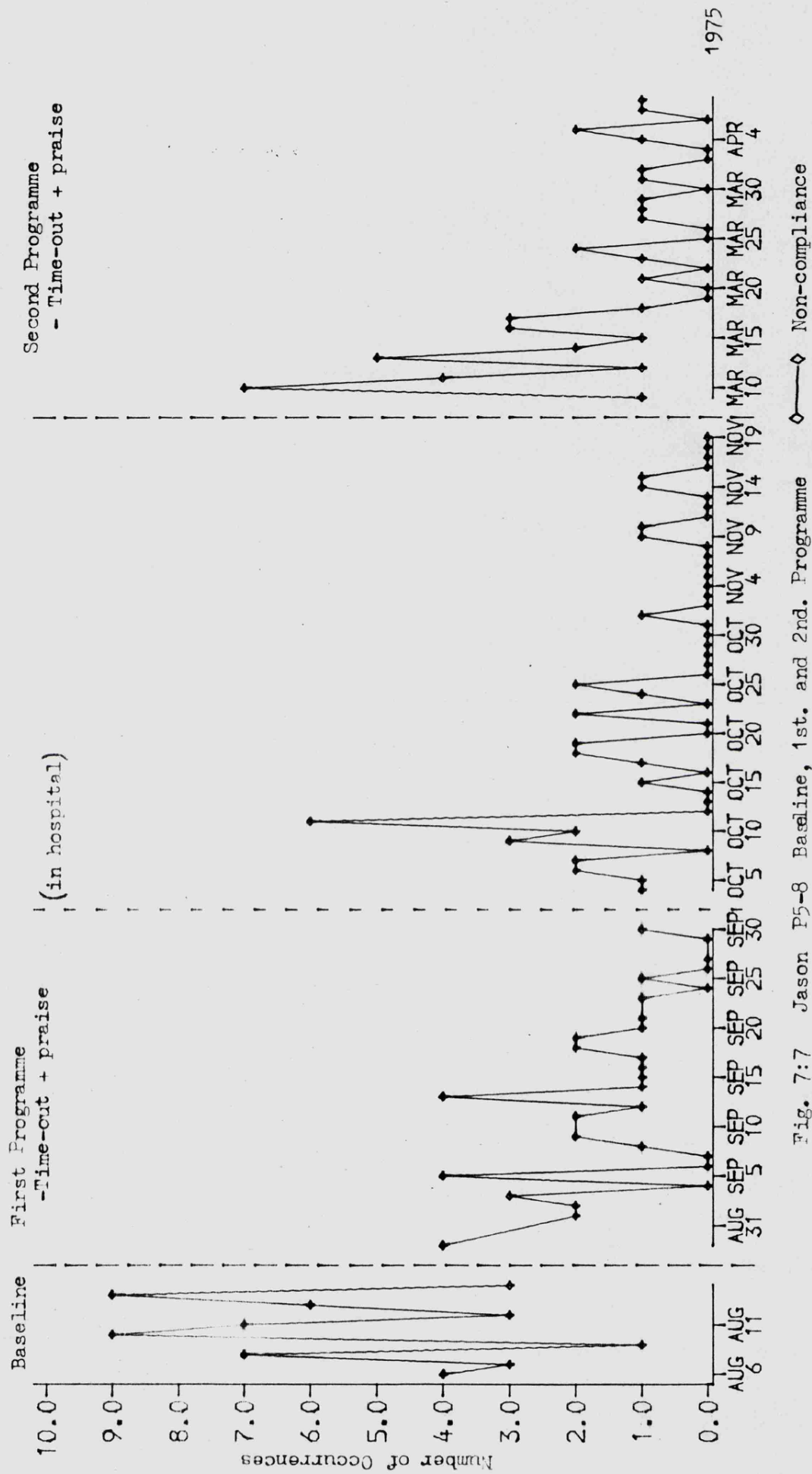
Fig. 7:7 Jason P5-8 Baseline, 1st. and 2nd. Programme

Case P5-9

Clive, aged two years, six months on referral for hyperactivity and behaviour problems.

Background:

A child with delayed speech, but no other handicaps. Born at 36 weeks with neo-natal problems, severe feeding problems as a baby. Behaviour problems developed early. I.Q. = 88. Hyperactivity assessment score = 71 - high. No siblings. Parents - mother, 21, part-time hosiery worker. Father, 23, marriage stable, though Mr. Whitehead not Clive's natural father, they married when Clive was one year old. Mother has problems with nerves, and her relationship with Clive was not good, she could not enjoy Clive, though she badly wanted a child. Father had no problems with Clive at all.

Behavioural Assessment:

Target behaviours were defiance and temper tantrums. Baseline kept for nine days, but felt to be unrepresentative as quite low frequencies. Main antecedents - making requests of Clive or refusing his requests. Main consequences - attention and giving Clive what he wants.

Formulation:

Clive's defiance and tantrums were maintained by the attention he received and the way his mother became extremely upset. There was not much pleasant interaction between them.

First Programme:

Time-out for defiance and tantrums. Praise (and a sweet on occasions) for compliance or any appropriate behaviour.

Results:

The defiance initially increased when Time-out was used correctly, but then decreased until only happening once every few days. The tantrums did not appear to alter in frequency - see Fig. 7:8.

Second Programme:

Clive was rewarded for behaving appropriately when out shopping, using

increased time periods to earn a sweet. This was used two months after

the first programme stopped.

Results:

Clive's behaviour improved greatly and shopping ceased to be a problem.

Parents' report:

Very happy with the change in Clive's behaviour. The relationship with

his mother improved considerably and life became much easier. Improvements

were maintained a year later.
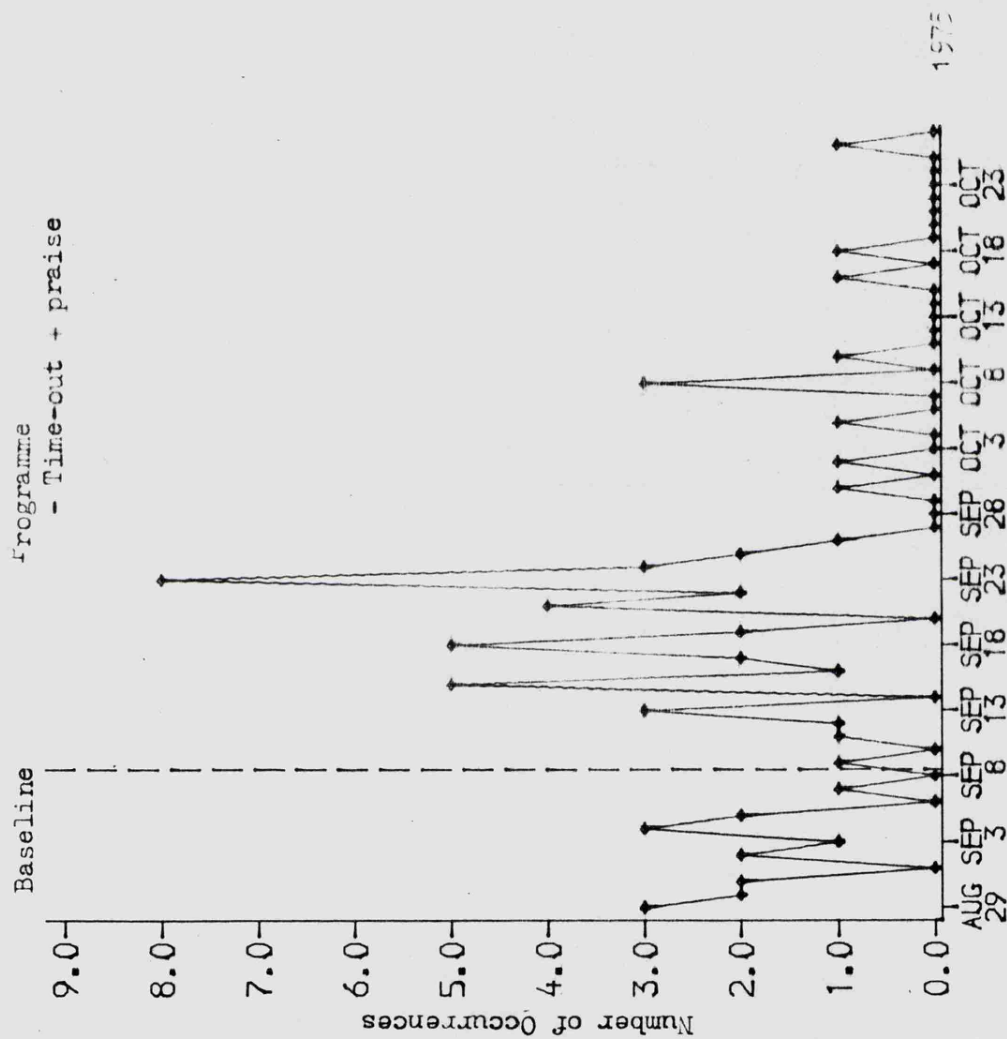
Fig. 7:8 Clive P5-9   Baseline and Programme

Of the nine cases detailed, cases P5-5, P5-7, P5-8 and P5-9 have sufficient data to look at from the point of view of a time-series experiment. All four of these show a decrease in the frequency of the target behaviours recorded after the implementation of the management programme, and in all cases the parents felt that there was an improvement in the behaviour of their child due to the programme.

Of the other five cases, the data on P5-1 although not following a time series experiment, does back up the parents' statement that the child's behaviour had improved considerably over the time that the programme was in use.

The data on P5-2 does appear to demonstrate a decrease in the frequency of the target behaviour, but poor specification of the target behaviour - especially in the baseline means that the effect was probably not so great, but there appeared to be some improvement before the child was put onto Ritalin.

Data on P5-3 was far too complex and uninterpretable, and there was probably little change in the child's behaviour until after the programme.

Data is missing on P5-4, but as the behaviour extinguished to zero, it can be said that the programme was successful.

Data on P5-6 confirms the parents' view that there was no change in the child' behaviour over the period of recording.

Conclusions:

In seven out of the nine cases, the management programme was felt by the
parents to help the child, this was demonstrated by a visual inspection
of the recorded data in six of the cases, data being missing in the
seventh.

P4,P3 and P2 Cases Evaluated:

P4.   Two cases fell into this category of a baseline followed by advice,
over a prolonged period.

P4-1,   Sean aged six years, six months on referral for management problems.
        A mongol child with a strong will, living with his mother, father
        and two sisters. Target behaviours were defiance and temper tantrums,
        and a baseline of these was kept for eight days. After this advice
        was given on the use of Time-out and rewarding good behaviour, and
        this helped his mother cope with him, and she reported a decrease
        in the frequency of the target behaviours which maintained well.

P4-2.   Simon aged three years, one month on referral for hyperactivity
        and management problems. A mentally retarded child with no speech,
        with a very gentle mother. Target behaviours were defiance and crying,
        but the baseline showed only rare occurrences. This was felt to be
        unrepresentative because of his mother's accepting attitude, and
        advice was given to her on handling the behaviours and about being
        firmer with Simon if he was to understand what she wanted him to
        do. The advice was felt to help somewhat.

P3.   There were six cases in this category, of advice on management being
given after a baseline but only with short involvement with the family.
In three of these cases, the family terminated contact after a short
assessment and there has been no further contact, and in the other three

cases some advice was given which was felt to help in two of the cases, but was felt to be inapplicable by the parents in the third.

P2.   Management advice was given to five families after a brief assessment involving no baseline. The advice was felt to help in two of the five cases.

Conclusions:

For three of the thirteen cases there is no evidence of whether the advice helped or not as the parents did not want further contact. Of the remaining ten cases, six mothers reported some improvement in the behaviour of their child after trying to follow advice on management.

Chapter 8.

Conclusions from the Pilot Project.

The pilot project cases were studied to achieve two main objectives;
first to see if the approach of training parents in behavioural methods
could be effective with the type of child commonly known as conduct-
disordered and/or hyperactive, and secondly, to provide a more structured
format for the assessment, treatment and evaluation of such cases.

8:1   Did the Management Programme work?

Unfortunately because evaluation of these early cases is limited from the
point of view of recorded data, the conclusion that we had in fact achieved
a considerable degree of success with many of the cases comes more from
the judgements of the parents involved and ourselves, and not from
statistical analysis of recorded data.

Looking at the cases evaluated in the last chapter, nine families used a
full management programme, and two more used very specific advice on
management. Of these eleven cases, the parents reported a change for the
better in the problem child in nine instances. Only one child showed no
change, and the final one improving somewhat but more after the programme
was terminated.

In all nine cases where improvement occurred the parents subscribed this
to their use of the management programme. In case P5-2 this was confounded
by the later use of Ritalin prescribed for minimal brain dysfunction, but

some improvement did occur before this time.

Also in case P5-8, there may have been a confounding factor in that the child's father returned to live in the home, but this was after considerable improvement in the child's behaviour had already occurred.

At the time it was felt possible to conclude that the use of management programmes could help produce a change for the better in these conduct-disordered children.

In the cases where advice alone was given, of the eight families with whom contact was maintained, five felt that the advice on management had helped, and that their child's behaviour had improved. Such advice would have been specific to the problems of the child involved and therefore easier to put into practice than any global advice. It is worth noting that in two of the three families where no change occurred, the parents did not take any action to try to use the advice given because they felt it unsuitable, and the other family were unable to use the advice because of problems caused by the severity of the child's quadriplegic spasticity.

Again we felt it feasible to conclude that management advice given on specific issues could also help produce change in a child's behaviour, particularly where the child's problems were not too severe and the parents could make practical use of the advice.

No attempt was made to try to evaluate the cases as to degree of success, as it was felt that enough information was not available. All the parents felt that their child would not have improved without the management programme/advice, or even possibly become worse, so the degree of improvement

obtained was felt in each case to be above that which would have occurred without our intervention and therefore evaluable.

8:2   Plans for the Research Project.

Out of the pilot project had to come a structured format for dealing with cases referred in the research project, particularly for those who were to be given a management programme.

This format had to mainly provide first - detailed assessment procedures to standardise the information collected about each child/family, and second - an improved data collection and evaluation system: The actual programmes to be used had been worked out during the pilot project and were not to vary from those detailed in chapter 6.

Assessment procedures:
Assessment procedures as detailed in chapter 5, follow three main lines - a functional behavioural analysis of current problem behaviours, background information on the child and background information on the family.

The behavioural analysis was dealt with fully in chapter 5, although such a full analysis was not obtained in each pilot case. The format for the behavioural analysis in the research project was therefore based directly upon this with no alterations. It should be said that this final format did evolve during the pilot project and was used more carefully with later cases.

The other two areas in the assessment however were not worked out in detail until the end of the pilot project and will therefore be specified closely

in chapter 9 and appendices 2 to 13. Briefly the main factors which seemed
to be of recurrent significance in the pilot cases were:-

For the Child:

1) Degree of presence of symptoms of hyperactivity,

2) Evidence of any handicaps - physical, mental or developmental,

3) Level of intellectual and social functioning,

4) History of the target behaviours and other problem behaviours,

5) Temperament of the child as a baby and problems in the first few months.

For the Parents:

1) The presence of psychiatric or health problems at present or during
    the child's life,

2) The personality of the parents (particularly their anxiety levels),

3) Social problems of the family, including marital or financial difficulties,

4) Their attitudes to the topic of child rearing in general,

5) How they see their relationship with the child - degree of affection,
    dislike etc.

For the Siblings:

1) Whether they too are presenting any problems which cause the parents
    worry or difficulties, particularly if the children must compete for
    their parents' attention.

Each of these will be looked at in chapter 9 along with the questionnaires
etc. used to obtain standardised information from each family.

Data Collection and Evaluation:

Data collection starts with the assessment procedures when a baseline is
obtained as this provides the first important comparison phase for the

time-series experiment. It was decided where possible to have three

or four weeks of baseline in order to check for short fluctuations in the

child's behaviour or circumstances. Also importantly the use of a

straightforward frequency count of a target behaviour was chosen as being

the most suitable type of recording after more complex records kept in

the pilot project proved inevaluable.

If a time-series analysis was to be used for evaluation then not only is

a good baseline needed, but also careful records of the same target

behaviours after implementation of the programme (or any alterations

to the programme) should be kept. More complex ways of evaluation of

the time-series were then to be looked at to add to the visual inspection

used before - see chapter 11.

Further, it was decided to make use of formal observations to back up the

use of parent recording, and finally later an independent assessor was

felt to be necessary to help evaluate change.

Part III.

The Research Project

Introduction:

The next four chapters are concerned with the research project, the bulk
of which was finished by June 1977 (apart from some follow-ups made during
the following three months).

Chapter 9 gives more detail about assessment procedures used for collecting
information on the child and his family, the behavioural analysis used not
being considered again as it was discussed in detail in chapter 5.

The area covered by chapter 10 is nearly identical to that detailed in
chapter 6, therefore this chapter is very brief. The children seen in the
research project were very similar to those in the pilot project and the
formulation of their problems and the treatment programmes needed were
very similar.

A more complex methodology for analysing the treatment programmes was used
in the research project and this is explained in detail in chapter 11. An
evaluation of the results obtained is also included here.

Chapter 12 uses the background information collected (see chapter 9) to
see if it is possible to identify factors which affected the differential
success/failure of individual treatment programmes.

Chapter 9.

Research Assessment Procedures.

As explained in the previous chapter, assessment procedures during the research project diverge from those in the pilot project mainly in that background information on the child and his family was collected more systematically, and where possible data collection was improved, by being made more rigourous.

The functional behavioural analysis remained the same and will not be dealt with again in this chapter, except to say that in several research cases, baselines up to four weeks long were kept. The reason for lengthening the baselines taken was to achieve a more representative measure of a child's difficult behaviour. All future change was to be measured against the baseline, and as most of the children presented very variable behaviour, a reasonably long baseline seemed to give the clearest picture of how the child was behaving at that time.

Theoretically, the ideal baseline is one in which the behaviour has reached a fairly stable frequency (Sidman, 1960) however, this aim had always to be tempered by practical considerations, and the period of one month appeared to be a suitable length for most of the children.

Other matters concerning data collection will be dealt with in the chapter on methodology (Chapter 11).

Before looking at the changes in the assessment procedure, the interview setting and structure will be considered briefly. The addition of formal

observations to the assessment will then be looked at in section 9:4.

9:1   Interview Setting and Structure.

a) Setting.Place:

Of the 24 cases referred during the research project, 21 were initially

seen at home, and in all except one of these cases all subsequent interviews

were also in the home, (in this case, the parents came to the School of

Social Work, home of the CTRU on three occasions).

The other three cases were seen for the first interview at the School of

Social Work, the P.A.O. and the Family Service Unit.

    People:

12 of the initial interveiws were conducted by myself, four by myself and

a colleague from the CTRU, four by myself and a social worker, two by Dr.

Herbert alone and two by Dr. Herbert and a colleague from CTRU.

The mother was present at all of these interviews, and the father also

at ten of them. The grandparents were present on one occasion, and the

mother's boyfriend on another.

b) Interview Structure:

Format - This is the same as was used in the pilot project, and is detailed

in section 5:2(b). The only difference is that the planning of a management

programme usually occurred after a larger number of assessment interviews,

but if advice alone was given this could be in the earlier interviews.

Screening - Again several cases were screened out after the first or second

interview and were not followed up. These six form the group Research Intervention Type 1 (R1). Three cases were referred to a colleague in the CTRU, two to outside agencies, and one case was an inappropriate referral.

Three cases were seen more often but only for advice without a baseline, these three form group Research Intervention Type 2 (R2).

The remaining 15 cases were all presenting conduct problems and the assessment lead to the establishment of a baseline frequency of target behaviours. These cases are classified into three further categories as follows:

Research Intervention Type 3 (R3) - advice given after the baseline, full background information not collected. (5 cases),

Research Intervention Type 4 (R4) - advice given on specific problems, with prolonged contact with the family and a full assessment completed. (1 case).

Research Intervention Type 5 (R5) - management programme planned and implemented after a full assessment (9 cases).

9:2   Background Information on the Child.

The information collected on the child apart from details about current problems for the behavioural analysis will be looked at by considering each questionnaire/structured interview used in turn.

1.   Hyperactivity Questionnaire   Appendix 1.

The full questionnaire of 55 questions can be found in appendix 1, but in summary this covers seven possible areas of problems.

These are:

1.	Motor activity	13 questions
2.	Attention difficulties	7 questions
3.	Impulsivity	8 questions
4.	Demandingness	4 questions
5.	Perceptual and Learning Difficulties	3 questions
6.	Resistant and Domineering Social Behaviour	5 questions
7.	Emotional Difficulties	15 questions

Each answer is given one score regardless of how many component parts there are to the question. The child is scored as to whether the problem referred to by that question definately applies (score 2), somewhat applies (score 1) or does not apply (score 0).

The total score therefore increases as the child shows more of the possible problem behaviours. For each child the score was assessed in relation to what was expected of a child of that age so that children of different ages can be compared. There is no norm to compare the scores to as the questionnaire has only been used on children referred to the CTRU, but from scores obtained on children in the pilot project those who were not referred for hyperactivity obtained scores between 35 and 61, those referred for hyperactivity scored between 71 and 91. As the child scoring 61 was exceptionally high on emotional problems (section 7 of the questionnaire), which increased his score, it was felt that children scoring at the half-way mark (55) or above were probably showing hyperactivity problems or some kind of a conduct disorder.

Comparing scores on the pilot cases with parents' description of the child and complaints of problems, a higher score on the questionnaire did appear to correlate well with reported problems and therefore probably indicates to an extent the degree of severity of the child's problems.

2.   Screening for General Problems.

a) Children three to six years- The Pre-school Behaviour Questionnaire.

This is a questionnaire of 30 questions covering three topics - hostile/
aggressive, anxious and hyperactive/distractible, each question being
scored as definately applies (2), applies somewhat (1) or does not apply
(0). The total score indicates the degree of disturbed behaviour, and a
sub-score for each scale can be obtained.

The Questionnaire was developed by Dr. L. Behar, University of North
Carolina, and its use was reported in a paper by Behar,L. and Stringfield,S.
"A behaviour rating scale for the pre-school child" 1974.

This reported standardisation procedures on 496 normal and 102 disturbed
pre-school children aged three to six years. It was found to possess
criterion validity and high inter-rater and test-retest reliabilities.
From a factor-analysis of results obtained from children in pre-school
or day care centres, three factors were extracted and labelled hostile/
aggressive, anxious/fearful and hyperactive/distractible. The authors
felt that the questionnaire could be of value in early detection of
emotional problems.

Provided with the questionnaire is a percentile table, this gives the
percentile rank for a child's total score, or for his sub-scale score.
The higher the child's score then the smaller the percentage of children
at this age likely to obtain this score, and therefore the more likely
that this child's behaviour is out of the ordinary.

b) Children over six years - The Rutter Scale A(2) For Parents Appendix 3.
Although this scale was standardised on children of nine to thirteen, it

was used as a screening questionnaire comparable to the pre-school behaviour questionnaire, and the younger age of our children was borne in mind when interpreting the final scores.

The questionnaire, appendix 3, has 21 questions in three sections:
1) Health problems, scored as - at least once per week (2), occasionally but not as often as once per week (1) and never (0).
2) Habits, scored as - Yes, severely (2), Yes, mildly (1), and No (0).
3) Statements, scored as - certainly applies (2), applies somewhat (1), and does not apply (0).

Again as a child's score increases the more likely that the child's behaviour is out of the ordinary and likely to cause problems. Two subscores can be calculated by summing scores of items C,G,V,6 and 15 for the neurotic subscore, and III,3,13,17 and 18 for the anti-social subscore. Children whose neurotic subscore exceeds the anti-social one are designated neurotic and vice versa.

A cut-off score of 13 was found to produce an 80% agreement between questionnaire diagnoses and clinical diagnoses and is used to differentiate disturbed children in the 9 to 13 range. As the children used in this research project are younger, a higher score would be expected before a child was designated as disturbed. However, as the questionnaire is used mainly as a comparative measure to help provide data on the extent of problems present in the research cases it was felt to still be useful.

3.	Screening for Handicaps.	Appendix 4.

Appendix 4 covers the structured interview used to obtain the information which would indicate the presence of any sort of handicap, be it physical,

mental (for example, brain damage) or developmental.

The topics covered are:

a)   Pregnancy and birth data.

b)   Motor/speech development, toilet training.

c)   Childhood illnesses/operations/constitution.

d)   Handicaps at present (vision, hearing, gross and fine movement,

      brain damage, speech).

Scoring - Each of the three main areas (pregnancy/birth, Motor/speech

development and handicaps) was assessed as to whether problems existed

definately (+2) somewhat (+1) or not at all.

4.   Level of Intellectual and Social Functioning

a) Intellectual measurement - Each child was tested on either the Merrill

Palmer Scale of Intelligence Tests (eighteen months to six years) the

Wechsler Pre-School Primary Scale of Intelligence (WPPSI) or the Wechsler

Intelligence Scale for Children (WISC), by myself or another psychologist

to provide an Intelligence Quotient (I.Q.)

b)   Social Functioning   Appendix 5.

The Vineland Scale of Social Maturity was completed for each child, this

provides a social age for that child from which a social quotient can be

calculated using the child's chronological age.

This scale was developed by Dr. E.A. Doll in Washington, and the version

used is the 1965 edition. The scale covers eight areas of social

development:

SHG (1) Self-help general   O (5) Occupation

SHE (2) Self-help eating   C (6) Communication

SHD (3) Self-help dressing   L (7) Locomotion

SD (4) Self direction   S (8) Socialisation

and is scored plus as to whether the child is habitually performing each
item without need of undue urging or incentive (a plus equalling a score
of 4). Half a credit is given where an item is in a transitional or emergent
state. When there is no opportunity for the item to be performed full
credit is given within the range of otherwise continuous plus scores, but
no credit if it is within a range of continuous minus scores. If the
range of scores is mixed then a half-credit is given.

Standardisation up to the 1965 edition had been obtained on ten normal
subjects of each sex at each year from birth to 30 years of age, or a total
of 620 subjects.

5.   History of the Target Behaviours and other Problem Behaviours.
                                                                    -   Appendix 6.

A structured interview (appendix 6) is used to gain information on when
the target behaviours began and how they have developed. The reinforcement
history of the child needs to be known to help design a management programme
and to help predict the usefulness of such a programme. There is therefore
no scoring.

6.   Temperament of the Infant and Problems with the Infant.
                                                                    Appendix 7.

The temperament of the infant is assessed using questions from Thomas,
Chess and Birch, 1958, book "Temperament and Behaviour Disorders in
Children". These are given in appendix 7 under the heading "temperament".

Answers to these were scored as to whether the trait definately applies
(2), applies somewhat (1) and does not apply (0), to give a score which
increases as the baby gets temperamentally more difficult, (maximum score
- 18).

The remaining questions headed Crying, Feeding, Sleeping and Attention-seeking and other problems, cover areas which were found to be problematical in many of the pilot cases, and also are scored as the temperament questions, (with a single score per heading, giving a maximum score of ten).

9:3 Background Information on the Family.

The Parents:

1) Psychiatric and Health Problems   Appendix 8.

A structured interview is used to ask parents about any psychiatric problems at present or in the past - particularly during the life of the child, (appendix 8). Questions are also asked about the health of the parents during the child's life, and how much energy they have had for coping with the child.

Scoring - Psychiatric and health problems are both assessed as to whether they are definately present (+2), somewhat present (+1) or not present.

2) Personality of the Parents

The Cattell 16PF form A (1967-68 'edition) was given to all the parents to complete and return. This provided a test profile for each giving standard scores on 16 personality factors, from which four second order factors can be calculated - anxiety, extraversion, tough poise and independence.

The parents were also asked to briefly describe their own personalities They were then asked if they saw any similarity between their child and themselves or any of their family.

3) Social Problems   Appendix 9.

A brief structured interview is used to get some idea of any possible

marital, financial or social problems of the parents which might be
affecting the child directly or indirectly.

Scoring - Social problems are assessed as to whether they are definately
present (+2), soemwhat present (+1) or not present.

4) Attitudes to Child Rearing   Appendices 10 and 11

A brief structured interview was used to ask the parents their views of
child-rearing in general and if there is any conflict between their own
and their spouse's views. (appendix 10).

They were then given a questionnaire (appendix 11) with multiple choice
answers, constructed from questions in the book "Children and Parents -
everyday Problems of Behaviour" by Peine, H.A. and Howarth,R. This was
scored by giving two marks for correct responses to Questions 1 to 6,
that is, under the column "What I would normally do". If the correct
response was under "What I think I ought to do" then one mark was given.
Questions 7 and 8 were scored by one mark for each correct sub-answer (11
in all). Maximum score 23.

5) Relationship with the Child   Appendix 12.

A structured interview was used to get some idea of how close the parents
were to the child, and how the parents felt about the child generally.

The Siblings: Appendix 13.

A few questions were asked about each sibling to see if they are
presenting any problems which could be affecting the child directly or
indirectly through the parents.

Scoring - The presence of competition for the parents' attention (in
any manner) is scored as definately (+2) somewhat (+1) or not (0) present.

With several of the assessments on research cases the observation system
devised by Patterson,G.R. et al., for use in the Oregon Research Institute
was tried. The 1972 manual titled "Family Observation Code" was used and
a sample of the behaviours were chosen to observe.

The use of this observing was not felt to be a success and was not followed
up by observations during the programme.

The reasons for this decision were as follows:

1. Difficulty on becoming proficient in the use of the coding system. The
   time needed for this was not felt to be cost effective in the light
   of the rest of the problems.

2. The observer effects which occurred were felt to be great, even when
   the observations were done before the child knew me well. Most of the
   mothers reported that their child was behaving abnormally, and target
   behaviours were seen only on odd occasions.

3. The restrictions put upon families by the Patterson group were felt
   to be unacceptable (for example, everybody had to stay in two rooms,
   and not use the television or 'phone), within our working situation,
   but without such restrictions keeping track of what was happening
   became very difficult as people would disappear or even become engrossed
   in the television.

4. Lack of time during assessments to do enough observation visits to
   sufficiently sample the child's behaviour. Also the wish not to put
   too many demands upon the families who were already spending much time
   being interviewed and keeping records. Telling the parents to ignore
   me did not usually have the desired effect, and the observation sessions

were further disruptions to home life.

5. Problems with evaluating and scoring the results of an observation
in a meaningful way.

The decision not to follow-up the use of formal observations using a
behavioural code was made in the context of the present study, as to make
it an effective tool would have required an expenditure of time and energy
with an unequal return. This is not to say that the observation sessions
were not useful, particularly for seeing general interaction patterns within
the family, but much planning and time needs to be put into them if they
are to be effective. The observations which were made will not be used
in evaluating the case histories, but did help at times in formulating a
child's problems.

Reliability of the Measures used:

Because of the problems concerned with the use of home observations, it
became unfeasible to make reliability checks on the recording of target
behaviours by the parents. We therefore had to trust the parents to record
to the best of their ability. The discussion on page 308 concerning the
results of the time-series analyses of data does however point to a possible
lowering of reliability on the part of the parents. The lack of reliability
data is acknowledged to be a regrettable loss, but within the practical
constraints of the study it was felt to be unavoidable.

9:5   Independent Assessment.

Soon after the beginning of the research project it was decided to find
a way of obtaining some independent evaluation of any changes which were
effected by the management programmes.

A social worker volunteered to do pre- and post-assessment interviews for each of the cases taken on for a full assessment over the next year. A questionnaire (appendix 14) was constructed from the hyperactivity questionnaire along with some general questions and this was administered to each of the research cases R5-3 to R5-9, and R4-1 during my assessment of the child. This was scored at the time by the social worker and parents jointly, as to whether each statement applied to the child definately (score 2), somewhat (score 1) or not at all (score 0). Maximum score 52.

The questionnaire was then administered again to each family after termination of the management programme, to help assess whether there had been any change in the child's behaviour.

Chapter 10.

Formulation of the Problems, Planning and

Implementation of Treatment Programmes.

The fuller assessments of the research cases served mainly to support the

formulations made in the pilot cases, that is that inappropriate target

behaviours were being reinforced by attention and other rewards from the

family, often within the context of appropriate behaviours being little

noticed. Sometimes, due to a poor parent-child relationship, there was

also little positive or enjoyable interaction between the child and his

parents, increasing the liklihood of the child seeking attention in a

disruptive manner (and usually in the way the child has learned was most

effective with his parents).

Programmes were therefore planned in all cases on the same basic formulations

as discussed in chapter 6, and the same techniques were used, that is,

ignoring and Time-out, rewarding and star charts. The only change in the

use of these to their use during the pilot project is that the programmes

tended to be more alike for each case. This was partly done purposefully,

to be able to compare the effects of a similar treatment on varied children

but also partly because these were the methods which had been the most

effective during the pilot project.

The same method of implementing the programmes was used as was the maintenance

and phasing out of such programmes, and these were dealt with fully in

chapter 6.

The main difference in the research cases was the use of a short pamphlet

which was given to the parents to read at the beginning of the programme.

This is called "Ways to help you change your child's behaviour" (see

below), and is a simple explanation of the use of management programmes.

Ways to Help you Change your Child's Behaviour.

You have decided that you need help in coping with your child whose behaviour you find a problem. This leaflet I hope will give you information which you can use to help manage your child's behaviour yourself. It is designed to tell you simply what you must do, and how you must treat your child, in order to get him behaving more as you think he ought to be doing.

All the ideas below are based on what we call "Learning Theory" and as this sounds, you will find ways of teaching your child how to behave as you want him to.

Learning Theory:

The basic idea which you need to know is that your child will tend to repeat any behaviours which bring him a reward, and tend to avoid those behaviours that fail to produce rewards. In other words, your child will only continue to perform those behaviours which are worthwhile and rewarding to him, and he will stop performing behaviours which do not give him any rewards.

You have used this idea to teach your child many things without knowing it. Some of the things you have taught him will be the things you want him to do, but unfortunately it is also easy to teach a child to do things you do not want him to do.

For example, most busy mothers find it is all too easy to ignore their child while he is playing quietly (which they want him to do), but they soon drop everything to go and stop him doing something naughty or annoying, (which they do not want him to do). If the child wants his mother's attention

the odds of getting this are much in favour of being naughty rather than being good, which he will soon learn to do. Such a mother is giving the reward of her attention at the wrong time, for she gives it when the child is performing an unwanted behaviour, rather than when he is being good.

If your child does many things you would rather he did not, it is not because there is something wrong with him, but it is more likely that you have, by mistake, taught him to do these things. This is often not your fault and indeed with many children, it is very difficult not to teach them these unwanted behaviours. But once you are aware of this basic idea, and the use of rewards, you can start to re-teach your child, so that he will use fewer of these unwanted behaviours now present.

We can use this basic idea in two main ways:
1) To increase the number of times your child performs a behaviour that you want him to do.

According to the basic idea, a behaviour will be repeated if it brings a reward, so, to get your child to perform a behaviour more frequently, you must reward him whenever he actually does the behaviour.

For example, a mother wanted to teach her son to use his pot more often, so every time he did, she gave him a sweet, and told him he was a clever boy for using his pot, and not dirtying his nappy. This made him enjoy using his pot, and made it rewarding for him, soon he chose to use it rather than wet his pants or nappy.

2) To decrease the number of times your child performs a behaviour that you do not want him to do.

If according to the basic idea, a behaviour will be avoided if it fails
to produce rewards, then you must find out what it is that is rewarding
your child's unwanted behaviour, and then take this reward away from your
child at this time.

For example, a mother was having a lot of difficulty getting her child
to go to sleep at night, as the girl cried when her mother left her. The
mother would then return to the child and comfort her, but only found her
more upset when she tried to leave again. In this case the girl was getting
the reward of attention from her mother when she cried; and when her
mother stopped going to her, and left her to cry, she soon fell asleep
without her mother. Crying takes a lot of energy, and if it is not
rewarded a child will soon give up using tears to get attention.

Rewards:

You can see from this that rewards are very important of you are going
to teach your child new ways of behaving.

Unfortunately, what is a reward for one person, is not always a reward
for another, and before you can use rewards (either giving them or taking
them away), you must find out what is rewarding to your child. These rewards
will usually be the things that he enjoys such as nice things to eat or
drink, things to do such as playing favourite games or watching television,
and especially attention from you, his parents, in the form of hugs, kisses,
praise, or the opportunity to spend time with you.

Attention is very important to the large majority of children, but you
must remember that hugs and praise are not the only type of attention.
You are also giving your child attention when you scold him, try to reason

with him, or smack him after he has done something you did not want him to do. So at times, you can be rewarding your child when you shout at him or smack him - making him more likely to perform the unwanted behaviour again. It is much better to try and find another way of reducing the unwanted behaviour, which will involve taking this attention away from your child.

One way of finding out which things are rewarding to your child, is to see what happens after he has just done something that he does often. For this is probably the reward he is getting for this piece of behaviour. For example, if he always eats his dinner to get his pudding, then his pudding is a reward, if he dawdles over dressing to get you to help him, then your helping is a reward, if he hits his sister a lot and you shout at him for this, then your shouting is a reward, etc.

Once you have decided on the things which are possible rewards for your child, then you are ready to try and change how you give these rewards, so that your child will only get them when he is behaving as you want him to. One important thing to remember when you are giving rewards is that they should be given immediately after the behaviour you want, if they are to be most effective. If they are given ten minutes later, the child is more likely to think he has been rewarded for what he has just done a minute ago, rather than for the behaviour you wanted to reward. Even if you cannot always give the whole reward at once, there are very few times when you cannot praise your child immediately and promise the rest of the reward as soon as possible (and never break such a promise.)

Recording Behaviour:

Before I explain several ways in which you can give and take away rewards, first of all you need to know how to keep a record of your child's behaviour.

The reason for this is so that you can see how often your child is performing any behaviour; both now and in the future when you are trying to change how often it happens. By doing this you will know if what you are doing is having the effect you want or not. For example, if you are trying to stop a behaviour, the number of times it happens each day or week should get less, (although this may not happen immediately - see below). If it does not after several weeks, then you will need to try something else, as it is likely that the behaviour is still being rewarded in some way.

First of all you must write down exactly what it is your child is doing that you want to increase or decrease. This way you can be sure when he has actually done it. Don't use general terms, but say exactly what he does, for example, don't say "being violent" say, "he bites or kicks his sister". Write down the wanted and unwanted behaviours in order of importance to you, and decide on two or three to record and later to try and change.

You will be given a chart ruled into the hours of the day, and days of the week, and on this you can make a note whenever your child performs the behaviours you have decided to record. Try to make this note as soon as possible so as not to forget. If the behaviour happens several times an hour, you will need a counter to use, so at the end of each hour you can write down the number of times the behaviour happened in that hour.

Also, at first, it is best to keep a diary of what happens whenever your child does any of the behaviours you are recording. Write down what was happening when the behaviour occurred (what time, who was there, where were they, what were they doing etc?), and what happened immediately after

it, expecially what you did and said. This will help you tell what rewards
your child is getting for the behaviours he often does, and will show
you if you are rewarding him enough for wanted behaviours,(you may find
that you are ignoring them).

How to use Learning Theory:

Once you have decided upon several behaviours your child is doing, either
wanted or unwanted, and you have recorded how often these appear and how
you react to them, you are ready to try and actually change how often they
happen.

To increase the number of times a wanted behaviour is performed.

1) **Reward it**

1. Decide on the rewards your child can be given when he performs this
   behaviour. It is best to use your attention in the form of praise and
   hugs, along with something you can give him such as a sweet, a
   favourite drink, a trip to the park, the playing of a game, etc.

2. Continue to record how often the behaviour occurs, but whenever it
   does, give the rewards that you have decided on, and note these also
   on the chart (in a coded form, for example, P - praise, S - sweet).

3. When your child is performing the behaviour as often as you wish, you
   can then start to withdraw the rewards slowly. At first only miss out
   some of the rewards other than the praise, and gradually increase the
   number of occasions on which you only praise. Later start to leave
   out the praise on odd eccasions. Eventually you want to only praise
   the behaviour every so often, (but be sure to do this and don't stop
   praising altogether).

2) **Use a Token System**

1. Decide on rewards your child can be given, and also ask him if there

are any things which he would like to earn. Rewards can vary from your praise and hugs, to money, sweets, watching favourite television programmes, going to bed late, a new toy, a trip to the cinema etc., etc.,

2. Whenever the behaviour you are wanting to increase occurs, tell the child he has earned a star or a point, and explain why he has earned this. Let him put his star or point on a chart, praise him and tell him he can now have a reward – make this a small one while he only needs to earn one star to get it.

3. Once your child understands that getting a star means a reward, tell him that he will now need to earn two stars for a reward, praise him when he gets the first star, and when he gets the second, give him his reward along with praise – making the reward a little more if possible.

4. Continue to increase the number of stars needed to get a reward, making the reward bigger if it needs a lot of stars. Your child can be asked if he would rather collect a lot of stars before getting a large reward, or if he prefers to earn a smaller reward for fewer stars. However many stars he has to earn to get a reward, make sure you praise him every time he earns a star.

5. At first, you can explain to your child the things he must do to get his stars, and remind him of this when he has the chance to earn a star. This may not be necessary as he gets used to earning the stars. If your child refuses to do something to earn his star, do not make an issue of it or try to force it. He has lost out by missing a star, and if necessary, you will be able to use one of the procedures below to stop him refusing to do things for you.

6. As well as increasing the number of stars needed to get a reward, you can also make it more difficult gradually, for your child to earn his

stars. If he has to behave well for a certain length of time, then you can make this time longer, or you can want him to do more before he gets the star.

7. As with the "Reward it" procedure, once your child is behaving as you wish, you can start reducing very slowly the times you give the stars, so that you praise good behaviours, but start not offerring a star. Again this needs to be done slowly, and you will need to increase the rewards again if the behaviours you want stop happening.

To decrease the number of times an unwanted behaviour is performed.

1) Ignore it

1. If you decided that you were giving attention to an unwanted behaviour, and so rewarding it, you now need to start ignoring it.

2. If you feel it is possible to ignore the behaviour completely then when it occurs, do not look at your child, make no remarks to him, and do not go near him. If necessary look at something else, or go and do something (in another room if the behaviour irritates you, but is not serious enough to have to be stopped).

3. If there was another reward involved in the behaviour, apart from your attention, for example, the getting of sweets, staying up late, watching a television programme etc., then make sure that this reward is also not given to your child (by you or anyone else in the family).

4. Continue to record how often the behaviour occurs, and how you reacted to it. One warning however is that sometimes children increase the times they perform an unwanted behaviour when you start to ignore them. You can think of this in the way that they are testing you out to see if you really are going to ignore them. They will make it more difficult for you to ignore them, but you must, (or use the procedure below), or else you are only teaching them to behave even more badly to get what they want. This may show as an increase in frequency on your chart, but if you continue to

ignore them, the times the behaviour occurs will then start to decrease.

2) Use a Time Out System

1. Time-out means giving your child a time out from all the attention he was getting from his unwanted behaviour. This is similar to ignoring your child, but you use it when you have to stop the unwanted behaviour because it is dangerous or too destructive.

2. First of all, you tell your child to stop doing whatever he is doing. If he continues, then you tell him to stop again, and say that if he does not he will be put in his room for a few minutes. If he still continues, then say "Go to your room and stay there until I tell you to come down". If he will not go, take him without saying anything more, and without looking at him.

3. A child must stay in his room by himself for a few minutes, increasing from just two or three for a young child (three or under) up to five minutes for an older child (four, five or over). This means three or five minutes of waiting quietly in his room. If your child screams or cries while he is in his room, wait until he is quiet and then time his three or five minutes. (If you go to him while he is crying, he will learn that crying brings you to him in his room, which you do not want).

4. At the end of three or five minutes of quiet, go to his room door, or shout upstairs for him to come down for being a quiet boy. Say nothing more about the incident when he has come down. If he refuses to come down, just leave him to come in his own time.

N.B.   If you are wanting your child to do something, tell him once, then tell him again with a warning of Time-out if he does not obey. If necessary then use the Time-out.

Punishment:

You have probably been wondering why I have not mentioned the use of punishment at all so far, but have talked only of rewards.

In fact, a third part of our basic idea tells us that a behaviour will be avoided whenever it is followed by a punishment (as well as when it fails to produce a reward). So to find out what actually is a punishment for your child, you need to observe which things you do to him after a behaviour, which seem to make that behaviour less likely to happen again. Quite often when you think you are punishing your child by shouting or smacking him, you are only rewarding him with your attention. So it is wrong to call such shouting and smacking punishment at all, as they make behaviours more likely to happen again.

A smack used occasionally may work as a punishment, but often smacks given often and inconsistently (that is not always for the same things) are more likely to act as rewards.

There are several reasons why it is better to use rewards than punishments, a list of these follows:

1. If you punish by shouting, scolding, or smacking you are giving your child a lot of time and attention, so this turns into a reward and you are actually rewarding behaviours which you do not want to see, and making them more likely to happen again.

2. If you shout or smack, you will upset your child and he will become less likely to be able to control himself and do as you wish. He may become angry and want to hit you or shout back at you.

3. Shouting or smacking also upsets you much more, and you may become

angry or lose your temper. If you can ignore a behaviour or use a
Time-out as soon as it starts, you will be able to stay calm and not
lose control over yourself.

4. If your child sees you getting what you want by shouting and smacking,
he is very likely to try and use them himself to get what he wants.
In other words, he will copy you, and become more likely to hit out,
or shout at people.

5. Finally, when you punish a child, you are only telling him what not
to do, and leave him not knowing what he should do instead. By
rewarding good and wanted behaviour, you are always telling and showing
him how you want him to behave.

Punishment can be used in changing your child, if it is used carefully,
so as to be non-rewarding as much as possible. For example, Time-out
works so well because children dislike being by themselves, as well as
the fact that it takes attention away from their unwanted behaviours. Also
if your child is on a star system, then if he is five years old or so,
you can take stars from him when he misbehaves. That way he will take
longer to earn his rewards, and you can also use a consequence such as
an early bedtime when he has only earned a few stars that day (deciding
beforehand how many this will be). Likewise however, be sure to reward
earning a large number of stars with a late bedtime in this case.

I hope this information will be clear to you, and we will be able to
discuss any points which do not make sense to you. This is yours now to
keep and use not only at the moment, but also in the future if you have
further problems.

Chapter 11.

Methodology and Evaluation of

Research Results.

11:1   Methodology.

The case for using a time series experiment as a basis for the experimental

design with all the children assessed and treated, was discussed fully

in chapter 7. Briefly, an N=1 design was chosen because all cases referred

could be dealt with as fully as necessary within a reasonably short period

of time, and the fairly small number of cases referred would have made

the matching of controls difficult.

It was also decided that the technology of single case designs was advanced

enough to show that such designs are evaluable, using each case as its

own control. The type of single case design chosen, that is the time

series design, best fitted the circumstances in which the assessments and

treatments were being carried out, that is using parents as mediators

having no specialised skills in behavioural control.

The time-series experiment consists of a series of baseline measurements

of a behaviour, followed by an intervention and then by a series of

measurements of the same behaviour after this intervention. This can be

depicted as:-

0 0 0 0X0 0 0 0

where 0 refers to some process of observation or measurement, and X represents

the exposure of the subject to an experimental variable or event, that is,

the intervention.

In the present study, the O's before the X depict the baseline frequencies of a target behaviour on each day of the assessment, the X depicts the start of the management programme, and the following O's depict the frequencies of the same target behaviour on each day after the commencement of the programme.

The evaluation of the time-series experiment therefore lies in showing a significant discontinuity in the measurements recorded in the time-series. In the pilot study only a visual analysis was applied to the data to assess whether such a discontinuity had occurred, however, in the present research study in addition to this visual method a further type of analysis was tried. This is known as a Time Series Analysis and will be looked at along with a closer consideration of the time-series experiment.

11:2 The Time Series Analysis.

The main reason why a visual analysis of a time-series experiment is not enough is a statistical property of behavioural data known as serial dependency. This has been identified as the major reason why some statistical analyses of single subject designs are not appropriate (Hartmann, 1974).

Serial Dependency:

Serial dependency is a common property of behavioural scores derived from repeated observations on a single subject. This is because the measurement of a behaviour on any one day is not independent of the measurements on the other days. That is, the measurement on day one will be related to or predict the measurement for day two, which in turn will be related to or predict the measurement for day three etc.

When this happens the sequence of measurements is said to be serially dependent. The term "serial" refers to the fact that the temporal order of the measurements is an inherent and inviolable property of the measurements, and the term"dependent" refers to the relationship between scores in the temporally ordered series (Jones, RR et al., 1975).

Serial dependency is not readily perceived by either statistical or visual methods of analysis on raw behavioural data. To appraise its presence it is necessary to calculate a statistic called an autocorrelation coefficient - this indicates the extent to which scores of one time point in a series are predictive of scores at a later time point in the series. If an autocorrelation coefficient is statistically significant (say at the usual 0.05 level of confidence), then it can be said that the scores are serially dependent. To calculate an autocorrelation - pairs of scores from the series are formed as follows:
The score from time point one is paired with the score from time point two, the score from time point two is paired with the score from time point three etc. When the pairs are formed with scores from adjacent time points, the resultant coefficient is called a lag 1 autocorrelation since there is one time point lag or difference between the two scores in each pair. Larger lags can be formed by pairing for example, score one with score three, score two with score four etc. to form a lag 2 autocorrelation.

Jones et al., 1975 in their paper "Visual vs. Statistical Inference in Operant Research" tested for the effects of serial dependency on the accuracy of visual inspection in 24 graphs sampled from the Journal of Applied Behaviour Analysis. Briefly their conclusions were that judges tended to be accurate (using a visual analysis) at levels above chance, (73% accuracy) only when the data points are independent of one another -

(where accurate refers to the judges reaching the same conclusion as a formal time-series analysis as to whether a change in level was present in the data.)

When serial dependency was high judges scored exactly at the chance level - 50% accuracy.

Also inter-judge agreement on test items was far from perfect, and the data suggested a general failure of judges to arrive at a consensus.

Serial dependency therefore can be seen to be an important factor in the analysis of single subject behavioural data, and if it is found to be present (by the calculation of autocorrelation coefficients), then a statistical prodecure known as the Time Series Analysis has to be applied to the data as this analyses changes in the data taking into account any serial dependency present.

The Analysis:

A Time Series Analysis first transforms the raw scores or measurements to uncorrelated or serially independent scores which then satisfy the assumption of uncorrelated data required by linear parametric models.

Secondly it then statistically compares the transformed scores from adjacent phases in the design. This is done by making use of the linear regression model to test for differences in level and trend between the baseline and treatment phases.

The statistics involved in this process are complex and are usually done using a computer programme. Such a programme was obtained and used to help evaluate data resulting from the research cases whenever the data fitted

the requirements of the programme.

The Computer Programme:

The programme used is called TMS: Two Fortran IV programmes for analysis
of Time-series experiments, written by Bower, Padia and Glass, 1974.

The first programme - CORREL, computes the autocorrelations from a set
of serial data points, with a designated intervention point, so producing
pre- and post-intervention autocorrelations from lag 1 to lag 14. These
lag 1 to lag 14 autocorrelations are then used to identify the mathematical
model which the data follows which is then used in the second programme,

The second programme - TSX - transforms the data using the model found in
CORREL into serially independent data and analyses the data for changes
in level and trend.

Detection of Level and Trend by Time Series Analysis:

To test whether an intervention has had any effect, the time series analysis
shows statistically whether there have been any changes in level or trend
of the scores from the baseline to the treatment phase. Level refers to
the central tendency in autocorrelated time series scores, a change in
level refers to change at the interuption (intervention) point and is seen
as a discontinuity in the series from one phase to the next. Trend refers
to any gradual upward or downward linear slope in the behavioural scores
over time. A continuous trend may be evidenced throughout the entire series
or trend characteristics of the data may vary from phase to phase of the
experiment.

There are six main possibilities of combinations of changes in level and
trend. These will be looked at in turn as in Jones et al., 1976. "Time
Series Analysis in Operant Research".

t_o = start of time series

t_i = an interuption point

t_p = end of time series

Baseline   Treatment
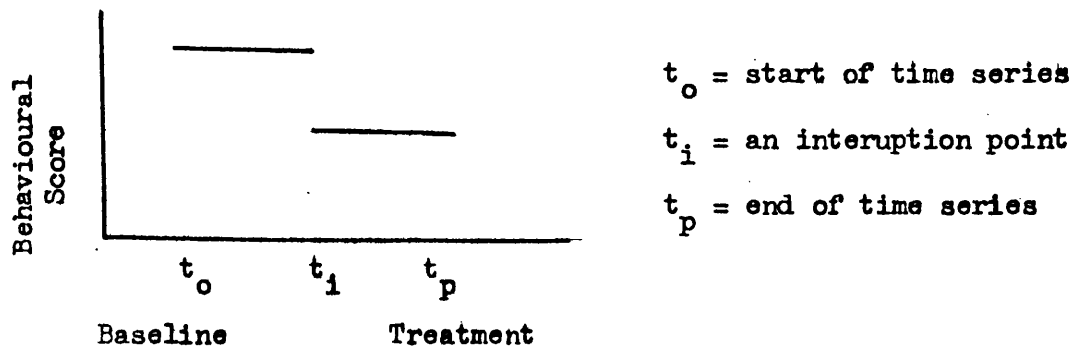
Fig. 11:1   Change in Level, Zero Trend, No change in Trend.

Change in level at an interuption point may be seen as an overall increase or decrease in the scores during the treatment period. The time-series procedure inspects the pattern of baseline scores and predicts what the scores in the treatment phase should be, given the baseline scores. If the scores in the treatment phase are statistically different from the estimated scores, the analysis estimates the magnitude of change and a proabability value for the significance of the change.

Baseline   Treatment
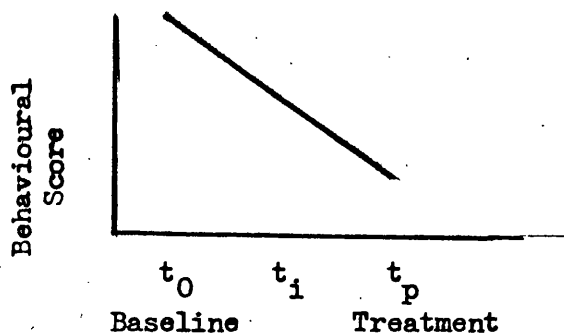
Fig. 11:2   No Change in Level, Non-Zero Trend, No Change in Trend

This detects any upward or downward linear slope in the behavioural scores over time. This kind of change, called trend, across all phases is particularly troublesome since a treatment effect can be interpreted

simply as a continuation of the trend first established during the

baseline rather than a change in level at the interuption point due

to treatment. (The establishment of a stable baseline, that is, with

zero trend, is useful to guard against such a mistaken interpretation).

Behavioural Score

t_o t_i t_p

Baseline   Treatment
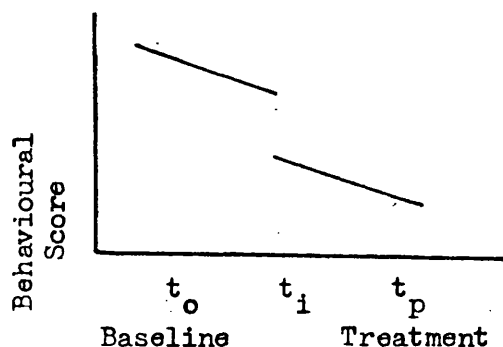
Fig. 11:3   Change in Level, Non-Zero Trend, No Change in Trend

The time-series analysis can detect changes in level even when non-zero

trend exists in the scores. That is, if scores are gradually decreasing

and the treatment is powerful enough to produce the intended effects, time

-series analysis may detect a significant change in level at the interuption

point, taking into account the non-zero trend. This therefore means that

the need to continue baseline observations until the zero-trend is

established is not always necessary if such an analysis is to be used as

a change in level can still be detected if it exists.

Behavioural Score

t_o t_i t_p

Baseline   Treatment
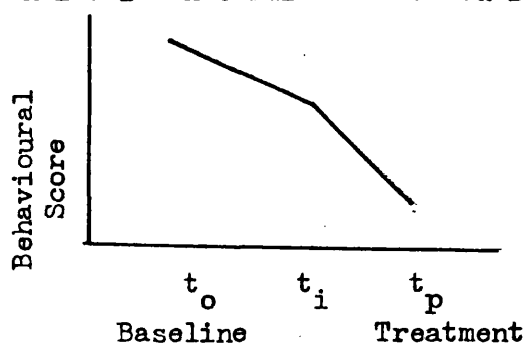
Fig. 11:4   No Change in Level, Non-Zero Trend, Change in Trend

This fourth kind of change involves changes in trend between baseline and treatment phases where there is no change in level at the interuption point. For example, a gradual downward change during baseline may be accelerated or slowed down during the tretment phase. Detecting changes in trend essentially amounts to identifying changes in rate of change in the scores. Change in trend might involve a reversal of the direction of the trend from baseline to treatment phases. That is, downward trend during baseline may change to upward during the treatment phase. Such changes can be detected by time-series analysis without any change in level.
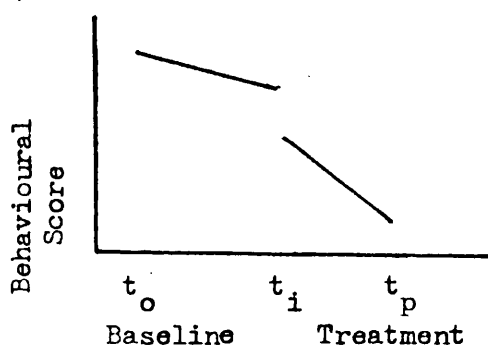
Fig. 11:5   Change in Level, Non-Zero Trend, Change in Trend

This involves both level and trend changes. That is, treatment might change the level of scores at the interuption point, and also might change the rate of any upward or downward trend from baseline to treatment phases. When such changes in both trend and level parameters are obtained, visual inspection can be misleading since it is difficult to accommodate change in trend subjectively when inspecting for change in level or vice versa. Time series analysis however can account for one of the two parameters when testing for significant change. in the other.
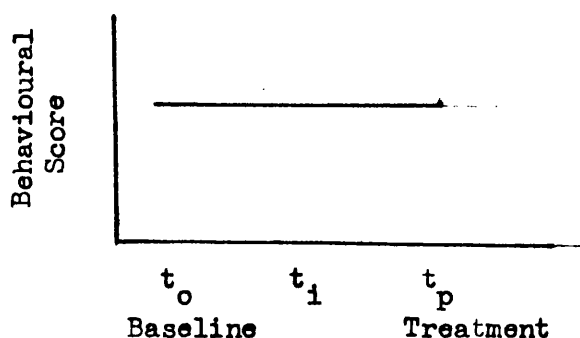
Fig. 11:6   No Change in Level, Zero Trend, No Change in Trend

This shows no change in behaviour whatsoever. When the scores in both phases are highly invariable, visual inspection for change in level can be misleading. The time-series analysis provides an appropriate method for testing the null hypothesis in such cases.

11:3   Visual Inspection of Data.

The changes in level and trend discussed in the previous section can to an extent be detected visually(bearing in mind the problems mentioned) as long as there is no high degree of serial dependency present in the behavioural scores.

A full time-series analysis is not necessary if the first part of it (calculation of autocorrelation coefficients) indicates that serial dependency is not a significant factor. Referring back to Jones et al., 1975, visual inspection of data with low serial dependency effect was 73% accurate, that is, in accordance with a time-series analysis in 73% of cases.

11:4   Evaluation of Cases.

Out of 24 cases referred during the research phase, six cases were seen only once and were referred on or were inappropriate. These cases were not followed up (group R1).

The nine cases in research group R5 (see chapter 9) and the one case in research group R4 will be looked at individually and then the data from these cases will be considered with reference to a Time Series Analysis and visual analysis.

The remaining eight cases did not provide enough data to be fully evaluated but will be looked at briefly after the R5 and R4 cases.

Case R5-1

A boy Christian, aged seven years, four months on referral in February
1976 for Aggression and management p oblems.

Background Information:

Christian was born at full term, but after a normal birth was put into
an incubator for ten days because of low birth weight - 5lbs 1oz. As a
baby he presented no problems. He walked at 13 months, and spoke in short
sentences by 20 months. He was toilet trained fully by 2 years, 2 months.

On referral he had no handicaps, and his I.Q. on the Weohsler Intelligence
Scale for Children was 114, his social age on the Vineland was 7 years,
7 months (S.Q. = 103). On the Rutter A(2), he obtained a score indioative
of problem behaviour taking his age into account. His score on the
hyperactivity questionnaire was 40, and he was considered not to be
hyperactive.

Christian's difficult behaviour began when his mother was suffering from
nerves when he was about 18 months to $2\frac{1}{2}$ years, his father also being ill
at this time.

Christian's parents presented a reasonably stable if volatile marriage,
but the family had undergone several moves from England to America and
back during Christian's lifetime (his mother being American). Christian's
mother suffered a spell of dizzy aches and pains and anxiety when Christian
was two to three years old, and was on valium for a while. Since then she
has had no problems. The relationship with Christian was generally good.
There were two younger brothers, Iain Dylan, five years and Sath three
years at time of assessment. Both can be willful.

Behavioural Analysis:

Two main target behaviours were presented - defiance and aggression. A third disruptive behaviour when out visiting disappeared during the baseline period.

Defiance -

Antecedents - occurred mainly at home with both mother and father. Mealtimes tended to be worse, or when he was watching television. With his mother defiance occurred when she tried to get him to do things, with his father it occurred more when stopping him from doing things.

Behaviour -. Christian would ignore the request or he said "No". Sometimes when asked to tidy up he made things worse. This occurred at least twice a day according to his mother.

Consequences - His mother repeated the request and would then shout. Sometimes she would ignore him. His father repeated the request and would usually get involved in a verbal dipute with Christian. Christian would then get a smack or may have been sent to his room.

Aggression -

Antecedents - occurred mainly at home and at anytime, but happened more when the television was not on and his mother was not in the room. Happened with his brothers, animals or peers outside the house. It seemed to occur with his brothers when they would not do as Christian wanted.

Behaviour - Christian would hit with his hand, and then his brother (usually Iain Dylan) would retaliate and a fight would develop. This happened once a day usually.

Consequences - Christian's mother would enter the room and shout at the boys to stop. If they continued they would both be smacked or threatened with a smack. Occasionally Christian would be sent to his room.

Clinical Formulation:

The defiance leads to verbal disputes and Christian succeeded in upsetting

his parents and getting a. lot of attention - as he did with the fighting
also. The parents tended to handle the defiance differently and argued
a lot about how to control the children. A joint decision about this was
needed, and a system of Time-outs to reduce attention seemed necessary,
along with rewards for compliance.

The Programme:

Time-outs were used for defiance and aggression - the two boys being
separated immediately a fight began. A star chart for both Christian and
Iain Dylan was started specifying jobs in the house which had to be done
and a choice of rewards. Both defiance and aggression dropped and both
boys were behaving better (the baseline of aggression was reported to be
artificially lower than previous weeks). By May, defiance and aggression
were only happening occasionally.

Parents' report:

Both parents used the programme in the same way and were pleased to reach
aggreaent on handling the children. Both felt Christian's behaviour to
have improved.

Follow-ups:

The family moved to America again in early June 1976, so no follow-ups
have been possible.
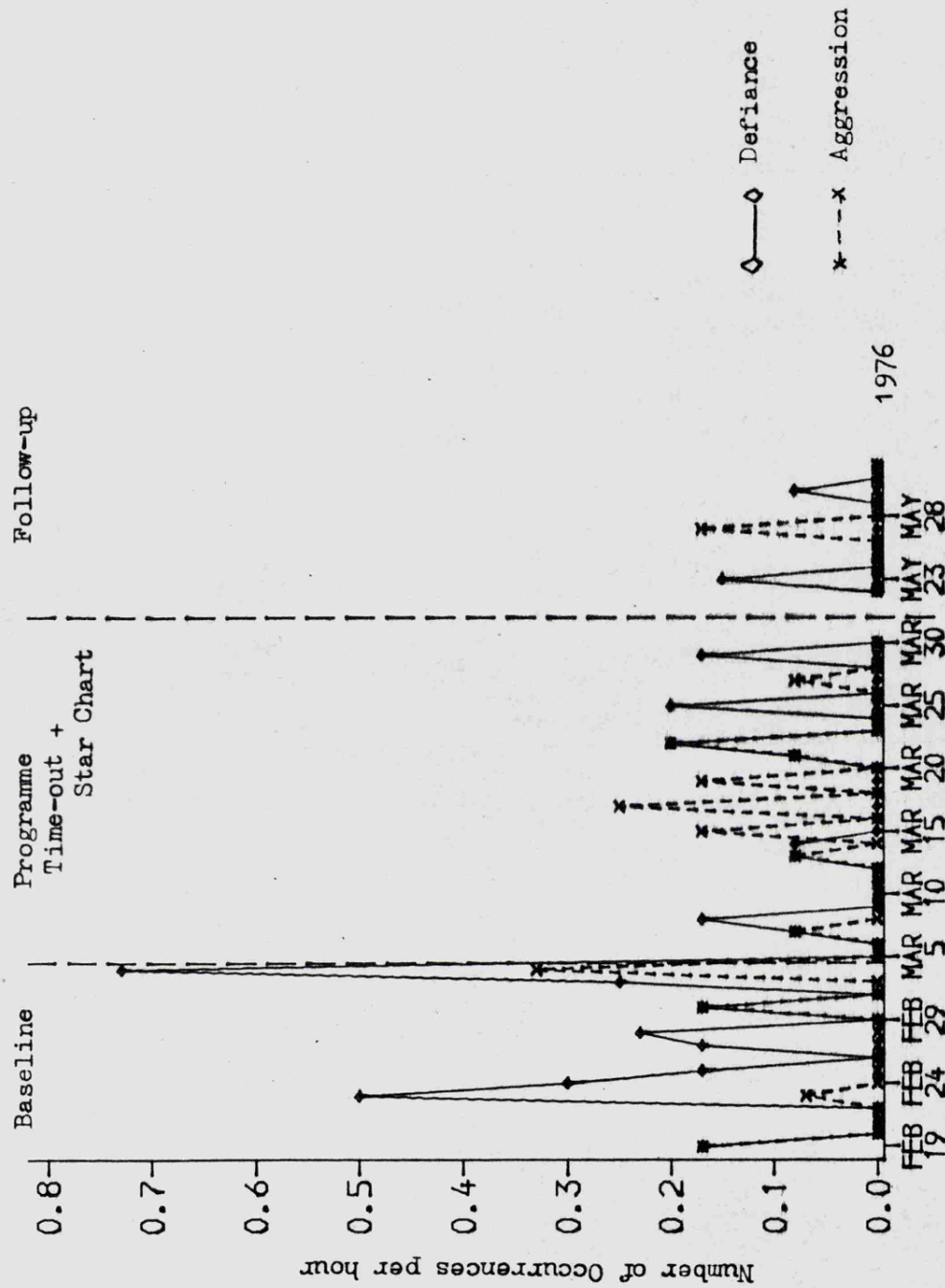
Fig. 11:7 Christian R5-1 Baseline, Programme and Follow-up

A boy, Kelvin, aged three years, eleven months on referral in March 1976, for hyperactivity and management problems.

Background Information:

Kelvin was born one week premature, after his mother had fallen at six months pregnant. It was an induced but normal delivery; birth weight 5lbs, 14oz. The baby was very difficult to feed, and there were problems with sleeping and crying in the first few months. The baby also wanted to be held much of the time. Kelvin walked at ten months, and spoke in short sentences at 2½ years old. He was clean day and night at two years, and also dry at day at two years. He was still wet at night during the assessment.

On referral, Kelvin had no handicaps, his I.Q. on the Merrill Palmer was 135, and his social age on the Vineland was four years, four months (S.Q.= 106). On the P.S.B.Q. Kelvin scored highly, well into the problem range past the 99th percentile. His score on the hyperactivity questionnaire was 72, indicating the presence of hyperactivity. He was fully assessed for hyperactivity by Theresa Smith in April and May 1976, and advice was given on self-control exercises in May 1976.

Kelvin's difficult behaviour developed from the problems as a baby. He developed a temper and was very excitable.

Kelvin's mother was separated from her husband soon after Kelvin's birth and lives with her parents who have helped bring Kelvin up, his grandmother staying at home with him until he was two. Kelvin has been in a full day nursery since he was two years old, and has never been difficult there, though little contact was made with the nursery. Kelvin's mother has had

problems with anxiety since Kelvin was a baby, and has been on tranquillizers on occasions. She gets very fed up with Kelvin at times because he is so difficult with her - but not her parents. Kelvin's mother has a steady boyfriend with whom Kelvin is well behaved. There are no siblings.

Behavioural Analysis:

There were two main target behaviours, defiance and temper tantrums, though the latter decreased during the baseline and were not involved in the programme.

Defiance -

Antecedents - defiance could happen anywhere and at anytime with his mother. The journey home from the nursery was often especially difficult. He was not defiant with his grandparents. The defiance was precipitated by a request to do or stop doing something.

Behaviour - Kelvin ignored the request or said "No" and continued with what he was doing. This could happen many times a day.

Consequences - Kelvin's mother would try to ignore him or she would insist and repeat her request many times. Forcing Kelvin to do something would also at times lead to a tantrum. Kelvin may then be smacked.

Clinical Formulation:

Kelvin openly enjoyed defying his mother and upsetting her, and some way of stopping her getting so upset seemed necessary. There were also many instances of compliance which were ignored - particularly if Kelvin had beed defiant beforehand. More attention needed to be given at such times and less when he was defiant.

The Programme:

Kelvin's mother resisted the idea of using Time-outs, so it was suggested that she walk out of the room on Kelvin, or try to ignore the defiance more. A star chart was set up to reward Kelvin for compliance.

Although his mother reported an improvement (and the tantrums did cease),

the frequency of defiance did not drop and Kelvin still could upset his

mother easily. Later Time-out was used but with little consistency. The

star chart was stopped in June as Kelvin was reported to have lost interest.

Parent's Report:

Kelvin's behaviour was reported to be variable still and he could be very

difficult. Some improvement was felt to be achieved because of the

disappearance of the tantrums.

Follow-ups:

In October 1976 Kelvin was reported to be fairly well behaved, but in

November, the mother contacted us to say that Kelvin was seriously worse

than before. At this point even his grandparents could not make Kelvin

behave well when he chose not to. The use of Time-outs was tried, but the

main difficulty was felt to lie in the poor relationship with his mother,

and the fact that his time was now split between a childminder (for whom

he behaved well and calmly) and his mother (for whom he was extremely

defiant and overactive). The family was referred to Dr. Herbert for help

other than a management programme, and some self-control exercises were

tried with him in January/February 1977 by Theresa Smith. Kelvin started

school at Easter 1977, and was reported to be behaving better after this

time.
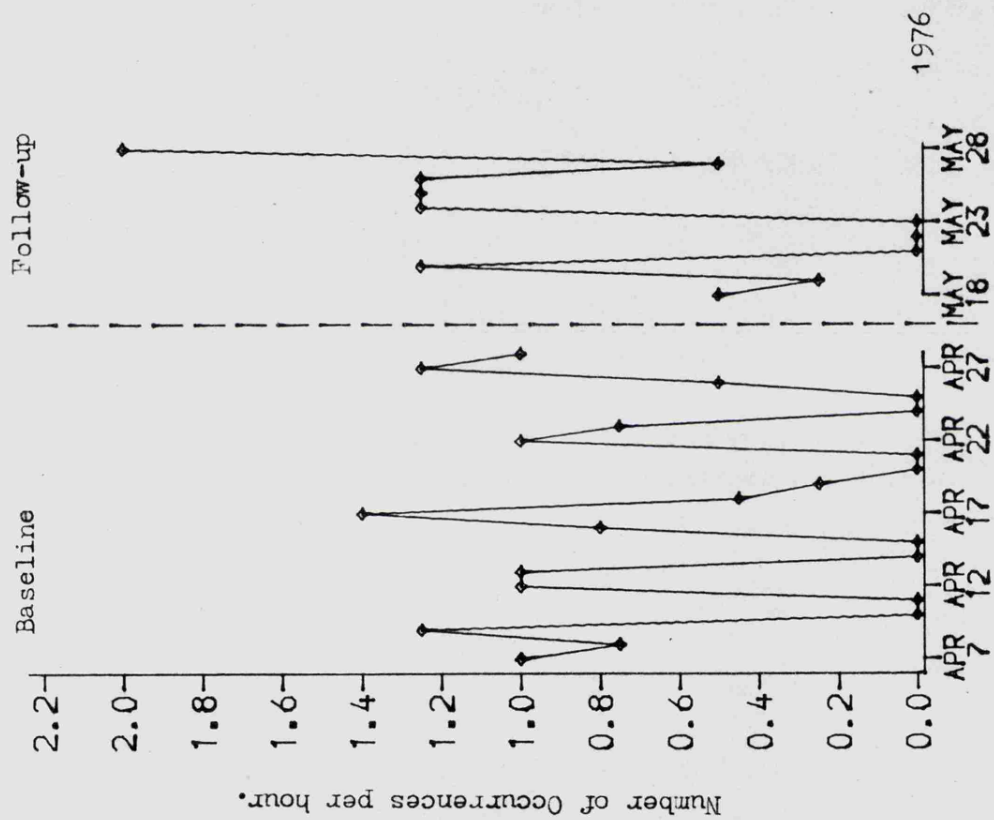
Fig. 11:8   Kelvin R5-2   Baseline and Follow-up   ◇— Defiance

Case R5-3

A boy, Peter, aged five years, no months on referral for temper tantrums
at home.

Background Information:

Peter was born at full term after his mother received hormone treatment
throughout the pregnancy because of previous miscarriages. The delivery
was normal after a ten-hour labour, birthweight was 8lbs., 2oz.

As a baby, Peter presented no problems, and was not difficult
temperamentally. His development was normal, he walked at 12 months and
spoke in short sentences at two years. He was toilet trained fully by 18
months. He suffered no serious illnesses.

On referral Peter was showing no handicaps. His I.Q. on the Wechsler Pre-
school and Primary Scale of Intelligence was 130, his social age on the
Vineland was five years, ten months (S.Q. = 115). However, on both the
P.S.B.Q. and the Rutter A(2) he obtained scores well into the problem
range after taking his age into account. On the hyperactivity questionnaire
he scored 50, indicating no great extent of hyperactivity in Peter's
behaviour.

Peter's behaviour problems started when a younger brother (John) was born
when he was 15 months old. His tempers became worse when John fell seriously
ill when Peter was 25 months old.

Peter's parents appeared to have a stable marriage and to have close
relationships with the children. However, John's illness had placed great
strains upon the family especially his mother, who has at times had to
be with him constantly. There is an elder son David (nine years old at

assessment), who has also been a problem at times with aggression. Peter's
mother has at times been prescribed valium for nerves when John has been
very ill.

Behavioural Analysis:

Two main target behaviours were apparent, temper tantrums and defiance.

Temper Tantrums -

Antecedents - these occurred with Peter's parents but mostly with his
mother, in the house or when out walking. Bed-time was a common time but
otherwise they were unpredictable. They start when his mother requests
him to do or not to do something, or when a request from Peter is refused.

Behaviour - Peter first defied his parents verbally and then would
start to rush around, yell and throw things and may throw himself on the
floor. After 10 to 15 minutes he would calm down, and start to cry and
may go to his mother for comfort. If she then repeated her request the
tantrum may be repeated. This was estimated to occur at least five times
a week.

Consequences - Peter's mother would try to reason with Peter, but she
would then get annoyed and shout at him or smack him. She would not usually
give in to his demands however, although this had occurred in past years,
to get peace, especially when she was very tired after looking after John.
Peter's father would ignore the tantrum or smack him immediately, and such
tantrums usually lasted a much shorter time.

Defiance -

The antecedents and consequences were the same as for tantrums, but the
behaviour went no further than the verbal abuse and defiance. This occurred
two or three times a week.

Clinical Formulation:

It was felt that Peter's mother's reasoning and the attention she gave
him during the tantrums and defiance was maintaining their occurrence,

and that she must start to ignore them. Although the frequencies were low, each occurrence was very upsetting and at times Peter's mother felt quite a strong dislike for her son. The development of attention-seeking behaviours was understandable in the light of the severity of John's illness and his demands upon the mother. As John was still ill at the time of the assessment this element of competition for the mother had to be remembered and more time given to Peter alone.

The Programme:

Initially a star chart was started during the summer, but Peter's parents were reluctant to use Time-out. However, after the family holidays it was decided to use Time-out and back this with praise and attention for behaving well, (the star chart was felt to have little influence on Peter). Time-out in his bedroom was given for both defiance and tantrums. In the next three months, frequencies of both target behaviours decreased somewhat but continued to occur, and in December the tantrums and later the defiance became worse. In the New year, a star chart was started again to provide more rewards for Peter, and the Time-outs were tightened up, however, there was little improvement until Peter's mother decided to use a punishment of putting Peter to bed until the next morning if he was difficult on return from school. After this was done once, there was a considerable improvement in his behaviour and the frequencies of both target behaviours dropped.

Parental report:

Both parents felt Peter's behaviour had now improved and that the advice they had been given had helped them cope with better with Peter's problems. The punishment was used because another mother had achieved success with this method, and the parents took the decision to try it in spite of the warned possible side-effects.

Independent Assessment:

Peter was assessed independently during the baseline period and again after termination of the programme eight months later. The scores for section I (presence of problem behaviours) had dropped from 22 to 16 and for section II (parents' concern for the child) from 7 to 2. An improvement in Peter's behaviour was reported, also an increase in the mother's confidence in coping, and an improved mother-child relationship.

Follow-ups:

From March to August 1977, Peter's behaviour at first was good and then deteriorated somewhat during the school holidays. This was felt to be expected during such a long holiday (eight weeks) and his mother felt that things would improve again and that she could cope with the present situation.
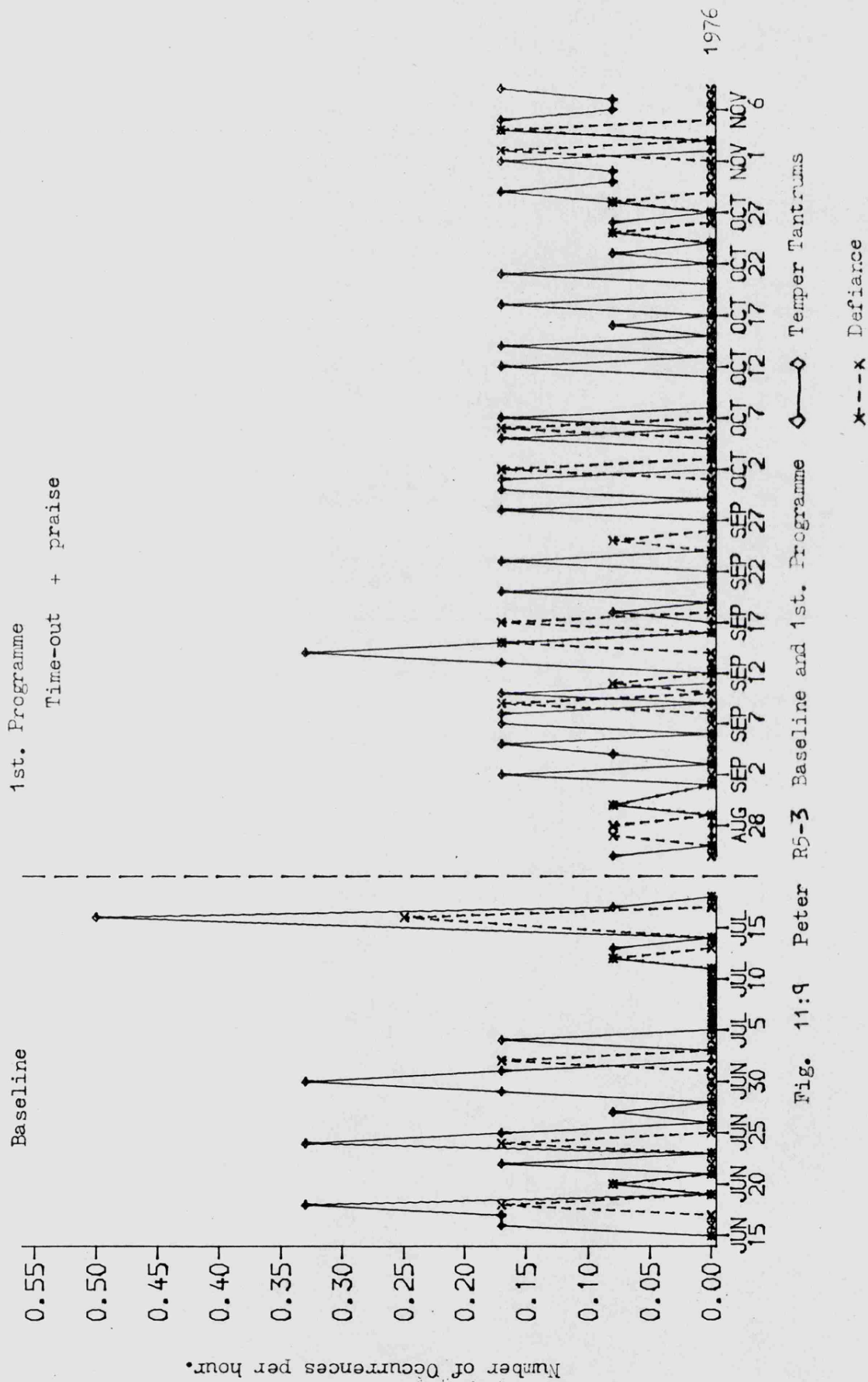
Fig. 11:9 Peter R5-3 Baseline and 1st. Programme

◇——◇ Temper Tantrums

– – – Defiance
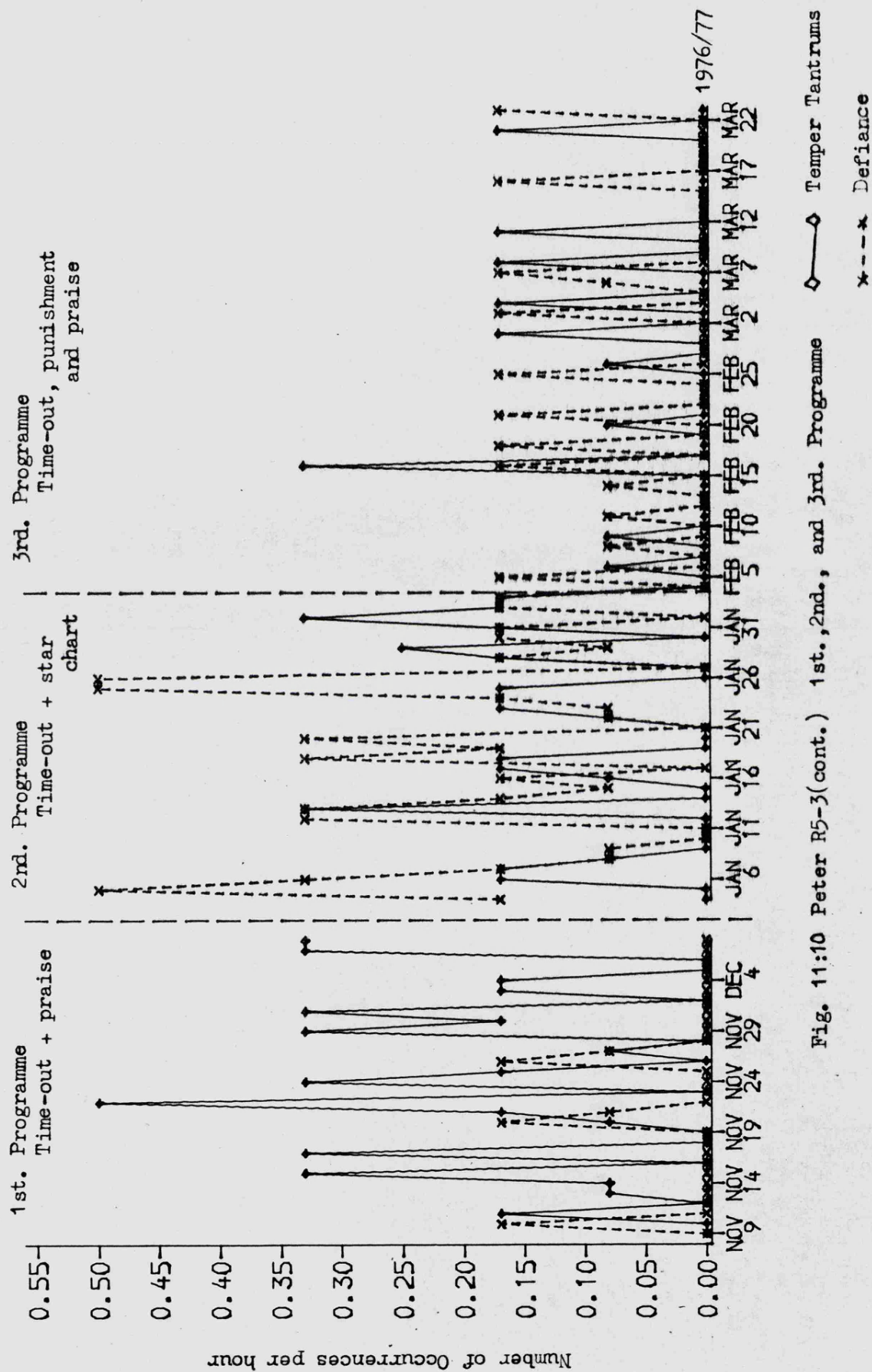
Fig. 11:10 Peter R5-3(cont.) 1st.,2nd., and 3rd. Programme

1st. Programme
Time-out + praise

2nd. Programme
Time-out + star
chart

3rd. Programme
Time-out, punishment
and praise

◇——◇ Temper Tantrums

– – Defiance

Number of Occurrences per hour

1976/77

Case R5-4

A girl, Caroline, aged three years, six months on referral in July 1976

for management problems and soiling.

Background Information:

Caroline was born two weeks late, the delivery was normal, labour lasting

four hours, the birthweight was ten pounds. Some oxygen was given to the

baby after birth.

As a baby there were severe feeding problems, Caroline developed an

aversion to milk. Problems were eventaully solved by Caroline's admittance

to hospital for training to eat. The baby was also difficult temperamentally,

she cried a lot in the day and demanded attention. Development was normal

(walked at 12 months, short sentences at 18 months), apart from day toilet

training which was not achieved. Caroline was clean and dry at night from

three years, two months old.

On referral, Caroline had a severe turn in her right eye for which she

was waiting to be operated on. Her I.Q. on the Merrill Palmer was 84, and

her social age on the Vineland was three years, seven months (S.Q. = 100).

On the P.S.B.Q. Caroline scored will into the problem range (99th.

percentile). The hyperactivity questionnaire gave her a score of 39, which

is low.

The management problems developed from the feeding difficulties, and

Caroline had temper tantrums and breath-holding attacks as a toddler.

Day toilet training has had no effect. (Medical causes for soiling and

wetting have been ruled out). Caroline's parents presented a stable marriage,

but Caroline's relationship with her mother was poor - particularly

because of the soiling at present. Valium has been prescribed for the

mother on two occasions when Caroline had been particularly difficult in the past. Caroline has an elder brother Gary (seven years old at assessment) who has shown no problems.

Behavioural Analysis:

There were three target behaviours, soiling, wetting and defiance.

Soiling -

Antecedents - Soiling could occur anytime and anywhere, when she is with her mother. She would not soil if with her father alone.

Behaviour - Caroline marked or soiled her pants, once or several times in a day. She showed no awareness of this.

Consequences - These varied with her mother's mood, Caroline may be smacked or just changed without a fuss.

Use of the toilet: Caroline would sometimes use her pot for motions if requested, but no routine had been established.

Wetting -

The antecedents and consequences were the same as for soiling. Wetting could involve a full emptying of the bladder and could happen several times a day. Again she would use her pot if requested on occasions.

Defiance -

Antecedents - Happened with her mother at home or when out visiting or shopping at anytime. Not with father. Defiance was precipitated by Caroline being asked to do or not do something.

Behaviour - Caroline continued to do what she was doing with little regard for her mother, or she would purposefully repeat an act, or say "No". This could happen two or three times a day.

Consequences - Caroline's mother repeated her requests many times and usually smacked Caroline after which Caroline would desist from the defiance.

Clinical Formulation:

A routine for toiletting had never been established, nor any method of

toilet training systematically tried. The consequences for soiling and wetting were unpredictable but often involved a lot of attention. Likewise the defiance leads to focussed attention on Caroline and often to physical contact, and she seemed purposefully to defy her mother for the resulting smack.

A reduction in attention given after the target behaviours appeared to be necessary along with a toiletting routine with rewards and also rewards for compliant behaviour.

The Programme:

A star chart was started with regular toiletting, and rewards for both using the pot and remaining clean for periods of the day. Caroline's mother's use of this was not consistent after the first week, partly because of diarrhea due to the high roughage diet also started to clear any constipation. But once the diet was stabilised, the stars seemed to be having no effect on Caroline's soiling. After about three weeks, Caroline's mother found her smearing faeces outside late one afternoon, and was very angry and put her to bed as a punishment leaving her there until the following morning. She then told Caroline that this would happen again next time she soiled. From that time Caroline's soiling improved rapidly and had disappeared completely within a month, Caroline only going to bed on a few occasions. The wetting improved without any treatment, starting during the baseline recording. Caroline's defiance was handled with five minute Time-outs in her room and her general behaviour also improved considerably. Her mother felt that at last she had established control over Caroline particularly with the soiling. Follow-up recording in November confirmed the near extinction of the target behaviours.

Parents' report:

Caroline's mother had first put Caroline to bed for several hours in anger, and then decided to repeat this as there was an immediate improvement She was supported in this because of the beneficial results. Overall her parents were pleased with the improvement in Caroline's behaviour and her mother felt she how had ways to cope with any problems which arose.

Independent Assessment:

The independent assessments were carried out during the baseline period and aga n nine months later. The score on section I had dropped from 20 to 13, and on section II from 12 to 1. An improvement in behaviour was reported, and also a more positive attitude to Caroline from her mother at the post-treatment assessment.

Follow-ups:

From January to August 1977, Caroline's soiling enly happened on rare occasions, though pant wetting did occur in short spells. General behaviour is good mainly, though it tends to deteriorate when Gary is on holiday from school.
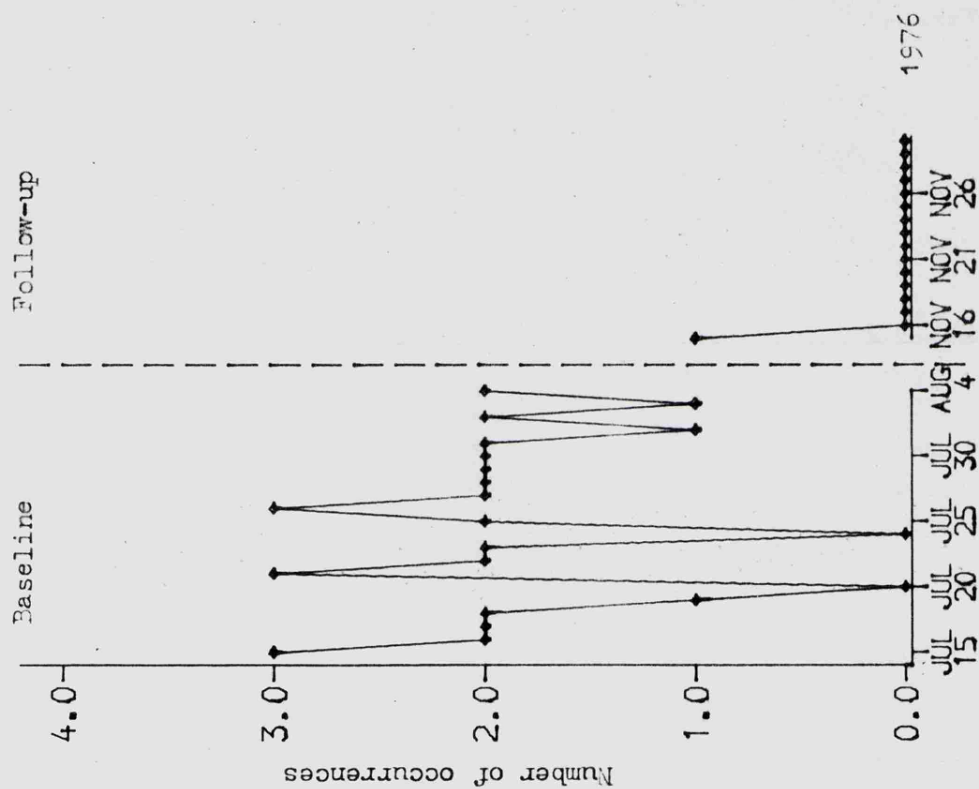
Fig. 11:11 Caroline R5-4 Baseline and Follow-up ◇——◇ Defiance
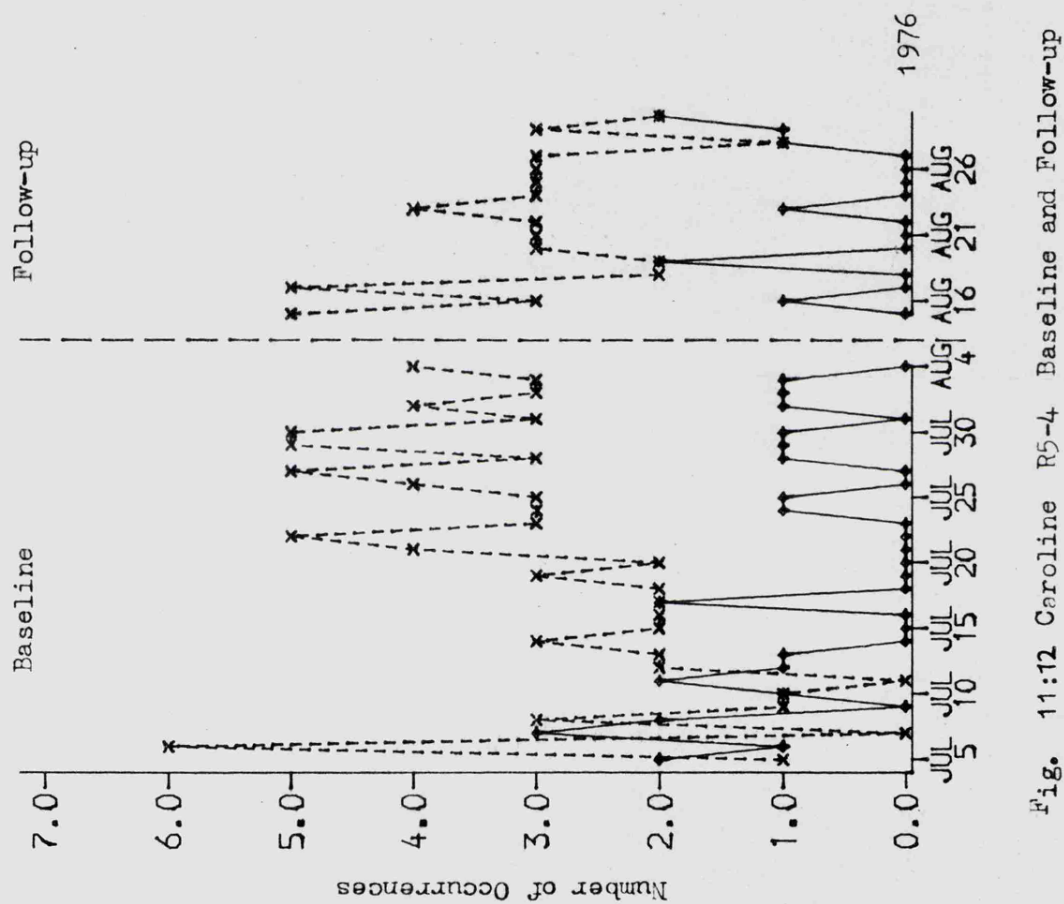
Fig. 11:12 Caroline R5-4 Baseline and Follow-up

◇——◇ Wet Pants
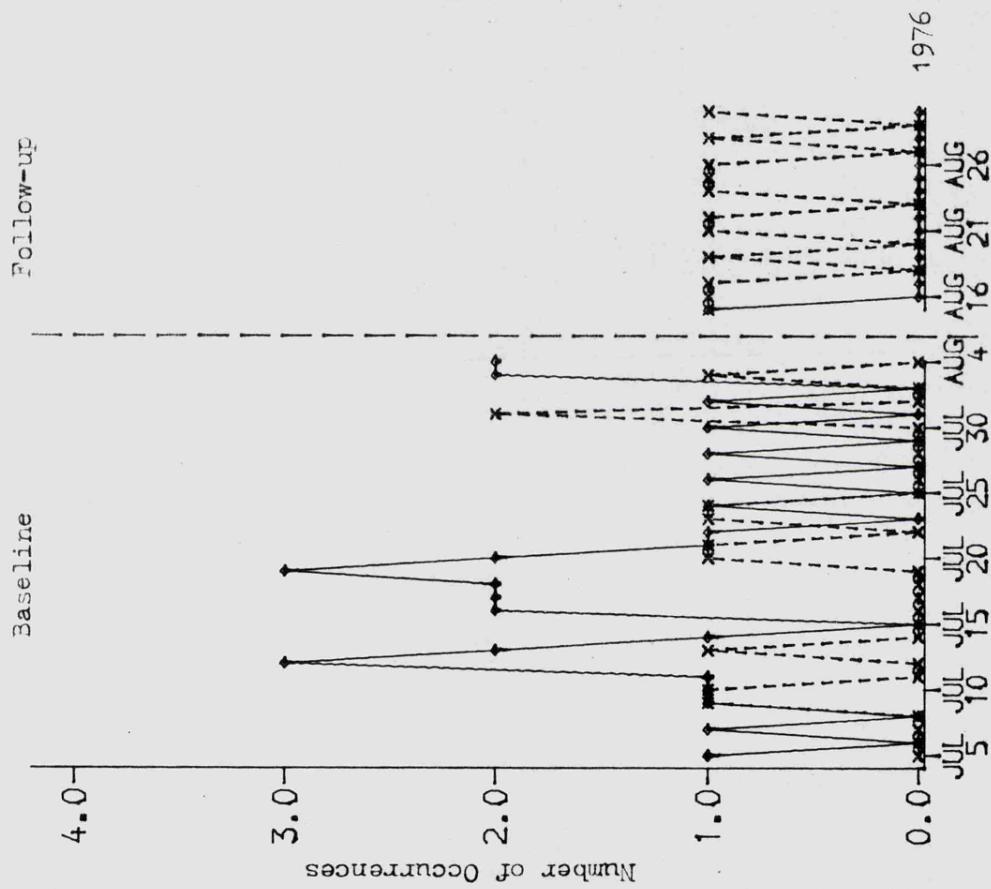
- - - Use of Toilet

Fig. 11:13 Caroline R5-4 Baseline and Follow-up

◇————◇ Dirty Pants

✗- - -✗ Use of Toilet

Case R5-5

- 277 -

A girl, Lisa, aged seven years, seven months on referral in September
1976, for management problems and hyperactivity.

Background Information:

Lisa was born at full term after a normal delivery and a five hour labour.
However, a low birthweight of four lbs, four ozs. caused her to be in an
incubator for one month.

As a baby there were few problems except her lack of sleep during the day,
and demands to be with her mother. Motor development was normal (walked
at 16 months), but speech was slow, words appearing at two years six months
and sentences not until she went to nursery between three years six months
and four years. Toilet training day and night was achieved at three years.
As a baby she suffered from croup.

On referral there were no handicaps, her I.Q. on the Stanford Binet was
75, her social age on the Vineland was five years, eight months (S.Q. = 74).
On the Rutter A(2) and the P.S.B.Q. she obtained high scores well into
the problem range taking her age into account. Her score on the hyperactivity
questionnaire was 65, and because of the motor activity and attention
difficulties she was referred to Theresa Smith for a full hyperactivity
assessment and treatment, to run concurrently with a management programme.

The behaviour problems did not develop until Lisa was about five years
old when she became defiant.

Her parents have been involved with a Family Service Unit social worker
for some time for marital difficulties and help with the eldest son Mark
(eleven years at assessment), who is mentally handicapped, and at present

resident in Dr. Barnado's. There is also an elder sister Tina (ten years old) who attends an E.S.N. school, who is very immature and attention-seeking in a clinging manner but otherwise well-behaved. The father refused to answer questions about himself. The mother has health problems and also needed tranquillizers while Mark was still at home (up to about four years ago).

Behavioural Analysis:

Two main target behaviours were presented - defiance and tormenting her sister Tina.

Defiance -

Antecedents - Defiance happened anywhere and at anytime, though mornings and meal-times were especially difficult. Happened more with her mother, but recently with father as well. It was precipitated usually by being asked to stop doing something, but also by being asked to perform self-help behaviours.

Behaviour - Lisa usually gave a verbal reply and then continued with what she was doing. This could happen up to two or three times an hour, but it may not occur at all during good moods.

Consequences - The request was repeated with her mother getting angrier. Lisa may then have been smacked or sent from the room. The defiance could still continue and things would   have to be done for Lisa, for example, her mother would dress her.

Tormenting Tina -

Antecedents - This occurred at home whether or not the mother was in the room. It usually happened when Tina was sitting quietly or reading.

Behaviour - Lisa sat or stood next to Tina, nudged her, teased her verbally or took things from her. This usually happened once a day.

Consequences - Tina complained, first to Lisa and then to her mother who would come in if she was in another room. The mother then intervened

and the pattern described in defiance would ensue.

Clinical Formulation:

Both the defiance and the tormenting appeared to be maintained by attention from Lisa's mother and also from the pleasure of upsetting Tina. A Time-out system seemed to be appropriate combined with a reward system for being well-behaved and doing things for herself. As the two girls are fairly close it was decided to use a joint star system. Lisa's high motor activity and short concentration span do not help her to settle down and play to amuse herself, so self-control exerciese were also to be used.

The Programme:

A Time-out was to be given immediately defiance or tormenting started, and stars were to be given whenever Lisa was compliant or well-behaved over a period of time. She could also earn stars for dressing withing a specified time period.

Although there appeared to be some decrease in the highest frequency of defiance per day, there was no overall decrease in the target behaviours in the next four months. Good spells occurred, but these had already been present before the programme started. It proved very difficult to find back-up reinforcers of any value to Lisa, she lost all interest in sweets and changed her likes very quickly from one day to the next.

It appeared that Lisa was still managing to get away with defiance on occasions, especially when her mother was not well, and she would repeat "naughty" behaviours on returning from Time-out, often being sent out three of four times in a row. In January, after four months, the programme was discontinued for a trial period, during which time Lisa's behaviour was not too unacceptable, and the case was then terminated.

Parents' report:

It was felt that the management programme had not changed Lisa's behaviour much, but that it had brought mother and father together on their handling of her. Probably more concern with Tina's attention-seeking and the competition between the two girls for attention was needed.

Independent Assessment:

This was carried out during the baseline period and five months later. Scores on section I had increased from 24 to 26, and had dropped on section II from 7 to 6. Not much change was reported and a possible worsening in her relationship with Tina. The parents were felt to be expecting more of Lisa and lacking conviction about the use of behavioural techniques.

Follow-ups:

Lisa's behaviour deteriorated when the family moved house at Easter 1977, and she was presenting problems again over the summer. A management programme was not felt to be appropriate as support is being given to the family by their social worker.
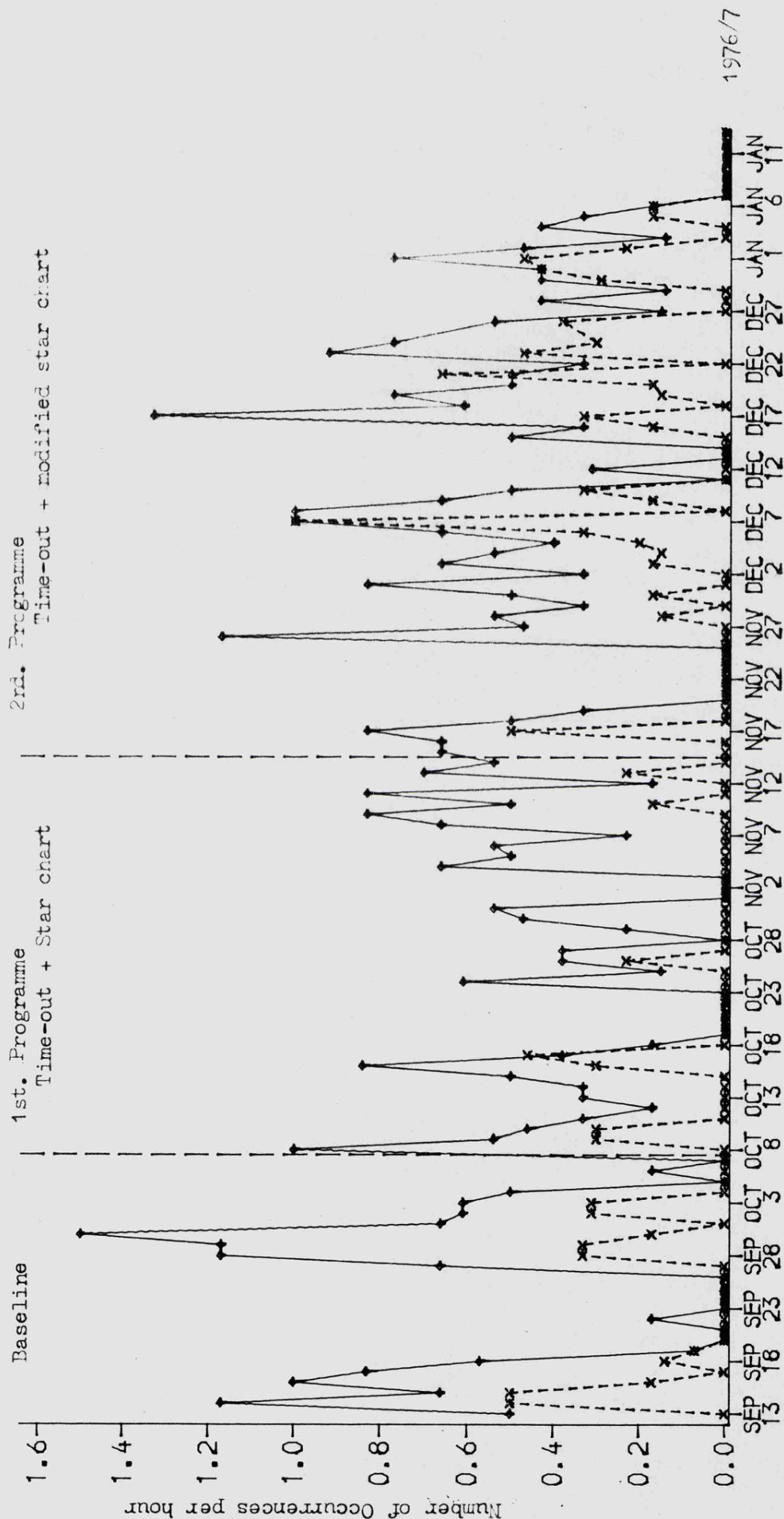
Fig. 11:14 Lisa R5-5 Baseline, 1st. and 2nd. programme

Case R5-6

A boy, Wayne, aged six years, three months on referral in October 1976, for hyperactivity and management problems.

Background Information:

Wayne was born after only 26 weeks gestation because his mother's lung collapsed. A Caesarian operation was performed and the baby only weighing 2lbs.13oz then spent 3 months in an incubator. This left Wayne with a mild right hemiparesis.

The baby was extremely difficult temperamentally and also presented feeding and sleeping problems. He was also very attention-seeking and defiant even as a baby. Because of the hemiplegia, he needed much physical care, and his development was slow, and he was nearly three before he walked. Speech development was also slow and short sentences did not appear until he was four years old. Bowel and bladder control was achieved at three and a half, but Wayne still wets occasionally and did so for a long time after he had the control.

On referral, Wayne's right hand still has little use, but his right leg is only weak. He also wears glasses for a strabismus. Wayne's I.Q. in February 1975 on the Merrill Palmer was 84, but this was felt to be an underestimate because of his handicap, and he was felt to be of average intelligence. On the Vineland, he obtained a social age of four years, three months (S.Q. = 66) again his handicap artificially lowering this, but not to such a degree. On the Pre-school Behaviour Questionnaire, Wayne scored well into the problem range all scores being on the 99th. percentile. His score on the hyperactivity questionnaire was 77 indicating the presence of many aspects of hyperactivity. He was later referred to Theresa Smith (January 1977) for a full hyperactivity assessment and

treatment to try to calm Wayne down somewhat.

Management problems have been present since Wayne was a baby, and a programme to reduce tantrums had been implemented in 1975, however, these had become worse again after the family moved in September 1976.

Wayne's parents' marriage was unstable and the father has had psychiatric treatment for nerves, and has a violent temper, if he drinks too much alcohol. Wayne's mother still had poor health because of her lungs and was on valium after Wayne's birth. There were two elder sisters, Dawn 15 years, and Carrie seven years. Carrie bears the brunt of much of Wayne's bad temper, but she can be very awkward herself.

Behavioural Analysis:

Two main target behaviours were apparent, temper tantrums were again severe and fighting had become a problem.

Temper Tantrums -

Antecedents - These could occur anywhere with anyone Wayne knows well. They started when Wayne could not have or do what he eanted.

Behaviour - Wayne pestered for what he wanted or continued with what he wanted to do saying "No" when told to stop. He would then start to swear, shout, kick or hit, throw things, etc. This could happen several times a day.

Consequences - These varied from being sent out of the room to being smacked or shouted at.

Fighting Carrie -

Antecedents - This could happen anywhere and at anytime, with or without other people present. It happened for no apparent reason at times, or when Wayne was annoyed with Carrie.

Behaviour - Wayne jumped on Carrie, tried to strangle her, kicked her, bites, pinched, pulled her hair etc. This happened several times a day.

Consequences - Carrie screamed and tried to fight Wayne off, he was then

pulled away by his father or mother and may have been smacked or sent out,

or held until he was calm.

Clinical Formulation:

Wayne's tantrums were being met by a variety of consequences, practically

all achieving him much attention (which Wayne actively sought most of the

day in various ways). Ignoring and Time-out were felt to be the only ways

of reducing the frequency of these, and Time-out was necessary for the

fighting to stop Wayne seriously hurting Carrie. A star chart was necessary

to try to provide Wayne with an alternative way of getting the attention

and rewards he was getting through his inappropriate behaviour. Wayne's

mother is still fond of him but when he is being extremely difficult,

their relationship is such that Wayne may have to actively draw attention

to himself or be ignored.

The Programme:

Time-out was used for both tantrums and fighting, and a star chart to

earn pocket money was started. The fighting decreased immediately, but

the tantrums continued. During January, Wayne's mother left her husband

taking the children, but she returned in three weeks and the programme

was re-instituted. Later in February, the programme was used to control

Carrie as well, and Wayne reacted well to this, the tantrums decreasing

in frequency. The programme was terminated at the end of March as Wayne

was felt to have improved as much as possible.

Parents' report:

Wayne's parents said Wayne had improved considerably since October, but

were pessimistic about the improvement continuing.

Independent Assessment:

Wayne was assessed during the baseline period and again five months later.

The score on section I had decreased from 36 to 29, and on section II

from 11 to 5. Some improvement was reported and the mother-child

relationship appeared better. Wayne was still felt to be the centre of the household.

Follow-ups:

From April to August 1977, Wayne's behaviour did deteriorate, tantrums became more frequent again, and a new problem behaviour increased in severity - swearing. Wayne's father started the star chart again and Time-outs are still used regularly.
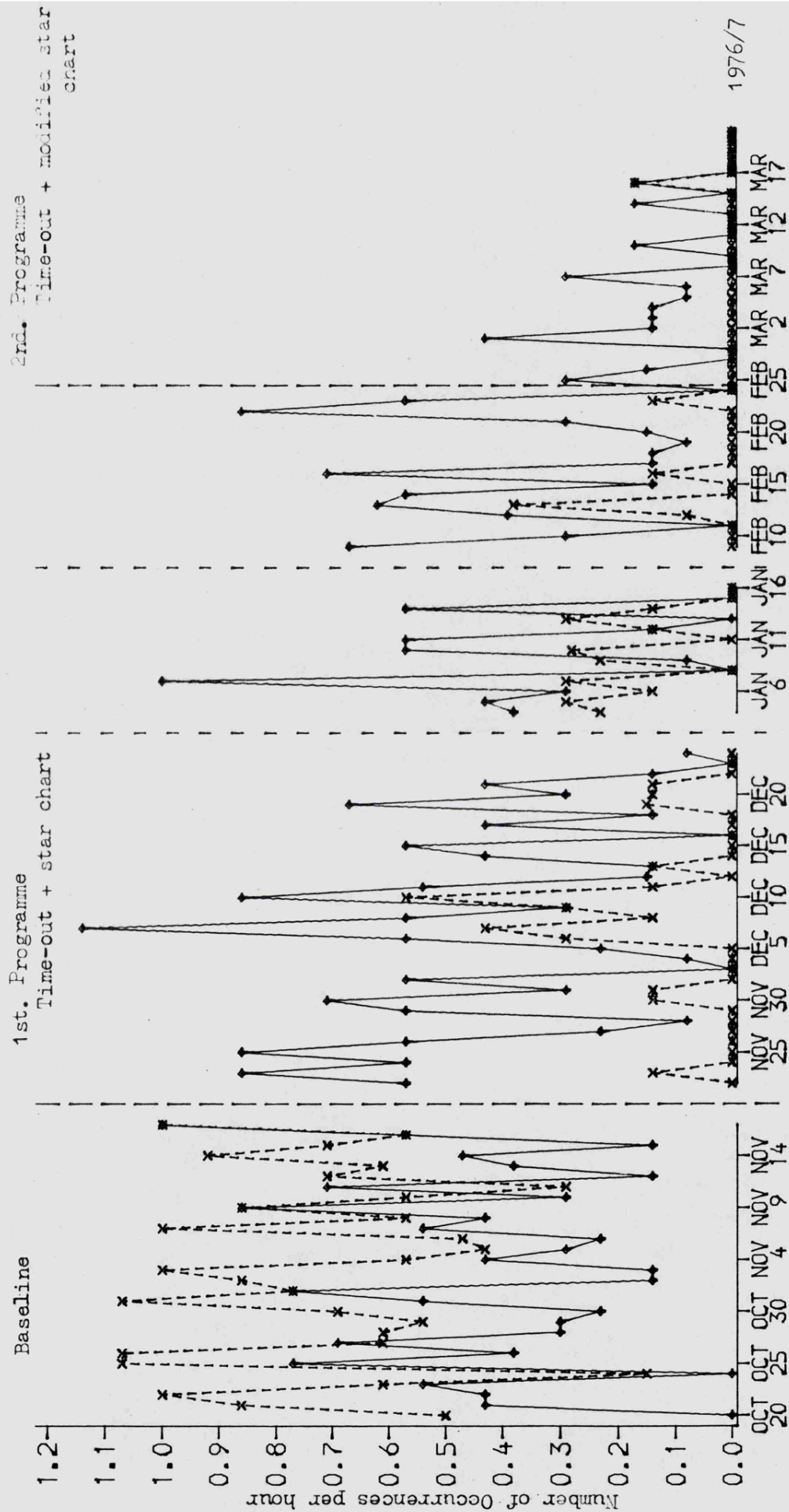
Fig 11:15 Wayne R5-6 Baseline, 1st. and 2nd Programmes

Case R5-7

A boy, Gareth, aged three years,four months on referral in November 1976,

for hyperactivity and management problems.

Background Information:

Gareth was an adopted child, and the parents know nothing of his birth

except that his weight was about 6lbs. He was placed with his present

parents at six weeks and was a temperamentally very difficult baby. He

also cried for long periods except when held and slept badly - suffering

from a stream of colds. He walked at 18 months and spoke in short sentences

also at 18 months. He was toilet trained fully by two years old.

On referral he had no handicaps, his I.Q. on the Merrill Palmer was 124,

and his social age on the Vineland three years, five months (S.Q. = 100).

On the Pre-school Behaviour Questionnaire he scored well in the problem

range at the 99th. percentile. His score on the hyperactivity questionnaire

was 72 indicating the presence of many hyperactivity symptoms and he was

referred to Theresa Smith in February 1977 for a full assessment and treatment.

Problems started when Gareth was a baby, he whined and rocked for hours

on end, and was very defiant and strong-willed.

Gareth's parents initially presented their marriage as stable, but it

became obvious that there were many problems - often attributable to

disagreements over Gareth. Gareth's mother herself was a very anxious

tense person but his father was more placid and confident.

The mother felt that she had no relationship with Gareth whatsoever

There was an elder adopted daughter - Stephanie aged five years who has

been no problem.

Behavioural Analysis:

Three main target behaviours were identified - whining/rocking, defiance
and hitting.

Whining/Rocking -

Antecedents - This occurred when Gareth was alone, usually in his bed-
room, occasionally in the garden. It did not happen when his mother was
not at home.

Behaviour - The whining was a loud rhythmic crying noise, but without
tears, rocking involved Gareth throwing himself from side to side on his
bed, holding his ears. This occurred usually two or three times a day but
depended on how often Gareth was left alone.

Consequences - Gareth's mother would get annoyed and tell him to stop,
he would sometimes be threatened with a punishment, or he may have been
brought from his room.

Defiance -

Antecedents - This usually happened when Gareth was asked to do something
or to stop doing something, it could also happen anywhere at anytime, but
was mainly with his mother (though it started to happen with his father
during the last year).

Behaviour - Gareth's defiance was mainly a verbal contrariness - "I can't
do it" etc., usually starting to obey at the same time but very slowly,
and he required many repeats of a request. When asked to stop something
he would ignore the request. This could happen many times an hour depending
on Gareth's mood.

Consequences - The requests were repeated many times and his mother
would get annoyed, and the task may have been done for him, especially
by his father.

Hitting -

Antecedents - This happened both in and out of the house, with either
mother or father present. It occurred when Gareth could not get his own

way or when no-one was paying attention to him.

Behaviour - Gareth would hit a person's body or slap their face and would try to get in between two people talking. Out of the house, Gareth would hit his mother and other children. This could happen several times a week.

Consequences - Gareth was told off and may have been smacked - especially if fighting with Stephanie.

Clinical Formulation:

Gareth appeared to be seeking attention by his defiance and hitting, especially in the light of a very poor mother-child relationship. Little reinforcement was given to him for his behaving well, and he was often put into his room to play. Gareth's mother needed to give him much more encouragement and praise him and to let him play downstairs near her, along with the use of Time-out for the defiance and hitting.

The Programme:

Time-outs were to be used for defiance and the hitting at home. Gareth's mother was encouraged to praise him and hug him when he complied or was playing nicely which she started to do. He was no longer put in his room to play which cut the whining down greatly although he started to do this later on dressing, when it was ignored. A star chart and timer was used to get Gareth to clear his toys away twice a day. Gareth's mother was very concerned about Gareth's overexcitement and rushing about but Time-outs were felt ot be inappropriate for this so Gareth was then referred for self-control exercises to help this. Out of the house, Gareth was helped to be friendly to other children and praised for this. Problems with dressing were handled by setting Gareth specific goals and ignoring the whining and contrariness. Later playing in the bedroom was re-introduced without the return of whining, and Gareth started to play happily in the garden when the weather improved.

Parents' report:

Gareth's mother's relationship with her son did improve somewhat, although she herself was referred to Dr. Herbert for help with her personal problems (mainly anxiety). Both parents can see an improvement in Gareth's behaviour though his father did not wholly agree with the type of treatment used.

Independent Assessment:

The assessments were made during the baseline and four months later. The scores on section I had dropped from 30 to 21 and on section II from 14 to 5. The child was reported as improved, and the mother as more tolerant and more confident of her handling of Gareth.

Follow-ups:

From April to August 1977, Gareth's improved behaviour has maintained, though he still has bad moods when his behaviour is more difficult. He is still very active and fidgetty and his mother continues to do his exercises with him. Time-out is still used.
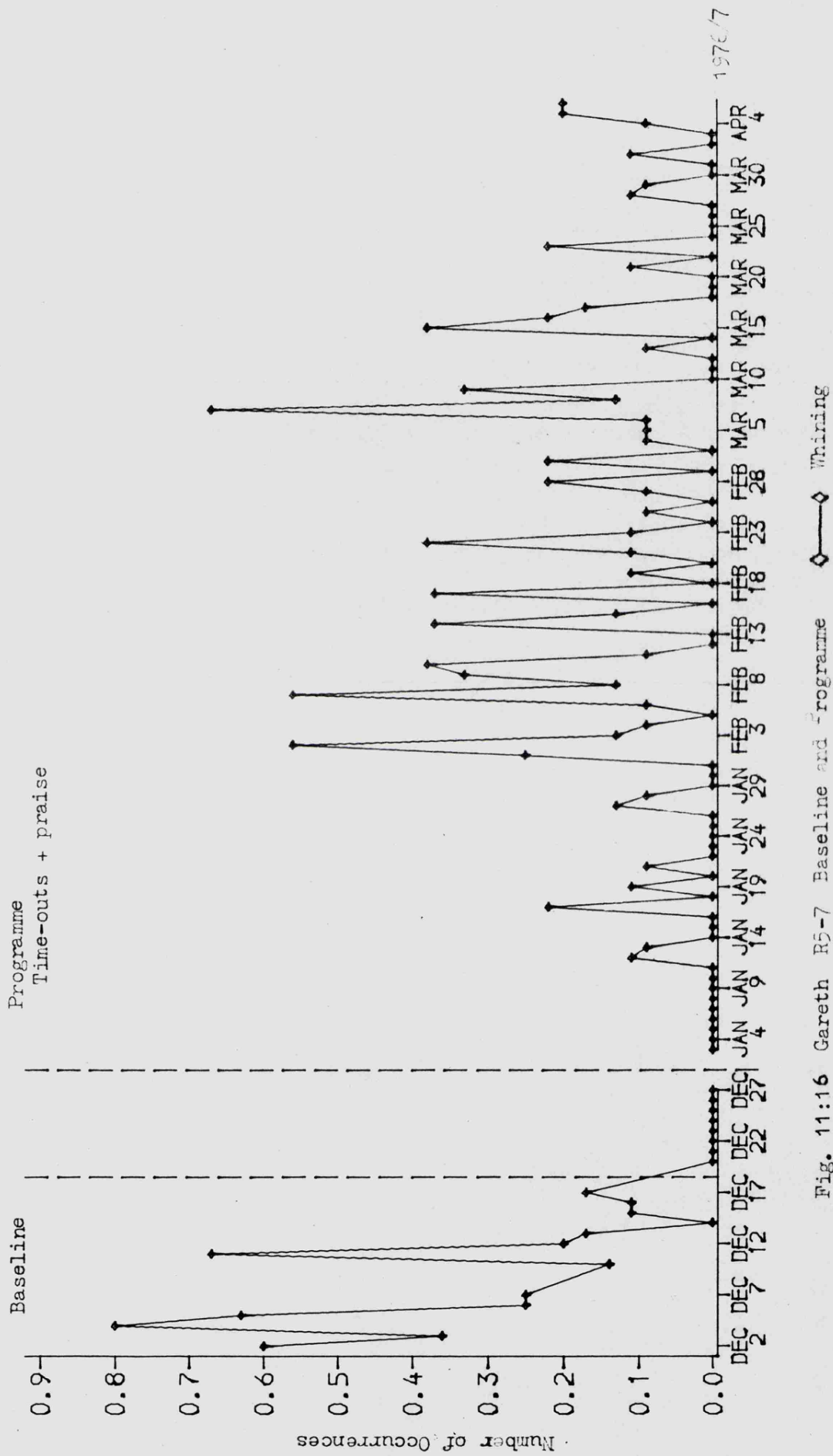
Fig. 11:16 Gareth R5-7 Baseline and Programme
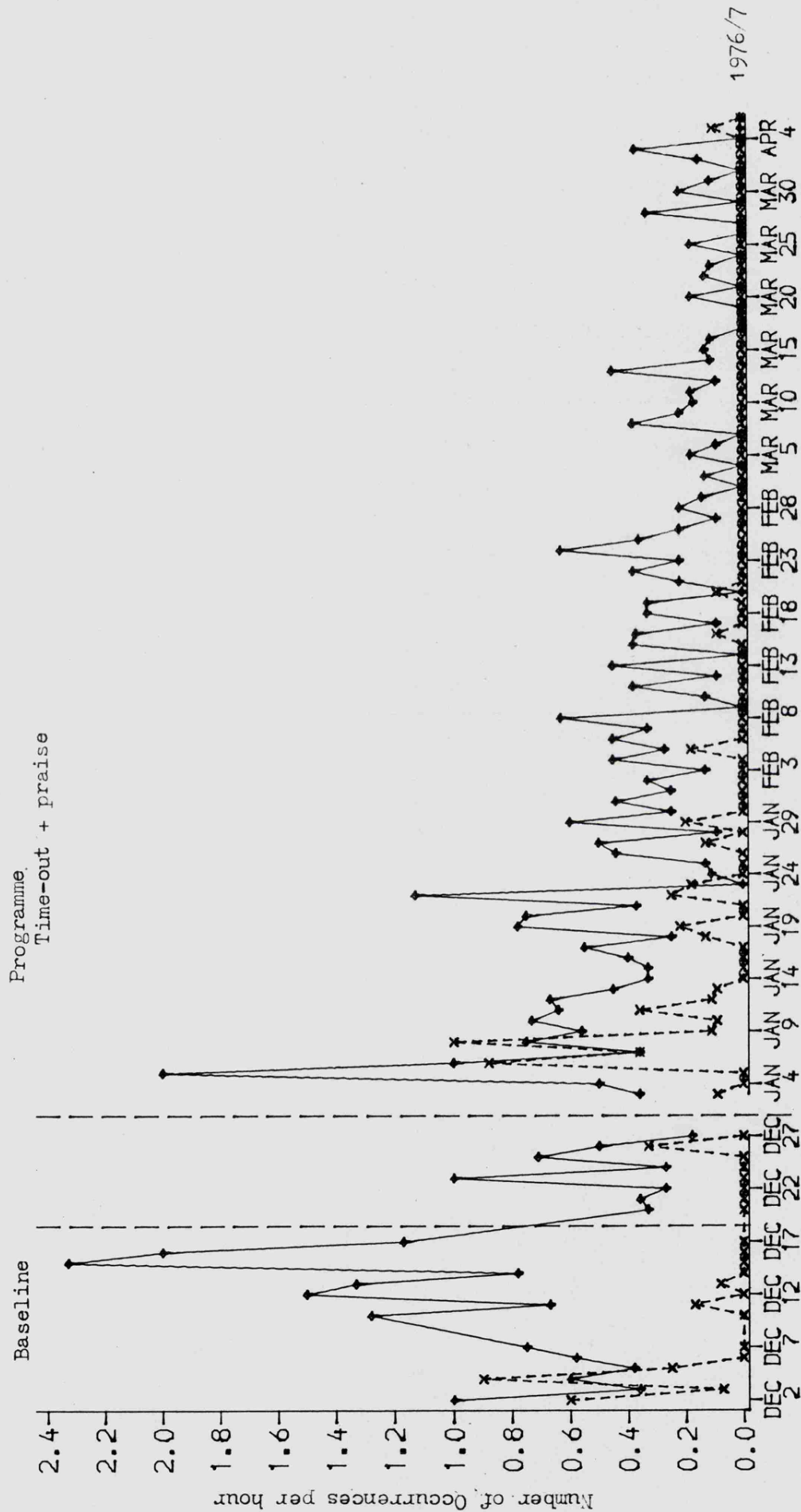
Fig. 11:17 Gareth R5-7 Baseline and Programme

◇——◇ Defiance

✕--✕ Hitting

Case R5-8

A boy, Jason, aged five years, nine months on referral in January 1977,

for aggression and management problems.

Background Information:

Jason was born at full-term, after a normal delivery, birthweight 6lbs,

11oz. As a baby he presented few problems, but became mischievous as he

grew older. He walked at ten months, but speech development was very slow

and he did not speak in sentences until he was four years old. He was toilet

trained fully by two years old.

On referral he had no handicaps, and his I.Q. on the Wechsler Pre-school

and Primary Scale of Intelligence was 92. On the Vineland he obtained a

social age of six years, five months (S.Q. = 113). He scored highly on

the Pre-school questionnaire well into the problem range over the 99th.

percentile. On the hyperactivity questionnaire he scored only 44, and

although he was fully assessed for hyperactivity by Theresa Smith in

February 1977, he did not need self-control exercises and did not appear

as hyperactive.

Jason's defiance and temper developed from his strong will as a baby, and

he had breath-holding attacks at two years. After a week in hospital at

three years old he became more difficult to control. He had three younger

sisters, Suzanne five years, Karen three years, and Leigh-Anne 18 months,

at the assessment. None presented serious problems, but all could be

stubborn.

Jason's mother is separated waiting for a divorce, but has a steady boy-

friend who is regarded as "Dad", by the children though they still see her

husband. Jason was born illegitimately before his mother was married and was shunned by her husband when the daughters were born. Jason's mother liked her son, but gets very upset with him when he is difficult. She also had other problems (ill health and financial worries) to cope with as well.

Behavioural Analysis:

There were three main target behaviours - defiance, temper tantrums and fighting.

Defiance -

Antecedents - Usually happened with his mother, but not with her boy-friend or his parents. Occurred only when the sisters are also present, at home or when out. It was precipitated by asking him to do or not do something.

Behaviour - Jason ignored his mother, or said "No" and carried on. This could happen many times an hour.

Consequences - His mother repeated her request, started to shout and often would get hold of him and maybe smack him.

Temper Tantrums -

Antecedents - Occurred mainly with his mother, even when the sisters are not present, and usually at home. Started when Jason is told off or when he is refused something he wants.

Behaviour - Jason would clench his fist and shake it at his mother and them stamp his foot and run around, screaming, throwing things or hitting his sisters. This happened about once a day or more on a bad day.

Consequences - His mother at first would tell him not to shake his fist but then ignored him until he calmed down a little. She would then put him in a chair and make him stay until he has calmed down.

Fighting -

Antecedents - Occurred mainly with his sisters when they would not do

as he wanted, as part of a temper, or for no apparent reason. It could occur anywhere, at anytime.

Behaviour - He would slap his sisters' faces, kick or throw them across the floor and continue until they cried. This could happen many times an hour.

Consequences - The girls would cry and then his mother then stopped Jason telling him off and maybe smacking him.

Clinical Formulation:

Jason spent much of his time being defiant or fighting, and gained much attention from his mother for this - more than his sisters were getting. There was little praise for Jason for behaving well. Jason's behaviour gave him an advantage in the competition for attention, and he needed a reward system to change the behaviours for which he was reinforced.

The Programme:

Jason was given Time-outs in the hall for defiance and as soon as fighting started. He, Suzanne and Karen had star charts, which lead to pocket money each day. Jason having the job of going to the shop to buy the sweets earned. There was an immediate drop in the frequency of defiance and fighting but this still continued. In April the stars were stopped and a response cost used instead so that Jason was given 2p if he was good all day, 1p if he was reasonably good and nothing if he had many Time-outs. (The number of Time-outs determining the amount of money earned). This helped a little, though charts of Time-outs at this time were lost accidentally. The programme was terminated soon after as little further improvement was being obtained. Fighting had decreased considerably but this was partly due to Jason spending less time with his sisters and fights not having time to develop.

Parents' report:

Jason's mother felt Jason had improved somewhat, but not greatly, and she was disappointed that help for Jason had focussed on her handling

of him.

Independent Assessment:

Assessments were made during the baseline period and three months later Scores on section I had dropped from 22 to 17, and on section I^I from 11 to 8. Jason was reported as slightly better, but the mother as being negative about the programme and unlikely to continue using the techniques.

Follow-ups:

From May to August 1977, Jason was at first more difficult again, but was later reported to have been much better, and the reason for this is not known. A social worker is now helping the family with general problems.
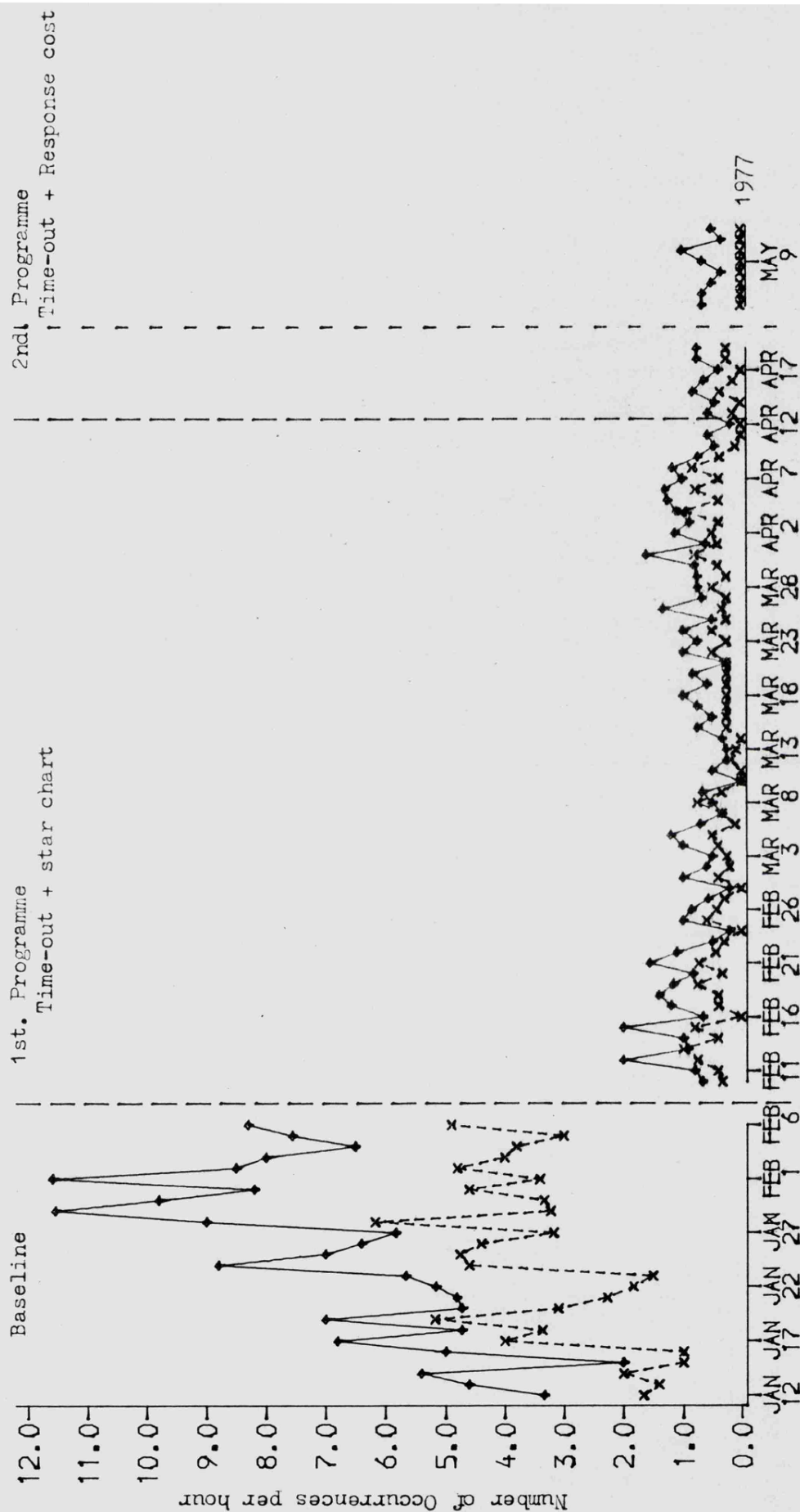
Fig. 11:18 Jason R5-8 Baseline, 1st. and 2nd. Programme

Case R5-9

A boy, Craig, aged four years, three months on referral in January 1977

for hyperactivity and management problems.

Background Information:

Craig was born at full term after a normal delivery and no complications.

Birthweight - 7lbs 5oz. As a baby he was no problem, development was normal

- he walked at 12 months and spoke in short sentences by 18 months, and

was dry at night by two years, three months.

On referral he had no handicaps, his I.Q. on the Merrill Palmer was 135,

his social age on the Vineland four years, 11 months (S.Q. = 116). On the

P.S.B.Q. he scored highly, into the problem range at the 99th. percentile.

His hyperactivity score was 49, and he was assessed fully by Theresa Smith

in February 1977, although his overall score was low, he had a short

concentration and high mobility and so was given self-control exercises

during March 1977.

Craig's difficult behaviour started when he became mobile as he was strong-

willed and became defiant with a temper.

Craig's mother was separated five years ago and Craig has seen little of

his father. His mother has had several courses of tranquillizers over this

time. The relationship with Craig is close except when he is being very

difficult. There are no siblings.

Behavioural Analysis:

There were two main target behaviours, defiance and temper tantrums, but

the latter were already decreasing and disappeared during baseline.

Defiance -

Antecedents - Happened with his mother and occasionally with his grand-
parents. Also happened with his nursery nurse. Could occur anywhere and
at any time unpredictably. Precipitated by a request to do or not do
something.

Behaviour - Craig either ignored his mother or said "No" and continued
with what he was doing. Occasionally he would run from his mother. Could
happen up to several times a day.

Consequences - The request was repeated and he would be tapped to get
his attention. His mother would then get sterner and threaten to get mad
and smack him. Sometimes she would smack him and this usually produced
compliance.

Clinical Formulation:

Craig's defiance seemed to be maintained by the attention he was getting
and the achievement of making his mother angry. The defiance needed to be
ignored and compliance rewarded more than it was. Any tempers which did
occur needed to be managed by putting him into Time-out as this was already
being done inconsistently.

The Programme:

a) At Home - Craig was given several Time-outs for defiance, after which
a warning was often enough to stop the defiance. His mother also began to
ignore defiance more. The frequency of defiance dropped rapidly at first,
and then decreased further until it was a rare occurrence. Craig also earned
stars for being good or compliant - particularly with dressing and un-
dressing, and he enjoyed these and the money he earned from them. He
gradually lost interest in them as his general behaviour improved.

b) At the Nursery - No baseline of behaviour at the nursery was made,
but Craig was reported to be defiant and have tantrums. He was there from

8.30 a.m. until 5.30 p.m. Monday to Friday so a continuation of his

home programme was felt necessary. Craig's nursery nurse was given advice

on handling defiance and the use of Time-out, and Craig earned stars in

a note-book which he took home each day for his mother to add to his

chart.

Craig's behaviour improved greatly at the nursery and the defiance ceased.

Parent's report:

Craig's mother was very pleased with the change in Craig, and felt that

she could now manage him very well. The self-control exercises also helped

somewhat, though his mother felt the use of Time-out to have been very

important.

Independent Assessment:

Craig was assessed during the baseline period and again three months later.

Scores on section I had dropped from 19 to 9, and on section II from 12

to 0. Craig was reported to have improved greatly and was now pleased to

be no longer drawn into confrontations and punishments.

Follow-ups:

Craig's improved behaviour has maintained from May to August 1977, with

no relapses at all.
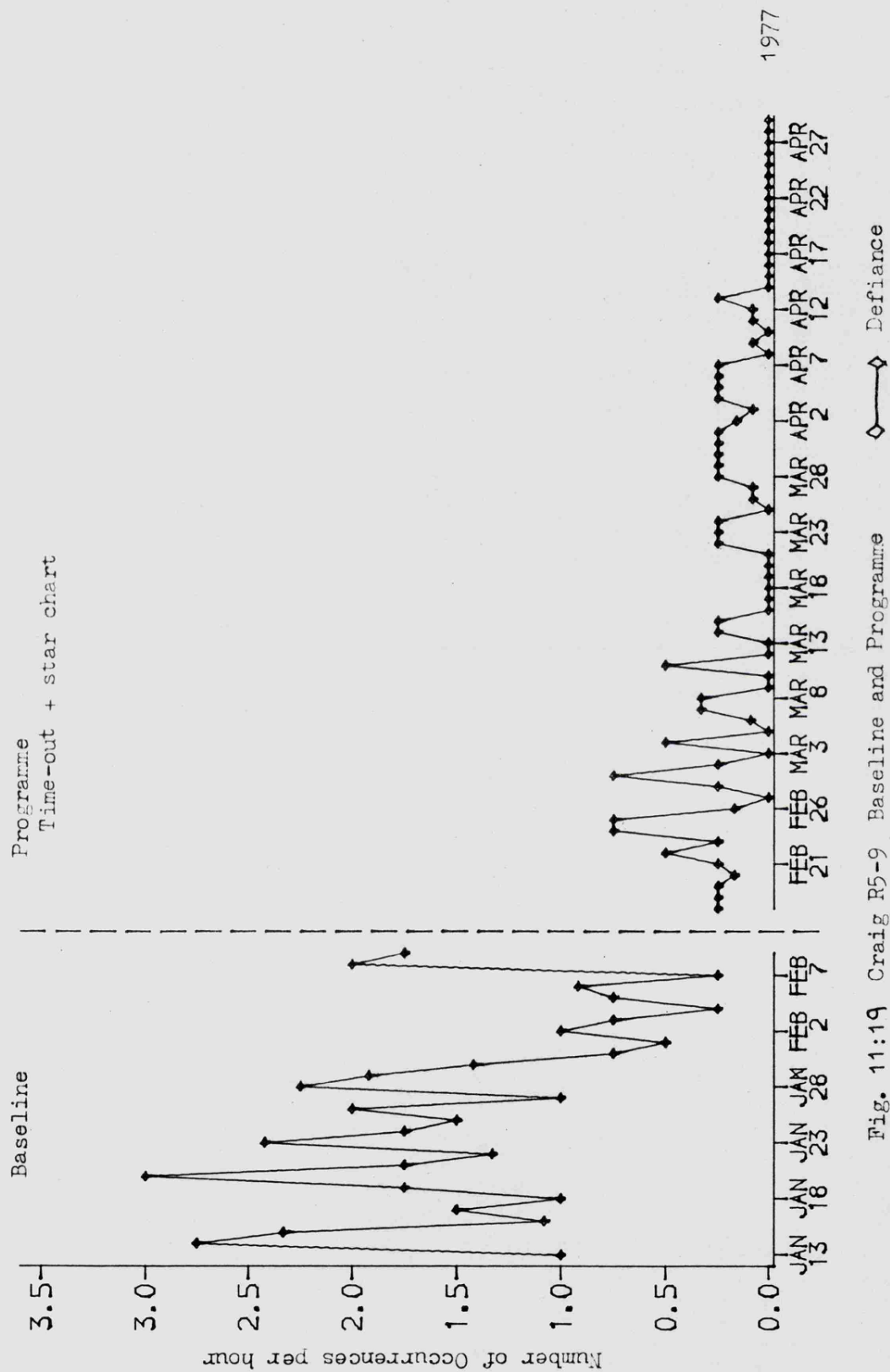
Fig. 11:19 Craig R5-9 Baseline and Programme

Case R4-1

A boy, Darren, aged five years, six months on referral in September 1976, for aggression and management problems.

Background Information:

Darren was born two weeks late, after an normal but induced delivery. Birth-weight - 7lbs 2oz. As a baby he presented severe problems with feeding and sleeping, and he cried much of the time. He was also temperamentally difficult and attention-seeking. General development was fairly normal, he did not walk until two years old, but spoke in short sentences by 18 months. He was toilet trained day and night by two and a half years old. He sufferred from some bronchial trouble as a baby and had some spasms when he would not open his eyes. (These continued and were later diagnosed as migraine).

On referral he had no handicaps, his I.Q. on the Wechsler Pre-school and Primary Scale of Intelligence was 104, and his social age on the Vineland was seven years, no months (S.Q. = 125). On the pre-school behaviour questionnaire Darrens scored into the problem range at nearly the 99th. percentile, but mainly scored highly on the hostile aggressive scale. His score on the hyperactivity questionnaire was 60, and he was referred to Theresa Smith for a full hyperactivity assessment during late September early October 1976. Advice was given about self-control exercises in October 1976.

Darren's difficult behaviour developed from the problems as a baby, and a strong will developed.

Darren's parents presented a stable marriage, though Darren's mother has had problems with anxiety and depression, and at one time took an overdose

of tablets and has refused medication since. There was a separation in the marriage at this time but none since. Problems with Darren as a baby seemed important in these events. Her relationship with Darren was still close (when he was in a good mood), but he could still upset her considerably. There was an older brother Robert, seven years old, and a younger one, Stewart, two years.

Behavioural Analysis:

There were three target behaviours identified; defiance, tantalizing Robert and throwing things. The throwing occurred only on very rare occasions in the baseline and will not be considered in detail.

Defiance -

Antecedents - Defiance occurred anywhere and at any time, but especially with his mother. It did not happen with his father alone. It was precipitated by a request for him to do or not do something.

Behaviour - Darren would take no notice of the request or would often do the opposite, he quite often also made a verbal reply. This occurred many times a day.

Consequences - This varied depending on his mother. The request was usually repeated several times, and she would maybe smack him or send him to his room and get very upset. She found it hard to ignore little annoying things.

Tantalizing Robert -

Antecedents - Occurred at home or when playing out, whether or not his mother was around, and at any time of day, but more in the evening. Often occurred when Robert was reading or watching television or for no apparent reason.

Behaviour - Darren would tease Robert verbally, not stop talking when asked, take things off him, nudge or hit him or start a fight. This could happen several times a day on bad days.

Consequences - Robert would play along at first but then get annoyed

and call his mother who would tell Darren to stop. The events as detailed

in defiance then ensued.

Clinical Formulation:

By the end of the baseline, Darren's mother stated that all the target

behaviours were occurring much less often than previously, and Darren

was having good days much more often then before. Although no specific

advice on management had been given, Darren's mother had voiced her desire

to ignore Darren much more and stop letting him "get at her". Apparently,

her husband had been telling her this for some time. It appeared that having

visits from us had given her enough confidence to start ignoring Darren

more, and she felt that he had improved by the end of the baseline.

Advice Given:

Further advice was then given on praising and rewarding compliant

behaviour and quiet play, and the use of Time-out was discussed - mainly

the idea of using it before giving a lot of attention to Darren. Darren's

mother did not want to use a programme but see how things went and if the

improvement continued. Contact was maintained over the next few months

and Darren did have a difficult phase in the New Year, though this died

down again. Generally his behaviour stayed at an improved level.

Parents' report:

Darren's mother felt that there had been some improvement in Darren's

behaviour, but also that he would continue to be difficult. She felt that

she needed to talk to people to get the support necessary to go on coping

with Darren.

Independent Assessment:

Darren was assessed during the baseline period and again seven months

later. His scores on section I were the same - 28, but on section II had

dropped from 12 to 8. He was reported however to be better but still

troublesome, provoking some family and marital incidents.

Follow-ups:

From April to August 1977 Darren continued to be difficult at times,
but still behaving better than last summer. His m ther appears generally
more able to cope with him.
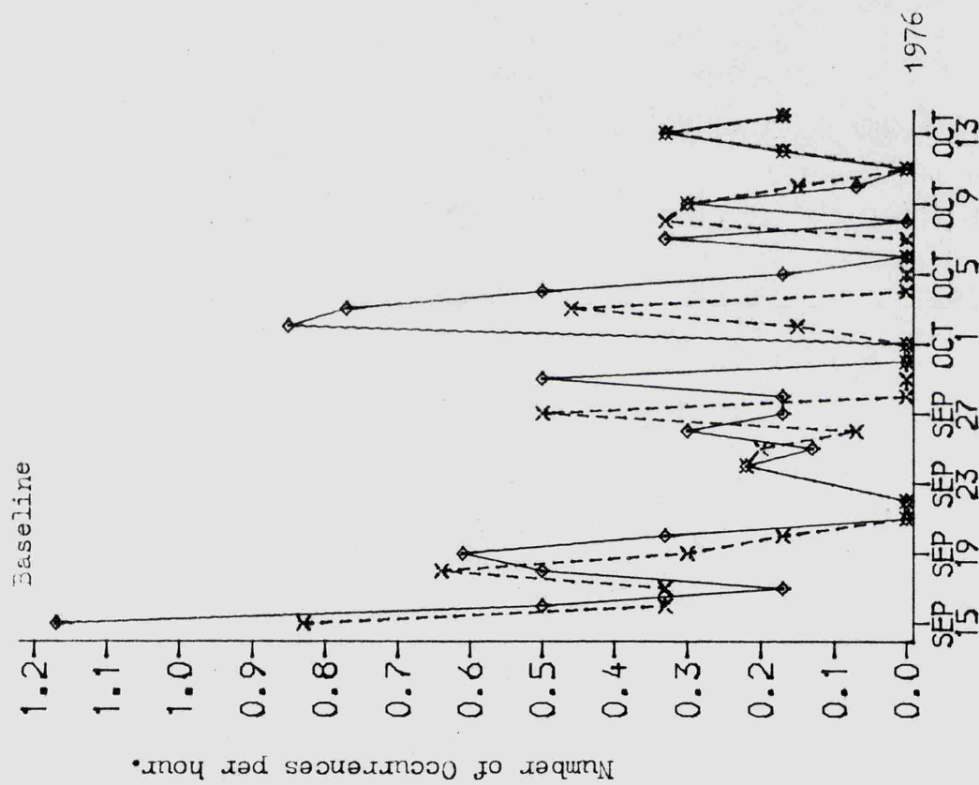
Fig. 11:29 Darren R4-1 Baseline

Time-Series Analysis of Cases

Not all of the ten cases previously detailed provided sufficient data in order for them to be analysed by the CORREL programme. The cases which were so analysed were R5- 1,3,5,6,8 and 9. The reasons for not analysing the remaining four cases were as follows:

R5-2 and 4, only a baseline and follow-up data were recorded, instead of the necessary continual series of data points.

R5-7, the baseline was very short and partly inappropriate due to slight changes in the target behaviours for the programme.

R4-1, only baseline data available.

The six cases with analysable data provided information for the calculation of 44 series of autocorrelation coefficients (lags 1 to 14), as each target behaviour and phase of the intervention was considered separately. The decision as to whether a lag 1 autocorrelation was significant (and therefore indicating the presence of serial dependency) was a difficult one, as directions for this are not made clear by the literature. As a guide, Jones et al., 1975 paper was used. They found 20 of the 24 experiments to have lag 1 autocorrelations between 0.4 and 0.93, and had found these to be significant and showing the presence of serial dependency. They also emphasise that nine of these 20 autocorrelations were over 0.70.

Of our 44 lag 1 autocorrelations, 36 were below the C.40 level (82% below 0.40) and 32 were below the 0.30 level (73%). Only 8 were over the 0.40 level and most of these were below 0.45. Of the series of data which did provide lag 1 autocorrelations over 0.40, the identification of the mathematical model present was found to be extremely difficult, and without such a model, TSX cannot be used. Also the lag 1 autocorrelations over 0.40 did not consistently come from the same cases but were scattered

amongst the lower autocorrelations within several cases.

After the CORREL programme had been used with the above results, it was decided that in the data available serial dependency was not usually present or at the most only slightly affected the data, and that the TSX programme was not necessary.

Although this meant that visual analysis of the data should not be confounded by serial dependency, it also unfortunately casts doubts on the validity and/or reliability of the data. It may be argued that because all the data came from single case studies in which all data points must be dependent on each other (being from the same child) then the data should have produced autocorrelations indicating the presence of serial dependency.

The reasons why this serial dependency did not show in the data may be as follows:

The data used in previous studies using a time-series analysis has been collected by psychologist or trained observers and is much more likely to be an accurate representation of a person's behaviour than the data collected by the mothers in the present sample. The mothers can only be instructed in what to record and watched doing so for limited periods. At all times when a therapist is not present, the mother fits in recording the behaviour of one child with the rest of the work she has to do when at home. The number of times that target behaviours occur without being recorded can only be guessed at, and the number probably increases the busier the mother is. Also the target behaviours chosen are often not that simple to identify, as most of them involve some escalation of behaviours before it is finally said that the child is for example, being

defiant or having a tantrum. However closely the target behaviours are
defined for a mother, there must be many occasions when such behaviours
go unnoticed.

Further, most mothers admit to their recording varying from time to time
depending on their mood or what they were doing. There may be times when
a mother will not record at all when she is very depressed, or very busy
or unable to record because the child is being difficult at a very high
rate of target behaviours (and other problem behaviours), some mothers
will be embarrased to record with visitors in the house and trust to memory
until they have gone, and indeed many will trust to memory and record events
later than they happened, however much they are asked not to. The liklihood
of the occurrence of target behaviours being forgotten or even multiplied
artificially is then increased.

All in all, mothers (especially without training facilities such as videos),
are not likely to be the most reliable of recorders, and may even produce
invalid data in that they may not be recording what is wanted of them at
all. These are the main reasons mooted for the lack of serial dependency
showing in the present data.

However, the positive effects of having a mother record her child's and
often her own behaviour are believed to be important enough to outweigh
the pessimistic conclusions reached above. Recording appears to be
therapeutic in some cases when reducing baselines occur, and many mothers
express a liking for having something to do even at the beginning of an
intervention. The positive effects from getting a mother to watch her
child's behaviour more closely in order to record it also seems in many
cases to help a mother's understanding of why her child is behaving as
he does, and she can often begin to see cause and effect relationships,

and how her child is seeking reinforcement with his disruptive behaviour (and often missing out on reinforcement when he is behaving well).

Finally a statistical analysis of data - in fact any kind of analysis of data - is not the only way of telling whether a child's behaviour has improved. Importantly, improvements may be made in behaviours not being recorded at all, or the parents' tolerance of the child's behaviour can be increased or their expectations lowered, both making for improvements which may not show in recorded data. The parents' statements as to whether they find their child easier and more enjoyable to live with must be just as important.

However, where there are changes in the frequency of the recorded target behaviour then these can still be analysed by visual inspection or simpler statistical methods to see if the results are in agreement with the parents' statements about any changes in their child.

Visual Analysis of Cases

The data from cases R5-1 to 9 provides nine graphs which can be analysed visually for changes in level and trend indicating an intervention effect.

In addition to this, following suggestions made by Gelfand and Hartmann, 1975, the Mann Whitney U-test was used to compare sets of stable data points from 1) the baseline and 2) the end of the programme. This provides a check that any difference seen visually represents a significant change in the level or mean of the data. Only fairly stable data can be evaluated in this way as a decreasing baseline continuing into the programme may produce a false change in the mean, that is, a change due to the overall

trend of the data, and not to the intervention. The use of such a statistical test is stated not to be necessary when less than 50% of the scores in the pre- and post- sets of data overlap. (Friedman, 1968).

Case R5-1.   Christian

On visual inspection, both the defiance and aggression appear to decrease
in frequency during the programme, and occur only occasionally in the follow-
up recording. Because the data includes many zero frequencies, trends are
hard to identify in the data, however, there would appear to be a change
in the level of data after the intervention.

A Mann Whitney U-test was applied to the baseline scores, and the follow
up scores for both defiance and aggression. In both cases the U value
obtained was significant (defiance at 0.01 level, aggression at 0.05 level)
indicating a significant decrease in the occurrence of both target behaviours.

Conclusion:

Both target behaviours decreased significantly in frequency after the
intervention.

Case R5-2.   Kelvin

On visual inspection there appeared to be no change in the frequency of
occurrence of the defiance from the baseline to the follow-up period;
that is, the level of the data does not change. There appears to be non-
zero trend throughout.

Applying the Mann Whitney U-test to the baseline and follow-up data, the
U value obtained was non-significant, supporting the null hypothesis that
there was no change.

Conclusion:

There was no change in the frequency of target behaviour.

Case R5-3.   Peter

The data from Peter is hard to assess as several changes were undergone.

Looking at the period August to mid-November 1976 as compared to the baseline,
then some change in the level of the temper tantrums did appear to have
occurred.

However, Peter's behaviour then deteriorated and appeared worse than the
baseline in late November and early December 1976, and January1977 (some
data was lost at this point but the target behaviours were reported to
be occurring frequently). The start of a second programme in January 1977
had no effect on the new high level of target behaviours, however, the
third programme implemented on February 3rd. 1977 did produce a decrease
in the level of both the target behaviours, even to a level below that
of the baseline.

A Mann Whitney U-test was applied to data from the baseline and the last
three weeks of recording. For temper tantrums there had been a change
significant at the 0.01 level, but the change for defiance was not
significant. All that had occurred for defiance was a reversal of the
increase in frequency which occurred at the end of 1976.

Conclusion:

The frequency of temper tantrums was significantly lowered by the
introduction of the third programme by comparison with the baseline.
The frequency of defiance in the baseline and at the end of recording was
not changed.

Case R5-4.   Caroline

From visual inspection, there appeared to have been almost total extinction

of the soiling from baseline to follow-up recording, and likewise for

the defiance. However, the wetting was still occurring though possibly at

a somewhat lower level.

With the Mann Whitney U-test comparing baseline frequencies to the follow-

up frequencies, there was a change significant at the 0.01 level for

soiling and also at the 0.01 level for defiance. The wetting however produced

a non-significant U statistic.

Conclusion:

Both soiling and defiance were reduced greatly by the programme, but wetting

(which was never actually involved in the programme) continued at similar

frequencies.

Visual inspection of the data showed that there appeared to be no change in the level of either target behaviour throughout the baseline or programmes.

Periods of days with no occurrences of target behaviours occurred in both baseline and programme.

A Mann Whitney U-test applied to the baseline frequencies and the last four weeks of recording produced non-significant U statistics for both target behaviours, therefore there was no change in level.

Conclusion:

The frequencies of both defiance and tormenting Tina were unchanged by the programmes.

Case R5-6.   Wayne

On visual inspection there appeared to be a non-zero trend for both
target behaviours during the baseline, with this trend continuing with
no change in level for the tantrums after the start of the programme.

Only implementation of programme 3 caused a decrease in the frequencies
of tantrums with a decreasing non-zero trend. Fighting showed an immediate
drop in level from the baseline, and during programme 3, extinguished
altogether.

Comparing the baseline with the data from programme 4 on the Mann Whitney
U-test, tantrums showed a significant change at the 0.01 level. Fighting
did not need a statistical analysis because of the large drop in level
with no overlap of frequencies in the two phases, therefore the change
is presumed to be highly significant.

Conclusion:
Both target behaviours decreased significantly in frequency, the fighting
at the start of   programme 1, and the tantrums at the start of programme
2.

Case R5-7.   Gareth

Visual inspection is confounded somewhat by the baseline recording of

defiance not being as strictly adhered to as it was during the programme,

but the average frequency of defiance at this time is probably about

1-0 per hour, and not increasing as it appears, After the start of the

programme, defiance increases as the Time-outs are started but then

decreases to below the baseline level and reaches a new low zero trend

level. Hitting decreases more rapidly and then extinguishes. Whining

disappears at first - due to a change of setting, but then reappears to

a new stimulus.

The baseline frequencies were compared with those of the last three weeks

of recording. There was only 9% overlap of these points for defiance for

defiance, therefore no statistics are needed and there is a significant

change in the level of the defiance.

A Mann Whitney U statistic was calculated for hitting, and this was

significant at the 0.01 level, again showing a significant decrease in

level. A U statistic calculated for whining showed a non-significant change,

and therefore there had been no change in level.

Conclusion:

Both defiance and hitting decreased significantly in frequency, whining

did not but referring back to the case history it can be seen that the

initial whining was in Gareth's bedroom, and the later whining downstairs

when he was being dressed. The initial target behaviour had therefore been

extinguished and a new one had appeared (which did later disappear after

recording had ceased).

On visual inspection, there is an immediate drop in level of both target
behaviours, with no overlap in points from the baseline and the end of
recording. Within the programme the levels of target behaviours remain
constant and there is no further decrease in frequencies - the lack of
fighting at the end of recording being due to a change in circumstance
more than the programme.

The change in level for both target behaviours is therefore statistically
significant.

Conclusion:

From the data there is a large initial drop in level of both target behaviours
but then no further decrease in frequencies. It was felt that this might
have been partly an articicial effect due to the very high frequencies
recorded in the baseline, and the reduction of time available for Jason
to be defiant once Time-out was started. Any change in Jason's behaviour
was probably not as great as it appears from the data.

Case R5-9.   Craig

Visual inspection shows a change in level of the data. Although there

was possibly a decreasing trend in the baseline to confound any changes,

this change in level is large enough to exclude the improvement during

the programme being due solely to a decreasing trend. The defiance appears

to decrease rapidly and finally extinguish.

Comparing the baseline with the end of the programme, there are only

16% of the points overlapping and therefore no statistical analysis needed,

The decrease in frequencies being highly significant.

Conclusion:

The programme brought about a decrease in the frequencies of defiance which

finally extinguished to zero.

<u>Summary of the Case Analyses.</u>

Of the nine cases analysed, only two showed no change at all in the target

behaviours recorded, - R5-2, Kelvin and R5-5, Lisa. The other seven cases

between them had 15 target behaviours recorded, 12 of these were felt to

have decreased significantly due to an intervention, two had not decreased

and the last one, Gareth's whining had decreased and then reappeared in

another form, the initial intervention being successful.

It could be said therefore that for cases R5-1,6,7,8 and 9, all the target

behaviours decreased significantly, for cases R5-3 one out of two target

behaviours decreased, and for case R5-4 two out of three target behaviours

decreased (the one which did not was not included in the programme). Cases

R5-2 and 5 were unsuccessful.

<u>Remaining Cases.</u>

Cases R4-1 was helped by advice and the support given during the baseline

and afterwards. Some improvement was felt to have occurred in the child's

behaviour. Of the five R3 cases, three had reducing baselines, and no

programme was used, the fourth had begun to improve before the referral

reached us, and the fifth did not improve and the case was terminated by

the parents. Three of the five cases were therefore helped by the

assessment of the child, and with the fourth case, the previous improvement

was maintained along with advice given.

There were three R2 cases, one of these showed some improvement, but the

other two did not - however the parents in both these two cases were

fairly un-cooperative.

<u>Independent Assessment</u> (I.A.)

Of the eight cases independently assessed, the results correlated well
with the results of the programmes as assessed by parents' reports and
graphs.

The cases R5-5, Lisa, whose programme produced no change, actually
increased on section I scores on the independent assessment and no change
on section II. Case R5-2 unfortunately was not assessed independently.

Case R4-1, Darren, who did not have a programme, did not change at all
on section I of the independent assessment, though the score on section
II did drop.

Of the remaining six cases, all these showed a drop in scores on section
I between five and ten. Craig, R5-9 changed the most (a score drop of
ten) and his parents' report and graphs back this conclusion.

Gareth R5-7 had a score change of 9, and also had changed considerably
from his graphs and reports.

Wayne, R5-6 and Jason, R5-8 had score drops of 6 and 5 respectively. Both
of these were felt to have changed only to a limited extent.

The results of the independent assessments therefore seem to be a good
second measure of change in children undergoing this type of management
programme.

Chapter 12

Group Evaluation

12:1   The Evaluation

The nine R5 cases (R5-1 to 9) and the one R4 case (R4-1) provided sufficient
data to allow for comparison of factors which might have influenced the
possible success of failure of each case, that is,. differential success.

Each of the case histories was examined in detail and all the questionnaires
used during the assessment period were scored. Because three of the children
had no father living at home, and one of the remaining seven fathers was
unco-operative (he would not answer questions about himself), the data
from the fathers was not used in the following evaluation. The involvement
of fathers will be discussed at the end in section 12:2.

Once the scoring was completed the nine R5 cases were put in order of
degree of success (Number 1 being the most successful), using evidence
from the graphs discussed in chapter , parental reports and my own
knowledge of the families. The case R4-1 was added at the bottom of the
list, as no programme was used but some help given.

The order chosen for the ten cases along with the degree of success reported
by the parents and the number of target behaviours significantly reduced
is shown in Table 12:1.

Case and Name	Significant decrease in all target behaviours in programme (No. of target behaviours)	Significant decrease in some target behaviours in programme (No. of target behaviours reduced).	Non-significant decrease in all target behaviours in in programme (No. of target behaviours)	Parental report +2 improved greatly +1 improved somewhat 0 no change
1. R5-9 Craig	1			+2
2. R5-4 Caroline	2			+2
3. R5-7 Gareth	3			+2
4. R5-1 Christian	2			+2
5. R5-6 Wayne	2			+2
6. R5-3 Peter		1		+1
7. R5-8 Jason	2			+1
8. R5-2 Kelvin			1	+1
9. R5-5 Lisa			2	0
10. R4-1 Darren				+1

Table 12:1   Degree of Improvement in the ten cases.

Looking at this table, the ten cases appeared to split into two groups, five showing a +2 improvement by parental report, and five showing less or no improvement. All the five cases at the top of the table had shown significant reductions in all the target behaviours that had been included in the programme, and in all cases, the parents felt that the child had improved considerably. Wayne came at the bottom of the group because his parents (and therapist) were pessimistic about the maintenance of the improvement gained. The other five cases are a mixture with only one reported by the parents to be showing no improvement (R5-5, Lisa), but also with Kelvin (R5-2) whose data showed no improvement. Jason fell in this group because of the parental report, although both his target behaviours appeared from the data to have decreased significantly. (See discussion of Jason in chapter 11). Peter (R5-3) had shown improvement in only one target behaviour and this had taken a long period of time. Darren (R4-1) was included here because he only was reported to have improved somewhat, and thereis no graphical data on him as a programme was never used.

As the ordering of the cases in terms of success/failure had to be so subjective, the best way that presented itself to try and evaluate differences in the whole group was to simply take the top five cases as one sub-group (R5-9,R5-4,R5-7,R5-1 and R5-6) and compare this to the bottom five cases as a sub-group (R5-3,R5-8,R5-2,R5-5 and R4-1). These will be known as groups A and B respectively.

The next step was to compare these two sub-groups on the scores they had been given on the factors chosen as possibly affecting success/failure. These factors will be looked at in a series of tables following, along with a discussion of the possible results with reference to each table in turn.

Name	Hyperactivity Questionnaire Score	Pre-School Behaviour Questionnaire Score	Rutter A(2) Score	I.Q.	S.Q.
Craig	49	31		135	116
Caroline	39	32		84+	100
Gareth	72	26		124	100
Christian	40		18	114	103
Wayne	77	51		84+	66
Peter	50	18		130	115
Jason	44	36		92	113
Kelvin	72	36		135	106
Lisa	65		30	75	74
Darren	60	26		104	125

Table 12:2 Scores on Questionnaires relating to the child's present level

      of functioning.

The data in table 12:2 was analysed using a series of Mann Whitney U

tests. This test determines whether scores taken from two independent

samples can be said to come from the same population, that is, the null

hypothesis states that there is no significant difference between the

two sets of scores.

The U statistic obtained along with the number of scores involved, tells

whether the null hypothesis stands or can be rejected, and if so at what

level of significance.

The four U values obtained by using each factor in table 12:2 (except the

Rutter A(2) scores) to provide two samples of scores, were all non-

significant, showing that the null hypothesis could not be rejected in

all cases. Therefore the factors concerning the present level of functioning

of the child, that is, how difficult the child is behaving or how he

behaves in comparison to other children of his own age, do not appear in

this series of ten cases to have made any systematic differences to the

differential success of the case. A large amount of overlap between sub-

groups A and B exists on all the factors.

Name	Problems with pregnancy or birth	Problems with motor or speech development	Temperament of baby Score out of 18 (max).	Problems with baby Scores out of 10 (max)	Presence of handicaps
Craig	0	0	5	0	0
Caroline	+1	0	14	4	+1
Gareth	0*	0	16	7	0
Christian	+1	0	6	0	0
Wayne	+2	+2	13	10	+2
Peter	0	0	8	0	0
Jason	0	+2	7	1	0
Kelvin	+1	0	10	6	0
Lisa	+2	+2	7	4	0
Darren	0	0	15	9	0

Table 12:3 Scores on questionnaires relating to the child's development.

* Child adopted, with no knowledge of birth (therefore 0 used).

Again all five U values computed were non-significant and it cannot be said that in these ten cases the development or history of the child systematically affected the differential success of the programme.

Name	Psychiatric problems (mother)	Health problems (mother)	Social problems especially marital	Conflicts in attitudes to child rearing	Presence of permissive attitudes to child rearing -mother	Poor relationship with child -mother
Craig	+1	0	0	-	0	+1
Caroline	0	+1	0	+1	0	+2
Gareth	+2	+1	+1	+2	0	+2
Christian	0	0	+1	+1	+1	0
Wayne	0	+1	+2	+1	0	0
Peter	0	0	0	+1	+1	0
Jason	0	+1	+2	-	+1	0
Kelvin	+1	0	+1	-	+1	+1
Lisa	0	+1	+2	+1	+1	+1
Darren	+1	+1	0	+1	+1	+1

Table 12:4   Scores on questionnaires relating to parents' problems and attitudes.

Of the six U values computed for these possible factors, only one yielded a significance level acceptable to reject the null hypothesis. The others were all non-significant. The one factor which did appear to show a difference between sub-groups A and B was "presence of permissive attitudes to child

rearing in mother" which reached the 0.02 level of significance. The main problem with accepting this result is that the scores were obtained from very open-ended questions about attitudes, and the answers were difficult to compare. However, the presence of the significant difference suggests the need for a carefully compiled questionnaire on general attitudes to child-rearing as mothers may hold long-standing beliefs which can have great bearing on their use of any programme. The difference found was in the expected direction in that mothers holding "permissive" views, (that is wanting to discipline children less, let then have more freedom), were less likely to succeed with the implementation of a management programme The one mother in group A who did express such beliefs qualified this by stating that she was now not sure that such views were on the whole more likely to lead to trouble (which they had in her case).

Name	Competition from siblings for attention	Age on referral	Hours involved in intervention	Co-operation of mother	Involvement of Theresa Smith
Craig	0	4 years 3 months	20	+2	+2
Caroline	0	3 years 6 months	23	+1	0
Gareth	0	3 years 4 months	33	+2	+2
Christian	+1	7 years 4 months	22	+2	0
Wayne	0	6 years 3 months	21	+2	+2
Peter	+2	5 years 0 months	30	+2	0
Jason	+1	5 years 9 months	22	+2	+1
Kelvin	0	3 years 11 months	25	+1	+1
Lisa	+2	7 years 7 months	29	+2	+2
Darren	+1	5 years 6 months	20	+1	0

Table 12:5 Scores on questionnaires of other possible factors.

where +2 - factor definately present; +1 - factor somewhat present;

0 - factor not present. - 331 -

Again only one of these factors gave a significant U statistic, this was competition from siblings which was significant at the 0.048 level, with more competition in group B cases. All other factors can be said to show no relation to differential success. The result from the competition from siblings for attention factor was expected because of problems experienced with Peter and Lisa when siblings had been felt to be important factors in the difficulties with the programmes. This result backs this earlier feeling, and shows that much more attention must be paid to any problems being presented by siblings of the target child and possibly a second programme devised for such a sibling. Including siblings in the programme designed around the target child may not be enough, though this did help with solving conflicts in Christian's family, (where there were three sons between three and seven years old). Again a more detailed assessment of such possible problems needs to be made and a more detailed questionnaire to cover siblings designed.

Name	Parental report	Change in scores on section I Independent assessment	Change in scores on section II Independent assessment	Change in target behaviours on follow-up at six months
Craig	+2	-10	-12	0
Caroline	+2	-7	-11	0
Gareth	+2	-9	-9	0
Christian	+2			0^{x}
Wayne	+2	-7	-6	-1
Peter	+1	-6	-5	-1
Jason	+1	-5	-3	0
Kelvin	+1			-2
Lisa	0	+2	-1	-1
Darren	+1	0	-4	0

Table 12:6   Scores relating to changes in target behaviours.

Where for   )   -2 Target behaviours definately worse
)
parental   )   -1 Target behaviours somewhat worse
)
report and   )   0 Target behaviours not changed
)
follow-ups   )   +1 Target behaviours somewhat improved
)
)   +2 Target behaviours definately improved.

(x contact not possible, taken to be 0).

(compared to what they were at end of programme in the case of the follow-ups).

Where the greater the minus score in the independent assessments the greater the improvement in the child. A plus score indicates a detioration.

The U values for three of these four factors were significant. The significance levels were - parental report 0.001; Independent assessment section I 0.01; section II 0.004. The level for follow-ups was approaching significance at the 0.075 level. The two sub-groups could therefore be said to differ on these three factors and possibly the fourth. The U statistics relating to success of the programme do seem to show the presence of two sub-groups, supporting the validity of conclusions drawn about data in the preceding tables. This also supports a conclusion reached in chapter 11 that the Independent Assessment correlated well with parental reports of success and change in target behaviours ascertainable from data. The Independent Assessment therefore seems to be a valuable way of collecting data on change in these cases.

The results of the follow-up factor is interesting, as it seems to show that cases who do not do as well initially are more likely to deteriorate after the programme is terminated. Deterioration did appear in Wayne as expected despite efforts to maintain improvements (this was his second programme), supporting his presence at the bottom of group A, however, the other four group A cases have shown no deterioration overall.

The only other factors considered were the scores obtained by the mothers on the Cattell 16PF Personality Inventory. All U values for the 16 factors and the four second order factors Extraversion, Anxiety, Tough Poise and Independence, were non-significant and none appeared to affect the differential success of the case. The only one approaching significance (0.1 level) was group dependency which was present in more of the group B mothers and with little overlap between the two groups.

The questionnaire "Parents and Children", appendix 11, unfortunately could not be used with all the families and insufficient data was obtained to make a comparison possible between the two groups of cases.

Conclusions:

Of a total of 44 U statistics computed, only six reached a level of significance of p=0.05 or less, therefore allowing the rejection of the null hypothesis. Three of the six were related to actual measurements of success and supported the division of the ten cases into two sub-groups, one successful, the other not so successful, and one U value showed that on follow-up the less successful group were more likely to deteriorate.

There were two factors found amongst the data on the child and his family that appeared to vary according to which group the child belonged to. These were "competition from siblings for attention" and "presence of permissive views on child rearing in mother". These were discussed fully previously, but in summary this result shows the need for a more detailed and precise assessment of siblings and of attitudes in the mother, as these may play an important role in the eventual success of the programme.

Only ten cases were used for this evaluation, so how far these results can be generalised to other cases of this sort is hard to gauge. More significant factors may well emerge with a larger sample of cases. It should be said however that the U statistics for all the remaining 38 factors were on the whole nowhere near the significance level, and the scores on most factors overlapped between groups to a great extent indicating the presence of only one population of scores.

Of the seven fathers in the study, only one refused to help with the
collection of information about the parents, but on the whole fathers
were little involved during the assessment periods - partly due to problems
with arranging times when they could be seen. During the use of the
programmes, only one father expressed concern about the methods being used,
but only three were seen to be actively participating in the use of the
programme. The other three appeared to have little to do with the programme
leaving it to their wife. Because of this it was difficult to assess their
co-operation and how they affected the success of the programme. Generally,
it seemed that a lack of involvement did not hinder the programme, nor
did the lack of a father being present.

Part IV

Conclusions

Introduction:

The first chapter in this final section examines the results from both

the pilot and research projects together, and draws conclusions about the

meaning of these results in terms of the effectiveness of the therapy in

the short- and long-term. A discussion of therapeutic effects is included.

The second chapter is concerned with the usefulness of contingency management

principles with hyperactive and conduct disordered children, and discusses

the advantages of this approach both for the parents, and for the

development of socialisation in the child. The parents' group which was

initiated to help maintain the parents' use of the principles is discussed,

and finally some research proposals relevant to the present thesis are

made.

Chapter 13.

Conclusions on the Results from the Pilot

and Research Projects.

13:1   Results of Treatment Programmes.

It is possible to summarize the results of the treatment programmes in
the pilot and research projects as follows: (table 13:1)

Pilot Project	Type of Programme	Number Improved	Percentage Improved
P5 cases	Complete	7/9	78%
P4 cases	Attenuated	2/2	}
P3 cases	Advice after baseline	2/3	} 60%
P2 cases	Advice, no baseline	2/5	}

Research Project

R5 cases	Complete	7/9	78%
R4 cases	Attenuated	1/1	}
R3 cases	Advice after baseline	4/5	} 67%
R2 cases	Advice, no baseline	1/3	}

Table 13:1   Summary of results of pilot and research treatment programmes.

Footnote: Where improvement is defined as a change in the child's target
behaviours towards the goals set for those behaviours. The goals may not
all be met, but a definate change must be reported by the parents (and
apparent in the graphical records if applicable).

Further, in the R5 cases, improvement can be further defined into two

categories, the first in which all goals were reached and the parents

were fully satisfied with their child's improvment (+2), and the second

in which only some goals were reached or partially reached, or the parents

were less satisfied (+1) (See table 13:2)

Research project	Number reaching +2 improvement	Percentage with +2 improvement	Number reaching +1 improvement	Percentage with +1 improvement
R5 cases	5/9	56%	2/9	22%

Table 13:2   Summary of results of research cases receiving a complete

   treatment programme.

Combining the results from the pilot and research projects, comparing

children who improved against those who did not, gives the results in

table 13:3.

Type of Programme	Number Improved	Percentage Improved[x]
Complete	14/18	78%
Attenuated or advice	12/19	63%

Table   13:3   Summary of combined results of the pilot and research treatment

   programmes.

[x]Where the definition of improved in table 13:1 is taken.

These results are felt to be a promising demonstration of the usefulness

of contingency management principles for producing (at the very least)
a short-term change in a significant proportion of hyperactive or conduct
disordered children.*

Such children have been generally less likely to receive help by child
psychologists and psychiatrists (Rahm et al., 1961) and when they have
received traditional psychotherapy they have responded minimally.(Levitt,
1971; Meltzoff and Kornreich, 1970). Further the long-term outlook for
such children appears to be very poor. Robins, 1966 & 1972, reported on
a follow-up study of child-guidance attenders and revealed that the
children with neurotic (that is, personality) problems were most likely
to reach a well-adjusted adult life with or without systematic psychotherapy.
However, children referred with conduct problems had a much poorer outcome,
and were more likely to be disturbed as adults. In the light of these findings,
the results of the present project are important by showing that this type

* Footnote: Reference to table 12:5 (page 331) shows that four of the ten
research cases had reasonably extensive involvement with Theresa Smith,
and a further two had some contact with her during the period of my own
intervention. The present results therefore may be confounded by the
effectiveness of this second intervention. This is not felt to influence
my conclusions to any great extent for three reasons.
1)   The second intervention was focused on motor activity specifically,
and had no involvement with any other aspect of the child's conduct disorder.
2)   The evaluation in chapter 12 showed no significant difference between
the two groups (successful and less successful) when compared for the extent
of Smith's involvement with the cases.
3)   Of five mothers who returned a follow-up questionnaire (see page 355)
three felt the second intervention to have been less helpful than the
contingency management programme and the other two felt the two treatments

cont..

of child can be helped, and further the results are in accordance with the American studies reporting the use of similar techniques with conduct disordered children (see chapter 3).

It would appear that the use of contingency management principles based on social learning theory is more applicable for children with these types of problems than a more traditional form of psychotherapy. It is suggested that this may be due to the fact that as these children's problems are, by definition, (see chapter 1, section 1:1), very involved with the society in which they live then it is more appropriate to use a therapy which focuses on the whole environment (child, parents, siblings etc.), rather than one which focuses on the child as an individual alone.

A more detailed inspection of the data raises two interesting points:
1) Why do some children in the research cases achieve a +2 success rate and others only a +1 success rate or no change at all?
2) Why do the cases who received an attentuated programme or advice only show fewer improvements than children receiving a complete programme?

1) Chapter 12 looked closely at the possible reasons why some children improved to a greater extent than others. The variables measured covered information about the child, his parents and several other aspects of therapy. Unfortunately from the data available, only two possibly significant variables appeared. One of these was a measure of maternal attitudes to child-rearing, and it appeared that mothers who were more

Footnote (cont):
to have been of equal help.

permissive (in that they believed in trying not to use too much discipline
and letting their children have a lot of freedom in how they behaved),
were less likely to have children who responded optimally to a complete
treatment programme. Unfortunately this attitude was not assessed systematically,
but was ascertained from part of a general interview collecting backgroud
information. However, the present finding would suggest that it would be
worthwhile assessing such an attitude in parents about to use a contingency
management programme. Undoubtedly their full use of such a programme is
affected by their attitudes, and as for much of the time it is up to the
parents whether or not they use the programme, any strong attitudes they
hold contrary to the basic concept (to provide consistent, firm discipline)
may well hamper their utilisation of the techniques.

The second variable which appeared important in the research series of
cases was the presence of other siblings who were competing for parental
attention. Again this is a variable which is difficult to assess systematically,
but it did seem very important, as it had also provided many practical
problems during the application of a programme in the families with children
who had competing siblings. The programmes in the present projects were
designed around one child's problems, and although siblings were often
involved, they did not have their own programmes and so often continued
to add to all the difficulties.

Siblings seemed to hamper the effectiveness of a programme in at least
two ways. Firstly, if they were claiming much of their parents' time by
their own attention-seeking, then the target child seemed less responsive
both to positive attention from their parents (which was possibly never
quite as much as the child wanted it to be), and to techniques such as
Time-out (the children seeming not to mind the Time-out and to be rewarded
by having moved their parents to the point of instituting a Time- out

however carefully it was used). Two of the research cases (Peter R5-3 and Lisa R5-5) were seriously hampered by this complication.

Further, the parents were in a position of not being able to devote as much time to the correct use of the programme because of the multiple drains on their resources. They had many more problems to cope with generally than the mothers who had only one child presenting problems.

It is not suggested that management programmes are inapplicable in families with more than one child with problems, but it does appear that any programme used will need to be multi-faceted and carefully designed to try to ameliorate the whole problem situation (seen as a gestalt) and not just that of one child.

Other variables from background information about the family did not, in this series of cases, seem to be of any predicitive value as to whether a programme would be successful or not.

Some variables which might have been expected to affect the use of a programme did not systematically appear to do so. Examples of these would be:

1) The extent of problems generally being presented by the child at assessment (reflected in scores on the hyperactivity questionnaire and the behaviour rating scales).

2) Presence of a maternal psychiatric history.

3) Level of maternal anxiety as measured during assessment.

4) Co-operation of the parents - with respect to co-operation this did not appear to have an influence because once the programme had been implemented, a minimal level of co-operation had been established. Past this point, differential assessment of how well the parents co-operated

was not possible to any fine degree, and the definition of co-operation became very difficult.

What appeared to occur with other variables was that any particular one could have a deleterious effect on any one case (as clinically evaluated on the spot) but that such a factor could be unimportant in another family. A larger series of cases would probably be necessary to determine if such variables can be predictive of outcome.

2) .   The results show that fewer children are likely to respond optimally to an intervention when that intervention takes the form of an attenuated programme (one which was not implemented completely) or advice. Although the figures in table 13:1 show that all three children who received an attenuated programme improved, recourse to their case histories shows that in two of the three cases the improvement was not great. The level of success for the children whose parents received advice only is definately lower than for the cases who received complete programmes.

The reasons for this are probably multiple, just as the reasons for not using a full programme are many-sided. One important reason for not using a complete programme which must have some bearing on the results of the advice, is that the parents were unwilling to use a structured programme or did not co-operate when one was tried, so causing the intervention to reduce to a purely advice basis. With this type of therapeutic intervention, which relies on the parents to implement the therapeutic techniques, any degree of unco-operation with instructions will theoretically reduce the effectiveness of the therapy.

Further, as advice always tends to be less specific and less detailed,

this must further reduce the efficacy of the information being given.
Contingency management techniques rely to a great extent on closely
defined prescriptions for behaviour (not to mention actual modelling,
prompting, behaviour rehearsal, checking), and reducing these inputs
will (in theory) negate the effectiveness of the therapy.

The remaining parents who were given advice, came into this category
mainly because the problems their child was presenting were of a less
serious nature or because they decreased in frequency when a baseline
was taken. It was then felt by either the parents or myself that the
child's problems did not warrant a complete programme, and that advice
would be sufficient. Although the case histories of these children were
not given, the ones who were presenting problems of a less serious nature
did show improvements and it was the unco-operative parents who were more
likely to produce no change in their child.

It may be that in the early stages of assessment, when the type of
intervention to be used is decided (that is, a programme or advice),
evidence of reticence of parents to co-operate with suggestions along
learning theory lines should be taken as a possible indicator that this
type of therapy is not suitable for that family. Such a
reticence, complicated by the presence of attitudes of a more "permissive"
nature to child-rearing, may well together be reasonably significant
indicators that an intervention along contingency management lines is
not applicable.

13:2   The Long-Term Effectiveness of Programmes.

So far the results considered have only been those which could be called

"short-term", as they were assessed at the termination of the main part of the intervention (before follow-ups were made). There is cumulative evidence (Patterson, 1975), in the reported literature on the use of contingency management programmes with conduct disordered children, to suggest that such programmes are effective in the short-term, that is they do better than the base rate (see Robins, 1972; Farrington and West, 1977). But, however rewarding short-term changes are for both the parents and therapist, the real issue with these children must be - can such short-term changes be maintained to produce long-term improvement in the functioning of that child? Further it is interesting to investigate whether the children whose behaviour does not deteriorate have anything in common.

The question of whether the short-term changes maintain or not can be answered, in part at least, by looking at the behaviour of the child on follow-up some six months after termination of the intervention.[*]

Table 12:6 (page 333) presents this data for the ten research cases analysed in detail, and table 13:4 below gives follow-up data on the eleven pilot project cases.

* Footnote: A six-month follow-up was used as a longer time period would be more likely to be affected by maturational/developmental factors in the child, or by important situational changes in the life events of the child. Six months is therefore an intermediate time period after which the behaviour of the child can still be seen as being effected by the parents' intervention without too many complications or intervening factors.

	Initial improvement with programme	Change in target behaviours on follow-up.
Andrew P5-1	Yes	0
Sarah P5-2	Yes	0
Jane P5-3	No	+1
Craig P5-4	Yes	0
Wayne P5-5	Yes	-1
Julie P5-6	No	0
James P5-7	Yes	0
Jason P5-8	Yes	-1
Clive P5-9	Yes	0
Sean P4-1	Yes	0
Simon P4-1	Yes	0

Table 13:4   Changes in target behaviours of pilot cases.

     where: -1   target behaviours somewhat worse

             0   target behaviours the same

          +1   target behaviours somewhat better

when compared to how they were at the end of the programme.

Out of these 21 cases, 6(28%) had deteriorated at follow-up. Altogether, 72% of the cases did not show any deterioration (disregarding whether or not they had shown any initial improvements).

When examining only the children who did initially improve, (17 of the 21), then four of these 17 had deteriorated (23%) at follow-up. Therefore, 77% of the children who had shown an initial improvement did not deteriorate at follow-up.

It would appear from the difference in these figures that the fact of having managed some improvement initially on a programme makes future deterioration a little less likely.

This analysis of follow-up data shows that a high proportion of the children in the study had not deteriorated at follow-up, and more importantly, that nearly 80% of the children who had improved had maintained these improvements. One way in which the children who did not deteriorate were alike was that they had been more likely to show an improvement initially. Or conversely, more of the children who did less well initially were likely to deteriorate later. Further analyses on the data to tease out the variables involved in predicting deterioration were not performed because of the small number of cases involved. However, with a larger series of cases, such an analysis might be fruitful if it suggested criteria for predicting cases in which long-term improvements would be unlikely.

Combining follow-up data with the initial results, it can be concluded that for the 18 cases who had a complete programme, 78% of these showed a short-term improvement, and a further 78% of those who had improved maintained such improvement at a six months follow-up.

Such follow-up data, providing as they do, information on long-term changes in treated children, also support the inference that the present results are a promising demonstration of the usefulness of contingency management techniques, and make it possible to add that some further long-term effects can also be successfully produced with these same techniques, in many of the cases.

After drawing such a conclusion, it is appropriate to comment here that

the data on which the results are based had to rely heavily on single

case study evaluations with all recording of behaviour change being

performed by the parents, without reliability checks. The reasons for

not using reliability checks have been discussed previously (page   )

and it can only be reiterated here that the data was felt to be a good

reflection of changes in child behaviour. This claim is made because

changes in target behaviour frequency appear to correlate highly with

careful therapist observations of interactions in the home, parents'

statements about their child, and in the research cases, with the results

of the independent assessment. These differing measures produced a

consensual judgement for nine of the ten research cases, so that is is

possible to conclude that the vexed question of reliability, while not

dealt with ideally, (a difficulty in home-setting work), does not obtrude.

How valid the results were is a different question, and would appear to

be concerned with whether the measures which were taken of target behaviour

change were relevant to the overall conduct problems of that child. As

the target behaviours chosen were always those of most pressing difficulty

to the parents, it was decided that measuring change in these was a valid

measure of reduction in the conduct disorder of that child. Usually positive

changes in other aspects of the child's functioning were also reported

thus furthering the judgement that the measures reported were valid measures

of changes in the conduct disorder.

A global statement of the improvement in the parents' overall relationship

and interactions with the child also gave a meaningful context to the

more atomistic analysis of specific target behaviours. Parents' judgements

of improvement at the global level correlated highly with indications of

positive change in target problems as measured graphically.

13:3 An Interpretation of Therapeutic Effects.

The reasons for assessing change in the target behaviours of the children in this study, as being due to the intervention made following contingency management principles, have been discussed in chapter 11, and were based on the repetitions of the statistical technique known as Time-series analysis.

However, even if it could be concluded with absolute authority, on the basis of such an analysis, that the intervention did produce a change in behaviour, it cannot be inferred that the effect is due solely (or at all) to the theapeutic factors that we assume to be operating. Other interpretations of the results (which are correlational and therefore not necessarily of a cause-effect type) are possible. There is an alternative explanation that non-specific (placebo) factors were operating to produce any therapeutic change. Non-specific factors are of great interest to both theorists and clinicians trying to evaluate the important factors within any type of therapy. The non-specific effects which may be operating here importantly are expectancy and credibility, within a positive therapist-client relationship.

An expectancy for change is present in most people being seen for any type of psychological or psychiatric treatment. A belief that "the doctor can make everything better" is likely to be a factor in the results produced by this study. That such an effect occurred, was demonstrated by the three cases in which a reducing baseline was evident. In these cases, no advice was given during assessment, and yet while the target behaviours were being recorded they decreased in frequency with apparently no systematic help. (The cases were then included in the study as advice cases, as usually

some further discussion ensued, with the aim of maintaining the new low
frequency of problem behaviours).

No attempt was made in this study to control for the placebo effect, in
fact it was utilised as much as possible, acknowledging its status as a
potent therapeutic tool. On all occasions enthusiasm about the type of
therapy being offered was displayed, and also an optimistic view was always
taken, communicating, if possible, the idea that the therapy would work
no matter how unlikely that seemed to the parents at the time. Reports
from parents have confirmed the effectiveness of this approach, for many
stated that they found the therapist's belief in the programme an important
factor in their continued use of it.

The effect of the credibility of a therapy has also been shown to be
important, and as will be discussed in the next chapter, most of the parents
found this type of therapy very credible, and could understand the reasons
for using it, thus aiding its effectiveness.

The question of the therapeutic relationship built up with the parents
must also be considered, for to deny its existence would be naive. Even
though the relationship was not used to aid the therapy in any psycho-
dynamic sense (such as the production of insight or transferrence) it must
be acknowledged that my relationship with the parents was actively used
to encourage and motivate changes in their behaviour. Many hours were spent
with most of the mothers, and even though the time was used mainly for
discussing ongoing assessment or therapeutic events, other topics of
conversation were raised, and in a way, most of the mothers became my
"friends". The setting up of the parents' group (see page   ), further
encouraged the development of friendship; as interactions on a purely
social basis with the parents then became possible.

Whether any other therapeutic effects were operating above and beyond those of the more specific contingency management principles, is not known. No doubt, the parents did gain insight into why they were behaving as they were, but whether the help they were given with this (from a purely behavioural interpretation) aided the therapy in any sense other than helping them to follow the management programme is felt to be unlikely. At no point were discussions about the parents' feelings to their child entered into, except when it was pointed out that probably the child was as much involved in the development of the problems as they were. The only attempts at changing parents attitudes or expectations were made when unrealistic standards were being held up for the child to meet. In such cases, information on normal child development was given to the parents and reasonable behaviour for that child at that age was decided upon.

Although the therapy used in this study was very focused on actual behaviours and made no attempt to examine, or change, any reasons for the occurrence of these behaviours beyond the analysis of current antecedent and consequent events, there was no evidence that any underlying cause remained once the "symptoms" (the target behaviours) had been removed. The only occasions on which new problems appeared when the original one decreased, was when sufficient attention was not paid to giving the child adequate levels of reinforcement. As long as the child learned a repertoire of behaviours which consistently gained him parental approval, there appeared to be no detrimental effect to purely focusing on ongoing behavioural events, in order to reduce the problem behaviours.

Chapter 14.

The Use of Contingency Management Principles

with Hyperactive and Conduct Disordered Children

14:1   Advantages of this Therapeutic Model.

(1) Parents' Acceptance

One advantage of the use of a behavioural model of assessment and treatment which soon became apparent, was the parents' relief at finally finding someone who showed interest in exactly what was going wrong in the "here-and-now", and then continued to make very detailed and precise suggestions as to ways of modifying the problems their child was presenting. The often pedantic approach of a detailed behavioural assessment and programme (with its emphasis on learning principles and strategies) appears to have a great deal of "face validity" for many parents. That is, it seems to be a sensible way of approaching their problems and provides many of them with a framework which they can understand and work within. This therefore helps produce co-operation even in parents who have despaired of ever getting help for their children. Many of the parents had previously been given global advice from other agencies or relatives/friends, and had often found this of little use whatsoever.

Co-operation of the parents is further increased by involving them as much as possible in decision making about the format that their child's management programme will take. Although this is not necessarily part of a triadic behavioural approach to therapy, it is frequently used and appears important, not only because the parents feel more involved, but because it requires a certain level of understanding on the parents' part,

of the principles involved. Such an understanding may well help the parents use the techniques during the programme and may also provide them with a framework within which to plan ways of handling future problems which may arise.

Communication of these principles to the parents was made more systematic in the research project by the use of the pamphlet given to them (see chapter 10), but however understanding of these principles was not assessed. It could be hypothesised that the degree of understanding of the principles may have an effect on the parents' acceptance and use of these, so a measurement of this would be extremely useful and is unfortunately lacking from this present series of cases.

A further facet of the approach which helped gain parents' acceptance was the use of learning theory to explain the development of their child's problems. The emphasis on a two-way interaction, looking at how both parents and child had been rewarded or punished for behaving in certain ways, and taking the onus of blame from the parents alone appeared to be useful. . Bringing together information on the problems of rearing difficult children with a learning theory approach to the development of inappropriate behaviours (seeing this as essentially the same as the development of appropriate behaviours), helped many parents get their problems into perspective and stop blaming themselves totally for their child's problems.

As stated before, the effectiveness of this type of therapeutic model is very dependent on the co-operation of the parents (the mediators in the triadic model) and any ways in which the parents' acceptance of the approach can be enhanced is desirable.

Some measure of the parents' attitudes to this type of intervention was obtained from a follow-up questionnaire sent out to most of the families who had been involved in the use of a complete programme, and to some of those who had received advice and with whom contact had been maintained. Although not all the questionnaires were returned, the answers obtained can be seen in appendix 15. The first section dealt with the target behaviours and is not applicable here, but the next four sections asked questions about the mothers' thoughts on the type of treatment/advice that they had had. Under the possible responses to each question are three rows of figures, labelled 1, 2, & 3, which indicate the number and percentage of mothers who gave that response. 1 refers to the replies from the research project mothers in groups R5 and R4, 2 refers to pilot project mothers in groups P5 and P4, and 3 refers to the research and pilot mothers who had been given advice (R3, P3 and P2).

The third group's replies are unrepresentative as two of the three replies were from mothers who did not benefit f om the advice, so these answers will not be considered.

However, looking at the other two groups of replies, they were generally very positive and favourable. The mothers were satisfied with the help they had had, and felt that it had been useful. Only on the number of visits did several mothers feel that they would have liked to have more visits, particularly after the programme was terminated. The five mothers who had had help from Theresa Smith (see page 63) felt that it had been useful, but three felt that it had been less useful than the management programme and the other two felt it to be of equal usefulness.

Many of the mothers had continued to use the techniques after the

termination of the programme, and felt that this was useful, several had

used the techniques with other children to some positive effect. A few

found the techniques slightly distasteful (most referring to Time-out)

but all said that they would recommend our unit to friends having problems

with their children. All the research project mothers felt that their

children would have become much worse without the help, and five of the

seven pilot project mothers felt that their children would have become

worse.

Overall the results from this questionnaire indicated that the parents

were satisfied with the type of treatment they had had and felt it to

have been of benefit to them.

(2) Application to the development and modification of conduct disorders

     and hyperactivity.

Chapter 1 section 1:2, looked at the development of compliance in terms

of how it could be understood within the processes of socialisation and

moral development. Further, ways in which such development could go wrong

and produce non-compliance were suggested. Section 1:3 then indicated

that the application of contingency management principles to the

environment of a child displaying conduct disorder type problems could

reverse any such detrimental effects, and begin to learn the appropriate

behaviours prescribed by our society.

It is this close link between the theoretical discussion of why socialisation

processes sometimes fail to produce compliant children, and the practical

use of learning theory principles which can help correct this situation,

which is seen as being one of the vital factors in the choice of the

present behavioural therapy for conduct disordered children. Likewise for

the hyperactive child, any problems with socialisation have usually

been even more exacerbated by the child's unusual motor behaviour, and

concentration problems, making the application of a structured environment

even more important if compliance and rule internalisation are to develop.

(3) Prescription of long-term child-rearing practices for difficult

children.

The use of contingency manangement principles as a "therapy" over a limited

time period, for specific problem behaviours, has been shown to be

effective in the present study and many others reported in the literature

(see chapter 3).

However, it is felt that a more important use of these principles is the

preventative one: as a basis for continued child-rearing practices,

especially with children who have proved themselves to be unresponsive

to less structured socialisation practices. Such principles implemented

when a child has developed problems can be effective, and their continued

use can produce more long-term effects, (many of the parents in the

present study reported some use of the techniques after the programme was

terminated with the same child and siblings), but I would like to suggest

here that a knowledge of the principles would be even more effective if

they were implemented before the problems commenced, or at least as soon

as they became apparent.

Lengthy discussions with the parents of the children in the present study

about the development of their child's problems, showed how most of them

had been struggling, sometimes for many years, to find ways of keeping

their child "under control". In many cases the problems had started when

the child was still an infant, and the temperamental characteristics

known to define difficult babies were present in five of the ten research
cases assessed fully, and four of these children had had severe problems
with feeding/sleeping/crying, and two less severe problems, (see table 12:3).
Likewise many of the pilot cases had presented problems from early infancy.
The children who had not been so difficult in infancy started to display
problem behaviours, involving non-compliance, in their second year of
life, as did the difficult babies whose problems changed quality as they
became toddlers.

It is at this point when a knowledge of learning theory principles could
be of most use to the parents of such children, so that problems could
be handled as they arose and modified before they became more serious.
What appears to happen with these children is an escalation of the problems
due to the occurrence of a "vicious circle" (the coercive pattern described
in the thesis) within the parent/child interaction. A child reacting
negatively/intensely/unpredictably etc. to his parents' early attempts
at discipline often seems to produce less than appropriate responses in
his parents. Over a series of such occasions, the parents (especially
mother) may become increasingly frustrated with her lack of success, and
become punitive (negatively reinforced because of temporary success, to
smack, harder and harder) and then even rejecting of the child. A child -
especially an attention-seeking one - can then quickly learn that the most
effective way of gaining his mother's attention is to be even less
compliant or to engage in a number of inappropriate behaviours which quickly
bring censure.

Once such a negative cycle is entered it is very difficult to break out
of - hence the seeking of professional help at a later stage when the
problems have become unbearable.

Even if the child does not display such difficult responses to

disciplinary efforts, lack of knowledge on the parents' part alone, can

lead the parent/child interaction into this downward spiral. As discussed

in chapter 7, section 1:2, there are ways of optimising the development

of compliance, but equally there must be parental behaviours which minimize

such development.

Contingency management principles derived from learning theory, produce

an environment in which many of the conditions necessary for moral development

are indeed optimised, and they would be much simpler to apply when problems

begin rather than two years later.

Equally, for the parents who have used such a behaviour therapy for their

child's problems later in his life, it is seen as being important to

communicate the need for the continued use of the therapeutic principles

if the child is not to relapse into his old behaviours, but is instead

to develop normal patterns of functioning. Especially if the child is

continuing to display difficult temperamental attributes, the parents may

need to be aware of the possible development of new problems in the future

and to be ready to handle them appropriately if they occur.

Producing such long-term changes in the parents behaviour is probably the

most difficult task of a therapist using this type of behavioural therapy.

A close environment with the family cannot be maintained indefinately,

and at some point contact must be reduced and eventually terminated. Just

as the child needs to internalise the rules of conduct his parents teach

him, so the parents need to internalise the rules of child-rearing that

their therapist teaches them.

Enhancement of this process has beed studied more extensively in America where research is still trying to answer the question of the best way of producing long-term changes in parental behaviour. (See O'Dell, 1974). High levels of involvement of the parents in planning their child's therapy and an understanding of the principles involved would appear to be necessary ingredients. Both of these were utilised as much as possible in the present study and further the setting-up of a parents' group was initiated to help with maintenance of parental behaviour (see next section).

14:2   The Parents' Group

In October 1976, the decision to form a parents' group was taken by the C.T.R.U.. All families who had been referred to the unit in the previous two years were contacted and invited to a meeting. Although few people turned up, a second meeting was arranged and again all families were invited. After a much greater response a group was formed with a committee of interested parents.

The name "Happy Families" was decided upon for the group. This was chosen as epitomising the final state which all the parents wished to come about for their families. The group since that time has become mainly a self-supporting group, functioning to bring parents together, not only to discuss management of problems and child-rearing practices, but also to meet socially and share the often heavy burden of bringing up a difficult child. Close contact with the C.T.R.U. has been maintained, and the teaching of contingency management techniques in group sessions became possible. One advantage of the group also was that mothers who had used a management programme could be introduced to mothers about to begin one and who were usually apprehensive. A word of encouragement and reassurance that things would start to get better from someone who had experienced

the whole process could be a useful aid to the therapist involved.

Over the first year, many parents joined the group and many left again, and it appeared that the group functioned to provide extra support for parents through the use of a management programme, but that some felt they no longer needed this once the programme was terminated. However, a core of parents remained to restart the second year of the group and long-term support is available to those who wish to seek it.

The policy of the C.T.R.U. to have at least one member of the team at each meeting of "Happy Families" meant that more professional help could be sought by parents no longer being visited regularly, and also discussion of the individual problems of any parents could be used as a general teaching situation.

No formal evaluation of the effectiveness of the group was made, however, personal reports from parents who became involved were positive, with several of them finding new interests and friends as well as any necessary support. The opportunity to share one's experiences, and to realise that other families with similar problems existed, (in quite large numbers), helped many of the parents see their own problems in perspective, and find the strength to continue coping with day to day set-backs. As a means of helping the parents continue in their use of contingency management techniques, it is harder to say whether such an aim was generally achieved. Certainly some of the mothers did change their own behaviour quite radically, and even became quite expert on the use of the techniques, and it is hoped that such an effect will spread to more of those involved. As noted, however, many parents ceased coming to the group once their child's problems had been reduced, so long-term effects are not known for many of these families.

The main proposal resulting from the present work is for a replication
involving a larger number of cases with detailed assessment information
on all those involved. Variables important in the prediction of short-
term success, and further in the prediction of cases in which improvement
will maintain, should be identified so that the population for whom such
a therapy is applicable can be defined.

Also if more is to be learned about the potent therapeutic factors involved
in the intervention, the use of control groups would be necessary. The
most obvious of these is the need for an "Other Therapy" control group,
and a waiting-list control group. The latter would consist of children
not seen after an initial assessment period, to ascertain if time and
placebo effects play a great part in the improvement in this type of
problem, (once the parents know that they are about to receive help). It
is not felt necessary to have a control group for the effects of time
alone as all the children have been presenting problems for long periods
and spontaneous remission appears unlikely in these type of conduct
disorders (see Robins, 1966).

The former type of control group would consist of children whose parents
are given a different type of therapy involving equal amounts of
therapist time would be interesting, and maybe some comparison with
another agency practising an alternative therapy would be possible if
measures of target behaviours could be kept.

A different area of research which may be applicable to the present study
is a more detailed examination of the processes involved in the development
of compliant or non-compliant behaviour, especially in children who could

be identified as being at risk because of their temperamental characteristics. It has been suggested that learning theory can be of help by generating principles of child-rearing for children at this stage of development. Such a hypothesis could possibly be tested by identifying the conditions under which the development of compliance is reduced and seeing what may be needed to correct these conditions to optimise moral development.

Appendix 1.

Hyperactivity Questionnaire

Motor Activity

1. Excessive motor activity:

a) Does he tend to be on the go all the time, or can he sit quietly for fairly long periods (how long)?

2. Goalless activity:

a) Does he seem to reach a goal in any of the things he does?

b) Do you think he ever sets himself a goal?

3. Drivenness:

a) Do you ever get the impression that his body has something driving it and that he is not choosing to be so active?

4. Squirms and Fidgets:

a) When he is sitting, can he sit still or is he squirming and fidgetting all the time?

b) Will he sit still on your knee?

5. Cannot inhibit activity:

a) If you asked him to sit still, could he, and for how long?

6. Dislike of constraint:

a) What would he do if you tried to make him be still by holding him?

7. Never tires:

a) Does he seem to have an endless supply of energy?

b) What time does he get up, go to bed, sleep during the day?

c) Is he still on the go when you are tired?

8. Clumsiness:

a) Would you say that he is clumsy?

b) In general, would he fall over his feet, drop things or bump into obstacles (specify which)?

c) With respect to these three activities, could he be careful if you asked him to?

Appendix 1.(cont)

9.   Limited Fine Motor Control:

a)   Is he neat when doing things like colouring, can he keep to the lines?

b)   Can he do things fairly precisely and tidily?

10. Poor eye-hand co-ordination:

a)   What is his co-ordination like when he tries to reach for something?

b)   tries to throw something?

c)   tries to kick something?

d)   tries to catch something?

11. Tics:

a)   Have you ever noticed any muscular twitches (tics) anywhere on his

     body or face - where, how long did they last?

12. Overtalkative:

a)   Does he talk a lot, and does this talking make sense or not?

b)   Does he talk more than you would expect?

13. Speech difficulties:

a)   Has he had any problems in the development of his speech?

b)   Has he had any articulation problems?

c)   Has he had any speech therapy?

Attention Difficulties

1.   Short Attention Span:

a)   How long could he concentrate on his favourite game (in minutes)?

b)   on another game or toy?

c)   on listening to a story?

d)   on watching television?

2.   Distractible:

a)   Is he easily distracted from what he is doing by noises or by seeing

     other things?

Appendix 1.(cont).

3.   Leaves jobs half-finished:

a)   Do you find that he usually leaves jobs that you have asked him to do, half-finished?

4.   Persistant with certain activities:

a)   Does he ever persist with certain activities, even if it is unfeasible or against your wishes (specify which)?

5.   Perserveration:

a)   Has he ever seemed to get stuck on one idea and gone on asking the same thing over and over again without seeming able to help himself?

b)   Does he ever get very repetative in his play or in things he is doing without seeming able to help himself.

6.   Nomadic Play:

a)   When he is playing is he wandering around the room changing his activities all the time?

7.   Frenetic Play:

a)   Does he get very excited in his play, will he rush around and be noisy?

Impulsivity

1.   Acts impulsively:

a)   Does he stop to think before doing something or just act straightaway whatever the consequences may be?

2.   Unable to delay gratification:

a)   Can he wait for something that he wants and if so for how long?

b)   Can he take "No" for an answer?

3.   Poor bladder and bowel control:

a)   When was bladder control achieved - by day, by night?

b)   When was bowel control achieved - by day, by night?

c)   Did you find toilet training difficult?

Appendix 1.(cont).

d)   How did you deal with toilet accidents?

4.   Stealing:

a)   Have you ever been aware of him taking things even though he knows

    he shouldn't - specify what sort of things?

5.   Lying:

a)   Does he fail to admit something when you know he has done it?

b)   Does he make up stories to avoid punishment or to get someone else

    into trouble?

6.   Aggression:

a)   Does he hit or kick :

        i)   Siblings

       ii)   Peers

      iii)   Parents

       iv)   Others?

b)   Can you say when and why this occurs?

c)   Can you estimate how often this occurs during a typical day?

7.   Is he Destructive of

a)   His toys?

b)   Other objects?

8.   Inappropriate sexual behaviour:

a)   Does he masturbate:

        i)   Alone

       ii)   In public   specify how often?

b)   Does sexual play occur with other children - specify how often?

c)   Do you consider either of these a problem ?

Demandingness

1. Attention-seeking:

a) Does he insist on being in the same room as you?

b) Does he pester/nag/cling to you?

c) Do you feel that any of his behaviours are done simply to get your attention - please give examples?

2. Makes excessive demands:

a) Do you think he makes excessive demands on your time?

b) Do you have to spend more time with him than with the rest of the family?

c) How does he react when you give your attention to others - does he get upset?

3. Manipulative:

a) Do you feel that he can get his own way?

b) How does he do this and with whom?

c) Does this occur all the time or only over specific issues?

4. Undemonstrative:

a) Does he initiate affection towards you?

b) And/or does he allow you to show affection to him?

c) Does he give or take affection from

    i)   Other members of the family

    ii)   Aquaintances

    iii)   Strangers?

d) Does he dislike physical contact in any way - please specify?

Appendix 1.(cont).

Perceptual and Learning Difficulties.

1. Poor left-right discrimination:

a) Does he know his left from his right?

2. Slow to learn:

a) Does he find it difficult to learn new things even when he is trying?

b) Can he learn to do some things faster than others - please specify?

c) If so, why do you think this is?

3. Poor scholastic performance and attainment:

a) Do you know if he is keeping up with other children of his age at

   playgroup/school?

Resistant and Domineering Social Behaviour.

1. Resistant to social demands - disobedient:

a) Do you have to repeat requests for him to do or stop doing something?

b) How often and on what occasions do you have to repeat yourself?

c) How do you deal with such disobedience and do you ever give way to

   this sort of misbehaviour?

d) If he has been stopped from doing something does he do it again

   within a short space of time?

2. Increased independence:

a) Does he seem to worry when you're not around and if so how does he

   show this?

3. Domineering with other children:

a) Is he bossy with other children, does this apply equally to siblings

   and/or all children?

b) How does he try to boss them - verbally and/or physically?

c) Is he ever content to join a group without demanding to be the leader?

4. Does not get on well with peers:

a) On the whole, would you say that he gets on well with other children

    i)   Of his own age

    ii)   younger

    iii)   older?

b) Does he get upset if he is rejected?

5. Behaviour necessitates intervention:

a) Do you find that he often does things which you have to go and stop?

Emotional Difficulties

1. Fluctuation of Mood:

a) Will he change his mood within a day, or will a mood last a day or several days - specify the type of mood?

b) Can you tell first thing in the morning if it is going to be a good day or a bad day?

2. Predominance of negative mood:

a) Would you say he spends more time in one or more of the following moods - angry, sulky, awkward, naughty, crying, or unhappy? (Rather than being in a happy, friendly, co-operative frame of mind).

3. High intensity of reaction:

a) If he likes something or is happy, does he show this boisterously, laughing loudly, shouting etc?

b) What happens when he is upset or hurt?

4. Over-excitement - loses control of self:

a) Does he get very excited and if so how?

b) Does he ever reach a point at which he loses control over himself?

c) How long would it take to calm him down?

5.   Inablity to tolerate change:

a)   How does he react to any changes in the house, his routine, his food
etc?

b)   How does he cope with new situations, for example, new places, hew
people?

c)   Does he get used to new things quickly even after an initial fuss,
or does it take a long time?

d)   How do you cope with any of the above mentioned difficulties, at the
time and in the future?

6.   Low frustration tolerance:

a)   Does he get frustrated when he is unable to do something - how long
does it take (minutes)?

b)   Does he ever persevere with anything before he reaches frustration
point?

c)   How does he show his frustration?

d)   Is this different when he is alone, from when he is with someone else?

7.   Irritable:

a)   Do you find that he gets irritated for no apparent reason - specify
how?

b)   Is this more likely to occur at some times than others?

c)   How do you handle him at these times?

8.   Insatiable:

a)   Do you feel that whatever you do you just can't satisfy him, how does
he show this?

b)   Do you think this is because he can't tell you what he really wants?

c)   How do you cope with this?

9. Appears not to feel pity:

a) If someone else is hurt, will he show concern or try to help them?

10. Temper tantrums:

a) Does he ever have temper tantrums, and if so what do these entail?

b) Can you always identify why he has a tantrum, please give details?

c) How often do these occur, for how long and at what times of the day?

d) How do you cope with these?

11. Low self-esteem:

a) Do you think he compares himself with other children?

b) If so, has he got a low or high opinion of himself?

12. Insensitive to pain:

a) Does he appear to show as much pain as you would expect when he hurts
    himself?

b) Does he learn not to repeat painful experiences?

c) Do you think that a smack hurts him - how does he react when you do
    smack him?

13. Lack of appropriate fear or hesitation:

a) Does he show fear when you would expect him to - please give examples?

b) Does he hesitate before potentially dangerous situations - give
    examples?

14. Sleep disturbances:

a) Does he settle to sleep at the time you would expect?

b) Does he wake during the night and if so what does he do?

c) What is the average number of hours of sleep he gets at night?

15. Immature:

a) Do you get the impression that he is immature for his age?

b) Does this worry you?

Appendix 2.

THE PRESCHOOL BEHAVIOUR QUESTIONNAIRE

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Following is a series of descriptions of behaviour often shown by
preschoolers. After each statement are three columns, "Doesn't apply",
"Applies sometimes", and "Certainly applies". If the child shows the
behaviour described by the statement frequently or to a great degree,
place an "X" in the space under "Certainly applies". If the child shows
behaviour described by the statement to a lesser degree or less often,
place an "X" in the space under "Applies sometimes". If, as far as you
are aware, the child does not show the behaviour, place an "X" in the space
under "Doesn't apply".

Please put ONE "X" for EACH statement.

		Doesn't Apply	Applies Sometimes	Certainly Applies
1.	Restless. Runs about or jumps up and down. Doesn't keep still			
2.	Squirmy, fidgety child.			
3.	Destroys own or others' belongings			
4.	Fights with other children			
5.	Not much liked by other children			
6.	Is worried. Worries about many things.			
7.	Tends to do things on his own, rather solitary.			

Appendix 2.(c8nt).

		Doesn't Apply	Applies Sometimes	Certainly Applies

8. Irritable, quick to "fly off the handle"

9. Appears miserable, unhappy, tearful, or distressed

10. Has twitches, mannerisms, or tics of the face and body

11. Bites nails or fingers.

12. Is disobedient

13. Has poor concentration or short attention span

14. Tends to be fearful or afraid of new things or situations

15. Fussy or over-particular child

16. Tells lies

17. Has wet or soiled self this year

18. Has stutter or stammer

19. Has other speech difficulty

20. Bullies other children

21. Inattentive

22. Doesn't share toys

23. Cries easily

24. Blames others

25. Gives up easily

26. Inconsiderate of others

27. Unusual sexual behaviours

28. Kicks, bites or hits other children

29. Stares into space

30. Do you consider this child to have behaviour problems?

TOTALS

The scoring system for the PBQ is as follows:

All items marked "Doesn't apply" are scored "0".

All items marked "Applies sometimes" are scored "1".

All items marked "Certainly applies" are scored "2".

Add the scores on all 30 items to obtain the total score.

Add the scores on items-

3, 4, 5, 8, 12, 16, 22, 24, 26, 28 to obtain a hostile-aggressive score.

Add the scores on items-

6, 9, 10, 14, 15, 19, 23, 25, 29 to obtain an anxiety score

Add the scores on items-

1, 2, 13, 21 to obtain a hyperactivity/distractible score

Use the following table to compare the child's four scores to the normative

sample of three to six year old children.

Appendix 2.(cont).

Percentile rank	TOTAL behaviour disturbed	Scale 1 hostile-aggressive	Scale 2 anxious	Scale 3 hyperactive-distractible	Percentile rank
99	29	14	9	8	99
	26	11	8	7	
			7		
95	23	10	6	6	95
		9			
	20	8	5		
90	17	7		5	90
		6	4	4	
		5			
80	13	4			80
		3	3		
	11			3	
65	9	2			65
			1	2	
50	7	1		1	50
	6	0	0		
	4			0	
25					25
	2				
	1				
0	0				0

Rutter's Scale A (2)

To be completed by parents

Name of Child............... Boy/Girl Date of Birth..........

Address.................... School........................

How to fill in this form:

The questionnaire asks about various kinds of behaviour that many children

show at some time. Please give the answers according to the way your child

has been during the PAST 12 MONTHS.

HEALTH PROBLEMS

Below is a list of minor health problems which most children have at some

time. Please tell us how often each of these happens with your child by

putting a cross in the correct box.

	Never	Occasionally, but not as often as once per week	At least once per week

A.   Complains of headaches

B.   Has stomach-ache or vomiting

C.   Asthma or attacks of wheezing

D.   Wets the bed or pants

E.   Soils or loses control of bladder

F.   Has temper tantrums (that is, complete loss of temper with shouting, angry movements etc)

G.   Had tears on arrival at school or refused to go in the building

H.   Truants from school

Appendix 3.(cont).

HABITS Please place a cross in the box by the correct answer.

I.   Does he/she stammer or stutter?   No.   Yes-mildly   Yes-severely

II. Is there any difficulty with speech other
     than stammering or stuttering?   No.   Yes-mild   Yes-severe

If "Yes" please describe the difficulty...............................

III. Does he/she ever steal things?   No.   Yes   Yes
                                                    occasionally frequently

If "Yes" (occasionally or frequently)
does it involve

     minor pilfering of pens, sweets, toys, small sums of money etc.
     stealing of big things
     both minor pilfering and stealing of big things

is stealing done   is stealing done

     in the home   on own
     elsewhere   with other children or adults
     both in the home and elsewhere   sometimes on own, sometimes with
                                                                        others.

Iv. Is there any eating difficulty?   No.   Yes-mild   Yes-severe

If "Yes" is it
     faddiness
     not eating enough
     eating too much
     other, please describe.....................................

V.   Is there any sleeping difficulty?   No.   Yes-mild   Yes-severe

If "Yes", is it difficulty in
     getting off to sleep
     waking during the night
     waking early in the morning
     other, please describe.....................................

Appendix 3. (cont).

Below are a series of descriptions of behaviour often shown by children.
After each statement are three columns - "Doesn't apply", "Applies somewhat",
and "Cetainly applies". If your child definately shows the behaviour described
by the statement place a cross in the box under "Certainly applies". If he
or she shows the behaviour described by the statement but to a lesser degree
or less often, place a cross under "Applies somewhat". If as far as you are
aware, your child does not show the behaviour, place a cross under "Doesn't
apply".

Please put one cross against each statement.

	Doesn't apply	Applies Somewhat	Certainly applies
1. Very restless, has difficulty staying seated for long.			
2. Squirmy fidgety child			
3. Often destroys own or others' property			
4. Frequently fights or is extremely quarrelsome with other children			
5. Not much liked by other children			
6. Often worried, worries about many things			
7. Tends to be on own - rather solitary			
8. Irritable. Is quick to "Fly of the handle"			
9. Often appears miserable, unhappy, tearful or distressed			
10. Has twitches, mannerisms or tics of the face of body.			
11. Frequenly sucks thumb or finger			
12. Frequently bites nails or fingers			
13. Is often disobedient			
14. Cannot settle to anything for more than a few moments			
15. Tends to be fearful or afraid of new things or new situations			

Appendix 3.(cont).

	Doesn't Apply	Applies Somewhat	Certainly Applies
16. Fussy or over-particular child			
17. Often tells lies			
18. Bullies other children			

ARE THERE ANY OTHER PROBLEMS?

Signature Mr/mrs............

THANK YOU VERY MUCH FOR YOUR HELP

Appendix 4.

Screening for Handicaps:

A) Pregnancy and Birth data (Adapted from Cruikshank et al., 1961)

Previous births

1. Number of previous pregnancies

2. Number of previous abortions (miscarriages)

3. Number of stillbirths

4. Number of premature births

5. Number of neonatal deaths

Prenatal data

1. Length of gestation

2. Complications of gestation   - medical

                                   emotional

3. X-rays during gestation

4. Medication during gestation

Labour and Delivery data

1. Bag of water - spontaneous or artificial rupture, and time prior to

    delivery

2. Labour - spontaneous or induced

3. Total length of labour

4. First stage - when started, how long.

5. Second stage -when started, how long (cervix now fully dilated)

6. Presentation position

7. Method of delivery

8. Third stage - when started (starts with actual birth and ends when

    placenta delivered)

Appendix 4.(cont).

9.   Placenta and abnormalities thoroof

10. Complications of labour - what and when

11. Treatment during labour and time prior to delivery, for example,

    analgesia, anaesthesia

Post-natal factors

1.   Operative procedures or complications for the mother.

2.   Weight of baby

3.   Length of baby

4.   Respiration - when established, artificial or spontaneous

5.   Resuscitation used.

6.   The cry

7.   Condition of baby at birth

8.   Birth injuries to baby

9.   Neonatal complications

B)   Motor/speech development, toilet training

Motor milestones in years and/or months

1.   Head control

2.   Sitting

3.   Standing

4.   Crawling

5.   Walking

Speech development

1.   First words

2.   Vocabulary of several single words

3.   First short sentences (two or three words)

4.   Use of sentences

Toilet Training

1.   Bladder control achieved -day

                                  -night

2.   Bowel control achieved   -day

                                  -night

3.   Method of toilet training

C)   Childhood Illnesses

Illnesses.

1.   What illnesses has the child suffered from up to present time- what

       and when were they and how long was he ill?

2.   Was the child hospitalised for any of these?

Operations.

1.   Has the child undergone any operations, - when and what for, how long

       in hospital?

Constitution.

1.   Is the child generally healthy or does he catch illnesses/colds etc.

       easily?

Handicaps at Present.

1.   Vision - any impairment

2.   Hearing - any impairment

3.   Gross motor movement - any impairment

4.   Fine motor movement - any impairment

5.   Any evidence of brain damage

6.   Speech - any problems with language or articulation

Appendix 4.(cont).

7.   Therapy given for any of these, with details of what and when

Appendix 5.

Vineland Social Maturity Scale

by Edgar Doll, Ph.D.

Age Periods

0 - 1

Category	Items		LA mean
C	1.	"Crows", laughs	.25
SHG	2.	Balances head	.25
SHG	3.	Grasps objects within reach	.30
S	4.	Reaches for familiar persons	.30
SHG	5.	Rolls over	.30
SHG	6.	Reaches for nearby objects	.35
O	7.	Occupies self unattended	.43
SHG	8.	Sits unsupported	.45
SHG	9.	Pulls self upright	.55
C	10.	"Talks"; imitates sounds	.55
SHE	11.	Drinks from cup or glass assisted	.55
L	12.	Moves about on floor	.63
SHG	13.	Grasps with thumb and finger	.65
S	14.	Demands personal attention	.70
SHG	15.	Stands alone	.85
SHE	16.	Does not drool	.90
C	17.	Follows simple instructions	.93

I -II

Category	Items		LA mean
L	18.	Walks about room unattended	1.03
O	19.	Marks with pencil or crayon	1.10
SHE	20.	Masticates food	1.10
SHD	21.	Pulls off socks	1.13
O	22.	Transfers objects	1.20
SHG	23.	Overcomes simple obstacles	1.30
O	24.	Fetches or carries familiar objects	1.38
SHE	25.	Drinks from cup or glass unassisted	1.40
SHG	26.	Gives up baby carriage	1.43
S.	27.	Plays with other children	1.50
SHE	28.	Eats with spoon	1.53
L	29.	Goes about house or yard	1.63
SHE	30.	Discriminates edible substances	1.65
C	31.	Uses names of familiar objects	1.70
L	32.	Walks upstairs unassisted	1.75
SHE	33.	Unwraps candy	1.85
C	34.	Talks in short sentences	1.95

II - III

SHG	35. Asks to go to toilet	1.98
O	36. Initiates own play activities	2.03
SHD	37. Removes coat or dress	2.05
SHE	38. Eats with fork	2.35
SHE	39. Gets drink unassisted	2.43
SHD	40. Dries own hands	2.60
SHG	41. Avoids simple hazards	2.85
SHD	42. Puts on coat or dress unassisted	2.85
O	43. Cuts with scissors	2.88
C	44. Relates experiences	3.15

III - IV

L	45. Walks downstairs one step per tread	3.23.
S	46. Plays co-operatively at kindergartan level	3.28
SHD	47. Buttons coat or dress	3.35
O	48. Helps at little household tasks	3.55
S	49. "Performs" for others	3.75
SHD	50. Washes hands unaided	3.83

IV - V

SHG	51. Cares for self at toilet	3.83
SHD	52. Washes face unassisted	4.65
L	53. Goes about neighbourhood unattended	4.70
SHD	54. Dresses self except tying	4.80
O	55. Uses pencils or crayon for drawing	5.13
S	56. Plays competitive excercise games	5.13

V -VI

O	57. Uses skates, sled, wagon	5.13
C	58. Prints simple words	5.23
S	59. Plays simple table games	5.63
SD	60. Is trusted with money	5.83
L	61. Goes to school unattended	5.83

VI - VII

SHE	62. Uses table knife for spreading	6.03
C	63. Uses pencil for writing	6.15
SHD	64. Bathes self assisted	6.23
SHD	65. Goes to bed unassisted	6.75

Appendix 5.(cont).

VII - VIII

SHG	66. Tells time to quarter hour	7.28
SHE	67. Uses table knife for cutting	8.05
S	68. Disavows literal Santa Claus	8.28
S	69. Participates in pre-adolescent play	8.28
SHD	70. Combs or brushes hair	8.45

VIII - IX

O	71. Uses tools or utensils	8.50
Ò	72. Does routine household tasks	8.53
C	73. Reads on own initiative	8.55
SHD	74. Bathes self unaided	8.85

IX - X

SHE	75. Cares for self at table	9.03
SD	76. Makes minor purchases	9.38
L	77. Goes about home town freely	9.43

Appendix 6.

History of Problem Behaviours

The following questions should be asked about each target behaviour, and
any other problem behaviours which the child has presented in the past,
or is doing at the moment.

1.   What did the behaviour involve?

2.   When did it start - age of child?

3.   How long did it appear (age of child, when stopped)?

4.   How did you react to it at first?

5.   Did your reactions change as the behaviour continued to occur?

6.   If the behaviour has stopped - why do you think this has happened?

Baby's First Year

Temperament.

1.   Activity level:

How much did baby move around, could you leave him lying on a bed, did his bedclothes need re-arranging a lot, was he difficult to dress because he squirmed?

2.   Rhythmicity:

Did he want his feeds at regular intervals, did he sleep at the same time each day, likewise bowel movements?

3.   Adaptability:

Did he object to changes in routine or the things around him, did he take a long or a short time to get used to such changes, for example, new food, new person?

4.   Approach-Withdrawal:

When a new event happened did he make a fuss, do nothing or seem to like it, for example, first bath, new foods. Any big changes in the year - how did he react?

5.   Threshold level:

Was he sensitive to noises, changes in temperature, textures of clothing etc., did you have to tiptoe when he was asleep, did bright lights make him cry, could he pick out new foods amongst his old etc.?

6.   Intensity of reaction:

If he wanted feeding, changing, etc. did he really yell, or just squeak quietly or in between. If you did something to him he didn't like did he fuss a little or a lot. If he liked something did he smile and coo or laugh loudly?

7.   Quality of mood:

How did you tell if he liked or disliked something. Did he seem generally

contented with life or not, - what made you think this?

8.   Distractibility:

Did he stop doing things, for example feeding, if he heard a sound or a

person passing, or did he just continue. If he were hungry and fussing

for his bottle could you distract him and divert him to stop the crying,

for example with a toy. If he was playing was he easily distracted by

sounds and sights?

9.   Persistance and Attention-span:

Did he stick with things for a long time or only momentarily, for example,

what was the longest time he spent in an activity by himself (details).

If he reached for something and couldn't get it easily, did he keep after

it or give up easily?

Crying

1.   How much did the baby cry a) during the day and b) at night when

he was i) newborn ii) one month iii) three months iv) six months v) one

year?

2.   Was his crying a problem to you?

3.   Did you try to deal with it at all - what did you do, and did you

have to keep him quiet for any reason other than your own peace?

Feeding

1.   Did you find him a difficult baby to feed - was he breast fed at

first? How did bottle feeding go, was it a difficult time, did he bring

back much food, or get a lot of wind swallowing?

2.   How easy was weaning him from a bottle, details of any problems?

3.   Were there problems with the baby solids, with fussiness etc.?

Sleeping

1.   Have you felt that you have had problems getting him to sleep at night - did he sleep through once night feeds were finished?

2.   Did you lose a lot of sleep when he was a baby - how did this change over the first year?

3.   Was putting the baby down a problem - did you have to stay with him a while?

4.   How else did you cope with these problems?

Attention-seeking

1.   Did you feel that you had to give him more time than you expected?

2.   Why was this,- what did he do to get your attention - crying, being defiant, naughty etc.?

3.   Could he amuse himself for any length of time?

4.   How did he react to you leaving him, would he follow you everywhere once he could move?

Physical, medical or developmental problems

1.   Was the baby ill at all, did this mean he needed lots of extra attention?

2.   Was his rate of development ever questioned?

Appendix 8.

Psychiatric and Health Problems of the Parents:

Psychiatric

1. Nerves/tension/anxiety - If these have been experienced, when was this, how long did they last, was treatment sought - when and for how long?

2. Depression - when, how long, was treatment sought - for how long?

3. Any other problems - what, when?

Health

1. Have you any health problems at present?

2. Did you have any when the child was very young, that is up to the child becoming mobile (one year to one year, six months).

3. Were there any health problems since then which are not present now?

Energy

1. Have you always had enough energy to cope with the child - when he was young (up to becoming mobile)

- as a toddler (up to three years)

- since then?

2. Have you enough energy to cope at the moment with the problems he presents?

Appendix 9.

<u>Social History</u>

1.   Date of Marriage, history of marriage, arrival of children.

2.   Any separations - actual and considered - details of dates, and

reasons. Problems in marriage at present.

3.   Previous marriages, contact with ex-spouse, children.

4.   Conditions of home and the family, estimated income, money problems.

5.   Contact with extended family.

6.   Social life of parents, with and without children.

Attitudes to Child-Rearing

1.   Did you have any ideas on how you would bring up your children before they were born - what were these?

2.   Could you carry out these ideas, with the children, or did you have to change them?

3.   Have you had to handle your children at all in ways which go against your ideas and beliefs (especially with the problem child in mind)?

4.   Does your husband/wife have the same views on bringing up children?

5.   Have you had arguments or conflicts about how to bring up the children or handle specific instances - especially with the problem child?

6.   How do you generally handle problem behaviour, that is, naughty, disobedient, disruptive behaviour?

7.   How do you generally react when your child does something to help you, or is playing nicely - how much does he get left to himself when he is being good?

Children and Parents.

Please answer the following questions on the answer sheet provided.

1.   Your four year old child cries regularly when put to bed, unless

you stay with him, even when you have read him a bedtime story; he wants

you to stay with him and talk. You would like him to settle after a story

without a long ritual each night. Would you do A,B,C, or D.?

A.   Give him something he likes such as fruit, praise, a hug or kiss,

opportunity to play etc.

B.   Leave him alone and pay him no attention.

C.   Scold or threaten him with punishment.

D.   Talk to him and explain why he should not do the things he is doing.

2.   You are very busy with housework and your child brings home a

drawing from school. You are pleased, but very busy. Would you do A,B,C,

or D?

A.   )
)
B.   )
)   As for question 1.
C.   )
)
D,   )

3.   Your four year old is trying to tie shoe-laces. Would you encourage

him with praise -

A.   At each attempt

B.   Once a week for trying

C.   At the end of the day when he goes to bed

D.   When he finally achieves a perfect bow.

4.   In coming to an agreement with your child about helping with some jobs in the house, which of the following agreements or contracts would you use?

A.   Patrick, if you are helpful today, I will give you a surprise tonight.

B.   Patrick, if you don't make your bed and clear up your toys today, you won't be allowed to watch television tonight.

C.   Patrick, if you make your bed today and put your toys away, you can watch the film on television at 7.30 this evening.

D.   Patrick, clear up your room, or you are going to get smacked, and I mean it.

5.   Your little girl seems to have lost interst in school and stopped trying in her work since moving to a new class. Besides discussing the problems with her new teacher, what would you do at home to try to encourage her back to her former interst in school?

A.   Praise her when she shows you some good work done at school.

B.   Give her something she likes when she brings home some good work.

C.   Start to give her coloured paper stars (like they do at school) when she has obviously made some effort in her schoolwork; and after she has earned five stars five her a small prize she likes.

D.   Give stars placed on a chart for trying at school, combined with praise and something she likes for achieving good results (five stars earning a small prize).

6.   You want your nine-year-old son to learn to use a saw safely. He is keen to make some wooden structure and has already tried the saw, but with disappointing results. Would you -

A.   Demonstrate how you should hold and use a saw, and then say "that's

right, well done" and praise his work as he gradually tries to do the same

and gets better and better.

B.   Let him gradually find out his own way of handling the saw.

C.   Keep an eye on the way he uses the saw, and if he holds and uses

it correctly and safely say "that's right, well done" and praise his work.

7.   Would you describe the following accounts of behaviour as "Clear"

or "Not clear"?

1.   John was out of his seat six times between two o'clock and two-thirty.

2.   Billy was naughty twice today.

3.   Jean is playing happily in the garden.

4.   Peter behaved well at the dinner-table today.

5.   Alan cried every time his mother left the nursery school room.

6.   Kathy has a tantrum every day on the school bus.

8.   Would you say the following statements are "True" or "False"?

1.   Punishment (scolding or smacking) of children is rarely used by parents.

2.   Punishing children is the most effective way of helping them achieve

long-lasting control over their ways of behaving.

3.   When a child does something wrong, the most effective way to teach

him not to behave like that is to make sure he does not get any pleasure

from his actions, or to prevent things he likes from happening.

4.   Children become emotionally disturbed if parents stop giving attention

to behaviour they do not want to encourage and start to reward different

ways of behaving.

5.   Reinforcing children's "good" behaviour by giving attention to and

taking more interest in is the way to teach them to do things you like.

Name:
Case: Date:

Children and Parents

Answer sheet

For questions 1 - 6 please write A, B, C, or D in each column (in "What
I would normally do" and in "What I think I ought to do") to indicate
your choice of answers for each question.

		What I would normally do	What I think I ought to do
Q1.	A, B, C or D		
Q2.	A, B, C or D		
Q3.	A, B, C or D		
Q4.	A, B, C or D		
Q5.	A, B, C or D		
Q6.	A, B, C or D		

For question 7. please write "Clear" or "Not clear" by the numbers of the
accounts of behaviour:

1.   4.

2.   5.

3.   6.

For question 8, please write "True" or "False" by the number of the statements.

1.   4.

2.   5.

3.   6.

Appendix 12.

Relationship with the Child

1.   How do you see your relationship with this child - do you like him, enjoy his com any, or do you tend to avoid him and not look forward to being with him?

2.   Are you as close as you would like to be?

3.   Is your relationship with this child different from that with your other children?

4.   Has he ever really upset you?

5.   Have you ever been worried that you might hurt him when you could not cope with his problem behaviour?

6.   Do you feel that your child's problem behaviour stops you getting on with him as well as you might?

Appendix 13.

The Siblings

1.   Has this siblings been a problem at all to you in the last few

months - how, and what did you do?

2.   How do you think this affected the child in assessment?

3.   Has the sibling been a problem at any time previously during the

life of the child in assessment - how, and when, what happened?

4.   Did this affect the child in assessment?

5.   Does the sibling get on well with the child in assessment, do they

play together, do they fight more than you would expect?

6.   Do you feel that the children compete for your attention at all?

Appendix 14.

Numbers 1 -4.			
		Part I	Independent Assessment
Description and Questions	Score 2 "Certainly Applies"	Score 1 "Somewhat Applies"	Score 0 "Never Applies"
Excessive motor activity Is your child on the go and running around all the time. Can he sit still for very long?	Child spends most of his time running around. Is unable to sit for more than 5 minutes.	Runs around quite a lot, but will sit down for 10 -15 minutes at times.	Doesn't run about much at all. Sits to do things and play.
Goalless activity, nomadic play Does your child stick to one activity for any length of time, does he set goals in his activities, and can he reach these?	Swaps and changes activity every few minutes. Never sets goals for activities and can never reach goals (even if set by others). Moves around a lot while playing	Will change activities after 10 - 15 minutes. Sometimes sets goals and may reach these at times.	Stays with one activity for quite long periods Sets himself goals and usually reaches these.
Abundance of energy, little sleep needed Does your child seem to have an endless supply of energy. Is he still on the go when you are tired?	Never seems to run out of energy. Needs little sleep and is always on the go when everyone else is tired.	Seems to have lots of energy but needs his sleep and is tired at end of day.	Seems to tire when would expect. Wants a lot of sleep. Not still or the go when parents are tired.
Short attention span, distractible. How long does your child concentrate on things he is doing. Is his concentration easily lost by distractions?	Can only concentrate for a few minutes, even when interested in what he's doing. Is distracted by noises, sounds and things he sees around him, and loses concentration.	Will concentrate for 10- 15 minutes but only if really interested in something. May be distracted fairly easily.	Can concentrate for long periods - over 20 minutes - on most activities. Not easily distracted if concentrating.

Part I

Numbers 5 - 8

Description and Questions	Score 2 "Certainly Applies"	Score 1 "Sometimes Applies"	Score 0 "Never Applies"
Unable to delay gratification can't take "No" for an answer. Can your child wait for something he wants. Can he take "No" for an answer?	Won't wait at all if wants something - will demand it and will get upset. Dislikes being told "No" and will get upset.(Parents may have to give in).	May wait a short time - just a few minutes without making too much fuss. Makes a short fuss when told "No" but doesn't last long. (Doesn't force parents to give in).	Can wait quite a long time if asked to do so, without getting upset. Will take "No" for an answer without a fuss.
Aggression towards people Does your child hit, kick, bite etc. - yourself, siblings, others. Do you see this as a problem?	Hits out frequently (at least once a day) and will hit parents at times as well as others. If aggression only directed at one person, should be more frequent - e.g. 2 per day.	Child will hit out quite often e.g. twice a week or so, may only be directed towards one person e.g. brother Is seen as a problem.	Child hits only occasionally and only when seems appropriate. No problem seen.
Destruction of objects Does your child destroy his toys, or any of your things or household things?	Will destroy all his toys eventually. May also break things about the house	May destroy his toys but doesn't break other things usually.	Doesn't destroy things
Attention-seeking (a) -clinging, following or perstering. Does your child follow you around a lot and nag or pester you all the time?	Follows mum everywhere gets upset if not allowed to follow. Pesters her a lot and won't give her peace to do things alone.	May follow mum around at times though will leave her alone, gives up pestering after a while if mum ignores him	Doesn't mind too much if can't be with mother, will get on with things while she is busy. Doesn't pester for things.

Appendix 14. (cont).

Part I

Numbers 9 - 11

Description and Questions	Score 2 "Certainly Applies"	Score 1 "Sometimes Applies"	Score 0 "Never Applies"
Attention-seeking (b) performing behaviours which necessitate intervention. Does your child do things he knows you do not want him to do and which you have to stop?	Often does things which he knows he shouldn't do. Mother has to go and stop him several times a day.	May do things he knows he shouldn't or things which mother has to stop -several times a week.	Very occasionally only, usually good, when he has been told not to do something.
Insisting on more attention than other members of the family. Does your child get upset when you give your attention to others. Does he do things to make you then pay attention to him?	Child screams or engages in attention-seeking behaviours when mum tries to attend to others.	Child sometimes upset if mum gives attention to others, but won't insist on her attention being returned to him.	Child makes no objection.
Manipulation of parents successfully so that child gets his own way against their wishes. Does your child ever force you to give him what he wants by screaming, having a tantrum etc?	Yes, child often screams and makes a fuss parents give in most of the time.	Child tries to get own way- by screaming etc. but parents don't often give in but may if tried or want peace.	No, even if child makes a fuss, parents never give in.

Part I

Numbers 12 - 15

Description and Questions	Score 2 "Certainly Applies"	Score 1 "Sometimes Applies"	Score 0 "Never Applies"
Disobedience or non-compliance. Does your child ignore or say "No" to requests from you to do, or stop doing something?	Yes, frequently, several times a day, mum has to repeat requests many times and child may not comply at all.	May have to repeat requests 2 or 3 times a day, child does comply eventually at least half the time.	Only occasionally, and causes no problems Mum doesn't often have to repeat herself.
Domineering or bossy behaviour may be unpopular Does your child like to boss other children around and prefer to be the leader.Do the other children object. Has he many friends?	Likes to be in charge, not content to join the group. Other children get annoyed with him - hasn't many friends.	May try to be the leader at times, may be successful and stay popular or may be join in the group at times.	Will join in happily and has many friends.
Marked fluctuation of mood. Does your child change his mood quite markedly within a day - day to day or week to week?	Child's mood swings quite markedly though time each mood lasts may be specific to the child. Not predictable.	Changes of mood occasionally but may go long periods on an even keel.	Never noticed child changing mood very drastically.
Predominance of negative mood. Does your child seem un-happy mardy, crying a lot, whines, more then he is happy?	Child spends most of his time in a bad mood, difficult and awkward to be with.	Child spends a lot of time in a bad mood, but quite happy at times too.	Child is happy most of the time.

Appendix 14.(c6nt)

Numbers 16 - 19

Part I

Descriptions and Questions	Score 2 "Certainly Applies"	Score 1 "Sometimes Applies"	Score 0 "Never Applies"
<u>Over-excitement - loses control over himself.</u> Does your child get very excited and seem to go over the top at times and lose control over himself?	Child gets very, very excited and seems to lose control of himself. Needs a long time to calm down. Happens quite often.	Child may occasionally get over-excited, but not very often.	Child can get excited, but never excessively.
<u>Low frustration tolerance gives up easily.</u> Will your child stick with things when they get difficult or does he give up easily and get upset?	Child gives in very easily and may throw the object or make a fuss.	Will keep at something for quite a while after it has become difficult but then becomes upset.	Will persevere even when things get difficult won't get too upset of really can't do something.
<u>Insatiable - always wanting something.</u> Does your child go on asking for new things to have and do all the time. Does he ever seem satisfied with what he has?	Child on the want all the time - and parents always trying to find him new things to do and have. Never satisfied with what he has.	Child at times seems to want new things and not satisfied but will settle happily with things sometimes.	Never aware of child not being saisfied.
<u>Displays temper tantrums frequently.</u> Does your child have temper tantrums - scream throw himself around etc?	Child has several tantrums a day. or tantrums less often of an intense nature (and lengthy).	Occasionally has tantrums e.g. once or twice a week or tantrums not very intense.	Tantrums only very occasionally.

Appendix 14. (cont).

Part I

Number 20.

Descriptions and Questions	Score 2 "Certainly Applies"	Score 1 "Sometimes Applies"	Score 0 "Never Applies"
Lack of appropriate fears in and out of the home. Does your child show caution in potentially dangerous situations e.g. with dangerous objects or in the street?	Child rushes into dangerous situations and has no road sense.	Child O.K. at home, most of time, but difficult to teach road sense to.	No problems at home, or out in the street.

Appendix 14. (cont).

Number 1 - 4   (Pre-treatment)   Part II

Questions	Score 2 "Yes definately"	Score 1 "Yes somewhat"	Score 0 "No".
Do you think you need help with your child?	Yes, we don't seem to be able to do anything with him, he's a real problem.	Yes, we seem to have problems with him sometimes when we don't know what to do.	No, we seem to be able to handle him by ourselves.
Do you ever feel that you can't cope with him?	Yes, we just can't cope at all and we don't know how to manage him .	Yes, there are times when we feel we can't cope, but sometimes we can manage.	No, we seem to be able to manage most of the time.
Do you think the way your child is behaving is having a bad effect on him?	Yes, he seems unhappy and we can't get on with him very well. He doesn't have many friends (he's not doing very well at school).	It may be, he gets upset and unhappy sometimes and then we can't get on with him.	No, he seems O.K., he's happy most of the time (and is doing fine at school).
Do you think that the way your child is behaving is having a bad effect on you and the rest of the family?	Yes, we all get upset and angry. He causes rows between us (mum and dad) and the other kids lose out a lot as he takes so much of our time. He stops the family being happy.	Yes, sometimes we have a lot of rows and the other kids suffer too the. But this isn't all the time and we seem a happy family quite a lot.	No, we all get on O.K. and he's no different from the other kids.

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Appendix 14. (cont)

Numbers 5 - 7   (Pre-treatment)   Part II

Questions	Score 2"Yes, definately"	Score 1 "Yes, sometimes"	Score 0 "No".
Do you think your child needs to change his behaviour to any large extent?	Yes, he does lots of things we wish he wouldn't and none of the things we'd like him to do.	There are some things he does which we would rather he didn't. But generally he's not too bad.	No, only occasionally does he do things we don't like. On the whole he's fine.
Can you enjoy this child as much as you would expect?	Score 2 "No" No, I can't play with him or talk to him. I don't really get on with him very well any more. At times I don't even like him certainly not enjoy him.	Score 1 "Yes, somewhat" We can play or talk together at times if he's in a good mood. But sometimes we just can't get on and then I don't enjoy him.	Score 0 "Yes, definately" Yes, we have fun together and I enjoy being with him most of the time.
Has any help or advice you have had before been of use to you with this child?	No, we've never been able to do anything with him, whatsoever people have told us to do, and we seem to have tried everything with no success.	Sometimes things have helped us for a while, but it doesn't usually last.	Yes, we've managed to cope with a lot of things, thanks to advice we've had.

Appendix 14.(cont).

Numbers 1 - 4 (Post-treatment)   Part II

Questions	Score 2 "Yes, definately"	Score 1 "Yes, somewhat"	Score 0 "No"
Do you think you need help anymore with your child?	Yes, we still need more help, we can't work him out by ourselves, or understand him.	Yes, he's still a problem at times, though he's a lot better now, most of the time.	No, we can manage by ourselves now, he's a lot better.
Do you still feel that you can't cope with him?	Yes, we can't cope, he still gets us down.	At times we still can't cope when he's really difficult, but most of the time we can manage now.	No, we can cope now, we know how to manage him even if he gets difficult.
Do you think the way your child is behaving continues to have a bad effect on him?	Yes, he's still unhappy and miserable. He doesn't seem to get on with anyone any better.	He seems a bit better and is generally happier, he gets on better with us (and his work at school) but he still doesn't seem right.	No, he seems O.K. now and is a lot happier.
Do you think that the way your child is behaving continues to have a bad effect on you and the rest of the family?	Yes, we're still upset a lot with him and we all have rows and get angry.	Things are better now but we still all get upset at times and he can make everybody unhappy.	No, we're happier as a family now and have few problems with him.

Appendix 14. (cont).

Numbers 5 - 7   (Post-treatment)   Part II

Questions	Score 2 "Yes, definately"	Score 1 "Yes, somewhat"	Score 0 "No"
Do you think your child still needs to change his behaviour to any large extent?	Yes, we're still not happy about the way he behaves most of the time.	He still behaves in a fairly difficult way at times but he seems a lot better. We'd be happier if he changed a bit more.	No, he behaves O.K. now and he's fine.
Can you enjoy this child more than you did before?	Score 2 "No" No, he's just the same and I still can't get on with him.	Score 1 "Yes, somewhat" Yes, things seem a bit better now and we have more good times together he seems a nicer kid now.	Score 0 "Yes, definately" Yes, he's much easier to get on with and I can get a lot of pleasure out of him now.
Do you think the help you have received from Anne Holmes has been of any use to you and your child?	No, it hasn't helped with him and we've not been able to follow the things she's asked us to do. It's all been a bit of a waste of time. It wasn't what we needed.	It has been of some help and things are a bit better However, something else might have helped more and we're not completely satisfied.	Yes, it helped us all a lot and we can cope with our child much better now even if he's difficult. We're quite happy with the help we've had.

PARENTS' QUESTIONNAIRE

Please put a tick in the box below the answer you wish to give, and explain more fully in the space provided.

(1.) Please think of how often your child   , was showing the following problem behaviours in the three months just before I met you.

       1.   First Target Behaviour 2. Second Target Behaviour

       3.   Third Target Behaviour.

This is in order to compare   behaviour then, with what he was like later on.

In the period   to   197 , after I had given you advice/treatment for

1.   **First Target Behaviour**   occurring

	Much Less Often	Less Often	As Often	More Often	Much Less Often
1	2 (29%)	3 (43%)	1 (14%)	1 (14%)	0
2	0	6 (86%)	1 (14%)	0	0
3	0	2 (67%)	0	0	1 (33%)

2.   **Second Target Behaviour**   occurring

	Much Less Often	Less Often	As Often	More Often	Much Less Often
1	2 (29%)	4 (57%)	1 (14%)	0	0
2	0	4 (80%)	1 (20%)	0	0
3	0	0	2 (100%)	0	0

3. <u>Third Target Behaviour</u> occurring

	Much Less Often	Less Often	As Often	More Often	Much More Often
1	1 (25%)	3 (75%)	0	0	0
2	1 (100%)	0	0	0	0
3	0	0	1 (100%)	0	0

Generally do you think your child was

	Much Worse	Worse	The Same	Better	Much Better
1	0	0	2 (29%)	3 (43%)	2 (29%)
2	0	0	1 (14%)	5 (71%)	1 (14%)
3	0	0	2 (66%)	1 (33%)	0

In the past three months (197 -   197) have the :-

1. <u>First Target Behaviour</u> been occurring

	Much Less Often	Less Often	As Often	More Often	Much More Often
1	4 (57%)	2 (29%)	0	1 (14%)	0
2	1 (14%)	4 (57%)	2 (29%)	0	0
3	0	2 (67%)	0	0	1 (33%)

2. <u>Second Target Behaviour</u> been occurring

	Much Less Often	Less Often	As Often	More Often	Much More Often
1	5 (71%)	2 (29%)	0	0	0
2	2 (40%)	2 (40%)	0	1 (20%)	0
3	0	0	1 (50%)	1 (50%)	0

3.   Third Target Behaviour been occurring

	Much Less Often	Less Often	As Often	More Often	Much More Often
1	3 (75%)	0	1 (25%)	0	0
2	1 (100%)	0	0	0	0
3	0	0	0	1 (100%)	0

Generally, do you think your child is now

	Much Worse	Worse	The Same	Better	Much Better
1	0	0	1 (14%)	3 (43%)	3 (43%)
2	0	0	2 (29%)	3 (43%)	2 (29%)
3	0	1 (33%)	2 (67%)	0	0

(2.) Do you think that the advice/treatment I gave you was of much help
with your problems with   ?

	Yes, helped a lot.	Yes, helped a ltttle.	No, made no difference	No, made things a little worse	No, made things a lot worse
1	4 (57%)	3 (43%)	0	0	0
2	4 (57%)	2 (29%)	1 (14%)	0	0
3	0	1 (33%)	2 (67%)	0	0

Please explain:-

Would you have liked advice/treatment of a different kind?

	Yes	No
1	1 (14%)	6 (86%)
2	1 (14%)	6 (86%)
3	2 (67%)	1 (33%)

Please explain:-

Have you any criticims of the type of advice/treatment that I gave you?

	Yes	No
1	0	7(100%)
2	0	7(100%)
3	0	3(100%)

Please explain:-

Have you any criticisms of the way in which I gave you the advice/treatment?

	Yes	No
1	0	7 (100%)
2	0	7 (100%)
3	0	3 (100%)

Would you have liked more contact with me during the time I was visiting you regularly?

	Yes, a lot more	Yes, a little more	No	No, a little less	No, a lot less
1	0	2 (29%)	5 (71%)	0	0
2	0	2 (29%)	5 (71%)	0	0
3	0	0	3 (100%)	0	0

Please explain:-

Would you have liked more contact with me, after I finished visiting you regularly?

	Yes, a lot more	Yes, a little more	No	No, a little less	No, a lot less
1	0	4 (57%)	3 (43%)	0	0
2	0	4 (57%)	3 (43%)	0	0
3	0	1 (33%)	2 (67%)	0	0

Please explain:-

(3.) Have you had any further advice/treatment from Theresa Smith?

	Yes	No
1	5 (71%)	2 (29%)
2	1 (14%)	6 (86%)
3	1 (33%)	2 (67%)

If Yes, was this advice/treatment of help to you?

	Yes, helped a lot	Yes, helped a little	No, made no difference	No made things a little worse	No, made things much worse.
1	1 (20%)	4 (80%)	0	0	0
2	0	1 (100%)	0	0	0
3	1 (100%)	0	0	0	0

Please explain:-

Would you say that this advice/treatment from Theresa, was of more help to you than that which I gave?

	Yes, of much more help	Yes, of more help	No, both the same	No, of less help	No, of much less help
1	0	0	2 (40%)	3 (60%)	0
2	0	0	1 (100%)	0	0
3	0	1 (100%)	0	0	0

(4.) Have you had advice/treatment for problems with   from anyone else since I met you?

	Yes	No
1	0	7 (100%)
2	1 (14%)	6 (86%)
3	2 (67%)	1 (33%)

Please explain:-

Was this advice/treatment of help to you?

	Yes helped a lot	Yes, helped a little	No, made no difference	No, made things a little worse	No, made things a lot worse
1	0	0	0	0	0
2	0	0	1 (100%)	0	0
3	0	2 (100%)	0	0	0

Please explain:-

Was this advice/treatment of more help to you than that which I gave?

	Yes, of much more help	Yes, of more help	No, both the same	No, of less help	No, of much less help
1	0	0	0	0	0
2	0	0	1 (100%)	0	0
3	0	1 (50%)	1 (50%)	0	0

(5.) Have the ideas and methods that you learned from me been of any help to you in dealing with later problems with   ?

	Yes, helped a lot	Yes, helped a little	No, did not help	No, made things worse	No, made things much worse
1	4 (57%)	3 (43%)	0	0	0

Yes, helped a lot	Yes, helped a little	No, did no help	No, made things worse	No, made things much worse
3 (43%)	3 (43%)	1 (14%)	0	0
0	1 (33%)	2 (67%)	0	0

Please explain:-

Have the ideas and methods that you learned from me been of any help to you in dealing with problems with any other children?

	Yes, helped a lot	Yes, helped a little	No, did not help	No, made things worse	No, made things a lot worse
1	4 (57%)	2 (29%)	1 (14%)	0	0
2	1 (14%)	2 (43%)	3 (43%)	0	0
3	0	0	3 (100%)	0	0

Please explain:-

On thinking about it did you feel that you had to do anything that was distasteful to your ideas and beliefs as a parent during your use of the advice/treatment?

	Yes, certainly	Yes, somewhat	No
1	0	1 (14%)	6 (86%)
2	0	3 (43%)	4 (57%)
3	0	1 (33%)	2 (67%)

Please explain:-

If you had a friend whose child was having similar problems to those had, would you recommend our Unit?

	Yes, certainly	Yes, maybe	No
1	7 (100%)	0	0
2	6 (86%)	1 (14%)	0
3	1 (33%)	2 (67%)	

Please explain:-

Appendix 15.(cont).

Do you believe that without the advice/treatment from myself, problems would have:-

	Become a lot worse	Become a little worse	Stayed the same	Become a little better	Become a lot better
1	7 (100%)	0	0	0	0
2	3 (43%)	2 (29%)	1 (14%)	1 (14%)	0
3	0	0	3 (100%)	0	0

Please explain:-

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