Acknowledgements

Many people have contributed to the preparation of this report: Nicola Smith who undertook much of the literature search and who found and catalogued all of the source materials reviewed in this report; Professor Garry Hornby who provided valuable feedback on early drafts of the main sections of the report; members of the Research Team (Helen Butler, Helen Clothier, Karyn France, Mick Grimley, Garry Hornby, and Lianne Woodward) who provided many valuable leads, who provided the internal audit of the final report and who helped in numerous other ways; and members of the Ministry of Education Formative Evaluation Team (Ross Boyd, Karl le Quesne and Emma Gledhill from Education Management Policy, and Yvonne Hope, Siautu Alefaio, Mere Berryman, Trevor Clarke and Stephen Macartney from Group Special Education) who provided a detailed and thoughtful critique of the penultimate draft of the report.

It is my privilege to thank you all for your time, your assistance, your feedback and your suggestions. I hope that you find this report informative and useful.

John Church
Executive Summary

This report reviews the results of research into the development and treatment of severe behaviour difficulties in children and adolescents. Because the time allowed for this review was quite limited, the review is tightly focused on the most prevalent type of behaviour difficulty, that is, the development and treatment of early onset antisocial behaviour difficulties in children who have the potential for normal development. Research into the treatment of children with behaviour difficulties arising from organic impairments (such as severe intellectual disabilities and autism) is not reviewed.

A review of research into the development of antisocial behaviour in children indicates that we now have a reasonably good understanding of the way in which antisocial development occurs. This research has identified both the learning processes which are involved and the contexts in which antisocial development occurs. The learning processes which need to be targeted by any intervention are the positive and negative reinforcement processes which teach, strengthen and maintain defiant, coercive and aggressive responses during interactions with other people. The contexts which need to be targeted are the child's antisocial interactions with parents and siblings (the home context), with teachers and classmates (the school context) and with peers and associates (the playground and recreational contexts). Detailed analyses of the interactions of antisocial children with their parents, teachers and peers suggest that children who are being raised in environments in which polite and friendly responses pay off more frequently than coercive and antisocial responses learn to interact with others in polite and friendly ways while children who are being raised in environments where coercive and antisocial responses pay off more frequently learn to interact with others in coercive and antisocial ways.

In order to prevent antisocial children growing up to become antisocial adults, it is desirable that such children be identified as early as possible and as soon as the first signs of antisocial development begin to appear. Our review of research into diagnostic screening procedures found that a wide variety of screening procedures were currently being used. The lack of a standardised screening procedure suitable for New Zealand use is currently hindering attempts (a) to estimate the number of children whose development is following an antisocial pathway, (b) to measure the proportion of these children who are being detected by current services and (c) to measure the cost effectiveness of the services which are being provided for these children at each age level. An evaluation of currently available screening instruments suggests that the Systematic Screening for Behavior Disorders procedure and the Early Screening Project procedure devised by Walker and his associates represent the current state of the art as far as diagnostic screening is concerned. Both could be adapted for use in New Zealand schools.

Three separate surveys involving all of the schools in two South Island provinces have estimated the proportion of antisocial children in New Zealand schools to be somewhere between 4.5 and 5.0 per cent. These same surveys show that the proportion of antisocial students in low decile schools is somewhere between 3 and 6 times greater than the percentage of antisocial students in high decile schools. The prevalence for Māori and Pacific Island students is unknown. The numbers of antisocial children at age 8 and at age 11 were closely similar in two out of three of the prevalence studies which suggests that antisocial development, once established, was not being reversed by the kinds of interventions which New Zealand was providing for these children in the second half of the 1990s.
Our review of longitudinal studies of antisocial development suggests three main conclusions. First, the great majority of children who do not engage in antisocial behaviour during childhood do not engage in antisocial behaviour during adolescence and adulthood. Secondly, children identified during childhood as children who engage in high rates of antisocial behaviour are at considerable risk for a large number of adverse outcomes as adults. These adverse outcomes include unemployment, psychiatric disorders, alcoholism and other forms of substance abuse, early pregnancy and early fatherhood, drunk driving convictions and loss of licence, criminal offending, higher rates of domestic violence, separation and divorce, higher rates of injury and hospitalisation, and a shortened life expectancy. Thirdly, current social conditions appear to be producing a group of life-course persistent antisocial children who go on to become delinquent youth and then adult offenders. For boys raised in the 1970s, this group numbered about 7 per cent of all boys.

Research into diagnostic procedures suggests that Functional Assessment procedures are the preferred diagnostic procedure for identifying the factors which will need to be changed during any intervention. Functional assessment is a procedure which attempts to identify the environmental conditions (including the behaviours of other people) which are functioning to motivate continued use of antisocial (rather than prosocial) responses.

The research reviewed in this report suggests that children with severe antisocial behaviour difficulties are likely to have four major types of special teaching needs. These are (a) the need to practise responding in prosocial (rather than antisocial) ways to the behaviour of other people, (b) the need to learn that other people can be trusted and that how other people react to one's behaviour is important and needs to be taken into account, (c) the need to learn and to practice age-appropriate social skills, especially those which are necessary for the development and maintenance of positive relationships with peers and with adults and (d) the need to catch up as quickly as possible with respect to missing academic skills, especially in reading, writing, and maths.

The research reviewed in this report shows that the task of halting antisocial development and accelerating social development becomes increasingly more complex, more costly, and less likely to succeed the older the child becomes. A number of studies have shown that, prior to school entry it is possible to halt antisocial development and accelerate prosocial development in 75% to 80% of antisocial children. Between the ages of 5 and 7 years, the success rate of the most effective interventions drops to 65-70%, and between the ages of 8 and 12 years the success rate for the most effective interventions falls to 45% to 50%. During adolescence, the most effective interventions succeed in rehabilitating only a small fraction of the children who were engaging in antisocial behaviour at school entry. This appears to be because (a) antisocial children acquire increasing numbers of increasingly sophisticated antisocial skills as they become older, (b) these antisocial responses and skills become increasingly entrenched and habitual the more they are practised and (c) the number of adults and peers that the child comes into daily contact with (and who would need to be involved in any intervention) keeps increasing the older the child becomes.

The research on antisocial development indicates that the first and primary aim of intervention work with antisocial children will usually be to reduce the frequency of punishment (for both inappropriate behaviour and academic failure) to a level comparable with that being experienced by normally developing age-mates – and to accomplish this as
quickly as possible. This is because excessive punishment (and failure) is one of the main
drivers of antisocial development.

During the pre-school and primary school years, contingency management procedures appear
to be the most effective procedures for halting antisocial development and accelerating
prosocial development. They also have the strongest research support. Contingency
management procedures involve (a) the selection of specific behaviour change goals, (b) the
teaching of any missing skills which the child needs in order to achieve the goal, (c) the
identification of rewards (e.g. small privileges) which will provide the child with a strong
motivation to achieve the goal, (d) the use of a small and predetermined penalty (such as a 3-
minute time out or privilege loss) for antisocial behaviour and (e) the careful monitoring and
recording of child achievements and antisocial responses from hour to hour. Because the
reinforcing effects of different rewards are culturally relative it is important always to consult
with the antisocial child and to get the child to select (from a list of available rewards) the
particular reward which they would like to work for. It is also important to ensure that any
rewards which will be earned are acceptable to the child’s parents. Contingency management
schemes which include both rewards for socially appropriate behaviour and a small penalty
for antisocial behaviour motivate a more rapid transition to socially appropriate behaviour
than schemes which provide only a reward for appropriate behaviour.

It seems extremely unlikely, on the basis of the research reviewed in this report, that
antisocial development can be halted and prosocial development accelerated using just a
school-based intervention on its own. This appears to be because children spend far less time
in the classroom than they do outside the classroom and hence are exposed to fewer social
learning opportunities in the classroom than they are exposed to in non-classroom settings.

The research into parenting skills training indicates that there are a number of training
programmes which are effective in helping parents to halt antisocial development and to
accelerate the social development of their children. The four parenting skills programmes
which appear to be most effective are (a) the Oregon Social Learning Centre programme, (b)
Webster-Stratton’s video-based training programme, (c) the Australian Triple P courses and
(d) the Forehand and McMahon programme. All of these programmes focus on helping
parents to learn how to (a) monitor a child's whereabouts and behaviour, (b) participate
actively in a child's life, (c) use encouragement, praise, and rewards to manage child
behaviour at home, (d) ensure that discipline is fair, timely and appropriate to the
misbehaviour, and (e) use effective, positive, conflict-resolution and problem-solving
strategies. Parenting training courses have their strongest effects with the parents of young
children and weaker effects with the parents of children over the age of 8 years. The
effectiveness of parent training interventions is dependent in part upon the cultural
competence of the parent educator who must be able to communicate with parents in their
own language and who must be sufficiently trained and experienced to be able to establish a
positive interpersonal relationship both with parents from a variety of different cultural
backgrounds and with parents who are experiencing major problems in their personal lives.
These are important requirements for parent educators who will be working with Māori and
Pacific Islands parents.

It is fairly clear from the intervention research that home and school interventions are more
effective in halting antisocial development and accelerating prosocial development than
interventions in the home only or the school only. Well designed home and school
interventions, which reach the child before the age of 7, may succeed in returning the
antisocial child to a normal developmental trajectory in 70 to 80 per cent of cases. The Early Social Learning Project and Project Early which ran in Christchurch in 1996-1997 have shown how this can be achieved in the New Zealand setting.

The research into intervention work with children aged 8 and over has repeatedly found that there are significant barriers to implementing effective interventions for older antisocial children. These include teacher ambivalence about whether they should be responsible for teaching children with severe antisocial behaviour problems and difficulties in implementing the kinds of curriculum changes, behaviour management schemes and monitoring procedures which are required for effective work with antisocial children at this level. There are also significant barriers to effective work with the parents of older antisocial children. Some parents are under such stress, or have such serious personal problems, that they are unable to fully meet their children’s needs.

There is some evidence, albeit limited, in the research reviewed for this report that the effectiveness of home and school interventions for older antisocial children may be enhanced by adding a well designed cognitive behaviour therapy intervention which teaches the older antisocial child or young antisocial teenager perspective taking skills, social problem solving skills, anger management skills and missing social skills.

The research reviewed in this report suggests that most of the traditional interventions for antisocial adolescents have a relatively small effect on antisocial development. A number of meta-analyses of delinquency treatment programmes have found that the average effect of these programmes is to reduce offending by about 10%. This effect is very much smaller than the effect produced by interventions with younger antisocial children. Given the very large cost to society of offending (over the lifetime of the offender), however, interventions which produce a 10% reduction in offending may, nevertheless, still represent a worthwhile investment.

Many of the interventions which are currently being provided for adolescents with severe antisocial behavior difficulties have never been shown to have a positive effect on the future quality of life of such adolescents. Included under this heading are probation and parole, individual counselling, group counselling, family counselling, activity centres, alternative education programmes, interpersonal skills training, mentoring, outdoor programmes, vocational counselling, and deterrence programmes such as shock incarceration (boot camps) and “scared straight” programmes.

The three intervention programmes which appear to have the largest effect in reducing the offending of antisocial adolescents are Multisystemic Therapy, Functional Family Therapy, and Multidimensional Treatment Foster Care. The treatment programme which has been most extensively researched and which appears to have the strongest effect on social and academic development while students are in the programme is the Teaching Family programme. These are all multi-modal, community-based, skills-oriented interventions which attempt to remove the conditions which have been maintaining antisocial development. The elements which are common to these four interventions are as follows: (a) they are longer and more intensive than the interventions required for younger antisocial children, (b) they intervene in multiple contexts – the home, the school, the peer group and even in recreational settings, (c) they are highly structured rather than experiential and unstructured. (d) they are being delivered by highly trained and experienced therapists and foster parents (rather than by paraprofessionals and teacher aides as is often the case in New Zealand), (e) they recognise
that effective interventions for antisocial teenagers require the therapist to build a positive relationship with the antisocial teenager and (f) they tend to be very expensive – much more expensive than interventions (of similar effectiveness) delivered to younger children and their families.

Finally, there appears to be a growing gap between what has been discovered as a result of the research reviewed for this report and what is currently being provided by way of services for children and youth with severe antisocial behaviour difficulties. This has a number of implications for the training of classroom teachers and special education personnel at each level of the educational system. The most important of these implications are explored in the final section of this report.
Section 1 - Introduction

This report reviews the results of research into the treatment of children and adolescents with severe behaviour difficulties. The report was commissioned by the New Zealand Ministry of Education. The Ministry sought a best evidence synthesis of the research into the types of behaviours that impede learning, the features of effective interventions, the kinds of settings that are best for effective intervention work, and the outcomes which should be expected from the best interventions for children with severe behaviour difficulties. One of the requirements of the review was that the review procedures and methodology should be clearly described. The Ministry allowed four months for the literature review and the preparation of two reports. This is the second of these reports.

Scope of the Report

Research into the reasons why some children develop severe behaviour difficulties, and what should be done about these difficulties, is voluminous. At the beginning of 2003, a search of the PsycINFO data base alone identified more than 20,000 research reports on this topic. Because the time allowed for the present review was relatively short it has been necessary to undertake a fairly tightly focussed review.

First, this review focuses on the development and treatment of severe behaviour difficulties in children and youth who have the potential for normal social development. Research into the treatment of behaviour difficulties in children with organic impairments such as severe intellectual disability or autism has not been reviewed. These are separate fields which require their own separate reviews.

Secondly, this review focuses on the development and treatment of severe antisocial behaviour difficulties. We have focussed on antisocial behaviour difficulties because this is the most commonly occurring type of behaviour difficulty and the one which teachers and special education personal have to deal with most often. We have not reviewed research into the development and treatment of other types of psychiatric disorders in children (such as childhood phobias, traumatic stress disorder, childhood depression, and so on). These too are separate fields which require their own reviews.

Thirdly, this review focuses on the development and treatment of early onset antisocial behaviour difficulties. As will be seen in the next section, some children, an early onset group, begin to develop antisocial behaviour prior to school entry. Others, an adolescent limited group begin to engage in risky and antisocial behaviour only during adolescence. This report focuses on the identification and treatment of children with early onset antisocial behaviour difficulties because (a) it is this group of children who often require special educational provisions throughout their school career and (b) it is this group of children who experience the most severe and continuing adjustment difficulties throughout their lives and who, as a consequence, consume the largest proportion of social services expenditure.

Fourthly, the present review takes the form of a best-evidence synthesis. This means that we have only examined research which meets conventional methodological requirements. In other words, this review is limited to treatment evaluation studies which have attempted to measure relevant developmental outcomes. Studies which simply describe what happened
during treatment have not been reviewed. This review is also limited to research studies which have used reasonably reliable procedures to measure these outcomes and which have used those kinds of research designs which tend to produce reliable conclusions. Investigations which have used small or biased samples, or impressionistic or unreliable outcome measures, or poorly controlled research designs, have been largely ignored, as have studies which have never been replicated. Given the very large amount of high quality research which has been undertaken with this particular group of children, it is our considered view that the decision to ignore poorly controlled research is unlikely to have affected the conclusions which have been drawn.

Māori Research

We have undertaken a detailed search for Māori research into intervention work with Māori children or youth with severe antisocial behaviour difficulties but have identified no intervention studies (with this group of children) which have measured relevant developmental outcomes. This is not necessarily a shortcoming of this review. As will be seen in subsequent sections, a number of the conclusions which have been arrived at in this report are closely similar to suggestions which have been made by Māori researchers who are working in the area of special education for Māori children and youth.

Organisation of the Report

This report is organised into 14 sections. This section describes the scope of the review, the literature search procedures used, and the methodological criteria which were used in selecting evaluation studies for review.

Section 2 reviews the scientific research which has sought to discover the mechanisms which are involved in the development of severe antisocial behaviour difficulties in children and adolescents. This section is included because an understanding of how antisocial development occurs is important for the design of effective interventions and for understanding why some interventions work and some do not.

Section 3 examines current definitions of antisocial behaviour difficulties and the assumptions which underlie these definitions and Section 4 reviews the reliability of the screening procedures which are currently being used to identify children with antisocial behaviour difficulties.

Section 5 reviews a number of New Zealand studies which have attempted to identify the prevalence of severe antisocial behaviour difficulties at each age level. This information is essential for planning and for costing special education services for this group of children. This section is followed by a short review of a number of longitudinal studies of child development which have sought to assess the stability of antisocial development and to identify the long term prognosis for children with early onset antisocial development.

Section 7 considers the diagnostic procedures which are likely to be of greatest help in planning interventions for children with severe behaviour difficulties and Section 8 provides an overview of the special teaching needs of children with early onset antisocial behaviour difficulties.
The intervention research is reviewed in Sections 9 to 11. Section 9 is a review of research into interventions with young children up to the age of 7 years. Section 10 reviews the research into intervention work with 8- to 12-year olds and Section 11 covers interventions designed for adolescents. Section 12 summarises the findings from our first report – a review of the research into residential treatments.

Section 13 identifies some of the gaps in the research record and the final section, Section 14, considers some of the important issues and questions raised by the research which has been reviewed in this report.

**Literature Search Procedures**

To identify the research reviewed in this report, the following literature search procedures were used. Before getting started, we used the collective expertise of the research team to identify the topic areas and the interventions which needed to be included in the review. These topics were listed in the grant application. Once the research contract had been approved, we located the most comprehensive and up-to-date reviews which we could find and used these to update the list of interventions which needed to be reviewed. The main reviews which were used for this purpose were Carr (2000), Fonagy, Target, Cottrell, Phillips and Kurtz (2002), Kazdin (1995), Quay and Hogan (1999), Reid, Patterson and Snyder (2002) and Walker, Colvin and Ramsey (1995). The list of interventions to be included in the review was continually updated throughout the review process.

We then identified some sources which we knew would be particularly relevant to the review. We searched for and obtained copies of all relevant Ministry of Education research reports from 1985 to the present. We consulted the on-line publication list of the Oregon Social Learning Centre (which lists more than 600 reports) and obtained copies of those reports which appeared to be most directly relevant to the present review. We consulted the publication list of the Christchurch Health and Development Study and obtained copies of the CHDS reports which appeared to be most relevant. We consulted our own test library to obtain copies of many of the screening instruments mentioned in the review. We also obtained a complete set of research reports relating to the University of Queensland Positive Parenting (Triple P) Programme.

Topic searches began with a search of the PsycINFO database using the base descriptor “(aggressive behavior in DE) OR (antisocial behavior in DE) OR (behavior disorders in DE) OR (behavior problems in DE)” followed by the relevant topic descriptors, for example, “AND (prevalence or incidence)”. The base descriptor identified 20,225 research reports and the topic descriptors often identified up to a hundred reports which were then classified as highly relevant or not highly relevant on the basis of their on-line abstracts. Highly relevant reports were either obtained from the University of Canterbury library and photocopied or obtained on library interloan. For some topics, especially those involving recent developments, searches were also made of selected full-text databases. The full text database which was most frequently consulted was ProQuest.

Prior to reviewing each of the interventions selected for examination, we used previous reviews plus the reference lists of each of the evaluation reports which had been obtained to construct a complete list of evaluation reports for that particular intervention. These were
then obtained and copied. While we were largely successful in this endeavour, time constraints meant that there were a small number of evaluation reports which we were unable to obtain. Most of these were either unpublished or “in house” evaluation reports.

Finally, we used the reference lists of the reports which we had obtained to identify relevant implementation manuals, clinician's manuals, materials for parents and so on. We used the same procedure throughout the review process to identify additional literature reviews and pertinent theoretical articles on each of the topics in the present report.

The literature search identified just over 800 research reports, research reviews, assessment instrument evaluations, treatment manuals or pertinent theoretical papers. Each of these was classified according to topic, given a 2-4 sentence description, and entered on an electronic database.

Technical Considerations Involved in the Assessment of Intervention Effects

The technical requirements which need to be met when trying to measure the effects of an intervention are described in most standard educational and psychological research methods texts (e.g. Best & Kahn, 1993). The additional technical requirements which need to be met when evaluating the effectiveness of interventions for children with severe behaviour difficulties have also been described by a number of authors (e.g. Eddy, Dishion & Stoolmiller, 1998; Fonagy, Target, Cottrell, Phillips & Kurtz, 2002; Forness & Hoagwood, 1993; Green, 1996; Southam-Gerow & Kendall, 1997; Taylor, Eddy & Biglan, 1999). These sources are in general agreement that, in order to measure the effectiveness of an intervention for severe behaviour difficulties, the evaluation should meet four main criteria. The outcome measures should be appropriate, the measurement procedures should be reliable, outcomes should be tracked for some time following the intervention, and the evaluation should be designed in a way which will allow reliable conclusions to be drawn.

**Appropriate outcome measures should be selected**

The primary aim of any intervention for a child who is engaging in high rates of difficult behaviour should be to provide the conditions which will enable the child to engage in normal social and academic activities – activities which will foster normal social and academic development. In general terms this means selecting a set of measures which provide a reasonable estimate of social competence, that is, a reasonable estimate of the extent to which the child is initiating interactions in an appropriate way and responding in a prosocial way to the invitations, requests, instructions, corrections and intrusions of other people (both adults and peers). Because social competence develops with age, it follows that measures of social competence need to be age appropriate, that is, they need to measure the kinds of social and self-regulatory skills which normally developing children of a similar age are acquiring (Southam-Gerow & Kendall, 1997).

A variety of different kinds of outcome measures have been employed during the intervention research reviewed for this report. In some studies, a single aspect of social competence (such as compliance) has been selected as the outcome measure. In other studies a more broadly defined outcome variable has been selected (e.g. “all aversive responses”). In some studies
the child's interactions have been assessed in a single context. In others, the child's interactions have been assessed in several contexts. Generally speaking we have limited our review to studies which have included at least one developmentally appropriate measure of social competence but we have not been too strict about this. This is because there is still considerable disagreement amongst researchers with respect to the learning outcomes and the contexts which should be assessed when measuring the effects of intervention work with children with antisocial behaviour difficulties. Rather than reject studies where the outcome measure was a bit borderline, we have tended to include rather than exclude studies with borderline outcome measures but to make clear the outcome measures which were employed.

*The procedure used to measure outcomes should be reliable*

Once an outcome measure has been selected, a procedure must be devised for measuring it with reasonable accuracy. This is relatively easy in the case of some outcomes such as attending school, getting suspended, achievement in reading, getting arrested and so on. But measurement becomes more problematic when the outcome measure is social competence – because no one has yet devised a reliable measure of social competence. Attempts to measure social competence have taken a variety of forms: self-reports on scales designed to measure participation in delinquent activities, rating scales completed by teachers or parents, direct observations in the home, direct observations in the clinic on standardised tasks, and direct observation in the classroom or the playground.

Generally speaking, direct measures of outcomes such as direct observation are more reliable than indirect measures such as rating scales completed from memory (Green, 1996). It has been known for some time that rating scales tend to generate data which has quite a low level of reliability (Eddy et al., 1998). Nevertheless, these are still quite widely used in evaluation studies. Fortunately, many of the effective interventions which are reviewed in this report have been evaluated using direct measures of outcomes, or else using several measures of outcomes of which one is a direct measure. Where the outcome measure used in an evaluation study or group of studies is not a direct measure, or looks as if it might have been unreliable, this has been noted. With measures of social competence, the reliability of an outcome measure can never be taken for granted. It must always be assessed during the course of the investigation. Generally speaking, evaluations which have failed to assess the reliability of their outcome measures during the course of the investigation have not been included in this review.

*Outcomes should be tracked for some time following the intervention*

“All childhood interventions have a preventive component that will become apparent only through very long-term follow-up” (Fonagy et al., 2002, p. 32). In other words, many of the outcomes which are of greatest interest, in treatment work with children with severe behaviour difficulties, are developmental outcomes. They are outcomes which will take a year or two to manifest themselves. This being the case, it follows that the most appropriate way to measure the effectiveness of interventions for such children is to continue to measure intervention outcomes for several years following completion of the initial intervention. Evaluation studies which fail to collect long term follow-up data provide only weak evidence of the effectiveness of the intervention under examination. Any effects which were observed and reported may have been quite temporary.
One of the major weaknesses of the evaluation research reviewed for this report is that it often fails to provide long term follow-up data. This weakness has been noted by many reviewers (e.g. Southam-Gerow & Kendall, 1997). Sometimes follow-up assessments have been made a year later, sometimes they have been made a month or two later, and sometimes no follow-up assessments have been made at all. In this report, the problem of short or non-existent follow-ups has been handled by reporting the length of the follow-up rather than by excluding studies. Fortunately, follow-up data collected at least 1 year later has been obtained for many of the interventions which have been reviewed.

**Appropriate evaluation designs should be employed**

Evaluation involves assessment against some standard. The effects of human services are most commonly evaluated against the effects of not providing the service (the “no treatment” control). There are well established conventions for the design of this kind of evaluation study (Best & Kahn, 1993). There must be a sufficient number of children/youth (at least 20) in both the treatment and the control groups (the *sample size* criterion), the children who are to be the participants must have an equal chance of ending up in either the treatment group or the control group (the *random assignment* criterion), and the treatment programmes must be observed in sufficient detail for them to be accurately described in the evaluation report (the *procedural reliability* criterion).

When measuring the effects of a treatment programme on children with special needs, additional considerations must be taken into account (Green, 1996). Care must be taken to ensure that all of the children in the evaluation had the same diagnosis and the same ability to profit from the intervention and that all of the children in the treatment group received the treatment described in the report while none of the children in the control group received this treatment.

Evaluations which involve control groups and the randomised allocation of children with a particular diagnosis to experimental and control groups are most commonly referred to as “clinical trials” and are considered to provide the most accurate and trustworthy measure of intervention effects (Taylor et al., 1999). However, there are a number of difficulties inherent in setting up and running a clinical trial and there are many situations in which these difficulties simply cannot be overcome. The main difficulties which have to be overcome during a clinical trial of an educational intervention for children with severe behaviour difficulties are as follows:

1. There should be at least 20 children in each group for the duration of the study. This requirement can be difficult to meet. There may not be enough funding to run a clinical trial of this size given that the trial should run for more than a year. In studies involving children with antisocial behaviour difficulties, a proportion of families inevitably drop out of the study before it is completed. This reduces the size of each group and may mean that the groups are no longer comparable by the end of the study.

2. All of the children in the study should be children who will be able to profit to the same extent from the intervention which is being provided. This requirement can be
very difficult to meet. First, most of the screening procedures in current use are too crude and unreliable to identify children with closely similar teaching needs. Secondly, even when children with closely similar kinds of teaching needs are identified, the experimenter may not be able to identify a large enough number of these children to run a clinical trial.

3 The investigator must take steps to ensure that each of the children in the experimental group receive the same intervention at the same level of intensity and that none of the children in the control group receive this intervention. This requirement, too, can be very difficult to meet and it becomes increasingly difficult to meet the larger the clinical trial becomes. One of the reasons why this condition is difficult to meet is that ethical requirements usually preclude withholding an effective treatment from half the families who have agreed to participate. In order to meet ethical requirements, intervention researchers often use a waiting list control group. This procedure, however, creates a second difficulty. The participants in a waiting list control group do, eventually, receive the intervention. This means that they can no longer function as an untreated control group when follow-up measures are collected 6 months or a year later (Southam-Gerow & Kendall, 1997).

Some of the evaluation studies reviewed in this report have met all three of these technical requirements and some have not. Some have used groups of adequate size and some have not. We have handled this problem by reporting the sample size rather than by excluding studies. A variety of different procedures have been used to identify the children who took part in the studies. This is a long-standing problem in this kind of research (Forness & Hoagwood, 1993). Many studies have recruited rather heterogeneous samples of children and their families and these children have not always been randomly assigned to the experimental and control groups. Because these shortcomings are so common, studies have not been excluded simply because they exhibited one of these weaknesses.

What is to Count as an Effective Intervention?

The question of how effective an intervention needs to be in order to be regarded as effective remains an unsolved problem at the present time. While most investigators recognise that there is a difference between statistical significance and clinical significance, most still continue to report statistical significance and to ignore the clinical significance of their results. This is hardly surprising given that most investigators know how to calculate statistical significance and measures of statistical significance remain a publication requirement in many journals whereas this is not the case when it comes to clinical significance.

Effect size. In most of the reviews consulted during the preparation of the present report, interventions have been grouped according to their relative effectiveness using an effect size statistic. Effect size (ES) is a technical term which refers to the size of the difference between the average post-treatment score of the experimental group and that of the control group divided by the standard deviation (the degree of spread) in the children's scores on the outcome measure.

- A negative effect size indicates that, on average, the children in the experimental group got worse.
An effect size of 0.5 means that, on average, the children in the experimental group improved by 19 percentile points compared to the children in the control group. Following a suggestion originally made by Cohen (1988), effect sizes of 0.5 or less are usually considered to be “small”.

Effect sizes between 0.5 and 0.79 are normally considered to be “medium.” When large numbers of therapeutic interventions for children are reviewed, the average effect size tends to be about 0.8 (Weisz, Weiss, Alicke & Klotz, 1987).

An effect size of 0.8 means that, on average, the children in the experimental group improved by 29 percentile points compared to the children in the control group. Effect sizes of 0.8 and above are normally considered to be “large” (Cohen, 1988).

In the present review we have reported effect sizes wherever possible, not because we see these as indicators of clinical significance, but in order to give some idea of the relative effectiveness of different kinds of interventions with different age groups.

Clinical significance. Clinical significance refers to whether or not the intervention made any real difference to the development and likely long-term outcome for the child. Measures of clinical significance are fairly rare in intervention research (Kazdin, 1993) in spite of their importance. “Ultimately, effective childhood interventions are those that set a child on a developmental path comparable in risk to those without significant childhood disturbance” (Fonagy et al., 2002, p. 32). The best measure of clinical significance is a measure of whether or not the child with severe behaviour difficulties has been brought to the point where their behaviour and their social competence falls within the normal range. The simplest way of determining this is to define and validate a set of criteria which distinguish between children with severe behaviour difficulties and normally developing children at each age level. Once this is done, the child with severe behaviour difficulties who has received a particular intervention can be examined at some later date (say one year later and two years later) and classified either as a child who meets the criteria for normal development (an intervention success) or as a child who still meets the criteria for a child with severe behaviour difficulties (an intervention failure) (Southam-Gerow & Kendall, 1997). Very few of the evaluations reviewed for this report have used this or a similar procedure for calculating clinical significance but, where such information exists, it has been reported.

Making Judgements about the Degree of Empirical Support for an Intervention

Finding that a certain intervention worked for a particular group of children in a particular setting does not mean that the intervention will work for all children who have the same special learning need. This raises the question of how many demonstrations of effectiveness should be required before we begin to conclude that a particular intervention is likely to be effective across a variety of settings.

Well Established and Probably Efficacious interventions

Having established that a particular intervention is effective for children with severe behaviour difficulties, the next step to be taken is that of determining the degree of empirical support which exists for that particular intervention with this particular group of special needs children. At the present time, interventions which have been shown to be effective are being classified on a three point scale as:
Well-established interventions

1. Either at least two well-conducted group-design studies (with adequate statistical power), conducted by different research teams, showing the intervention to be either superior to an alternative intervention or else as effective as some other well established intervention,

2. Or at least 10 well designed single-case experiments which compare the intervention to another intervention.

3. There is a treatment manual for the intervention in question.

4. The characteristics of the children in each trial have been clearly specified.

Probably efficacious interventions

1. Either two group design studies, conducted by the same investigators, which meet the criteria for a well established intervention.

2. Or at least two group-design studies showing that the intervention is more effective than a no-treatment or waiting list comparison group.

3. Or a least 4 well designed single-case experiments which compare the intervention to another intervention.

4. There is a treatment manual for the intervention in question.

5. The characteristics of the children in each trial have been clearly specified.

Since its introduction, there has been some discussion of the merits of this scheme. A summary of the main points of contention will be found in Fonagy et al. (2002). Perhaps the main observation which needs to be made is that the criterion for between-groups evaluations seems to have been set very low (only two studies are required) whereas the criterion for within-subject evaluations seems to have been set very high (at least 10 studies). The great
majority of the interventions reviewed in this report qualify as probably efficacious interventions. A small number qualify as well established. Interventions which qualify as empirically supported interventions have been identified in the report.

Interventions supported by the results of one or more meta-analyses

A meta-analysis is a literature review in which the reviewer has calculated an ES for each of the treatment effects contained in each of the empirical reports included in the review. These ES statistics are then used to draw conclusions about the relative effectiveness of the interventions being reviewed.

The writer who seeks to undertake a meta-analysis of intervention research on a particular topic faces a number of difficulties relating to the inclusion criteria to be used and the way in which reports should be grouped for analysis. The problems which have been most obvious in the meta-analyses examined during the preparation of the present review are as follows.

1. Most of the meta-analyses consulted for the present review have grouped together evaluation studies which have involved rather different groups of children – children of varying ages and children who have been selected into the individual studies using rather different recruitment criteria.

2. Most of the meta-analyses consulted have grouped together studies which have employed a range of different outcome measures taken at a variety of different times following the conclusion of the intervention.

3. Most of the meta-analyses consulted have grouped interventions together by name and have disregarded sometimes substantial variations across studies with respect to the nature of the actual intervention, how long the intervention lasted, the professional experience of the personnel administering the intervention, and the degree of treatment fidelity achieved during the investigation.

4. The studies contained in most of the meta-analyses have used a variety of different kinds of control groups (no-treatment controls, waiting-list controls, treatment as usual controls, and alternative treatment controls). These different kinds of control groups generate different effect sizes. Comparison of a reasonably effective intervention against a no-treatment control produces a much larger effect size than comparing it against the effects of a treatment-as-usual control group which makes at least some improvement. This problem is frequently ignored in meta-analytic reviews. We found relatively few meta-analyses where the studies in the review had been grouped according the kind of control group employed.

5. Most of the meta-analyses consulted for the present report have excluded within-subject evaluations of the interventions selected for examination. We found relatively few meta-analyses of the many well-controlled within-subject studies of intervention work with children with severe behaviour difficulties.
These difficulties need to be taken into account when interpreting the results of a meta-analytic review because the way in which they have been handled by the reviewer influences the results of the review.

References

Section 2 - Aetiology: The Origins of Severe Antisocial Behaviour Difficulties

During the past 50 years, a very large number of factors have been proposed as causal factors in the development of antisocial behaviour difficulties in children. Some of the factors which have been proposed as causes include neurophysiological abnormalities, low intelligence, food allergies, difficult child temperament, early health problems, poverty, marriage breakdown, father absence, exposure to lead, and academic failure. However, none of these factors have been found to be common to all children who develop severe behaviour difficulties.

Recent research into children with behaviour problems has drawn a distinction between two main groups of children and youth with antisocial behaviour difficulties. Some children begin to develop increasingly difficult and non-compliant behaviour during their first four years of life. These children are variously referred to as children with early onset behaviour difficulties (Patterson, Reid & Dishion, 1992) or as children with life course persistent behaviour problems (Moffitt, 1993). Other children begin to engage in antisocial behaviours during adolescence. These children are commonly referred to as youth with late onset behaviour difficulties or as youth with adolescent limited conduct disorder. This report is concerned primarily with the social development of children with early onset antisocial behaviour difficulties because it is these children who require special education provision throughout their school career and it is these children who are most at risk of severe and continuing adjustment difficulties throughout their lives (Moffitt, 1993; Patterson & Yoerger, 2002).

Most modern researchers conceptualise the origins of antisocial behaviour as a developmental pathway which constitutes a departure from the normal pattern of social development during childhood and adolescence (Lahey, Waldman, & McBurnett, 1999; Loeber, 1990; Mash & Dozois, 2003; Maughan & Rutter, 1998; Moffitt, 1993; Patterson, 1996). “Antisocial behaviour appears to be a developmental trait that begins early in life and often continues into adolescence and adulthood” (Patterson, DeBaryshe & Ramsey, 1989, p. 329).

The research literature on the development of antisocial behaviour is vast and it is not possible to review all of this research in this report. The most detailed analysis of the origins of antisocial behaviour and its developmental course is that provided by the research of the Oregon Social Learning Centre (OSLC). Spanning more than 35 years, this research programme has produced more than 600 reports, reviews and analytical papers. The main findings of the OSLC research programme will be found in four book length reports: Reid (1978), Patterson (1982), Patterson, Reid and Dishion (1992), and Reid, Patterson & Snyder (2002). An integrated review of the OSLC research programme (and a number of related research programmes) will be found in Dishion, French and Patterson (1995). A concise account of the OSLC programme and its findings has been provided by Patterson (2002b).

Not only is the OSLC research programme the most extensive and detailed, it is also the most methodologically sophisticated. It has emphasised direct observation as its primary data collection method and has recognised the lack of reliability of self-reports (and the dangers of relying on this kind of data). The coercion training model developed by the OSLC researchers has been continuously refined and tested over a 35 year period using
observational studies (e.g. Patterson, 1982); longitudinal studies, correlational analyses and structural equation modelling (e.g. Patterson et al., 1992); and experimental manipulation in clinical trials (Reid et al., 2002). Many of its findings have been replicated across a number of different samples and by independent researchers. It has continuously evaluated the predictive validity of its central findings against those of competing claims and models (e.g. Dishion, French & Patterson, 1995).

**Antisocial Training During the Pre-school Years: Disruption of the Socialisation Process**

Numerous observational studies (e.g. Patterson, 1982) support the view that antisocial behaviour is initially acquired during the moment-to-moment interactions of which family life is composed. “Regardless of the researcher's theoretical perspective, it is generally agreed that in childhood and adolescence, relationships with parents, siblings, peers, and teachers are the basic social ecologies within which antisocial behavior is displayed, practised, learned, accelerated, or suppressed” (Dishion et al., 1995, p. 438).

At the Oregon Social Learning Centre, researchers have traced the origins of severe and persistent behaviour difficulties to a breakdown in the normal process of childhood socialisation during the child’s first four years. A number of different factors can increase the risk of this happening (Fergusson, Horwood & Lynskey, 1994; Frick, 1994; McGee & Williams, 1999; Patterson, 1982). These include stress (Patterson, 1983; Webster-Stratton, 1990), social isolation or a lack of access to knowledge about child rearing (Wahler, 1980), major personal problems (such as alcoholism) (Fergusson et al. 1994), a high level of conflict between the child’s parents or caregivers (Stoneman, Brody & Burke, 1989), a lack of knowledge about child rearing (Patterson, 1982), and so on. These are not causes of antisocial development but risk factors, that is, factors which increase the risk that the child may learn antisocial rather than prosocial ways of interacting with others. Following the observation that a considerable proportion of toddlers who engage in elevated rates of antisocial behaviour are also hyperactive and inattentive, a number of researchers (e.g. Hinshaw, Lahey & Hart, 1993; Moffitt, 1993; Patterson, DeGarmo & Knutson, 2000; Webster-Stratton, 1990) have suggested that a difficult child temperament should also be considered a risk factor which may disrupt the socialisation process.

The earliest sign that the young child may be heading towards an antisocial developmental pathway is the child's failure to acquire age appropriate levels of compliance with parental instructions. In most families, compliance training begins early - around about the child's first birthday (Martin, 1981). Following direct observations in 12 different cultures, Whiting and Edwards (1988) found that rates of compliance to parental direction averaged 72% for ages 2 to 3, 79% for ages 4 to 5 and 82% for ages 6 to 8. Most parents and caregivers clear this hurdle. However, a failure to accomplish this teaching goal signals a lack of parental effectiveness in handling disciplinary confrontations and results in an increase in the number of coercive exchanges between the target child and all other family members (Patterson, 1976). OSLC data show that, in the families of oppositional children, 10 to 15 per cent of interactions between family members are aversive. Normally developing pre-school boys and girls yell, tease, or whine at a rate of about once every four minutes but oppositional children tend to engage in these behaviours twice as often (Lobitz & Johnson, 1975; Patterson, 1982; Sanders, Dadds & Bor, 1989). Summarising the results of a number of different family
observation studies, Snyder & Stoolmiller (2002) concluded that, compared to normally developing children, antisocial children are 1.5 to 5 times more likely to engage in unprovoked aggression, to respond to aggression with aggression, and to persist in behaving coercively once they have started. In a similar fashion, the mothers, fathers and siblings of antisocial children are 1.25 to 3 times more likely to engage in unprovoked aggression, to respond in kind to coercive child behaviour, and to persist with such behaviour than are the parents and siblings of normally developing children. “At a very early age, high risk, oppositional children are engaged in day-to-day warfare with their parents, and their parents are heavily engaged in the process” (Reid, 1993, p. 247).

The OSLC reports describe several ways in which the parents of oppositional children inadvertently strengthen child misbehaviour. Many of these are negative reinforcement processes. The following example illustrates a common negative reinforcement process: the mother is struggling to get the child to comply, the child repeatedly refuses, the mother gives in, and the child ceases his or her tantrum. In this sequence, the child's defiance has been negatively reinforced (it has paid off) because it has enabled the child to avoid doing whatever the mother was asking the child to do. The mother's giving up has also been negatively reinforced because it has resulted in a cessation of the child's tantrum. Exchanges such as these occur at a higher than normal rate in the families of antisocial children. Gardner (1989) found that the mothers of children with conduct problems were eight times more likely to relinquish demands than were the mothers of normally developing children. Snyder and Patterson's (1995) study of mother-child conflicts found that the coercive tactics of antisocial children worked more often (46% of the time) to terminate conflicts than constructive tactics (29%) whereas the constructive tactics of normally developing children worked more often (38%) than coercive tactics (30%). In the families of oppositional children, the child finds that aversive behaviors (such as whining, crying, yelling, hitting, or throwing a tantrum) work better than prosocial responses in putting a stop to the aversive intrusions and task demands of other family members (Snyder & Patterson, 1995; Snyder & Stoolmiller, 2002). The same processes have been observed to occur in the pre-school setting as well (Snyder & Brown, 1983). Not only are young antisocial children “at war” with their parents but it is a war which the oppositional child frequently wins. “As family despot, they control the family and all of its members” (Patterson, 2002a, p. 39).

The OSLC data suggest that, in the families of antisocial children, conflicts occur about 4 times an hour on average (Patterson, 2002b). This represents 40 antisocial training trials per day, or 14,600 per year. “Repeated over thousands of trials, the child learns to use coercive behaviors to gain control over a disrupted, chaotic or unpleasant family environment. These patterns become overlearned and automatic and operate without conscious, cognitive control” (Dishion et al., 1995, p. 439).

The negative reinforcement which sustains coercive interactions functions as a reinforcement trap in that the long-term outcomes for the child include repeated avoidance of social and academic skill building tasks such as helping out around the house and completing homework; while the long term outcomes for the parent are feelings of helplessness and an increased tendency to give in to the child again, and to give in earlier, the next time a confrontation occurs.

Another thing which happens when people try to control each other's behaviour using coercion, is an escalation in the intensity of the attacks. The child may find that whining and grizzling no longer work to avoid parental demands but that yelling and shouting does. The
parent or caregiver may find that in order to gain the child's compliance they have to resort to increasingly extreme measures. Over time, the child and other family members gradually escalate the intensity of their coercive interactions. In the families of antisocial children, escalation occurs more frequently than it does in the families of normally developing children (Snyder, Edwards, McGraw, Kilgore & Holton, 1994). This escalation may begin to involve hitting and physical attacks. Reid, Patterson and Loeber (1982) reported that, according to the records of community agencies, approximately one-third of the children referred for treatment for behaviour problems had been physically abused. OSLC researchers use the term physical attack rather than “hit” following the observation that when the mother of an antisocial child resorts to hitting the child, these episodes tend to last not for a few seconds but for an average duration of 90 seconds (Patterson et al., 1992).

The parents and caregivers of normally developing children tend to issue clear requests and to acknowledge and reinforce compliance when it occurs. The parents of oppositional children, however, provide lower rates of positive reinforcement for desirable child behaviour than do the parents of normally developing children (Patterson, 1982; Patterson et al., 1992). In fact, the parents of oppositional children are often reluctant to reinforce. “Why should I reinforce him for doing something he is supposed to do anyway?” they ask. The process seems to be that “the more a child engages in problem behaviors, the less likely the child will be reinforced for positive behaviors. Parents who feel they are spending hours engaged in unpleasant interactions with a child (sorting out fights, arguing over chores, having attention demanded) are less likely to notice and attend to the child's positive behaviours. Thus, a vicious circle entraps the parent and the child in which the parent has a “break” whenever the child is not misbehaving” (Dadds, 1997, p. 526).

Although almost all parents want the best for their children, a number of researchers have observed that the parents of antisocial children tend to neglect the task of actively promoting, noticing, shaping and reinforcing prosocial skills. One of the indicators of this is that the families of antisocial children are less likely to engage in joint activities and in joint conversations than the families of normally developing children (Patterson, 1982; Gardner, 1987). Here too we find that the prosocial skills of oppositional children generate less positive reinforcement than coercive skills. In other words, “it is not functional for young children to develop prosocial skills” (Dishion & Patterson, 1997, p. 206).

There now seems to be little doubt that parental skill in handling disagreements and conflicts during the pre-school years - what OSLC researchers call the parents' “disciplinary practices” - are a key determinant in the development of antisocial behaviour in children. In the families of normally developing pre-schoolers, more than 50 per cent of aversive child behaviour is simply ignored (Patterson, 1982). The parents of oppositional children, however, are less likely to ignore aversive child behaviour, they also tend to react negatively to child behaviours which other parents do not classify as deviant, and when they react negatively they tend to scold, natter, or respond in a way which does not actually put a stop to the behaviour which they are objecting to (Patterson, 1982).

All young children throw tantrums, refuse to comply, tease their siblings and hit. When the parents of a normally developing child intervene in coercive exchanges they more often than not intervene effectively, that is, in a way which stops the coercive behaviour. “Skilful parents model and teach but do not fight. They do not back down from child threats, tantrums, and defiance but calmly persist until the lesson is taught” (Snyder & Stoolmiller, 2002, p. 99). The parents of children with behaviour difficulties, on the other hand, natter and
scold, but they do not confront (Patterson, 1982). When the child engages in disobedient or antisocial behaviour, the parents threaten but do not punish the child. As a consequence, antisocial behaviour is not suppressed, and internalised controls over this kind of behaviour are not developed in the way that they are in normally developing children. Even more importantly, warnings and reprimands do not come to guide and control the behaviour of the undersocialised child in the way that they come to guide and control the behaviour of the normally developing child.

Most pre-schoolers learn to take turns, to share toys, to co-operate with peers, and to follow the instructions of parents and pre-school teachers. They do so because these skills are taught, and they continue to use these behaviours because they generate more reinforcement (over time) than coercive behaviours. The child who is developing behaviour difficulties, however, never emerges from the “terrible twos”. They discover that taking what they want has its own immediate rewards. It eliminates the need for waiting, sharing, or co-operating. In other words, the normal child is able “to use both prosocial and coercive techniques but the problem child finds that only coercive techniques pay off” (Patterson, 1996, p. 103). Antisocial children remain “here and now children” - unconcerned about the long-term consequences of their behaviour or the feelings of others.

The direct link between ineffective parental responses to social and antisocial child behaviour and the development of antisocial behaviour in the child has been shown in numerous observational studies, correlational studies, SEM (modelling) studies, and experimental studies. The strongest support for the coercion training model comes from controlled experiments in which parents have changed their reactions to their child's behaviours (as a result of parent training) and the child's use of antisocial responses has greatly declined (e.g. Chamberlain & Reid, 1998; Dishion, Patterson & Kavanagh, 1992; Forgatch & DeGarmo, 1999; Reid, Eddy, Fetrow & Stoolmiller, 1999). The best evidence available at the present time is that “extreme deficits in family management skills, in combination with temperamentally difficult children probably account for the life-course persistent pattern [of antisocial development]” (Dishion et al., 1995).

Parental failure to set limits, and to enforce compliance with the limits which have been set, results, by the time of entry to school, in a non-compliant child who has a short attention span, lacks social skills and engages in elevated rates of coercive and antisocial behaviour. Because these behaviours have been practised so many thousands of times, they have become habitual ways of responding. These behaviours will have a profound effect on the child's development during the next 15 years.

**Antisocial Development During Middle Childhood: The Social Environment Reacts**

The defiant responses, avoidance responses, and aggression of the antisocial child have an effect on the child's home and school environment. They alter the context in which development is occurring. “The child's antisocial actions produce a set of reliable reactions from the social environment. In this case, the reactions - rejection by family and peer group and academic failure - constitute massive failures that severely disrupt the socialization process. When accompanied by obdurate antisocial acts, these failures place the child on a developmental path that is very different from that of the normal child. This path does not move the child toward the adult world of intimate relationships, family and work, but to a
growing commitment to a deviant peer group, antisocial attitudes and increasing sadness” (Patterson et al., 1992, p. 115).

Once the child begins to attend school his or her daily interactions with peers provide an important new source of social learning experiences. Beginning in the pre-school, children spend their time with those peers who provide them with the highest levels of social reinforcement (Snyder, West, Stockemer, Gibbons & Almquist-Parks, 1996). “Reactions by peers to what children say they will do or have done as well as what they actually do become increasingly important in shaping social behavior” (Snyder, 2002, p. 103). Observational studies of younger children have shown that positive and negative reinforcement for aggression occurs during peer group activities in much the same way that it does during family activities. Aversive social interactions occur, on the average, once every two minutes on the school playground. Once a coercive behaviour has occurred, the likelihood that it will be reciprocated is quite high. Antisocial children are both “the instigators and targets of a higher frequency of aversive responses in the peer group than are nonaggressive children” (Snyder, 2002, p. 106). If coercive tactics work more often to terminate conflict with peers than constructive tactics then these are the tactics which will be used in future disagreements with peers.

A child who lacks social skills and who engages in high rates of coercive and aggressive behaviour is highly likely to be rejected from groups of normally developing peers. Playground observations of 10-year old boys by Walker, Shinn, O'Neill and Ramsey (1987) found normally developing boys playing alone 2.7% of the time while the antisocial boys played alone 4.4% of the time. This rejection by peers may begin to occur as early as the pre-school years (Putallaz & Gottman, 1981). Several studies have shown that peer rejection can occur quite quickly. Coie & Kupersmidt (1983) found that when primary school aged antisocial children were introduced to normally developing age mates in ad hoc play groups, the antisocial children were quickly and decisively rejected. For older children, five minutes of conversation is often all that is required in order to determine whether a new person is someone that one would want as a friend (Dishion et al., 1995). The current evidence also suggests that, once peer rejection has occurred, this rejection can be very stable and very difficult to change.

In fact, peer rejection may be a misnomer because antisocial children tend not to be accepted into groups of normally developing peers in the first place. In a new setting, children actively search out other children who have similar interests and similar ways of behaving. The OSLC group refer to this as shopping. Shared activities, interests, and norms of behaviour are all important in the formation of friendship groups. Antisocial pre-school children tend to call attention to themselves and to use negative control strategies when trying to enter peer group play (rather than using the more mature strategy of identifying the theme of the shared activity and entering into it in an unobtrusive way). Shinn, Ramsey, Walker, Stieber & O'Neill (1987) observed 6% per cent of normally developing boys initiating aggressive interchange with a peer but observed 60% of the antisocial boys initiating such interactions - providing further evidence that, by this age, aggressive reactions to peers have become habitual. “The abrasive exchanges between the antisocial boy and key persons in his social environment produce a kind of dyadic avoidance. Gradually, the boy becomes a spectator to many of the normal socialization experiences. This is not to say that he never participates in organized activities with normal peers… Instead he misses an occasional experience each day. What he misses most are the subtle exchanges with normal peers that teach
cooperation... parents cannot teach this. The antisocial boy does not learn when or how to accept negative feedback through experiences with peers” (Patterson et al., 1992, p. 118). Because this process starts quite early “life-course persistent persons miss out on opportunities to acquire and practise prosocial alternatives at each stage of development” (Moffitt, 1993, p. 683).

Next the child begins to fail academically. Numerous studies have reported a correlation between severe behaviour difficulties and low academic achievement (Hinshaw, 1992). Observational studies have found that antisocial children are often lacking in the “academic survival skills” such as attending, staying in seat, answering questions, and so on, which are necessary for learning (e.g. Cobb, 1972). Classroom observations indicate that antisocial children spend less time on task than their normally developing peers (e.g. Walker et al., 1987). Older antisocial children tend to complete less homework than their normally developing peers (e.g. Dishion, Loeber, Stouthamer-Loeber & Patterson, 1983). Substantial correlations between antisocial behaviour and task engagement in the classroom, and between task engagement and academic achievement were found in two separate samples of at-risk boys by Patterson et al. (1992).

In addition, antisocial children accumulate many more disciplinary infractions (for such things as lateness, non-compliance, cheekiness, and so on) than normally developing children (Walker et al., 1987). Because of their frequency, these infractions may result in the child being labelled a troublemaker, they may set up a negative interaction pattern between the child and his or her teachers, and may reduce the willingness of teachers to work with the child. They may also result in suspensions, out of class placements or even exclusion from school.

Academic failure and exclusion from school are, in part, a direct result of the social learning delays, the antisocial behaviour, and the self-protective attitudes which the antisocial child brings to the school setting. But school organisation and school disciplinary practices can also make a direct contribution to the child's antisocial development. That this is so has been repeatedly demonstrated by both observational and experimental studies. First, teachers often treat antisocial children differently (e.g. Van Acker, Grant & Henry, 1996; Walker & Buckley, 1973). Walker and Buckley analysed one teacher's interactions with six “troublesome” and six normal students and reported that 11 per cent of the teacher's interactions with the troublesome students involved support for approved behaviour while 89 per cent involved negative responses for inappropriate behaviour. On the other hand, 82 per cent of her interactions with the normal students involved support for appropriate behaviour and only 18% involved sanctions for inappropriate behaviour. Secondly, the underachieving antisocial child is often placed at a level in the curriculum which is too difficult. Using an ABABA design, Center, Deitz and Kaufman (1982) demonstrated that moving children with behaviour problems on to classroom tasks which are too difficult for them results in an increase in the amount of inappropriate behaviour engaged in. Thirdly, there have been a number of experimental demonstrations of changes in teachers' management and/or teaching practices (following inservice training) which have resulted in large reductions in the numbers of antisocial behaviours engaged in by even the most antisocial children (e.g. Nelson, 1996).

Patterson et al., (1992) liken rejection by peers and academic failure to feedback loops. They are both a consequence of the child's behaviour and conditions which contribute to the further development of antisocial behaviour and attitudes.
The parent who is continually defeated in face-to-face disciplinary confrontations with a child begins to feel that the child is uncontrollable and that there is nothing more that they can do. Eventually, the parent may stop monitoring what the child is doing. When the child is no longer being monitored, the stage is set for the learning of new antisocial behaviours such as stealing, lying, truancy, and spending time with antisocial peers (Patterson et al., 1992). “It is during the elementary school years that poor supervision becomes an active antecedent in the development of conduct disorder... By grade 4, poor supervision and inept discipline are highly correlated and interact to account for over half the variance in antisocial child behaviour in the school setting at grade 5” (Reid, 1993, p. 251). This relationship has now been replicated for both European American samples and an African American sample (Kilgore, Snyder & Lentz, 2000).

The undersocialised child's tantrums and refusals affect not only the behaviour of parents but also of teachers. Both tend to become discouraged (because nothing seems to work). They tend to abandon their attempts to set and enforce limits (in order to avoid further confrontations and fights with the child). Parents tend to abandon their attempts to get the child to help around the house (because it is easier to do the household tasks themselves). And teachers tend to abandon their attempts to get the child to complete the tasks which other children are required to complete (e.g. Carr, Taylor & Robinson, 1991). By degrees, antisocial children train their parents and their teachers to avoid requiring task completion, to avoid setting limits, to avoid enforcing rules, to avoid disciplinary attempts and to avoid further attempts to get them to change their behaviour. This steady erosion of the confidence and the disciplinary practices of key adults results in a child who is given few responsibilities and who, therefore, is deprived of the opportunity to learn many of the skills and personal responsibilities which the normally developing child tends to acquire as a matter of course. “The longer the child remains in the process, the greater the cumulative omissions and the less likely that intervention efforts will be successful. Each omission is a tiny blank spot on the child's map of social experiences. Over a period of years, these blank spots lead to an attitude about social realities that is fundamentally different from that of normal adolescents” (Patterson et al., 1992, p. 120).

Antisocial Development During Adolescence: The Influence of Deviant Peers and the Polishing of Antisocial Skills

Peers play an important role in the child's development and many studies have found a strong correlation between membership of deviant peer groups and delinquency (e.g. Fergusson & Horwood, 1996). Rejection by normal peers tends to result in the antisocial child seeking out peers who are most like themselves. The process begins in the primary school years and accelerates during the intermediate and high school years (Snyder, 2002). The aggregation of deviant peers into their own social groups appears to be a function of (a) a lack of parental monitoring, (b) rejection from peer groups of normally developing youth and (c) academic failure (Dishion, Patterson, Stoolmiller, & Skinner, 1991). A number of studies have found strong correlations between lack of parental monitoring, peer rejection, membership of deviant peer groups, and antisocial behaviour in adolescence (e.g. Laird, Jordan, Dodge, Pettit & Bates, 2001; Patterson et al., 1992).

Adolescents who spend time together “serve as potent models, collaborators and reinforcement agents for one another such that their behavior becomes increasingly similar
over time” (Snyder, 2002, p. 114). Deviant peers also provide opportunities to engage in specific delinquent acts (Patterson et al., 1989). Studies of deviant peer group processes suggest that “deviant peer interactions are characterized by rich schedules of positive reinforcement for deviant behavior” (Patterson, 2002b). In a series of interesting studies (e.g. Dishion, Spracklen, Andrews & Patterson, 1996), Dishion has found that when invited to bring in a “friend” for a tape recorded discussion, antisocial boys tended to bring in other antisocial boys, that the discussions of dyads consisting of two antisocial boys contained 4.5 times as much rule breaking talk as the discussions of pairs of normally developing friends, and that in the antisocial dyads positive reactions occurred primarily during rule-breaking talk whereas, in dyads of normally developing adolescents, positive reactions occurred primarily during talk about normal topics (Snyder, 2002).

Increasing amounts of time with antisocial peers becomes possible because parents have largely given up trying to monitor their child's whereabouts. “We have found that most parents of antisocial children have little information about where their children are, who they are with, what they are doing, or when they will be home.... We tried to teach the parents to track their children more carefully. Typically our attempts to improve the level of tracking in the home were met with considerable resistance by the children” (Patterson et al., 1992, p. 63). The young teenager would assert that the parent had no right to ask for such information and the parents avoided asking for such information in order to avoid yet another confrontation with their child.

It is thought that deviant peers reinforce and hence strengthen both existing and new antisocial behaviours (Buehler, Patterson & Furniss, 1966; Sanson-Fisher & Jenkins, 1978) – including such activities as experimenting with drugs, stealing, cheating, lying, truancy, joy riding and risky sexual behaviour. Several studies report that initial forays into petty crime are frequently a group activity (e.g. Aultman, 1980). The correlation between antisocial behaviour in adolescence and substance use (smoking, marijuana use, alcohol use and polydrug use) is well established (Dishion et al., 1995). The data from several different studies suggest that antisocial adolescents are also at risk for early and risky sexual behaviour (involvement with multiple partners, failure to use contraception, early pregnancy, and so on.) Most of the data on sexual behaviour, however, is self report data the reliability of which is unknown (Dishion et al., 1995).

A child who engages in high rates of antisocial behaviour attracts a lot of punishment (negative reactions) from both normally developing peers and those responsible for his or her welfare. Underachievement at school changes the school experience from one where successes outweigh failures into one in which failures outnumber successes. This too reduces the reinforcement and increases the punishment which results from engagement in academic tasks. The high rates of punishment which result from coercive interaction at home and at school, peer group rejection, and school failure have a debilitating effect on the adolescent's mood, self esteem, and attitude to others. There is some evidence to suggest that antisocial adolescents are more likely to experience bouts of depression (Patterson et al., 1992). Gradually self-esteem is replaced by a set of attitudes which tend to hold others in contempt rather than respect and in which it is always the other person who is at fault whenever anything goes wrong. In short, the antisocial adolescent develops a personality which is characterised by lack of self control, retarded social development, low academic achievement, poor self esteem, a lack of concern for others, and a lack of respect for authority.
As antisocial children progress along the antisocial developmental trajectory, selection processes operate to select them into increasingly deviant social environments. Their behaviour results in rejection from normal peer groups and results in their selection into deviant peer groups. Their behaviour may result in their exclusion from school or their selection into special facilities containing large concentrations of antisocial youth. The child may run away from home, or be taken from the home, or be thrown out of home. During adolescence then, the child's last remaining opportunities to learn the social skills needed for adult living may be abruptly terminated. As these children are selected into increasingly deviant social groups it is hardly surprising that their behaviour and their attitudes become increasingly deviant. “Adding social failure and coercion training in the peer setting to that already established in the home, and then adding deviant peer selection and the deviancy training processes occurring in friendships among antisocial individuals are like hooking second and third engines to the train of antisocial development - it becomes much more powerful and attains greater momentum” (Snyder, 2002, p. 121).

Patterson argues that socialisation of the young is a task which can be accomplished only while the young are young. If parents and teachers do not adequately socialise the children in their care, then no one else ever will. This is because only a parent loves the child enough to go through the thousands of trials in which the child learns when coercion can and cannot be used to get one’s own way. “Later, his wife or his psychoanalyst may give him love and support equal to that given by his mother, but they cannot teach him at a molecular level those subtle skills that he should have learned prior to age 6 or 7. Parental power, relative to a preschool child, is simply overwhelming. Social workers, friends or therapists do not possess an equivalent means for punishing adolescent and adult deviant behaviour. They may help the adolescent to feel better about his antisocial behaviour but they cannot stop the behaviour in the sense that a parent can” (Patterson, 1982, p. 220).

The Antisocial Adult

As adolescents make the transition to adulthood, to intimate relationships, and to employment, the tendency to resort to coercion and aggression often takes on new forms. Individuals with an antisocial history tend to fall into patterns of substance abuse more often, to offend more often, to be arrested more often, to divorce more often, and to engage in more frequent spousal abuse. They also tend to use the same abusive parenting practices which they experienced as children thus increasing the likelihood that antisocial behaviour will be transmitted across successive generations of the same families (Capaldi, De Garmo, Patterson & Forgatch, 2002; Huesmann, Eron, Lefkowitz & Walder, 1984). We will have more to say about the long term outcomes of antisocial development in Section 6.

Summary and Conclusions

1. As a result of an intensive research effort over the past 35 years, we now have a reasonably good understanding of the way in which social and antisocial behaviour is learned and the developmental course for antisocial development. This developmental course is summarised in Figure 1.

2. Detailed analyses of the interactions of antisocial children with their parents, teachers and peers have also identified many of the learning processes which are involved in
the acquisition of antisocial behaviour. Put in its simplest terms, children who are being raised in environments in which polite and friendly responses pay off more frequently than coercive and antisocial responses learn to interact with others in polite, friendly and prosocial ways while children who are being raised in environments where coercive and antisocial responses pay off more frequently learn to interact with others in coercive and antisocial ways.

The research reviewed in this section has important implications for the design of interventions for antisocial children because it identifies both the learning processes which need to be targeted by any intervention and the ecologies, or contexts, which need to be targeted by intervention at each age level. The learning processes which need to be targeted are the positive and negative reinforcement processes which teach, strengthen and maintain defiant, coercive and aggressive responses during interactions with other people. The ecologies (or contexts) which need to be targeted are the antisocial child's interactions with parents and siblings (the home context), with teachers and classmates (the school context) and with peers and associates (the playground and recreational contexts).

Figure 1

*Key factors involved in the development of antisocial behaviour in children and youth*  
 *(From Patterson et al., 1989).*

<table>
<thead>
<tr>
<th>Early childhood</th>
<th>Middle childhood</th>
<th>Late childhood &amp; adolescence</th>
</tr>
</thead>
</table>
| Parenting difficulties  
Inappropriate monitoring,  
behaviour management (discipline),  
reinforcement & problem solving | Behaviour problems:  
Defiance, antisocial behaviour, poor social skills | Selection into deviant peer groups |
| Rejection by normal peers | Delinquency  
Experimentation with new forms of deviant behaviour |
| Academic failure |
References


Behaviours Engaged in by Children with Severe Behavior Difficulties

The behaviours which characterise the child whose development is following an antisocial pathway were identified in the preceding section (Section 2). They include lower than normal rates of compliance to the task requests of parents and teachers, hyperactivity, lower than normal rates of task completion, a collection of task avoidance skills which change as the child grows older, a set of coercive behaviours (e.g. tantrums) which the child uses to get his or her own way (these also change as the child grows older), a set of antisocial reactions to corrections, stop requests, teasing and other mildly aversive responses from other people, bullying, socially inept attempts to play with and converse with peers and, as the child grows older, a range of delinquent activities.

Some of these behaviours (e.g. the inability to enter peer groups appropriately and to play appropriately with peers) are viewed by adults as challenging because they reveal delays in social development, some (e.g. the non-compliance and the tantrums) are viewed as challenging because they are aversive to teachers and parents, and some (e.g. threatening, hitting, and fighting) are viewed as challenging because they are widely defined as antisocial.

Some of these behaviours are common to larger numbers of antisocial children than others. In the New Zealand prevalence survey reported by Church (1996), challenging behaviours which were common to over three-quarters of the primary school children with behaviour difficulties included: moving about inappropriately, interrupting others when they are speaking, ignoring requests from adults, continuing to behave inappropriately after being asked to stop, interrupting or annoying others, blaming others when reprimanded, failing to follow classroom rules, failing to start classroom tasks when requested, failing to work on set tasks when unsupervised, failing to use a polite approach when initiating interactions with peers, failing to show appreciation, a lack of turn-taking skills, a lack of confidence on new tasks, failing to honour commitments, and failing to behave sympathetically when others are unhappy.

Interviews with antisocial middle school children have also revealed differences in the way in which these children interpret the behaviour of others. Many children with antisocial behaviour difficulties are less attentive to social cues, more frequently attribute hostile intentions to others, generate fewer alternative responses to interpersonal problems, respond more impulsively, rate aggressive solutions more highly and fail to use self-talk to explore the consequences of different courses of action (Lochman, White & Wayland, 1991).
Terminology

Many different terms have been used to refer to children who engage in the behaviours described in the preceding section. In the 1950s and 1960s such children were referred to as emotionally disturbed or as socially maladjusted. Child psychiatrists refer to such children as children with disruptive behavior disorders (or as children with externalising disorders) and distinguish between several categories of disorder: oppositional defiant disorder (if the child is young), conduct disorder (if the child is older) and attention-deficit/hyperactivity disorder (American Psychiatric Association, 1994). The British special education legislation refers to these children as children with emotional and behavioural difficulties (E/BD) and the American special education legislation defines a condition which is referred to as serious emotional disturbance (SED). In educational circles these children are also referred to as children with behaviour disorders, children with behaviour problems, children with behavioural difficulties, and as children with challenging behaviours. A number of important writers in the field refer to these children as antisocial (Reid, Patterson, & Snyder, 2002) or as undersocialised (Quay, 1993) or as children with a social disability (Wolf, Braukmann & Ramp, 1987). The term which is currently fashionable in New Zealand is children with behaviour difficulties.

In this report we will refer to children with severe, early onset behaviour difficulties as antisocial since this is the term which is now commonly used by researchers to refer to children who are developing along an antisocial (rather than a prosocial) developmental trajectory (Reid, Patterson & Snyder, 2002). As we refer to specific research studies, however, we will use the labels which the investigators themselves used. This will usually be one of the terms from the above list.

Medical Conceptualisations and Developmental Conceptualisations of Child and Adolescent Behaviour Difficulties

During the past 50 years, research into the life histories, the aetiology, and the treatment of children with severe behaviour difficulties has been undertaken within a variety of paradigms but most of this research has been undertaken from within two competing and largely incompatible conceptualisations: a medical conceptualisation and a developmental conceptualisation. (We have used the term conceptualisation rather than “model”, “paradigm” or “world view” to emphasise the fact that these are two distinct ways of thinking about the origins and treatment of behaviour difficulties in children and youth.)

The medical conceptualisation rests on the assumption that the behaviours of children with severe behaviour difficulties are symptoms of an underlying disorder or pathology, analogous to a disease, and probably caused by some kind of neurophysiological dysfunction – a disorder which is a characteristic of the child and not a characteristic of the conditions under which the child is being raised and educated (Sonuga-Barke, 1998).

The developmental conceptualisation rests on the assumption that the behaviours of this group of children are not symptoms of some underlying pathology but that they are, in fact, how the child is learning to relate to others – they are the behaviours and skills which the child is learning (or not learning) given the conditions under which the child is being raised and educated (Patterson, 1982).
Medical Definitions of Childhood Behaviour Disorders

The diagnostic classification which is currently most widely used both in clinical practice and in research into children with severe behaviour difficulties is a psychiatric classification. The interested reader will find this classification in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM). Version 4 of this manual (DSM IV) provides definitions of three Disruptive Disorders of Childhood: Oppositional Defiant Disorder (ODD), Conduct Disorder (CD) and Attention-Deficit/Hyperactivity Disorder (ADHD).

**Oppositional defiant disorder.** The essential feature of ODD is a recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures. This diagnosis is made if the child consistently engages in any four of the following behaviours: loses temper, argues with adults, defies or refuses to comply with adult's rules or requests, deliberately annoys other people, blames others for his or her misbehaviour, is touchy or easily annoyed by others, exhibits anger and resentment, or acts in a spiteful or vindictive way. The four behaviours must have been occurring for at least 6 months, must be occurring more frequently than is the case with children of a similar developmental level and must be leading to significant impairment in academic or social functioning (American Psychiatric Association, 1994).

**Conduct disorder.** The essential feature of CD is a repetitive and persistent pattern of behavior in which the basic rights of others, or major age-appropriate societal norms, are violated. The diagnosis is made if the child has engaged in any three of the following behaviours during the previous 12 months with at least one in the past six months: bullying, fighting, using a weapon, physical cruelty to people, physical cruelty to animals, stealing with confrontation of the victim, forced sexual activity, fire setting, destruction of property, breaking and entering, lying for personal gain, stealing without confronting the victim, staying out at night before the age of 13, running away from home, or being truant from school before the age of 13 (American Psychiatric Association, 1994).

**Attention-deficit/hyperactivity disorder.** The essential feature of ADHD is a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe that is typically observed in individuals of a comparable level of development. A diagnosis of ADHD may be made in either of two ways. First, the diagnosis is made if the child has any six of the following characteristics: lack of attention to details, difficulty in sustaining attention, seems not to listen, fails to finish tasks, has difficulty organising tasks, avoids or dislikes tasks requiring sustained effort, loses things, is easily distracted, or often forgetful. Alternatively, the diagnosis may be made if the child has any six of the following characteristics: fidgets, leaves seat inappropriately, runs about or climbs excessively, has difficulty playing quietly, is often “on the go”, talks excessively. The behaviours must have been occurring for at least 6 months, have been present before the age of 7 years, be causing significant impairment in social or academic functioning, and be causing impairment in at least two settings (American Psychiatric Association, 1994).
Comments on the Definitions, the Treatment Validity of the Definitions, and the Assumptions Underlying the Medical Model of Disruptive Disorders

The codification of behavioural difficulties as mental disorders in the *Diagnostic and Statistical Manual* has resulted in the teaching of this diagnostic classification to large numbers of psychologists, clinicians and special education personnel and to widespread adoption of the DSM system (and its underlying assumptions) both by researchers and by those who work with children with challenging behaviour.

However, the DSM system is not without its critics. A number of researchers have drawn attention to various shortcomings of the system (e.g. Clark, Watson & Reynolds, 1995; Hinshaw & Lee, 2003; Poland, Von Eckardt & Spaulding, 1994; Scotti, Morris, McNeil & Hawkins, 1996; Sonuga-Barke, 1998). Some of the problems created by this way of thinking about childhood behaviour difficulties are as follows.

*The classification is intentionally atheoretical and ignores causes*

The DSM classification is intentionally atheoretical. Its aim is to allow the clinician to make the diagnosis on the basis of observed behaviours alone without reference to the causes of the deviant behaviour (American Psychiatric Association, 1994). A diagnosis of ODD, CD, ADHD, or something else rests on the presence or absence of certain behaviours without reference to the purposes which those behaviours serve. In DSM type systems, “disorders are seen as characteristics of the individual rather than a result of the interaction between the individual and the environment” (Sonuga-Barke, 1998, p. 120).

The assumption that deviancy is a disorder which is “in” the child directs attention away from the conditions which resulted in the learning of the deviant behaviour in the first place and sends us searching for something that we can do to the child (e.g. give the child medication or a different kind of education) rather than sending us searching for the conditions which will need to be changed in order to prevent the learning of more advanced forms of deviant behaviour (Hempenstall, 1996).

The assumption that deviancy is “in” the child also directs attention away from why the child continues to use deviant rather than prosocial responses in social situations. The behaviours that we engage in have a purpose. What we do, we do for a reason. Children engage in disruptive classroom behaviours for many different reasons – because they do not know any better, because they are bored, to hide the fact that the learning task is too difficult, because the teacher has treated them badly and so on. In each case, the deviant behaviour is the same but its purpose is different. A diagnostic system which classifies behaviours without reference to their purpose tells us nothing about the intervention which will be needed to motivate the child to change his or her behaviour.

In other words, a diagnosis which is made without reference to the conditions which produced the deviant behaviour in the first place and without reference to the conditions which are motivating continued use of the deviant behaviour, provides no guidance as to the type of intervention which is likely to be effective in treating the problem (Scotti, Morris, McNeil, & Hawkins, 1996). Is the child who behaves impulsively to be provided with medication, with training in being more reflective, or with an intervention which results in greater reinforcement for reflective responses than for impulsive responses? How could the question
ever be answered if we have not bothered to find out why the child is behaving impulsively? We shall return to this issue in Section 7 of this report.

**The categories lack treatment validity**

The primary purpose of medical and educational diagnostic systems is to distinguish between diseases, conditions, disorders, or disabilities which arise as a result of different causes, or which are maintained by different conditions and which, as a consequence, require different treatments if they are to be cured or ameliorated. To the extent that a diagnostic system accomplishes these things, it may be said to have treatment validity. A set of diagnostic categories has high levels of treatment validity when diagnostic classification both identifies the most probable cause and, at the same time, identifies the interventions which are likely to be most effective. We were able to locate no research into the treatment validity of the three DSM disruptive behaviour categories and must therefore conclude that the treatment validity of the DSM classification of disruptive behaviours disorders has never been demonstrated.

**The medical model sets a particular research agenda**

The assumption that disorders reside in the child rather than in the conditions which are guiding the development of the child results in a particular research agenda – one in which certain questions are not asked (because they are assumed by the paradigm) while other questions are. For example, the question that dominates most research oriented by the medical model is not *whether* categories of disorder exist but *which* categories of disorder exist (Sonuga-Barke, 1998). A second example is that researchers working within the medical paradigm rarely ask *whether* a certain pattern of behaviour is, in fact, a function of a disorder but are much more likely to ask *which* disorder is responsible. To illustrate further, one of the assumptions underlying the ADHD concept is that the attentional difficulties of children with attentional difficulties are due to a neurophysiological dysfunction of some kind. This assumption has resulted in a very large number of investigations seeking to discover the nature of the neurophysiological dysfunction and very few studies of how best to improve the concentration span of children with attentional difficulties (Reid, Maag & Vasa, 1993). The assumption that the child has a disorder also rules out the possibility that the child may simply have acquired a different set of values, that is, that the child may simply not be motivated to behave in the way that the teacher wants (Sonuga-Barke, 1998).

The medical model underlying the DSM system also influences research procedures. For example, the DSM procedure involves a measurement scale with only two values (disorder present/ disorder not present). When it comes to research, however, dimensional measures (measures with a range of values) are much more useful because they allow us to measure more accurately and, hence, to identify relationships which would not be detected using a categorical classification (Fergusson & Horwood, 1995; Fergusson, Horwood & Lynskey, 1994).

In addition, a classificatory system for childhood disorders is useful only if it can be applied reliably. As we will see in the next section however, the reliability of DSM disruptive disorders is modest at best. Nowhere is this more clearly seen than in the research on *comorbidity*. Large numbers of children who meet the diagnostic criteria for ODD or CD also meet the criteria for ADHD (Abikoff & Klein, 1992; Kavale and Forness, 1998). Should these
children be classified as CD or ADHD or both? This is a very important question from a teaching point of view because, presumably, the two (or it is three?) groups of children will need different interventions. This is also an important question from a research point of view because one of the functions of research is to evaluate the relative effectiveness of different kinds of interventions for children with particular types of special learning needs. One of the pre-requisites for a successful evaluation study is the selection of a relatively homogenous group of children who are all experiencing the same kind of learning difficulty. This condition is rarely met when children are selected according to their psychiatric classification (as children with ODD, CD, ADHD or LD) because it is possible for a child to meet the diagnostic criteria for one, two, three, or even four of these disorders. Differences in the way in which the child participants have been selected has rendered much of the evaluation research (into interventions for children with behaviour problems) uninterpretable. Not only does application of the DSM classification result in heterogeneous samples of children (Poland et al., 1994), the definitions and symptom lists themselves are continually changing – as may be seen by comparing the categories in DSM II (1968), DSM III (1980), DSM III-R (1987), and DSM IV (1994). This means that the children selected (using the DSM definitions) for research purposes may not be the same children from one time period to the next.

Educational Definitions

Serious Emotional Disturbance

The Federal special education legislation of the United States defines a condition which includes the disruptive behaviour disorders and which is referred to as Serious Emotional Disturbance (SED) (Kavale & Forness, 1998).

Serious emotional disturbance is defined as a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance:

- an inability to learn which cannot be explained by intellectual, sensory, or health factors,
- an inability to build or maintain satisfactory interpersonal relationships with peers and teachers
- inappropriate types of behavior or feelings under normal circumstances
- a general pervasive mood of unhappiness or depression or
- a tendency to develop physical symptoms or fears associated with personal or school problems.

The term does not include children who are socially maladjusted unless it is determined that they have a serious emotional disturbance.

As Kavale and Forness (1998) have noted, the definition is now 45 years old, the definition tacitly includes maladjusted children (that is, children who are unable to maintain interpersonal relationships with teachers and peers) while at the same time explicitly excluding “children who are socially maladjusted” and the phrases long period of time and marked degree have made the definition difficult to interpret and apply. In addition, no research appears to have been undertaken into the validity of the definition or the reliability with which it can be applied (Tharinger, Laurent & Best, 1986). The definition of SED as a
“condition” suggests that the authors of the legislation were working from within the medical paradigm.

**Emotional and Behavioural Disorder**

In response to inadequacies in the federal definition of SED, a coalition of special education services sponsored the adoption of a new definition of E/BD in the early 1990s. This definition has now been adopted by a majority of US state departments of education. The new definition is as follows (Kavale & Forness, 1998, p. 11).

The term 'emotional and behavioral disorder' means a disability that is characterized by emotional or behavioral responses in school programs that is significantly different from appropriate age, cultural or ethnic norms to the extent that the responses adversely affect educational performance including the development and demonstration of academic, social, vocational, and personal skills. Such a disability is

(a) more than a temporary, expected response to stressful events in the environment;
(b) consistently exhibited in two different settings, at least one of which is school-related;
(c) unresponsive to direct intervention in general education or the condition of the student is such that general education interventions would be insufficient.

This definition is clearer and more specific than the definition of SED. It also takes both development (age norms) and context (cultural or ethnic norms) into account. However, the name still refers to a “disorder” suggesting that the authors of this definition were still working from within the medical paradigm.

**Emotional and Behavioural Difficulties**

The British special education legislation refers to a disability category: *emotional and behavioural difficulties* (EBD). Children with EBD are defined in the 2001 special education Code of Practice (Department for Education and Skills, 2001) as children and young people with special educational needs “who demonstrate features of emotional and behavioural difficulties, who are withdrawn or isolated, disruptive and disturbing, hyperactive and lack concentration; those with immature social skills; and those presenting challenging behaviours arising from other complex special needs” (Department for Education and Skills, 2001, p. 87). Children with special educational needs are defined as children who “have significantly greater difficulty in learning than the majority of children of the same age or have a disability which either prevents or hinders the child from making use of educational facilities of a kind provided for children of the same age” (Department for Education, 1994, p. 5).

Policy documents suggest that the British Government has a dimensional view of EBD. “Emotional and behavioural difficulties lie on a continuum between ... those that are challenging but within expected bounds and those which are indicative of serious mental illness” (Department for Education, 1994) and the Code of Practice describes a continuum of educational provisions. Although the definitions remain extremely vague, this view represents a departure from the traditional medical model of behavioural difficulties as a mental disorder.
Severe Behaviour Difficulties

In New Zealand, children with severe behaviour difficulties are defined as children who engage in behaviour which (a) jeopardises the physical safety of the student or others, or (b) threatens to cause, or causes, significant property damage, or (c) severely limits the student’s access to ordinary settings and interferes with his or her social acceptance, sense of personal well being, and educational performance.

The New Zealand definition succeeds in avoiding any reference to mental disorders or mental illness which is a point in its favour. On the other hand, it is not particularly clear whether the definition includes all children whose development is following an antisocial developmental trajectory or whether the definition includes only those children who hit other children or damage property. The “limitation of access” clause is particularly problematic because access to good teaching is as much a function of teacher skill and the availability of support services as it is a function of the child’s special learning needs. The distinction between children with severe behaviour difficulties and moderate behaviour difficulties is also problematic because this is a distinction which can only be made by reference to cut off points on a screening instrument designed for this purpose.

Summary and Conclusions

1. The following commonly used definitions of disruptive behaviour disorders were examined: the psychiatric definitions of oppositional defiant disorder, conduct disorder, and attention-deficit/hyperactivity disorder, the US definition of serious emotional disturbance, the US definition of emotional and behavioural disorders, the UK definition of emotional and behavioural difficulties and the NZ definition of severe behaviour difficulties.

2. It is our considered view that all are less than satisfactory definitions of severe behaviour difficulties because (a) they fail to take into account the fact that different categories of special needs children develop different kinds of behaviour difficulties and (b) they tend to focus exclusively on the child’s behaviour and to ignore the environmental conditions which are shaping the child’s behaviour and development.

3. The new US definition of EBD appears to represent the most suitable starting point for a New Zealand definition because it takes into account both the age and the cultural background of the child. This definition is as follows:

The term emotional and behavioral difficulty means a disability that is characterised by emotional or behavioral responses in school programs that is significantly different from appropriate age, cultural or ethnic norms to the extent that the responses adversely affect educational performance including the development and demonstration of academic, social, vocational, and personal skills. Such a disability is

(a) more than a temporary, expected response to stressful events in the environment;

(b) consistently exhibited in two different settings, at least one of which is school-related;

(c) unresponsive to direct intervention in general education or the condition of the student is such that general education interventions would be insufficient.
It may not be possible to define “children with behavioural difficulties” simply in terms of a set of indicator behaviours as most of the definitions in this section have done. This is because the behaviours of antisocial children vary with age and, even within a given age group, there is considerable variability with respect to the particular pattern of coercive and avoidance behaviours which have been acquired (and social skills which have not been acquired) by individual children.

In order to limit expenditure on children with behaviour difficulties, services are often limited to children with “severe behaviour difficulties”. This further complicates the issue by adding the requirement for an operational definition of “severity”. Because the behaviour of antisocial children becomes more “severe” as these children approach adolescence, the severity requirement often has the effect of channelling scarce resources towards older antisocial children and away from younger children who are equally at risk.

In the final analysis, any definition which is adopted must be an operational definition, that is, one which can be applied, and applied reliably, in practice. This is probably best accomplished by devising a screening instrument, norming that instrument, and setting cut-off points on that instrument so that it can be used either (a) to identify all children whose development is following an antisocial path, or else (b) to limit the number of children deemed eligible to the number for which service provision has been made.

References


Section 4 - Procedures for Identifying Early Onset Antisocial Development

In order to prevent antisocial children growing up to become antisocial adults, it is desirable that such children be identified as early as possible (Fergusson, 1998). Achievement of this goal requires an accurate diagnostic screening procedure. This section reviews instruments and procedures which have been developed for screening purposes. It draws heavily on reviews by Boyle and Jones (1985), Breen and Altpeter (1990), Hinshaw and Zupan (1997), Hodges and Zeman (1993), McConaughy (1992), McMahon and Estes (1997), Piacentini (1993), and Reitman, Hummel, Franz and Gross (1998).

Teacher Nominations

The procedure which is most commonly used to identify children with severe behaviour difficulties is to receive nominations or referrals from teachers or parents. Teachers, as a group, tend to be quite accurate in their identification of antisocial children, presumably because their experience with large numbers of normally developing children enables them to fairly quickly spot the child who engages in elevated rates of antisocial behaviour. However, when asked to nominate highly noncompliant or antisocial children, teachers as a group tend to nominate approximately one-third more pupils than are identified by a uniformly administered checklist procedure (Church, 1996). In addition, individual teachers vary with respect to both their tolerance for student misbehaviour and their classroom management skills and this results in a certain amount of variability in teacher nominations.

Diagnostic Interviewing

The interview schedule most commonly used with the parents of children with behaviour problems is the Diagnostic Interview Schedule for Children (DISC). The DISC is a highly structured interview that was designed to be used by lay interviewers in epidemiological studies. The DISC consists of some 260 items and takes 60 to 75 minutes to administer. Hodges and Zeman (1993) describe the test-retest reliability for conduct disorder and ADD as fair and poor, respectively, and the level of agreement between parent and child interviews as poor. “The reliability data suggest that it could be appropriate for use with adolescents or with older children, primarily to assess conduct disorders. There is no evidence of validity ... as assessed by correspondence to clinician or pediatrician judgements or by ability to discriminate disturbed from nondisturbed children” (Hodges & Zeman, 1993, p. 76). The latest version, DISC-4 conforms to the DSM IV criteria and is available in either paper and pencil or computerised versions. The reliability and validity of the DISC-4 has yet to be determined. The utility of the DISC interviews has been questioned by McMahon and Estes, (1997, p. 147) “because of their length and relative lack of attention to contextual factors.”

Checklists and Rating Scales

A number of checklists and rating scales have been developed as screening scales for children with severe behaviour difficulties. Evaluation data on the scales described in this section will be found in a number of reviews (Breen & Altpeter, 1990; McMahon & Estes 1997;
Piacentini, 1993; Reitman et al., 1998) as well as the technical manuals for each of the instruments.

The Revised Behaviour Problem Checklist (RBPC). The RBPC (Quay & Peterson, 1987) consists of 89 items (of which 77 are scored) and takes about 25 minutes to complete. The RBPC generates scores for: “Conduct Disorder”, “Socialized Aggression”, “Attention Problems”, “Anxiety-Withdrawal”, “Motor Excess” and “Psychotic Behaviour”. Limited norms are available. Two-month test-retest reliability of teacher ratings of 149 students from Grades 1 to 6 ranged from .49 for Socialised Aggression to .83 for Attention Problems, interrater agreement for teachers is adequate and the Scale has been shown to discriminate between referred and non-referred samples of children (Piacentini, 1993). The scale has been used in a number of research studies (Reitman et al., 1998).

Child Behavior Checklist (CBCL). The Teacher Report Form of the CBCL (Achenbach, 1991) consists of 113 items rated on a three point scale (Not true, Sometimes true, Very true) and 20 social competence items. It takes 25 to 30 minutes to complete. Computer scoring is available. Norms are available for boys and for girls, in three age bands (2-3 years, 4-11 years and 12-16 years), for two broad band profiles (“Externalising” and “Internalising”), and for six narrow band profiles including “Attention Problems”, “Aggressive” and “Delinquent.” One-week test-retest reliability for the parent version of the scale is given by the authors as .87. Each of the CBCL scales correlate reasonably well with classroom observations and discriminate between (a) referred and non-referred children, (b) hyperactive and non-hyperactive children and (c) learning disordered children and EBD children (Piacentini, 1993). The parent version of the scale (which includes items such as bedwetting and excludes the classroom behaviour items) has similar psychometric properties to the Teacher Report Form. A self-report form (the Youth Self Report Form) also exists for use with adolescents. These scales have been translated into 33 different languages, are the most commonly used screening scales for epidemiological studies and are widely regarded as suitable for this purpose (McConaughy, 1992; Reitman et al., 1998).

Conners’ Rating Scales. The Conners' Rating Scales exist in several versions and several editions and were initially devised as an outcome measure for studies of children with attention deficit disorder. The Conners' Teacher Rating Scale-Revised (Conners, 1997) takes about 5 to 10 minutes to administer and consists of 28 items each of which is rated on a 4-point Likert scale. Norms are provided for boys and for girls in five age bands from 3 years to 17 years and for four diagnoses “Oppositional”, “Hyperactivity”, “Cognitive Problems”, and “ADHD Index.” One-week test-retest reliabilities range from .88 to .95 but parent-teacher agreement is poor ranging from .33 for Oppositional to .45 for Cognitive Problems (Piacentini, 1993). There is also a parent version of the scale with similar properties and long versions of both the teacher scale and the parent scale. The original Conners' was regarded as psychometrically sound and has been widely used in ADHD research. However, its most common use is as a quick clinical screening instrument (Reitman et al., 1998).

Sutter-Eyberg School Behavior Inventory (SESBI). The SESBI (Burns & Owen, 1990) is a teacher version of the widely used Eyberg Child Behavior Inventory. The scale consists of 36 items designed to identify children with conduct disorders and takes 5 to 10 minutes to complete. For each item the teacher (a) checks whether or not this is a problem for the child and (b) provides a frequency estimate on a 7-point Likert scale. A high correlation has been found between the total problem score and the total frequency score suggesting that both scores are measuring much the same thing (Burns & Owen, 1990; Piacentini, 1993).
SESBI discriminates between non-referred children and children referred for disruptive behaviour disorders at the primary school level (Burns & Owen, 1990). The original scale for parents (the ECBI) has a good test-retest reliability, it discriminates between normal and antisocial children at both the middle school and high school levels, and it has been used in a number of research studies (Reitman et al., 1998). Eyberg has suggested an Intensity score of 127 or higher as a clinical cut-off on the ECBI. This cut-off identifies 8-10% of children (McMahon & Estes, 1997).

Matson Evaluation of Social Skills with Youngsters (MESSY). The MESSY (Matson, 1990) contains 64 social skills items and is designed to measure children's social competence. It can be completed by parents or teachers in 10 to 15 minutes. It consists of 64 items which are scored on a 5 point Likert scale from Not at all to Very much. It yields two scores “Inappropriate Assertiveness” and “Appropriate Social Skills.” Psychometric data for the MESSY are limited and its greatest value is in identifying social skills which the child has yet to acquire.

The Social Skills Rating System (SSRS). The SSRS (Gresham & Elliot, 1990) provides a more comprehensive assessment than the MESSY. Teacher and parent forms of the SSRS are available for pre-school, primary, and secondary school students and all forms can be completed in 20 to 25 minutes. The teacher form of the SSRS consists of 51 items covering social skills, problem behaviours and academic competence. Items are rated on a 3 point scale, Never, Sometimes, or Very Often, and the social skills items are also rated as Not important, Important, or Critical to success in the class. The social skills items generate scores for “Co-operation” (e.g. keeps desk neat and clean without being reminded), “Assertion” (e.g. starts conversations rather than waiting for others to talk), “Responsibility” (e.g. reports accidents to appropriate persons), “Empathy” (e.g. feels sorry for others when bad things happen to them), and “Self-control” (e.g. controls temper when arguing with other children). “The SSRS manual is comprehensive and provides a sound theoretical rationale for assessment of social skills ... The SSRS was standardised on a diverse national sample of 4,170 children ... Depending on the rater, separate norms are provided stratified by age, sex and (in some cases) handicapped status ... Teacher ratings are generally most reliable” (Reitman, et al., 1998, p. 566). The SSRS is proving to be a useful instrument for screening, classification and intervention planning for children with social skills deficits.

Canterbury Social Development Scale (CSDS). The Canterbury Social Development Scale (Church, 1989) is a New Zealand screening instrument designed to identify antisocial primary school children. It was designed for school use and can be completed in 5 to 10 minutes. The CSDS consists of 40 items, 20 antisocial behaviour items (e.g. “Interrupts others when they are speaking”) and 20 social skills items (e.g. “Takes his/her turn when others are waiting”). To increase reliability, the items are much more detailed, specific and contextualised than the items in the CBCL or the Conners. Prosocial items are scored on a 5 point scale from Never to Very frequently and antisocial items from Very frequently to Never. The total possible score is 200. Scores below 140 indicate a relatively large number of relatively serious antisocial behaviours and social skills deficits. A clinical cut-off of 140 identified 4.5% of Canterbury primary school children (Church, 1996). The items in the Scale have a high level of internal consistency (Alexander, 1980). Studies of the predictive validity of the CSDS indicate that children who have been classified by their teachers as having serious behaviour difficulties receive scores below 140 in 95% of cases (Bradshaw, 1989) and that children with scores below 140 tend to engage in antisocial behaviours at a rate which is three to six times greater than that of children who have been identified by their teachers as children without behaviour...
difficulties (Langley, 1995). The CSDS has been used in at least five separate research projects as a screening instrument to identify children with serious behaviour difficulties (Bretherton, 2000) but it has never been normed.

Comments on rating scales

The correlation between teacher ratings and parent ratings on scales such as the Conners tends to be less than 0.3 (Piacentini, 1993). In fact, interrater agreement tends to be modest for all of the rating scales (O'Leary & Johnson, 1986; Reitman et al., 1998). This rather modest reliability is probably due to differences between informants with respect to (a) their interpretations of the brief behaviour descriptions provided in most scales, (b) their attitude towards the child, (c) their beliefs about how children should behave, (d) their beliefs about the causes of misbehaviour and (e) their level of tolerance for child misbehaviour (Hinshaw & Zupan, 1997).

More importantly, the checklists and rating scales described above have never been shown to provide an accurate measure of behavioural frequency. Patterson & Forgatch (1995) found that mothers' ratings of their antisocial child's behaviour improved even in the absence of treatment. “Given the data cited by Patterson and Forgatch (1995) ... caution seems to be warranted in the interpretation of parental ratings of child behaviour” (Reitman et al, 1998, p. 567, 569). Hinshaw and Zupan (1995, p. 41) conclude that checklists and rating scales “are best regarded as a necessary yet insufficient measurement tool in the assessment of antisocial behaviour.”

Direct Observation Procedures

Direct observation of antisocial behaviour in school and family settings is relatively rarely used in screening for antisocial development, primarily because of its expense. Most of the systems described below were developed for research purposes but all could be adapted for screening purposes.

Home observation systems

The Family Interaction Coding System (FICS) and its successor the Interpersonal Process Code (IPC). The Family Interaction Coding System (Reid, 1978) was developed at the Oregon Social Learning Centre to measure the rate of use of antisocial behaviours by family members as they interact with each other in the home setting. Prior to the observation, family members must agree not to have visitors, watch television or make outgoing telephone calls and to stay in one or two nominated rooms. The system consists of 29 separate behaviour codes which are recorded as they occur during 3-minute time intervals. Both prosocial and antisocial behaviours are recorded. FICS data can be analysed to provide rate per minute measures of particular antisocial behaviours, conditional probabilities, and a total aversive behaviour score for each family member. The FICS has been used primarily for research into the family processes which lead to antisocial development in children. Reliable use of the system requires considerable training and regular reliability checks.
During the 1980s the FICs was revised to allow coding in real time, to include a wider range of prosocial behaviours and to allow the coding of positive and negative affect. The new procedure was named the Family Process Code (FPC). As the OSLC researchers became interested in the contribution of peer group processes to antisocial development, the FPC was used as the basis for a Peer Process Code and a Playground Code. Eventually all of these coding schemes were combined to produce a system, the Interpersonal Process Code (IPC), which could be used across a variety of contexts.

The IPC provides a sequential account in real time of the subject's interactions with other people (McMahon & Estes, 1997). It has been used to record interactions in the clinic, playground, peer group, and home settings. Each observation session is broken up into 5- to 10-minute segments. Each segment has a designated focal person determined at random. Codes are recorded for the behaviours engaged in by that person in real time on a hand-held computer. Three sets of codes are applied to each behaviour: 9 activity codes (showing the context of the interaction), 13 content codes (7 verbal, 3 non-verbal and 3 physical) and 6 affect codes (happy, caring, neutral, distress, aversive, and sad). At the end of the session, data are downloaded to a computer where reliability, frequency, duration, and sequential analyses may be calculated. The child's behaviour can be summarised by computing the frequency of occurrence of particular aversive behaviours, or of all aversive behaviours. Published reliability data for one of the playground studies yielded average percentages of agreement of 80% for content and 95% for affect (McMahon & Estes, 1997).

Dyadic Parent-Child Interaction Coding System (DPICS). The Dyadic Parent-Child Interaction Coding system (Robinson & Eyberg, 1981) is the home observation procedure used in evaluations of the Webster-Stratton video-based parenting programmes. It consists of 29 behaviour codes which are used to construct five measures of parent behaviour and two measures of child behaviour. The parent measures are: total praise, total critical statements, total commands, total no-opportunity-to-respond commands, and the proportion of commands which are direct commands. The child measures are total child aversive behaviour (whine, cry, hit, swear, yell and destroy) and the proportion of commands not complied with. Observations last for 30 minutes and parents are asked to stay in the same room with the TV off, and so on, as with the FICS described above. Published reports indicate that interrater agreements of close to 80% can be achieved but that extensive training is required to achieve this level of agreement (Webster-Stratton, 1984). In some versions, observers also record affect (every 5 minutes) using a 5-category scale from exuberant positive affect to unrestrained negative affect.

Parent Daily Report (PDR). The Parent Daily Report (Chamberlain & Reid, 1987) involves a daily 5- to 10-minute telephone call to the parent who indicates whether or not each of a list of problem behaviours have occurred during the previous 24 hours. The PDR exists in many versions. Current versions tend to contain somewhere between 22 and 34 antisocial behaviours (McMahon & Estes, 1997). The PDR has the advantage that it can pick up low rate behaviours (such as stealing) which do not show up during 1-hour home observations using coding schemes such as the FICS. On the other hand, it is unreliable in cases where the parent is either unable or unwilling to provide an accurate report. Parent daily report scores tend to be inflated on the first day but become more accurate thereafter and data on the PDR suggests that interrater agreement and interparent agreement are satisfactory (McMahon & Estes, 1997).
**Classroom observation systems**

A wide variety of classroom observation systems have been reported in the research literature and a number of these are regularly used by N.Z. special education personnel. However, they are mostly used for diagnostic purposes and not for determining eligibility for services. One direct observation procedure which has been used for screening purposes is the Fast Track School Observation procedure.

The Fast Track School Observation procedure. This school observation system measures children's positive and negative interactions with teachers and peers. It consists of nine event codes and eight duration measures of engagement in activities. The event codes include such things as teacher positive and negative commands, child initiations with positive peer response, child initiations with negative peer response, child to peer aggression, and child disruptive behaviour. These codes are recorded in real time using a hand held computer. In the first study to report reliability data, the percentage of agreement on the event codes was 88% and on the duration codes 75% (McMahon & Estes, 1997).

Clinic and analogue observational systems

An analogue system involves structured observations of parent-child (or teacher-child) interactions while they work on a standardised task. A number of these have appeared in the research literature. Four of these are described below. All were designed for clinic use but all have also been used in the home.

The Compliance Test (CT). The Compliance Test (Roberts & Powers, 1988) is undertaken in a clinic playroom with a standardised set of toys, a one-way window, and “bug in the ear” communication with the mother. The parent is instructed to give a sequence of 30 standard commands (e.g. “Jimmy, put the truck in the box”) without helping or following up in any way. A cassette tape signals a 5 second compliance interval at the end of each command. The CT takes 5 to 15 minutes to complete. It produces a percentage compliance score. Interobserver agreements of about 97% are typically reported for this task (McMahon & Estes, 1997).

The Behavior Coding System (BCS). Barclay's Behavior Coding System involves a 20-minute, 15-second interval recording of fidgeting, off-task, out of seat, vocalising, and playing with objects while the child is working a set of maths problems which have been introduced with the instruction not to get out of the seat and not to play with any of the toys in the room. The BCS was designed primarily to assess ADHD symptoms.

The Child's Game and the Parent's Game. These analogue tasks were devised by Forehand and McMahon. For these tasks, each parent-child dyad is observed in a clinic playroom equipped with a one-way window, microphones, and a collection of age-appropriate toys. The Child's Game is a free-play situation in which the parent is instructed to engage in any activity that the child chooses and to allow the child to determine what happens. In the Parent's Game the parent is instructed to engage the child in activities the rules of which are determined by the parent. The concealed observer records parent-child interaction for 5 minutes in each game. Parent behaviour is coded in seven categories: rewarding, attending, questioning, alpha commands, beta commands (commands which it is impossible for the child to comply with), warnings and time out. The child's behaviour is coded in three categories: compliance, non-
compliance, and inappropriate (McMahon & Estes, 1997). The coding scheme has adequate test-retest reliability and interobserver agreements of 75% have been reported. Baseline rates have been reported, rates observed in the clinic have been found to predict the rates observed at home, and the baseline rates of non-referred and referred parent-child dyads are consistently different (McMahon & Estes, 1997).

The Dyadic Parent-Child Interaction Coding System II (DPICS II). This coding system is derived from, and is similar to, the Forehand and McMahon system. The main changes are that the Games are extended to 10 minutes, a third game has been added (“Clean-Up”), and the coding scheme is more elaborate. Observations may be recorded on paper forms or on a hand-held computer. The DPICS II distinguishes between referred and non-referred children (McMahon & Estes, 1997).

Comments on direct observation systems

Direct observation of the referred child's behaviour and interactions with other people is rare in diagnostic screening because of its expense. It is, however, the only procedure which the clinician or resource teacher can use to check the accuracy of interview and rating scale data and, hence, avoid the diagnostic errors which inevitably occur if diagnosis is attempted on the basis of rating scale data alone.

Multiple Gating Procedures

As screening devices, teacher nominations, interviews, checklists, and direct observation procedures on their own all tend to be somewhat unreliable. This has led to the development of multiple gating procedures in which the referred child is passed through successive screens before a diagnostic classification is made. The two most highly developed multiple gating systems are those which have been developed by Walker and his associates for identifying (a) primary school children and (b) pre-school children with emotional or behavioural disorders.

Systematic Screening for Behaviour Disorders system (SSBD). The first multiple-gating system to be developed was designed to identify EBD children at the primary school level (Walker & Severson, 1992a). The SSBD multiple-gating procedure is a three-stage procedure. The first two screens are operated by teachers who have been teaching the child for at least 6 months.

At Stage 1, the teacher considers each student in his or her class in turn and identifies the three students whose characteristic behaviour most closely meets the definition for externalising disorders (behavioural excesses which are considered inappropriate by teachers and other school personnel) together with the three students who most closely meet the definition for internalising disorders (behavioural deficits and patterns of social avoidance). No student may appear on both lists.

At Stage 2, the teacher completes two rating scales for each of these six students. The first is a 33 item Critical Events Checklist and the second is a 23 item Combined Frequency Index. The items on the CFI are scored using a 5 point Likert scale where 1 = Does not occur and 5 = Occurs frequently (and is very characteristic of the student). Any student with a score of 5 or more on the Critical Events Checklist proceeds directly to Stage 3. A student may also
proceed to Stage 3 if they receive a score of 1 to 4 on the Critical Events Checklist and an adaptive score of 30 or less on the Combined Frequency Index and a maladaptive score of 35 or more on the Combined Frequency Index. Slightly different criteria are used for children with internalising disorders. Provided that all classroom teachers are present, it is possible to screen all of the students in a school at a 1 hour group staff meeting (Walker & Severson, 1992a).

At Stage 3, a professional other than the class teacher observes those students who met the criterion at Stage 2. This person records time on task in the classroom for 15 minutes on each of two occasions using a duration recording procedure and the quantity and quality of the student's behaviour in the playground for a further 15 minutes on each of two occasions. Playground interaction is recorded using a 10-second interval recording procedure with child behaviour coded in four categories: social engagement (e.g. conversing), participation (e.g. in a game with rules), parallel play, and alone. The social engagement and participation categories are also coded either positive (for positive interaction) or negative (for negative or coercive interaction). Students who are observed to be on task for less than 35% of the time or who receive a Total Negative score of 12% or more during peer interaction on these observations pass Gate 3 and are referred for functional assessment and intervention planning.

Technical data on the SSBD system will be found in Walker and Severson (1992b). One-month test-retest reliabilities for a sample of 39 teachers were .88 and .74 for the Stage 2 classification of externalisers and internalisers, respectively. Interrater agreement for the Stage 3 on-task measure is 95% on average and for the Peer Social Behaviour codes is 85% on average. The entire screening procedure was normed on a national sample of 4463 US children in 1989.

The Early Screening Project (ESP). The ESP (Walker, Severson & Feil, 1995) is a downward adaptation of the SSBD system. It has been designed for screening 3- to 5-year olds. To make the system suitable for use in pre-school settings, the following changes were made: (a) a number of the Critical Events items were placed on a 5-point frequency scale in recognition of the fact that some of these behaviours are engaged in by nearly all pre-schoolers, (b) references to school work were deleted and (c) the wording of some items was simplified. The Stage 3 observation was also changed to an observation of the child's level of engagement during a structured task such as listening to a story (instead of engagement with academic tasks). Preliminary evaluations suggest that the ESP system will probably be as accurate as the original SSBD system (Feil & Becker, 1993; Feil, Walker, Severson, & Ball, 2000). The authors are concerned to ensure that the instrument is culture fair and an initial trial with a sample of Asian American, African American, Hispanic, Native American and White American pre-schooler suggests that this goal has been achieved (Feil, Walker, Severson, & Ball, 2000).

Summary, Conclusions, and Unresolved Issues

In order to prevent antisocial children growing up to become antisocial adults, it is desirable that such children be identified as early as possible and as soon as the first signs of antisocial development begin to appear. Achievement of this goal will require diagnostic screening procedures which are more accurate than those currently in use.
There is currently no standardised screening instrument (for antisocial children), designed for New Zealand use, which New Zealand teachers, resource teachers, or special education personnel can operate. Until this need is met, it will not be possible to estimate the number of children at each age level whose development is following an antisocial pathway, it will not be possible to measure the proportion of these children who are being detected by current services, and it will not be possible to measure the cost effectiveness of the services which are being provided for these children at each age level.

Current data on the accuracy and reliability of various screening instruments and procedures suggests that the Systematic Screening for Behavior Disorders procedure and the Early Screening Project procedure devised by Walker and associates represent the current state of the art as far as diagnostic screening is concerned. Both of these systems have been published. An examination of these instruments further suggests that they could be readily adapted for use in New Zealand schools.

If it is decided that New Zealand should develop its own screening instruments and procedures the following considerations will need to be taken into account.

- **Age.** As development proceeds, antisocial children acquire new forms of antisocial behaviour. Screening instruments which take this into account, and which are normed by age level, are likely to be more accurate than those which ignore this factor.
- **Gender.** Girls and boys react differently to the pressures of surviving in harsh, punitive and unpredictable environments. One of the implications of this is that it may be necessary to develop different screening instruments for boys and for girls. The instruments which are currently being used appear to under-identify antisocial development in girls.
- **Behaviour.** Some behaviours (e.g. a low rate of compliance) are much more predictive of antisocial development than others (e.g. being cheeky to teachers). Screening procedures which take this into account are likely to be more accurate than those which do not.
- **Frequency.** Children who engage in high rates of antisocial behaviour are likely to be at greater risk for continuing antisocial development than children who engage in lower rates of antisocial behaviour. Screening procedures which take into account both the behaviours engaged in and their frequency of occurrence are likely to be more accurate than those which don't.
- **Context.** The way in which parents, caregivers and teachers are treating the child is as predictive of antisocial development as is the behaviour of the child. Information which shows that adults frequently submit to a child's tantrums is as important as the information that a child frequently throws tantrums. Screening procedures which take this into account are likely to be much more accurate in identifying cases of antisocial development than procedures which limit their focus to the child's behaviour.
- **Social development.** What the child cannot do (their social skills deficits) are as important as what the child can do. Social skills deficits are better predictors of antisocial development than tantrums. Screening procedures which take this into account are more likely to identify cases of antisocial development than procedures which do not.

A screening instrument must be culture fair, that is, it should avoid items which refer to behaviours which are considered to be antisocial in one culture but not antisocial in another culture. The simplest way of ensuring that a screening test for behaviour
problems is culture fair is to ensure that all of the items in the scale are vetted, prior to publication, by a representative sample of adults from each of the cultures in which the screening instrument will be employed.

References


Section 5 - The Prevalence of Children with Severe Behaviour Difficulties

Epidemiological studies of the various disruptive behaviour disorders have been reviewed by Lahey, Miller, Gordon and Riley (1999). Thirty-nine population based studies were reviewed. Lahey et al. found that prevalence estimates for Oppositional Defiant Disorder ranged from 0.3% to 22.5%, that prevalence estimates for Conduct Disorder in children and adolescents ranged from less than 1% to 11.9% and that prevalence estimates for Attention-Deficit/Hyperactivity Disorder ranged from less than 1% to 16.6%. Most of the studies which recorded socio-economic status found an inverse relationship between family income and prevalence of disruptive behaviour disorders. With one exception, none of the studies which recorded ethnicity found any relationship between ethnicity and prevalence of disruptive behaviour disorders.

Factors Which Affect Prevalence Estimates

The variation in prevalence estimates reported above is to be expected given the wide range of procedures which have been used in prevalence studies. Prevalence estimates depend as much on the method used to obtain the prevalence estimate as they do on the number of children who are experiencing serious adjustment problems (Lahey et al., 1999). Attempts to estimate the number of children in a particular age group whose social development is following an antisocial trajectory depend upon the decisions which are made at each of the following steps in the design of the survey.

1. Definition of the target group. The definition of “severe behaviour difficulties” or “antisocial development” which is adopted prior to setting up the survey has a major impact on the number of children who will be identified. If the target group is defined as “children who consistently fail to follow instructions” a greater number of students will be identified than if the target group is defined as “children who are a danger to others” because there are many more children (at the primary school level) who meet the first definition than there are children who meet the second definition.

2. Screening procedure. The second factor which affects the number of children identified is the screening procedure which is used. First, surveys which rely on teacher nominations tend to identify more children than surveys which involve the administration of a standardised rating scale which is scored by the research team. Secondly, when a standardised rating scale is used, the number of children identified simply depends upon where the cut-off point is set. If the cut-off point is set at a level which can only be reached by children who engage in large numbers of antisocial behaviours, fewer children will be identified than if the cut-off point is set where it can be reached by children who engage in a more limited number of antisocial behaviours. Thirdly, in order to obtain an accurate prevalence estimate, the screening instrument which is used needs to be a standardised instrument so that each child's score can be compared against normative data for children of his or her age from the reference culture. If the screening instrument has not been standardised it will provide inaccurate prevalence estimates for those children who are younger, or older, or from a culture other than that of the children for whom the screening instrument was designed.
The sample and the return rate. The third factor which affects the prevalence estimate is the nature of the sample. Large samples provide more accurate estimates of prevalence than smaller samples. Population samples and carefully drawn stratified random samples provide more accurate estimates of prevalence than samples of convenience. Survey procedures in which the rate of return approaches 100 percent provide more accurate estimates than surveys with lower rates of returns. This is because teachers and schools who are struggling to meet the needs of children with behaviour problems tend to be more motivated to complete the work required for a prevalence survey than teachers and schools who are coping well with their most difficult students.

Procedures used in the Canterbury and Otago Prevalence Surveys

The most accurate estimate of the numbers of antisocial children in New Zealand primary schools at the present time is the estimate provided by a 1995 Canterbury survey (Church, 1996), a 1996 Otago survey (Bretherton, 1997) and a 1999 Otago survey (Bretherton, 2000). All three surveys used exactly the same procedure.

The Christchurch survey included all 189 Canterbury schools and the two Otago surveys included all 150 Otago schools which contained primary-aged pupils. Three age levels within this population of schools were sampled: Year 1, Year 4 and Year 7 children. For the first round of the surveys all these schools were sent a letter explaining the purpose of the survey together with a one-page questionnaire which asked the school to supply certain demographic details, the number of pupils at each of the three age levels and the number of pupils at each of the three age levels who “comply with teacher instructions much less frequently, or who engage in antisocial behaviour much more frequently than other children of a similar age.” Phone and/or fax follow-ups were used to maximise the return rate to this part of the survey.

Schools which consented to take part in Phase 2 of the survey, and who had indicated that their enrolment included one or more Year 1, Year 4 or Year 7 children with serious behaviour problems, were sent a package consisting of two Canterbury Social Development Scales for each nominated pupil together with instructions for completing these Scales. The Canterbury Social Development Scale was described in the previous section of this report. Each Social Development scale was prefaced by a one-page questionnaire which asked, amongst other things, for the nominated student's gender and class level and whether or not the student had been counted during Phase 1. The prefatory questionnaire also asked the teacher to rank the student on a scale of 1 to 5 with respect to “The level of supervision which the student requires in order to ensure that he/she does not harm others.”

In the Canterbury sample, 114 schools indicated that they had at least one child with behaviour problems and 104 of these schools eventually returned completed Social Development Scales (or school transfer information) for 660 students. This is a return rate of 91 per cent. In the 1996 Otago survey, 85 schools indicated that they had at least one child with behaviour problems and 52 of these schools eventually returned completed Social Development Scales for 230 students. This represents a return rate of 61 per cent. In the 1999 Otago survey, 93 schools indicated that they had at least one child with behaviour problems and 73 of these schools eventually returned completed Social Development Scales for 359 students. (This is a 78% return rate.)
Results of the Canterbury and Otago Prevalence Surveys

At the time of the Canterbury survey there were 14,204 students enrolled in Year 1, 4 and 7 classes. Teachers nominated 4.7%, 6.7% and 6.5% of these students, respectively, as students who frequently failed to comply or who frequently engaged in antisocial behaviour. At the time of the first Otago survey there were 4,219 students enrolled in Year 1, 4 and 7 classes and teachers nominated 8.4%, 10.2% and 5.6% of these students respectively. At the time of the second Otago survey 6,035 students were enrolled at the three class levels and teachers nominated 5.1%, 9.0% and 8.0% of these students for second phase follow-up.

Reliability of the Social Development Scale

In the Canterbury survey, schools were asked for two Social Development Scales for each of the nominated children, one from the class teacher and another from “someone else who knows the child”. This was done for 541 of the 660 children. In these cases, the teacher's classification “above” and “below” the 140 cut-off point on the CSDS agreed with the second staff member's classification in 75 per cent of cases. The number of pupils who would have been counted as scoring below the 140 cut-off if only the class teachers' scales had been used (77%) was closely similar to the number pupils who would have been counted if only the second teachers' scales had been used (78%).

The numbers of children who received CSDS scores of 140 or less

In all three surveys, the proportion of nominated students who received CSDS scores of less than 140 was approximately 66 per cent overall but differed from level to level. The level by level correction factors were then applied to the proportion of students nominated at each level in each survey to yield a prevalence estimate of the number of students at each level in each survey who were probably exhibiting severe behaviour difficulties and who were likely to be developing along an antisocial pathway. These prevalence estimates are shown in Table 1.

Table 1
Percentages of children exhibiting serious behaviour problems at each of three levels in the three prevalence surveys reported by Church (1996) and Bretherton (1997, 2000)

<table>
<thead>
<tr>
<th>Level</th>
<th>Canterbury schools 1996</th>
<th>Otago schools 1997</th>
<th>Otago schools 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>2.84</td>
<td>4.53</td>
<td>2.7</td>
</tr>
<tr>
<td>Year 4</td>
<td>4.43</td>
<td>7.53</td>
<td>6.0</td>
</tr>
<tr>
<td>Year 7</td>
<td>4.47</td>
<td>4.50</td>
<td>5.7</td>
</tr>
<tr>
<td>Years 4 and 7</td>
<td>4.45</td>
<td>6.06</td>
<td></td>
</tr>
<tr>
<td>Years 1, 4 and 7</td>
<td>4.45</td>
<td>5.55</td>
<td>4.8</td>
</tr>
<tr>
<td>School population</td>
<td>37,745</td>
<td>16,741</td>
<td>16,925</td>
</tr>
</tbody>
</table>
In interpreting the results of these surveys, the following should be kept in mind. The Canterbury survey was the largest and had the highest return rate (91%) so its estimates are likely to be the most accurate. The 1997 Otago survey involved less than half as many students and its return rate was the lowest of the three (61%) so the results of this survey are likely to be the least accurate.

The results of these three surveys suggest that the number of antisocial children in South Island classrooms is likely to be somewhere between 4.5 and 5 per cent of all children. The only prevalence rate which is much removed from this figure is the Year 4 rate in the first Otago survey. However, the low return rate in the first Otago survey, and the fact that the Year 4 rate was considerably lower two years later, suggests that this figure should be treated with caution.

The results of these surveys are similar to the results of a Canadian survey by Offord, Alder and Boyle (1986). Offord et al. used a similar method to that used for the Canterbury and Otago surveys, using the clinical cut-off on the Child Behaviour Checklist as the screening criterion in a survey involving children aged 4 to 16 years of age. Offord et al. reported an overall prevalence of children with conduct problems of 5.5% (8.1% for boys and 2.8% for girls).

In the Canterbury survey and the second Otago survey, the prevalence rates are closely similar at both Year 4 and Year 7 suggesting that, at the time when the surveys were undertaken, few children with severe behaviour difficulties were overcoming these difficulties between the ages of 8 and 11. The Year 1 teachers in all three surveys identified fewer students as non-compliant or antisocial. This is likely to be because the CSDS was designed for an older age group, but it could equally well be because the new entrant teachers were reserving judgement about their children until they got to know them better.

**Children requiring constant supervision**

The Canterbury survey also identified (a) the nominated children who “Act violently towards others” either Very frequently or Often and (b) the nominated children who “Require close supervision in all or many settings in order to ensure that they do not harm others.” The proportion of nominated children who met these additional requirements were 1.71% and 1.36%, respectively. These questions identify the percentage of children who are likely to need constant supervision while at school.

**Prevalence rates for boys and for girls**

In the Canterbury survey, 85 per cent of the Year 4 and Year 7 children who were identified as having serious behaviour problems were boys and 15 per cent were girls. In the second Otago survey the same proportions were obtained at Year 4 but by Year 7 the proportion of boys had climbed to 90 per cent. These translate to a prevalence rate for boys of about 7.5 per cent and a prevalence for girls of about 1.4 per cent. In the Dunedin Multidisciplinary Health and Development Study, 7 per cent of the boys showed signs of antisocial development from an early age and developed into “life course persistent” antisocial adolescents and adults (Moffitt, Caspi, Dickson, Silva, & Stanton, 1996). This suggests that the cut-off on the Canterbury Social Development Scale was set at the appropriate point.
Prevalence rates by Decile Level and student turnover rates

All three surveys gave breakdowns by school Decile Level. These breakdowns are shown in Table 2. As can be seen from this table there are very marked differences in the number of antisocial children enrolled in high and low decile schools. In the Canterbury survey, the percentage of antisocial children enrolled in Decile 1 and 2 schools is more than twice that for the sample as a whole and more than six times greater than the percentage to be found in the Decile 9 and 10 schools. In the Otago survey the percentage of antisocial children in Decile 1 and 2 schools was three times greater than it was in Decile 9 and 10 schools.

The final breakdown in the Canterbury survey was by student turnover. In schools where the percentage of students (other than final year students) leaving the school during the year was less than 4 per cent of the roll, the prevalence of antisocial students was less than 3 percent. In schools where the student turnover was greater than 16 per cent of the roll, the percentage of antisocial students rose to 8.5 per cent.

Table 2

Percentages of children exhibiting serious behaviour problems in the schools at each of the 10 Decile levels in the Canterbury and second Otago surveys

<table>
<thead>
<tr>
<th>Decile Level</th>
<th>Canterbury Survey Estimated prevalence</th>
<th>1999 Otago Survey Estimated prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12.0</td>
<td>1.0</td>
</tr>
<tr>
<td>2</td>
<td>9.7</td>
<td>3.0</td>
</tr>
<tr>
<td>3</td>
<td>4.9</td>
<td>8.0</td>
</tr>
<tr>
<td>4</td>
<td>6.8</td>
<td>10.0</td>
</tr>
<tr>
<td>5</td>
<td>4.3</td>
<td>14.0</td>
</tr>
<tr>
<td>6</td>
<td>2.8</td>
<td>23.0</td>
</tr>
<tr>
<td>7</td>
<td>3.8</td>
<td>14.0</td>
</tr>
<tr>
<td>8</td>
<td>2.9</td>
<td>21.0</td>
</tr>
<tr>
<td>9</td>
<td>1.7</td>
<td>19.0</td>
</tr>
<tr>
<td>10</td>
<td>0.3</td>
<td>19.0</td>
</tr>
</tbody>
</table>

Percentage of antisocial children receiving BST or RTLB services

The second Otago survey included additional questions designed to identify the numbers of antisocial children who were receiving assistance from RTLB, BST or SES personnel. The results of this part of the prevalence survey are summarised in Table 3. These results indicate that, of the antisocial students in Otago primary schools in 1999, approximately one-quarter were receiving some kind of assistance from RTLB or from the BST team or other interim support from SES.
### Table 3

*Percentage of students with severe behaviour problems and the number of students who were receiving support from RTLB, BST or SES personnel (Bretherton, 2000)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of students</th>
<th>Number identified as antisocial</th>
<th>% identified as antisocial</th>
<th>Number receiving support</th>
<th>% receiving support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>2,074</td>
<td>55</td>
<td>2.7</td>
<td>14</td>
<td>0.7</td>
</tr>
<tr>
<td>Year 4</td>
<td>2,008</td>
<td>120</td>
<td>6.0</td>
<td>38</td>
<td>1.9</td>
</tr>
<tr>
<td>Year 7</td>
<td>1,953</td>
<td>112</td>
<td>5.7</td>
<td>18</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>6,035</td>
<td>287</td>
<td>4.8</td>
<td>70</td>
<td>1.2</td>
</tr>
</tbody>
</table>

### Prevalence of antisocial development amongst Māori and Pacific Island children

The prevalence of antisocial development amongst Māori children and New Zealand Pacific Island children is not known. The Christchurch Health and Development Study, a longitudinal study of a birth cohort of 1,265 Christchurch children, found that the percentage of Māori and Pacific Island children who self-reported any kind of offence prior to the age of 14 years was 1.5 times higher than the percentage of Pakeha children who self-reported any kind of offence prior to age 14 (Fergusson, Horwood & Lynskey, 1993). However, the percentage of Māori and Pacific Island youth who self-reported offences was no greater than the percentage of Pakeha children from similar socio-economic backgrounds who self-reported offences prior to age 14. This suggests that the difference in rate has more to do with economic disadvantage than it has to do with ethnicity.

### Summary and Conclusions

1. Three separate surveys involving all of the schools in two South Island provinces have estimated the proportion of children with severe antisocial behaviour problems in New Zealand schools to be somewhere between 4.5 and 5.0 per cent. These same surveys show that the proportion of antisocial students in low decile schools is somewhere between 3 and 6 times greater than the percentage of antisocial students in high decile schools. The prevalence is higher in schools with a high student turnover. The prevalence for Māori and Pacific Island students is unknown.

2. In two out of three of the prevalence studies reviewed in this section, the numbers of antisocial children at age 8 and at age 11 were closely similar. This suggests that closely similar numbers of early onset antisocial children are likely to be found at each age level from about age 7 onwards.
References


Section 6 - Long Term Outcomes Resulting from Antisocial Development During Childhood

In this section we review the results of several longitudinal studies which have followed the development of children from early childhood through to adolescence in order to identify (a) the types of developmental trajectories which can occur with respect to social development and (b) the kinds of long term outcomes which are likely to lie in wait for children who experience conditions which shape early onset antisocial development.

Social and Antisocial Developmental Trajectories

The question to be addressed in this section has been identified by Maughan and Rutter, 1998, p. 1). “From the time of the first long-term follow-ups (Robins, 1966, 1978) it has been clear that most severely antisocial adults have long histories of disruptive and deviant behaviour reaching back to childhood. Yet these same studies also highlighted an apparent paradox ... Most conduct disordered children did not grow up to be severely antisocial adults.” The view expressed by Maughan and Rutter is a widely held view and, in order to examine its validity, the authors of several longitudinal child development studies have analysed their data sets in an attempt to identify developmental trajectories which predict subsequent adolescent and adult adjustment (Fergusson & Horwood, 2002; Moffitt, Caspi, Harrington & Milne, 2002; Nagin & Tremblay, 1999). In this section we review the results of Fergusson and Horwood’s (2002) analysis of the data from the Christchurch Health and Development Study. This analysis identified five developmental trajectories.

1 The first was a group of young people who were reported, by their parents and teachers, to engage in few if any antisocial behaviours during their 8-, 9- and 10-year old assessments and who reported few offences during their teenage years (less than 2 over the period 14 to 20 years). Fergusson and Horwood refer to this group as the low risk group. This trajectory was followed by 41% of boys and 71% of girls.

2 The second was a group of young people who were reported to engage in only low rates of antisocial behaviours over the age 8 to 12 but who began to engage in a small amount of offending early in their teenage years. This offending peaked at around 13 years and declined from about age 17 onwards as the teenagers left school. This group reported a mean of 4.8 offences over the period from 14 to 20 years. Fergusson and Horwood refer to this group as the early onset adolescent limited group. This trajectory was followed by 15% of boys and 21% of girls.

3 The third group was a group who, like Group 2 were mostly reported not to have childhood conduct problems but who began offending later with a peak at about 17 years of age and a decline thereafter. The offending rate was much higher than for Group 2 (49 offences on average over the period 14 to 20 years with similar rates for boys and for girls). Fergusson & Horwood refer to this group as the intermediate onset adolescent limited group. This trajectory was followed by 10.3% of boys and 3.7% of girls.

4 The fourth group was a group of late onset adolescent offenders who also had a relatively low rate of conduct problems in middle childhood and a relatively low rate of offending prior to age 17 but whose risk of offending rose rapidly at age 17 and
began to decline at around age 20. The mean offending rate of this group over the period 14 to 20 years was 24 self-reported offences for boys and 34 for girls. This trajectory was followed by 25% of boys and 2.4 per cent of girls.

The fifth group was the group described in this report, which Fergusson and Horwood referred to as the chronic offenders. These were children who engaged in high rates of antisocial behaviour from their early years and throughout childhood. Their rates of offending were generally high from age 11 to age 17 but showed some decline at age 21. They averaged 141 self-reported offences over the period 14 to 20 years. This trajectory was followed by 9.4% of boys and 2.1% of girls.

Similar results were obtained by Moffit’s (1993) analysis of the data from the Dunedin Multidisciplinary Health and Development Study. Moffit’s analysis identified three developmental trajectories an early onset life course persistent group consisting of some 7% of the boys in the study, an adolescent limited group who began to engage in antisocial behaviour only during adolescence, and a group who engaged in few antisocial behaviours during either childhood or adolescence.

**Long Term Outcomes of Early Onset Antisocial Development**

There are at least 29 longitudinal studies of child development which contain at least some data on the long term outcomes experienced by children with early onset antisocial behaviour difficulties (Loeber & Farrington, 1997). Some of these longitudinal studies have followed children from birth, some from school entry, and some from middle childhood. A systematic review of all of these studies falls outside the scope of the present report. We have however, examined the results of a sample of eight of these studies including the two New Zealand studies – the Dunedin Multidisciplinary Health and Development Study and the Christchurch Health and Development Study. Key findings from these eight studies are summarised in Table 4. An examination of the results presented in Table 4 suggests three main conclusions.
### Table 4

**Representative results from eight longitudinal studies of the adverse outcomes experienced by children who had been identified as having serious behaviour difficulties some 4 to 22 years earlier**

<table>
<thead>
<tr>
<th>Sample and Reference</th>
<th>Children identified at Age in years at</th>
<th>Adverse Outcome</th>
<th>PA or OR 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fullerton Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guerin, Gottfried &amp; Thomas (1997)</td>
<td>Difficult temperament. Mother's rating on Infant Characteristics Q'naire</td>
<td>1.5 4-6 7-9 10-12</td>
<td>Above clinical cut-off on CBCL Aggression scale</td>
</tr>
<tr>
<td><strong>Christchurch Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fergusson, Lynskey &amp; Horwood (1996)</td>
<td>Conduct problems</td>
<td>7, 8 &amp; 9 15 &amp; 16</td>
<td>Conduct problems. Mothers reports + self reports + police contact</td>
</tr>
<tr>
<td>Fergusson &amp; Lynskey (1998)</td>
<td>Conduct problems Highest 5% on mothers' &amp; teachers' ratings</td>
<td>8 18</td>
<td>&lt;12 yr. reading level No school qualific'n 8 or more offences Anxiety disorder Depression</td>
</tr>
<tr>
<td>Fergusson &amp; Woodward (2000)</td>
<td>Conduct problems Highest 10% on mothers' &amp; teachers' ratings</td>
<td>Girls 13 18</td>
<td>No school qualific'n Unemployed for &gt;3 mths Multiple offending Nicotine dependence Alcohol abuse Major depression Anxiety disorder Suicide attempt &gt;5 sexual partners Ever pregnant</td>
</tr>
<tr>
<td><strong>Oregon Youth Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capaldi &amp; Stoolmiller (1999)</td>
<td>Conduct problems construct. Above 70th %ile based on parent, teacher &amp; self report</td>
<td>Boys 11, 12, or 13 18</td>
<td>No school qualific's Fired in last year License suspended Caused a pregnancy</td>
</tr>
</tbody>
</table>
## Children in Care

Zoccolillo, Pickles, Quinton & Rutter (1992)

- **Conduct disorder**: 3+ CD symptoms in parent questionnaires
- **Age**: 8-15
- **Gender**: Male 26, Female 26
- **Antisocial personality disorder**: 40% Male, 35% Female

## Table 4 continued

### Robins’ Three Cohort Study

Robins (1978)

- **Highest antisocial behaviour scores**: (from clinic records)
- **Mean age**: 13
- **Highest antisocial behaviour scores**: (from interviews)
- **Measures**: I=36 Male, II=4 Female, III=3 Female

### Cambridge Study

Farrington (1991)

- **Difficult to discipline**: (from teachers’ reports)
- **Age**: 8, 10
- **Ratings**:
  - Rated by teacher as rough, disobedient or aggressive
  - Self-reported fighting, carrying a weapon
  - Self-reported fight in last 5 years
- **Percentage**:
  - 59% Male, 2.4 Male
  - 40.4% Male, 1.5 Male
  - 49.4% Male, 1.5 Male

### Eron Study


- **Aggression**: Highest 25% on peer nomination measure of aggression
- **Age**: 8
- **Gender**:
  - Male: 30
  - Female: 30
- **Convictions**:
  - 23% Male, 1.5 Male
  - 6.3% Male, 3.5 Male

### Dunedin Study

Moffitt, Caspi, Dickson, Silva & Stanton (1996)

- **Childhood history antisocial behaviour**: Highest 13% parents’+teachers’ ratings.
- **Boys**:
  - Age: 5, 7, 9 & 11
  - >8 different illegal acts at 15 or >11 different illegal acts at 18 (self reports)
- **Girls**:
  - Age: 15
  - No school qualification: 19%
  - Multiple welfare: 24%
  - Multiple drug use: 30%
  - DSM IV Depression: 25%
  - DSM IV Anxiety: 42%
First, children identified during childhood as children who engage in high rates of antisocial behaviour are at considerable risk for a large number of adverse outcomes as adults. These adverse outcomes include unemployment, mental health problems and psychiatric disorders, alcoholism and other forms of substance abuse, early pregnancy and early fatherhood, drunk driving convictions and loss of licence, criminal offending, multiple arrests and imprisonment. Other studies have identified other adverse outcomes for this group including higher rates of domestic violence, separation and divorce, higher rates of injury and hospitalisation, and a shortened life expectancy (Kazdin, 1995).

Secondly, when children who had been classified as children with “conduct problems” at age 8 to 10 were followed up to age 18 or later, about 40% of these children were found to have committed multiple offences or to be experiencing multiple and relatively severe difficulties. This does not mean that the rest have made a normal adjustment to adulthood. In the Dunedin Multidisciplinary Health and Development Study, for example, 12.9 per cent of boys were identified as boys who repeatedly obtained high scores on the Antisocial Subscale of the Rutter Child Scales at ages 5, 7, 9, and 11 years. The percentage of boys who exhibited both early onset antisocial behaviour and high rates of delinquent behaviour during adolescence comprised 7 per cent of the sample. The remaining 6 per cent were classified as “Recoveries” (Moffitt, Caspi, Dickson, Silva & Stanton, 1996). In a later report Moffitt reports that classifying these boys as “Recoveries” was premature. At age 26 these men had become “low-level chronic offenders who were anxious, depressed, socially isolated, and had financial and work problems” (Moffitt, Caspi, Harrington & Milne, 2002, p. 179). A similar finding was reported by Zoccolillo, Pickles, Quinton and Rutter (1992).

Thirdly, it is important, when examining the results in Table 4, to be aware of the fact that most of these studies began 30 to 40 years ago at a time when we did not yet have a clear idea of exactly what should be measured or how it might best be measured. One of the things which we have discovered is that the reliable identification of “caseness” (e.g. children on an antisocial developmental path) cannot be achieved using just a single measure, especially when this is a rating scale. One of the ways of overcoming this problem is to use multiple measures (e.g. multiple informants such as parents and teachers), not just a single measure.
(Patterson, Reid & Dishion, 1992). Another way of overcoming this problem is to construct a measure of caseness using the measures from several time periods (e.g. measures at age 6, 7 and 8 years). A third way of overcoming this problem is to use the measures from several years to estimate, and adjust for, measurement error. Fergusson, Horwood & Lynskey (1995), for example, have shown that much of the variation in scores on antisocial behaviour checklists from one time period to the next in a longitudinal study is measurement error. When the effects of measurement error were removed in their study, the 2-year predictive accuracy for “conduct disorder” increased from 50% to 68% and the 2-year predictive accuracy for “no conduct disorder” increased from 94% to 98%. Recent analyses from the Oregon Youth Study support the view that our ability to predict outcomes is improving (e.g. Patterson, Forgatch, Yoerger & Stoolmiller, 1998).

Summary and Conclusions

1 A number of longitudinal studies have shown that the great majority of children who do not engage in antisocial behaviour during childhood do not engage in antisocial behaviour during adolescence and adulthood.

2 Longitudinal research suggests that current social conditions are producing a group of life course persistent antisocial children who go on to become delinquent youth and then adult offenders. For boys raised in the 1970s, this group numbered about 7 to 9 per cent of all boys. The proportion for girls is unknown because the measures of antisocial development which were used in the 1970s did not work to identify antisocial girls.

3 Improvements in our ability to detect antisocial development probably means that we could identify, by about age 5 if not sooner, a majority of those children who, without suitable intervention, are likely to be at high risk of life-course persistent antisocial behaviour problems.

4 Identification of antisocial development is likely to be most accurate if it involves multiple informants, direct observation of mother-child and teacher-child interaction and measures which are made at more than one point in time (say at ages 4, 5 and 6 years).

References


Section 7 - Diagnosis and Identification of Teaching Needs: Functional Assessment

The observation of behaviour on its own is not completely meaningful. The observation that “She set out from home” is a relatively trivial observation. This is because the things which people do they do for a reason or purpose. On this, both behaviour analysts and interpretive researchers are in agreement. What we want to know is not that “She set out from home” but that “She set out from home to buy some food at the store”, or that “She set out from home to go to the concert.” Observing someone “setting out from home” is only made meaningful if we know the purpose for which this is being done. Note also that these two behaviours, although they look the same, are actually different because they are being undertaken for quite different purposes. The task of identifying the purpose or function which a behaviour serves for a particular individual in a particular context is most commonly referred to as functional analysis.

All of the observations which have just been made can also be made with respect to misbehaviour, inappropriate behaviour and antisocial behaviour. These, too, are engaged in for a reason. These too serve a purpose. The purpose may be, for example, to gain the teacher's attention, to avoid the teacher's attention, to gain access to a peer group, to get revenge, to avoid an activity which is too difficult, to escape from an activity which is too boring, and so on.

Where the aim is to teach a child to behave differently, the first task to be accomplished is that of identifying the function or purpose served by the child's current way of behaving. This is because the child will still need to accomplish this purpose, but in a different way. The child may have learned this different way already, in which case the intervention aim becomes one of motivating a change in behaviour. Or the child may not yet have learned this different way, in which case the intervention aim becomes that of teaching the child a different way of accomplishing this purpose (Center for Effective Collaboration and Practice, 1998).

What is Functional Assessment?

The diagnostic activity which is involved in identifying the functions which a particular behaviour serve goes by a variety of names: behavioural assessment, behavioural consultation, functional assessment, functional evaluation, functional analysis, functional behavioural assessment, ecological assessment, and so on. The term preferred by behaviour analysts (who invented the procedure) is functional analysis. Increasingly the activity is coming to be referred to as functional assessment.

A functional assessment of a child with severe behaviour difficulties is a diagnostic assessment which is designed to accomplish four things.

- To identify what the child can do. This is the strengths analysis. This analysis is needed in order to identify the skills which will be extended and built upon.
- To identify what the child cannot yet do. This is the needs analysis. It asks “What does this child need to learn next?” This analysis must be undertaken in order to identify teaching goals (Center for Effective Collaboration and Practice, 1998).
• To identify any environmental conditions (at home and at school) which are functioning to maintain inappropriate responses. This is the functional analysis. It asks “What are the functions served by this behaviour for this child in this context?” A functional analysis of a misbehaviour is based on the assumption that “problem behaviors are performed instead of desired or appropriate behaviors because the former behaviors successfully compete with the latter because they are more reliable... and more efficient” (Gresham, Watson & Skinner, 2001, p. 165).

• To identify the conditions which are operating to prevent the acquisition and mastery of critical alternative behaviours and skills. This is the ecological analysis. It asks “What is it that is missing from this child's home and/or classroom experiences which is preventing the child from learning and using an appropriate, prosocial, alternative response?”

Slightly different procedures are advised in the various guides to performing a functional analysis (the third goal) but they all include the following general sequence of steps (Center for Effective Collaboration and Practice, 1998; Sugai et al., 2000).

1 First the teacher or consultant collects information regarding the contexts (the conditions) in which the child uses the nominated problem behavior rather than one of the prosocial behaviours which are normally regarded as appropriate in this context.

2 Secondly, the teacher or consultant formulates one or more testable hypotheses regarding the consequences or outcomes (of the problem behaviour) which might be functioning to motivate the continued use of this behaviour by this student in this context.

3 Next, the teacher or consultant observes the child (and the problem behaviour) in the nominated contexts in order to collect information about when the problem behaviour occurs, information about how often it occurs (relative to socially appropriate behaviours) and information about the consequences which result when the child uses (a) the problem behaviour and (b) socially appropriate behaviours in this context. A functional assessment almost always involves direct observation of the child attempting to cope in their current environment. It cannot be accomplished by interviewing people or by getting them to complete checklists because the human brain cannot remember the outcome which resulted on each of the dozens of occasions on which the child used a particular antisocial behaviour and, if this detail cannot be remembered, then it cannot be elicited by an interviewer no matter how skilled.

4 Fourthly, the teacher (or the consultant in collaboration with the teacher) develops an individual behaviour change plan (IBP) which specifies the changes which will be made to instructional procedures, practice activities, the consequences of appropriate and inappropriate responses, and so on for this particular child, writes these down, negotiates the implementation of the IBP with any other people who will be involved, writes down the implementation plan, and organises the monitoring procedure which will be used to determine whether the IBP is working as intended or not.

5 The IBP is then implemented and its effectiveness is monitored from day to day. If the changes which have been introduced do not result in the predicted behaviour change (or the predicted learning), the IBP is changed in an attempt to more accurately target the factors which are maintaining the antisocial behaviour and preventing
change in the direction of more socially acceptable modes of responding. The effects of the IBP are also monitored with the aim of identifying that time when intensive contingency management, practice, and monitoring of the current behaviour change goal can be faded out and a new behaviour change (or learning) goal added to the student's IBP.

We are aware of three implementation manuals for those who wish to learn how to perform this kind of diagnosis (Center for Effective Collaboration and Practice, 1998; O'Neil, Horner, Albin, Sprague, Storey & Newton, 1997; Witt, Daly & Noell, 2000). There are undoubtedly others.

**Research on Functional Assessment**

The published research on functional analysis now consists of about 100 reports although the great majority of these have involved children and adults with severe developmental disorders and only about 12 percent have involved children with behaviour disorders or learning disabilities. The research on functional analysis with children with behaviour difficulties has been reviewed by Lane, Umbreit and Beebe-Frankenberger (1999) who examined the results of 19 within-subject experiments and by Reid and Nelson (2002) who examined the results of 14 such experiments. This is a fairly small corpus of research and reflects the fact that functional assessment procedures have only recently begun to find their way into mainstream settings. Taken together, the results of these reviews suggest that functional assessment is feasible in mainstream classroom settings, that it can be undertaken in a few hours, that such assessments tend to identify critical contextual factors which are maintaining inappropriate behaviour in the classroom and to do so with some accuracy and that curriculum modifications and management changes which are based on such assessments have usually been effective in reducing escape and avoidance behaviours to low levels.

Of the myriad factors which can function to motivate inappropriate behaviour in the school setting, those which are most commonly being identified by functional assessment in this setting fall into two general categories (a) positive reinforcers and (b) aversive conditions. Examples of positive reinforcers which have been found to maintain inappropriate behaviour at school include getting attention from adults, getting attention from peers, increased sensory stimulation, gaining possession of prized materials or equipment, gaining access to games and other kinds of desired activities, and so on (Center for Effective Collaboration and Practice, 1998). Examples of inappropriate escape and avoidance behaviours which continue to be used because they work include getting out of tasks which are too difficult, getting out of tasks where the student has experienced a history of failure, getting out of tasks which are effortful, getting out of tasks which need skills which the student doesn't have, getting out of being called on by the teacher, getting out of having to work with peers, getting out of tasks which are boring or tedious, putting a stop to discomfort, avoiding errors and corrections, and so on (Gresham et al., 2001). Other sources of reinforcement which may need to be considered, in cases where a functional analysis fails to identify any socially mediated reinforcement for an atypical behaviour, have been explored by Kennedy (2000).
Summary and Conclusions

1 It is the considered view of the review team that, although developed fairly recently, functional assessment is the preferred diagnostic procedure for children with severe behaviour difficulties. The research to date suggests that this diagnostic procedure provides the most accurate identification of the factors which are currently maintaining antisocial behaviour and, hence, allows the most accurate targeting of remedial interventions.

2 Functional assessment avoids three shortcomings of the medical model of diagnosis.
   • It avoids the trap of grouping together children with disparate collections of symptoms (i.e. disparate collections of antisocial behaviours).
   • It avoids the trap of applying the same intervention to children with very different learning needs.
   • It avoids the tendency to locate the cause of the child's learning delays inside the child instead of in the interaction between the child and an environment which is failing to provide sufficient, appropriate, learning opportunities for the child.

3 In order to become skilled in functional assessment procedures, a reasonable understanding of the principles of learning is a necessary prerequisite.

References


Section 8 - Tasks To Be Accomplished By Any Intervention

In Section 2 we described the developmental trajectory for children and adolescents with early onset behaviour difficulties and the learning processes which appear to be involved in initiating and maintaining antisocial rather than prosocial behaviour at each age level. The results of this research now allow us to develop interventions which directly target these learning processes. The results of this research also provide us with a way of understanding why some of the interventions described in the following sections work to put a stop to antisocial development while others do not.

Special Learning Needs with Respect to Self-Regulation

The most obvious characteristic of antisocial children is their tendency to engage in higher than normal rates of demanding, coercive, antisocial and defiant responses (Patterson, 1982; Church, 1996). Such children are said to be “lacking in self-control” (because they often engage in behaviours which are unacceptable) and to be “impulsive” (because their coercive responses seem to occur automatically in certain situations).

Research into the life-course development of antisocial children makes it clear that, in order to teach the antisocial child to use prosocial responses rather than antisocial responses when responding to task requests and interacting with others, it is necessary to change the consequences which (in the past) have resulted from (a) antisocial and (b) prosocial responses (Patterson, 2002). It is necessary to ensure that prosocial responses produce more and more frequent reinforcement than antisocial responses. It is also necessary to change the consequences of defiant, coercive and antisocial responses so that these never (or hardly ever) result in the child getting his or her own way. This, in turn, requires the setting of clear task requirements and clear limits, careful monitoring of the child's behaviour, the firm and consistent enforcement of requirements and limits, the application of effective penalties for rule infringements, and the regular and consistent recognition and reinforcement of compliance, task completion, and appropriate interactions with other people.

It is extremely unlikely that children on an antisocial developmental trajectory will change from antisocial modes of responding to prosocial modes of responding using any intervention which consists of punishment for antisocial responses alone. This is because the change to prosocial responding requires teaching of the prosocial alternative responses, much practice of these new responses, and consistent reinforcement for choosing and using these new prosocial responses. None of this can be accomplished by interventions which simply punish antisocial responses (Colvin & Sugai, 1988).

Nor is the task of teaching the child to use prosocial rather than antisocial responses when interacting with others likely to be accomplished using any intervention which consists of reinforcement for prosocial responses alone (Forehand, 1986; Patterson, 1982; Roberts, 1985). This is because, as was shown in Section 2, one of the frequently used responses of the antisocial child is a refusal to comply with task requests and ignoring refusals to comply negatively reinforces refusals (thus ensuring that the child will continue to respond in this way). In order to motivate the change from non-compliance to compliance with task requests, an intervention which not only reinforces prosocial responses but which also punishes
antisocial attempts to get one's own way is required (Roberts, 1985; Walker, Hops & Fiegenbaum, 1976).

This retraining will proceed most rapidly if it can be carried out in as many settings as possible: at home, in the classroom, in the playground, in after-school activities, and so on. The contingency changes described above need to stay in place until the child learns that more reinforcement can be obtained from behaving in a socially appropriate manner than can be obtained by behaving in an antisocial manner. The older the child, the longer this is likely to take.

**Special Learning Needs with Respect to Sensitivity to Social Cues**

A second characteristic of antisocial children is that important social cues do not have the same meaning for the antisocial child that they have for normally developing children (Church, 1999; Patterson, 2002). Such children are said to be “unmanageable” because praise, reminders, warnings, and reprimands seem to have no effect. Positive social cues (such as a smile, praise, encouragement, or positive feedback about work done) have powerful motivating effects for normally developing children but little or no effect on the behaviour of the antisocial child. Negative social cues (such as a stare, warning, correction, disapproval, or reprimand) have powerful suppressive effects for normally developing children but little or no effect on the behaviour of the antisocial child. Put in technical terms, we say that, for the antisocial child, the positive reactions of other people have failed to acquire conditioned reinforcing properties and the negative reactions of others have failed to acquire conditioned punishing properties. It is this characteristic which gives the impression that the antisocial child is “unmanageable” or “uncontrollable”. Antisocial children are not unmanageable. They are only unmanageable if adults try to manage their behaviour using social approval and disapproval alone. If extrinsic (concrete) rewards and penalties are used, it is possible to motivate behaviour change in children with severe antisocial behaviour difficulties in the same way that it is possible to motivate behaviour change in normally developing children (Scruggs, Mastriopieri, Cook & Escobar, 1986; Walker, Hops & Fiegenbaum, 1976).

It is this feature of antisocial development which helps to explain why interventions which rely on differential attention alone (that is, praise and corrections alone) tend to have such a weak effect (Budd, Green & Baer, 1976; Forehand, 1986). An understanding of this feature of antisocial development is essential for the design of effective interventions for antisocial children.

In order for the positive and negative reactions of other people to acquire the meaning which they have for well socialised children, parents and teachers must develop a positive relationship with the antisocial child. A positive relationship with an adult such as a teacher is likely to occur only when the positive reactions of that adult (compared to their negative reactions) exceed a ratio of 5 to 1 (Friman, Jones, Smith, Daly & Larzelere, 1997). It follows from this, that carefully designed and powerful reward-plus-punishment schemes are likely to be most effective. This is because it is these types of schemes which motivate the most rapid reduction in antisocial responding and, as a result, most quickly produce the conditions under which the 5 to 1 positive-to-negative ratio becomes possible.
In order to achieve this, parents and teachers need to start setting clear behavioural rules and clear task requirements, to carefully monitor these requirements, to deliver promised rewards when requirements are met, and to ensure that no reward is obtained if requirements are not met. The reward must be something which will provide the child with a strong motivation to achieve each behaviour change goal. Concrete rewards include the earning of privileges, the earning of time in activities which are prized by the child, the opportunity to have first pick of scarce equipment, pocket money, lucky dips, the collection of stars and stamps on progress charts, and so on (Sulzer-Azaroff & Mayer, 1977).

It will also be necessary to ensure that, each time the child engages in a prohibited behaviour, an agreed upon penalty is applied. Because every defiant and coercive response must be noticed, confronted and penalised, the penalty must be small and easily administered. The penalty must be something which the child will work hard to avoid. Concrete penalties include the loss of time in activities which are prized by the child, brief periods of time out from the current activity, and the loss of small fractions of a bonus which would have been earned if no antisocial behaviour had occurred.

Teaching antisocial children the meaning of other people's reactions will proceed most rapidly if it can be carried out in as many settings as possible. The contingency changes described above need to stay in place until the child learns that other people can be trusted (that what they say predicts what will happen) and a positive relationship has developed between parent and child and between teacher and child. The older the antisocial child, the longer this is likely to take.

Special Learning Needs with Respect to Social Skills

A third characteristic of antisocial children is that they are often quite delayed in their social development (Church, 1996; Patterson, Reid & Dishion, 1992). They have yet to master many of the social skills which children of a similar age have already mastered - skills such as how to queue and wait one's turn, how to make a request, how to enter a conversation or play group, how to take turns, how to converse, how to read the facial expressions of others, how to co-operate, negotiate and reciprocate, how to handle the aversive behaviour of other people without getting angry, and so on.

Helping the antisocial child to acquire these important social skills requires intensive remedial teaching of the missing skills. Much of this teaching can be done informally. Provided the teacher is alert to teachable moments, much social skills teaching can be attended to within the context of the social interaction which normally occurs in classrooms. When the child engages in socially immature behaviour in the classroom, the teacher needs to take a few minutes then and there to teach a more mature social response. In addition, classroom activities can be changed to include some co-operative group work each day.

Because much social learning occurs within the peer group, it is important that the antisocial child be re-integrated within the normal peer group - even if this requires the setting up of structured peer activities initially. Members of the peer group can then be alerted to social skills teaching goals and can help the child to practise these within the context of normal peer interaction and play.
Social skills training is likely to proceed most rapidly if it can be provided across multiple settings: the home, the classroom, recreational settings, and so on. Social skills training will need to continue until it is clear that the child is beginning to be accepted into peer groups of normally developing peers. The older the child is, the longer this process is likely to take.

**Special Learning Needs with Respect to Academic Skills**

A fourth characteristic of antisocial children is that they spend less time on task, get less work done in class, begin to fall behind their peers, and fall increasingly further behind academically with each passing year (Patterson et al., 1992).

Once the child's antisocial behaviour has been brought under control, the remedial teaching procedures which work for other children will usually be found to work just as well for the previously antisocial child. This is because the academic deficits of these children are more likely to be a function of a long history of inattention than of a lack of ability. Academic remediation is likely to proceed most rapidly if the previously antisocial child is expected to complete as much work as other children, to engage in the same kinds of learning activities as other children, to complete work to the same standard as other children of a similar developmental level, and to abide by the same classroom rules and school rules as apply to other children. If “special arrangements” (with respect to task requirements) have been made for the antisocial child in the past, these will need to be terminated.

Concrete rewards will often be necessary, initially, in order to motivate consistent attention to, and effort on, academic tasks. This is because children who have experienced a history of failure on academic tasks often come to believe that they are not capable of such tasks and thus will require some extrinsic motivation until such time as they discover that they can, in fact, succeed on such tasks.

The more intensive this academic remediation can be made, the more rapid the child's progress is likely to be (Johnson & Layng, 1994). Academic remediation should continue until the primary school child has the skills necessary to survive at secondary school, and the secondary school student has the skills necessary for survival in the world of work. The older the antisocial child is when this process begins, the less likely it is that these goals will be achieved.

**Summary and Conclusions**

1. The research reviewed in this report suggests that children with severe antisocial behaviour difficulties are likely to have four major types of special teaching needs. These are:

   - The need to engage in large amounts of reinforced practice in responding in prosocial (rather than antisocial) ways to the behaviour of other people.
   - The need to learn that other people are supportive, helpful and trustworthy and that how other people react to one's behaviour is meaningful, important and needs to be taken into account.
   - The need to learn and to practice age-appropriate social skills, especially those which are necessary for the development and maintenance of positive relationships with peers and with adults.
• The need to catch up as quickly as possible with respect to missing academic skills, especially in reading, writing, and maths.

2 Rarely will it be possible to accomplish these goals using punishment alone (because antisocial children often have not yet learned how to respond in certain situations), or by using reinforcement alone (because ignoring non-compliance simply encourages more non-compliance), or by using social approval and disapproval alone (because these often have little meaning for antisocial children).

References


Section 9 - Effective and Ineffective Interventions for Young Antisocial Children

Research into the development of severe antisocial behaviour difficulties (summarised in Section 2) suggests that rather different kinds of interventions will be needed to reverse antisocial development in children at different age levels. Because of this, the present report divides the review of intervention work with antisocial children into three sections. Section 9 describes and evaluates the research into intervention work with young antisocial children (to age 7). Section 10 evaluates interventions designed for upper primary school children (aged 8 to 12 years) and Section 11 evaluates interventions which have been designed for antisocial adolescents.

Research into how best to respond to antisocial development in young children is extensive and has been reviewed many times. Major reviews of this research have been provided by Brestan and Eyberg (1998), Bryant, Vizzard, Willoughby and Kupersmidt (1999), Behan and Carr (2000), Fonagy, Target, Cottrell, Phillips and Kurtz (2002), Kazdin (1995, 1997), Little and Hudson (1998), Miller and Prinz (1990), Serketich and Dumas (1996) and Tremblay, LeMarquand and Vitaro (1999).

Part 1. Outcome Measures for This Age Group

In order to measure the effectiveness of an intervention, the evaluation needs to meet the criteria listed in Section 1 of this report, that is, the outcome measures need to be appropriate, the measurement procedures need to be reliable, outcomes need to be measured for several years, and the evaluation needs to be designed in a way which allows conclusions to be drawn from the data, that is, the effects of the programme on treated children needs to be evaluated either against the effects of no treatment or else against the effects of treatment programmes of known effectiveness.

Assuming that the aim of intervention is to halt antisocial development and to accelerate prosocial development, then it follows that the evaluation outcomes which are most relevant are those which distinguish between normal and antisocial development during the first seven years. Some of the developmental tasks (Havighurst, 1974) which must be accomplished during the first seven years are listed in Table 5.

Part 2. Parent Training Interventions

Because parents and caregivers are the primary socialising agents for the majority of young children, it is not surprising to find that most of the intervention research with this age group has involved some kind of training for the parents of young antisocial children. The effectiveness of parenting skills training programmes has been known since the 1970s (O'Dell, 1985). Brestan & Eyberg (1998), in their review of empirically supported interventions for young antisocial children, identified two parenting skills training programmes as “well established interventions” – the programmes developed by Patterson and his colleagues at the University of Oregon and the video modelling programme developed by Webster-Stratton at the University of Washington.
Table 5  
**Developmental milestones which are achieved by normally developing 7-year olds but which are not achieved by children on an antisocial developmental pathway**

<table>
<thead>
<tr>
<th>Outcomes which need to be achieved during the first seven years</th>
<th>Adverse outcomes which need to be avoided during the first seven years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develops trust in the predictability of other people's behaviour.</td>
<td>Treats other people's behaviour with a certain amount of suspicion.</td>
</tr>
<tr>
<td>The positive reactions of other people acquire conditioned reinforcing properties and the negative reactions of others acquire conditioned punishing properties.</td>
<td>The positive and negative reactions of other people fail to acquire the meaning which these events have for normally developing children.</td>
</tr>
<tr>
<td>Learns to comply with the instructions of parents and teachers.</td>
<td>Continues to use coercive responses to the instructions, task demands, intrusions, and aversive behaviour of other people (because these pay off more often than prosocial responses).</td>
</tr>
<tr>
<td>Learns age appropriate social responses to the task demands, intrusions and aversive behaviour of other people and uses them in preference to coercive responses.</td>
<td>Fails to acquire age appropriate levels of patience, empathy and self-control.</td>
</tr>
<tr>
<td>Acquires age-appropriate levels of patience, empathy and self-control.</td>
<td>Is excluded from same-age peer groups and peer group activities.</td>
</tr>
<tr>
<td>Acquires sufficient social competence to negotiate access to peer group activities and to maintain friendships with peers.</td>
<td>Works on academic learning tasks only erratically. Spends much time off-task.</td>
</tr>
<tr>
<td>Acquires the pre-academic skills necessary for success during the early school years.</td>
<td>Makes less than normal progress in learning to read and/or learns to avoid reading tasks.</td>
</tr>
<tr>
<td>Acquires an oral vocabulary of sufficient size for learning to read.</td>
<td></td>
</tr>
<tr>
<td>Acquires age appropriate reading skills.</td>
<td></td>
</tr>
</tbody>
</table>

The present review has identified two further parent training programmes which appear to be just as effective. These are *Helping the Non-Compliant Child* developed by Forehand and McMahon at the University of Georgia and the Australian *Triple P* programme developed by Sanders and his colleagues at the University of Queensland.

These four parenting skills training programmes are all closely similar in their theoretical orientation and their content. All have been derived from the scientific research on learning (often referred to as “social learning theory”) and rest on the assumption that children learn social and antisocial ways of interacting with others during the hundreds of moment-to-
moment interactions with other people which occur each day. All attempt to teach the parents of “unmanageable” children how to monitor and track child behaviour, how to give clear instructions, how to teach compliance, how to refocus their attention from antisocial to prosocial child behaviour, how to attend to and reinforce appropriate behaviour, how to respond appropriately to antisocial behaviour (using such techniques as planned ignoring, natural consequences, or time-out from reinforcement), and how to anticipate and solve new child management problems. All aim to reduce the inadvertent reinforcement of deviant child behaviour and to greatly increase the reinforcement for prosocial behaviour. Training is most commonly provided to the mother, programmes tend to last for 8 to 12 weeks, and all involve additional child monitoring and child management exercises for the parents to complete at home.

A recent meta-analysis of parenting skills training with the parents of young antisocial children has been provided by Serketich and Dumas (1996). The average age of the children in the review was 6 years and all 26 studies in the review included a control group. The average effect size for parent training (relative to no training) was 0.85 for direct observation measures, 0.84 for parent report measures and 0.73 for teacher report measures. These results are interpreted by Serketich and Dumas (1996, p. 179) as indicating that “the average child whose parents participated in behavioral parent training was better adjusted than approximately 80% of children whose parents did not.” They further note that “of the 19 groups who were clearly in the clinical range on at least one scale before treatment was initiated, 17 dropped below the clinical range on at least one scale, and 14 on all scales” (Serketich & Dumas, 1996, p. 180). As is often the case with this kind of research, the well designed studies tended to produce somewhat smaller effect sizes than the poorly designed studies (Fonagy et al., 2002).

**Oregon type parenting skills training**

The parenting skills training programme developed by Patterson and colleagues at the Oregon Social Learning Centre was the first training programme of this type to be developed. It is “probably the most widely used parent training procedure, although not the most thoroughly evaluated” (Fonagy et al., 2002, p. 124). OSLC type parent training programmes target both child compliance and child antisocial behaviour and have been designed for and field tested on children in the 3 to 12 year age range. Course content is described in Patterson's (1976) book for parents *Living with Children* and its more recent version *Preventive Parenting* (Dishion & Patterson, 1996). Parents begin by studying basic learning principles and then move on to practise monitoring for 1 hour periods over seven days. Practical positive reinforcement procedures are then taught followed by time out for tantrums and aggression. These procedures are practised both in class, where the parents get to design procedures for particular child behaviour problems, and at home where they are asked to introduce and to monitor the effects of successive interventions. Problem solving and negotiation strategies are also taught.

Judgements about the effectiveness of OSLC parenting skills training rest on the results of at least eight controlled evaluations of the programme with the parents of 4 to 12 year old children with relatively severe behaviour problems (including both defiance and aggression). The outcome measure in all evaluations has been the number of aversive child behaviours per hour measured by direct observation in the home. Three early evaluations showed (a) a mean
reduction from 9.7 to 3.7 deviant behaviours per hour in the home while control children increased (Walter & Gilmore, 1973), (b) a mean reduction from 4.2 deviant behaviours per hour in the home to 0.4 (Patterson, Cobb & Ray, 1973) and (c) a mean reduction from 12.6 deviant behaviours per hour in the home to 4.2 while control children remained unchanged (Wiltz & Patterson, 1974). Subsequent reports showed that sibling misbehaviour also decreased following parent training (Arnold, Levine & Patterson, 1975), that the main effect of the training was to reduce contingency errors (reinforcement for misbehaviour and punishment for good behaviour) rather than to increase parental reinforcement for desired behaviour (Taplin & Reid, 1977), and that the reduced deviant behaviour rate of the children of trained parents remained within the normal range 12 months later (Patterson, 1974). Refined versions of the programme (paralleled by changes in the outcome measure to include all aversive child behaviours) produced larger gains, from 54 aversive behaviours per hour on average to 14 at a 12-month home follow-up (Weinrott, Bauske & Patterson, 1979). One clinical trial appears to have been undertaken (Patterson, Chamberlain & Reid, 1982). In this trial, the total aversive behaviour of the children of the OSLC parenting skills training group changed from 55 per hour to 19 per hour post treatment while that of a community treatment control group changed from 53 per hour to 44 per hour. The ES on all child aversive behaviour in the home was 1.3. The effects of the OSLC parenting programme have also been replicated by independent teams (e.g. Tremblay et al., 1992) which make this a well established intervention.

None of these studies provide data on the proportion of children who are returned to a normal developmental trajectory by OSLC type parenting skills training. This question has, however, been addressed by Reid (1993) who described the results of an analysis in which 85 OSLC treated families were divided into those with children aged less than 6.5 years and those aged 6.5 years or more. Treated children were judged to be successes if, following treatment, the child's aggressive behaviour had fallen to within .5 of a standard deviation from the mean of control group children. Using this criterion, 63 per cent of the younger children and 27 per cent of the older children were classified as successes.

**Webster-Stratton type parenting skills training**

The Webster-Stratton parenting skills programme (Webster-Stratton, 1986) has been designed for the parents of 3 to 8 year olds. The major difference between this programme and the other parenting programmes described in this section is Webster-Stratton's use of a set of 10 video tapes containing 250 2-minute scenes in which parents interact with their children in a variety of appropriate and inappropriate ways. These are used as the main training vehicle in a set of 10, weekly, group discussion sessions. Following each vignette, the trainer leads a group discussion of the interaction. Parents also complete a set of structured homework exercises with their child. A book length account (Webster-Stratton & Herbert, 1994) of how to develop a positive relationship with parents, how to engage and motivate parents, and how to work effectively with parents from diverse backgrounds has been produced.

Six controlled evaluations of the Webster-Stratton video training programme and variations of it have been reported by the development team. The first two studies (Webster Stratton, 1982, 1984) showed that the training programme produced large increases in maternal positiveness, that it reduced intensity scores on the Eyberg Child Behavior Inventory to within the normal range, that these changes had been maintained at a 1-year follow up, and that group administration produced changes similar to those produced by individual administration.
The main evaluation is a large clinical trial involving the parents of 114 antisocial children. The mean age of the children was 4.5 years and only children who scored above the clinical cut-off on the Eyberg were recruited. The training programme was delivered in three formats over a 10-12 week period: (a) group administered video training and therapist led discussion, (b) self-administered video training, and (c) therapist led group discussion without the video examples. The study included a wait-list control group. The ES, measured against the control group, for each of the three training formats on reductions in total aversive child behaviours during home observations following training were 0.68, 0.51 and 0.69, respectively (Webster-Stratton, Kolpacoff & Hollinsworth, 1988). The authors found “no significant deterioration from immediate to 1-year follow-up assessments on any of the parent report or behavioral variables for any of the treatment groups” (Webster-Stratton, Hollinsworth & Kolpacoff, 1989, p. 551). At a 3-year follow-up, the team classified treated children as successes if they were rated by their mother, their father, or their teacher as falling within the normal range on the Child Behaviour Checklist (or the Teacher's Report Form of the CBCL). Using this criterion, 54% of children were classified as successes by their mothers, 75% as successes by their fathers, and 74% by their teachers. Single mothers, depressed mothers and parents who were experiencing multiple stressors were over-represented in the families of children who failed to improve (Webster-Stratton, 1990a).

A fourth study comparing the effects of the self-administered programme with and without therapist consultation (Webster-Stratton, 1990b) produced similar improvement with similar children. Unfortunately the children in the control group were quite well behaved during the baseline home observation which makes an effect size misleading. A fifth study measured the effects of adding additional modules on parental anger management, communication and problem solving skills to the basic programme. This had little additional effect on child misbehaviour during home observations (Webster-Stratton, 1994).

A sixth study measured the effects of a child training condition, both on its own and in combination with parent training. The child training condition consisted of 100 video vignettes, imaginative play activities, peer group problem solving activities, discussion with the teacher and individual activities spread over 22 weekly sessions. The activities were designed to teach the antisocial child to recognise other children's feelings, to pay attention to teachers, to comply and co-operate with others, how to control anger, how to cope with teasing, how to enter peer play, how to generate multiple solutions to a problem and how to use positive self-talk in difficult situations. The child training intervention had a similar effect to the parent training intervention in that it reduced total deviant child behaviour during home observations to less than 50 per cent of that observed prior to training. Combining the two interventions reduced total deviant behaviour to 22 per cent of baseline levels (Webster-Stratton & Hammond, 1997) and appears to be the most effective intervention for young children reported to date. It does, however, involve 132 hours of therapist time per group of 12 families.

The Webster-Stratton video training programme has been evaluated by at least two independent teams (Scott, Spender, Doolan, Jacobs & Aspland, 2001; Spaccarelli, Cotler & Penman, 1992) which makes it a well established intervention for antisocial children.
**Positive Parenting Programme (Triple P)**

The main difference between the Australian Triple P programme and those so far described is that the Triple P system is a multilevel system consisting of five levels of intervention on a tiered continuum of increasing strength (Sanders, 1999). The interventions have been designed for the parents of children from birth to 12 years of age. Level 1, or Universal Triple P, consists of information booklets, a video, and self-study materials and has been designed as a preventive intervention for any parent who wants to know more about solving developmental and minor child behaviour problems. Level 4, Standard Triple P, consists of an intensive parent training programme which focuses on parent-child interaction and the application of parenting skills to a broad range of child behaviours in children with relatively severe behaviour problems. It is delivered by trained and certified therapists. Level 5, Enhanced Triple P, has been designed for parents of children with persistent conduct problems and concurrent family dysfunction. It consists of the Standard Triple P training plus modules on mood management, stress-coping and partner support. Delivery includes home visits. The Level 2, 3, 4 and 5 programmes can be delivered in an individual format, group training format, telephone-assisted format or self-directed format. Sanders has produced a book for parents, *Every Parent: A Positive Approach to Children's Behaviour* (Sanders, 1992). There is also a text for clinicians (Sanders & Dadds, 1993) which describes in some detail how to establish a therapeutic alliance with parents and gain their commitment to changes in parenting practice.

Effectiveness of the Triple P programmes has been demonstrated in at least six controlled evaluations (Sanders & Cristensen, 1985; Dadds, Schwartz & Sanders, 1987; Sanders & Plant, 1989; Sanders, Markie-Dadds, Tully & Bor, 2000; Sanders & McFarland, 2000; Bor, Sanders & Markie-Dadds, 2002). The two earliest studies were designed as within-group studies and showed that the Triple P intervention resulted in reductions in oppositional child behaviour from baseline levels of approximately twice that of normal children to an average rate similar to that of normal children.

One of these evaluation studies was a clinical trial (Sanders et al., 2000). This study involved 305 3-year olds and their parents. A group who received the Standard Triple P programme showed changes on most measures. The pre- to post-training ES on Eyberg Inventory scores was 1.0, the ES on Parent Daily Report scores was .87 and on observed child negativity it was 0.21 immediately following treatment. The Enhanced Triple P programme had an ES on Eyberg scores of 0.9, an ES on PDR scores of .86 and an ES on observed child negativity of 0.44. Child negativity scores were calculated from videos of the child completing several structured tasks under the mother's direction. At a 12 month follow-up total child negative behaviour on the structured tasks was considerably lower than it had been immediately post treatment. A supplementary analysis of the 87 most hyperactive children and their parents (Bor, Sanders, & Markie-Dadds, 2002) showed that the intervention had the same kind of effect on these children as it had in the main study. There was no immediate effect on total child negativity scores at programme completion but these had fallen to less than half their admission levels at a 12-month follow-up.

**Forehand and McMahon type parenting skills training**

This version of parenting skills training has been designed for the parents of non-compliant 3 to 8-year old children and has similar aims to those already described. The main difference is
that this type of training is undertaken with individual parents in a clinic situation with
feedback being provided through a bug-in-the-ear device by a therapist observing from behind
a one-way screen. In the initial training sessions, the parent is shown how to break the cycle
of coercive interactions with the child by (a) eliminating commands and criticisms and (b)
greatly increasing positive attention to appropriate behaviour. Homework exercises, in which
the parent is asked to increase the frequency of occurrence of at least two child behaviours,
are designed to ensure generalisation to the home setting. Following this, the parent is trained
to use clear instructions (and to wait for compliance) and is taught how to use a time-out
procedure as a penalty for defiance. A clinician's guide (Forehand & McMahon, 1981) has
been published.

Several reviewers (Brestan & Eyberg, 1998; Dadds, 1997; Fonagy et al., 2002) have listed the
Forehand and McMahon programme as an effective and well evaluated parenting skills
training programme for the parents of antisocial children. Early studies (Breiner & Forehand,
1981; Forehand et al., 1979; Forehand, Wells & Griest, 1980) found that this type of training
produced reliable reductions in vague commands, increases in parental attention to and/or
rewards for appropriate behaviour, and increases in child compliance during observations in
the home, but not the classroom, at follow-ups 2 to 12 months following training. The
inclusion of components designed to enhance marital adjustment, personal adjustment and the
parents' extra-familial relationships resulted in small improvements in the maintenance of
improvements (Griest, Forehand, Rogers, Breiner, Furey & Williams, 1982). Long term
follow-ups of 43 families from these early studies 8 years later (Forehand & Long, 1988) and
15 years later (Long, Forehand, Wierson & Morgan, 1994) have sought to establish that the
majority of treated children made normal transitions into adolescence and adulthood.
However, interpretation of this data is complicated by the fact that the original studies had no
control group and by the fact that half of the original families could not be traced. A recent
study (Rotto & Kratochwill, 1994) involving six parents provides a detailed analysis of the
effects of training on parent behaviour and demonstrates again that this kind of training moves
child compliance into the normal range. However, no clinical trials involving this type of
parent training could be found and the proportion of antisocial children whose social
development is diverted from the antisocial pathway is not known.

One of the most interesting results to come out of the Forehand research programme was the
discovery that parenting skills training results in changes in the parent's perception of their
child's behaviour - but that this change occurs as a result of the training (and improvement in
child behaviour) and follows training with a delay of about 2 months (Forehand, Wells, &
Griest, 1980). This finding contradicts the widely held belief that, in order to improve the
parenting skills of parents with unrealistic beliefs about their child, it is necessary first to
change the parent's beliefs.

**Parent-child interaction therapy (PCIT)**

Parent Child Interaction Therapy, developed by Eyberg at the University of Florida, is also
delivered in a clinic setting with bug-in-the-ear coaching and feedback but the content is
different because it has been designed primarily for the mothers of pre-school children.
Training occurs in two parent-child play contexts (a) child directed interaction, where the
parent has to follow the child's lead during play, and (b) parent directed interaction, where the
child has to follow the parent's lead during play. During child directed sessions, the parent
practises describing, imitating and praising the child's appropriate behaviour while at the same
time ignoring inappropriate behaviour and avoiding commands and criticism. The aim is to
strengthen a positive relationship with the child. During parent directed sessions, the parent
learns how to frame clear, direct, and positively stated requests and how to respond
consistently to child behaviour (e.g. praise for compliance, quiet time for non-compliance).
The aim is to reduce problem behaviours and to increase low rate prosocial behaviours. A
clinician's guide (Hembree-Kigin & McNeil, 1995) has been published.

In an early study with 11 families (Zangwill, 1983), parental punishments decreased and
praise and child compliance increased in both the clinic and at home. In a larger clinical trial
with the parents of 64 pre-schoolers who met the criteria for ODD, trained parents interacted
more positively with their child and reported that their child was more compliant at a 4-month
follow-up (Schuhmann, Foote, Eyberg, Boggs & Algina, 1998). McNeil, Eyberg, Eisenstadt,
Newcomb and Funderburk (1991) trained the parents of 10 children who met DSM III
diagnoses for ODD, CD or ADHD. Over the 14 week training period, the compliance levels
of the trained children increased from 41 per cent to 70 percent at home and from 54 per cent
to 87 per cent in the classroom and the mean score on the SESBI (the school version of the
Eyberg) dropped to well below the clinical cut-off. Funderburk, Eyberg, Newcomb, McNeil,
Hembree-Kigin and Capage (1998) reported the results of a clinical trial involving 12 clinic-
referred 2- to 7-years olds with ODD diagnoses and three unmatched control groups of
children drawn from the referred children's classrooms (a low, average and high behaviour
problems control group). Compared to the high problems control group, the PCIT group,
were less compliant but more on-task in the classroom at a 12 month follow-up but more
compliant and less on-task at an 18 month follow up. The parents reported their children as
much improved on the ECBI at both follow-ups but the teachers rated the children as little
improved on the SESBI at the 18 month follow-up.

PCIT was identified by Fonagy et al. (2002, p. 126) as “a particularly successful version of
parent training.” In our view, the data do not warrant this conclusion. All the PCIT
evaluations involve very small samples, several of the control groups have not been recruited
in the same way as the experimental groups (which means that effect sizes cannot be
calculated), most of the evidence for effectiveness rests on improvements in parent reports
(which are known to be unreliable), and the claim that the effects of intervention are
generalising to the classroom setting seems premature.

Comments on parenting skills training

This review confirms the conclusions of previous reviewers (e.g. Behan & Carr, 2000;
Brestan & Eyberg, 1998; Fonagy et al., 2002; Kazdin, 1995; Miller & Prinz, 1990; Serketich
& Dumas, 1996) that parenting skills training in any of the variants described above can have
a major impact, helping somewhere between 50% and 60% of the parents of young antisocial
children to make the changes which are necessary in order to return the young antisocial child
to a normal developmental pathway. The Triple P materials have the advantage that they are
written in the Australasian idiom and that New Zealand training is available. The Webster-
Stratton programme has the advantage that the videos greatly facilitate training and allow
training to be provided by less qualified staff. Excellent clinical manuals exist for both of
these interventions.
Part 3. School Interventions

Numerous within-subject experiments have demonstrated that the disruptive behaviour of young antisocial children in the classroom can be reduced to low levels by means of contingency management procedures such as differential attention, differential attention plus time out, token reinforcement, and token reinforcement plus time out procedures (Barlow & Hersen, 1984; Scruggs, Mastropieri, Cook, & Escobar, 1986; Sulzer-Azaroff & Mayer, 1977). These single case experiments have led to the development of a number of packaged and commercially available behaviour management systems designed specifically for school use. These are the PASS, CLASS, and RECESS programmes developed by special education researchers at the University of Oregon. Three of these have been sufficiently well evaluated to qualify for inclusion in this review.

Programme for Academic Skills (PASS)

PASS was developed to meet the needs of Year 1 and 2 children who arrive at school lacking the basic “academic survival skills” (such as attending and following teacher directions) which are necessary in order to profit from schooling. PASS is applied to the whole class – initially during reading and maths periods. PASS consists of the following elements. Children are first taught the main classroom rules (working on learning tasks, following teacher directions, attending to the teacher and talking appropriately). Monitoring and motivation is provided by a clock-light system which records the on-task level of the whole class and is turned off (by the teacher's remote control) when individual students go off-task. Consequences take the form of high rates of teacher praise (at least one commendation per minute) and a group activity reward when the class meets the task engagement criteria for a lesson. Initially the criterion is any improvement in task engagement. Later it is set at 80% on-task. The programme is designed to be introduced, by a consultant, in five phases: (a) preliminary assessment to determine whether PASS is needed, (b) teacher practice in monitoring task engagement and using the clock-light, (c) full programme implementation for 25 to 45 school days, (d) fading of the rules, reminders, clock-light and activity rewards, and (e) programme maintenance (twice weekly checks of task engagement and self-checking by the teacher of his or her praise rate).

PASS has been tested in at least four controlled evaluations involving Year 2 to Year 4 children identified as the lowest performing children in the class (Greenwood, Hops & Walker, 1977a; Greenwood, Hops & Walker, 1977b; Greenwood et al., 1979; Hops & Cobb, 1973). In all four studies, introduction of the PASS programme resulted in average improvements in task engagement from baseline levels of 60 to 70 per cent on-task to post treatment levels within the normal range (75 to 85 per cent). Children with the lowest rates of engagement and fewest pre-academic skills made the most improvement, the improvements in task engagement were accompanied by improvements in reading skills and maths skills at a rate similar to that of normally developing children, and improvements were maintained at a 9 week follow-up (Greenwood et al., 1977b). A component analysis by Greenwood, Hops, Delquadri and Guild (1974) indicated that it was the group reward (not the rules or the clock-light) which was primarily responsible for the improvements in task engagement.
Hops and his associates have also produced a simple contingency management system for younger primary school children *Contingencies for Learning Academic and Social Skills* (CLASS). The CLASS programme is a self-contained management system for the teachers of children with moderate behaviour difficulties in Years 1 to 4. It is usually introduced by a consultant such as an RTLB over a 5-day period. However it can be introduced by the classroom teacher. The CLASS programme typically runs for 30 school days and consists of a green/red cue card, a points system in which the antisocial child can earn a reward to be shared by the whole class, frequent praise, a home reward system, a point response cost system, and time out if needed. It has been designed for use in the pre-referral phase so that only those students who are unaffected by a systematically applied contingency management system in the classroom are referred on for more specialised assistance.

The main evaluation data are contained in two clinical trials reported in Hops et al. (1978). In the first experiment, using 11 experimental classrooms and 10 control classrooms, the mean percentage of appropriate classroom behaviour for the “acting-out” children increased from 70% to 81% while the children in the control classrooms did not change. The ES for the programme effect on total positive classroom behaviour at program conclusion was 1.0. The second experiment used 16 experimental classrooms and 17 control classrooms. With respect to appropriate classroom behaviour, the experimental subjects improved from baseline (62%) to programme termination (73%) and from termination to follow-up (82%). The ES at the end of the programme and at follow-up was 0.5.

**Reprogramming Environmental Contingencies for Effective Social Skills (RECESS)**

RECESS was developed by the same team that developed the CLASS programme. It is designed for aggressive antisocial children in Years 1 to 4. It is designed primarily for use in free play settings such as the school playground but includes a classroom component for those students who are aggressive and defiant in the classroom as well. The programme is introduced in four phases. First, the programme is introduced in the playground where it is operated by the consultant for the first 7 days and by playground supervisors from then on. Secondly, the programme is extended to the classroom. This phase lasts about 15 days. Thirdly, the extrinsic components are eliminated over a 15 day fading period. Finally, the programme continues indefinitely using a low-cost, practical procedure. The programme itself consists of four components: (a) training in socially appropriate behaviour, (b) a response cost system in which the child starts with 6 points (for a 30-minute recess time) and loses a point for each aggressive action, (c) frequent praise for appropriate play and appropriate social interaction, (d) a class reward each time the antisocial child meets criterion in the playground.

The RECESS developers have described the results of one clinical trial (Walker, Hops & Greenwood, 1981). This involved 12 teachers and 24 highly aggressive primary school children (12 experimental and 12 control children). Complete data was collected for 20 of these children. The RECESS programme reduced the level of playground aggression from a mean of 64 acts an hour to a mean of 4 per hour over a three month period. The ES on playground aggression was 0.97. A subsequent within-subject experiment involving two children demonstrated that peers can be trained to operate as the playground monitors and reinforcing agents (Dougherty, Fowler & Paine, 1985).
Comments on school interventions

The within-subject experimental research literature contains many other demonstrations, far too numerous to review here, of the particular contingency management procedures which work best in different situations. In this review we have limited our attention to “off-the-shelf” programmes which have been reasonably well evaluated because (a) these provide a reasonably clear picture of the kinds of procedures which work well in the classroom and (b) they provide a reasonably accurate estimate of the impact which contingency management procedures have on the behaviour of antisocial children in the school setting. Our review of these programmes indicates that the low compliance levels of young antisocial children can be brought into the normal range, and elevated rates of antisocial behaviour reduced to age-appropriate levels, by interventions which include (a) behaviour monitoring, (b) high rates of both social and extrinsic reinforcement for appropriate responses, (c) a mild but consistently applied penalty (such as time out or token loss) for defiance, and (d) the intensive incidental teaching of missing social skills. With young antisocial children, these procedures, when consistently applied, usually produce very rapid improvements in behaviour in the settings in which they are applied.

Part 4. Home and School Interventions

Given the effectiveness of the parenting training interventions and the classroom behaviour management interventions reviewed above it seems reasonable to conclude that a home and school intervention which combines both parenting skills training at home and behaviour management training at school is likely to represent “best practice” with respect to young children with antisocial behaviour difficulties. In this section we review five examples of such combined interventions.

The Early Social Learning Project

The Early Social Learning Project (Ewing & Ruth, 1996, 1997; Ewing, 1999) was a demonstration project designed to meet the educational needs of antisocial children in pre-school centres in Christchurch. Children were admitted to the programme if (a) they were in the 3- to 6-year age range, (b) had a history of behaviour problems, (c) engaged in antisocial behaviour in both the home and the pre-school setting, and (d) had a Canterbury Social Development Scale score of less than 140. ESLP staff worked in both the home setting and the pre-school setting wherever possible. All interventions were individualised and open ended and lasted, on average, for 13 to 14 weeks.

The main intervention procedures which were taught to the parents and the teachers of the referred children were as follows.

- **Structuring of the child's day.** ESLP staff worked with parents and teachers to introduce a greater degree of structure and predictability into the child's daily activities.
- **Teaching of new skills.** In cases where the parent or teacher appeared not to know how to handle a particular situation, the appropriate behaviour was modelled by the ESLP resource teacher. In cases where the child appeared not to know how to handle a particular situation, the child was shown what to do.
• **Differential attention.** The parents and the teachers of all of the referred children were taught and encouraged in their attempts to (a) consistently monitor child behaviour, (b) greatly increase their rate of use of descriptive praise, (c) consistently ignore inappropriate attention seeking behaviours and misbehaviours which do not disrupt the activities of other children or pose a threat to their safety. Parents who were initially unable to do these things were provided with tutoring, demonstrations, encouragement, and support in their efforts to switch the focus of their attention from inappropriate to appropriate child behaviour.

• **Reinforcing prosocial behaviour.** Advice and, if necessary, tutoring on how to set up and administer a token reinforcement programme involving a star chart and activity rewards was provided in all pre-schools and in most homes.

• **Confronting antisocial behaviour.** Where this was acceptable, pre-school teachers were shown how to use “sit and watch” (an inclusionary time-out procedure) as a consequence for specified antisocial behaviours (such as hurting another pupil). Where appropriate, time-out procedures were also taught to parents. In some preschools and families, a response cost procedure was taught. This involved setting aside a certain number of stickers or lollies at the beginning of the day or session and removing one of these each time the child engaged in a prohibited behaviour. Time out and response cost contingencies were only ever introduced in combination with rewards for appropriate behaviour.

• **Other intervention procedures.** Many other parenting skills and intervention procedures were taught to parents where they were required. These included advising or showing the parent(s) how to: establish a household routine, set limits, develop household rules, establish a regular bed time, identify play activities which they could use with their child, model desired behaviours, gain the child's attention before giving an instruction, give clear instructions, give instructions in a quiet voice, and supervise the child more closely. Parents were actively discouraged from giving in to tantrums, shouting, smacking, and threatening the child.

During the two years covered by the evaluation, 66 children were admitted to the “full intervention” section of the programme. Of these, 85 per cent were boys, 19 per cent were Māori, 88 per cent had received CSDS scores of 120 or less, 97% were referred with non-compliance listed as one of the reasons for referral, and 74% were referred with physical aggression listed as one of the reasons for referral.

Project staff continued to work with parents and early childhood staff until (a) the referred child was complying with instructions in both settings, (b) the child's antisocial behaviours had been reduced to within the normal range, (c) ESLP staff judged that parenting skills had improved to the point where these improvements were likely to be maintained. Data reported in Ewing and Ruth (1997) show mean baseline to end-of-treatment changes in physical aggression from 6.8 to 0.8 per session in the pre-school and from 17 to 1 per day in the home. The 66 children were followed up (a) at the end of the two year project and (b) 18 months later. Four children were untraceable at the first follow up and 11 at the second. At the first follow-up ESLP staff judged the behaviour of 81 per cent of the 62 observed children to be within normal limits and the behaviour of 19 per cent of the children still to include elevated numbers of antisocial responses (Ewing & Ruth, 1997). At the second follow-up, 63 per cent of parents described their children's behaviour as falling within normal limits, 31 per cent as displaying some antisocial behaviours and 7 per cent as still engaging in some severe antisocial behaviours. At this follow-up, the teachers of 85 per cent of the children described
the child's behaviour as within acceptable limits and the teachers of 15 per cent of the children said that the child was still engaging in unacceptable antisocial behaviour (Ewing, 1999). The average cost per case was estimated to be $4,000.

**Project Early**

Project Early (Church, 1999) was designed to meet the educational needs of 5 to 7-year old antisocial children in seven low decile East Christchurch primary schools. Most of the children admitted to the programme were boys. One third were being raised by a single parent. In just over half of the cases, family life was either highly disorganised or else provided few consistent limits on child behaviour and nearly half the families were experiencing multiple difficulties.

All interventions were individualised and open ended. The average length of these interventions was about 20 school weeks. Interventions ranged in length from 8 weeks to 56 weeks. Interventions were closely similar to those used in the Early Social Learning Project described above and included showing parents and teachers how to: frame behavioural rules, teach social skills, use differential attention, use increased levels of praise for appropriate social behaviour, use Good Behaviour Charts to reinforce appropriate behaviour, and confront antisocial behaviour using time out or response cost penalties for defiance and aggression. The teaching of compliance was facilitated by the use of a previously prepared Stop, Look, Do training sequence and the teaching of non-aggressive responses to frustration was facilitated by the use of a previously developed Anger Management course. The development of reinforcement programmes was facilitated by the use of a Behavioural Planner which described how to select behaviour change targets, rewards, and appropriate consequences for unacceptable behaviour. Parent training was facilitated by the use of a parenting course, developed by project staff, which included tip sheets, charts, a Good Behaviour Planner, and a booklet on effective parenting published by a local resource teacher (Van der Kley, 1991).

Outcomes for the 36 intervention programmes for 5- to 7-year olds which had been completed by the end of the second year are described in Church (1999). Six programmes were terminated prematurely when the family moved out of the catchment area. Of the 30 programmes which were completed, 24 were judged to have been successful in that compliance levels at home and at school had increased, and antisocial behaviour at home and at school had decreased, to age appropriate levels. This is a success rate of 80% of the cases completed and a success rate of 67% of the cases admitted to the programme. Of the successful programmes, 75 per cent were given a prognosis of “good” by the resource teacher and 25 per cent were given a prognosis of “uncertain” on the grounds that although much progress had been made at home it was clear that the primary caregiver might require continuing support. In one of these six cases, the mother was a drug addict, in one the mother was receiving treatment for a relatively severe psychiatric condition, in one the stepfather had taken a dislike to the child, and in the others the mother had shown a very low level of parenting skill on admission to the programme.

Six of the programmes (20%) were judged to have been unsuccessful and the programme was terminated by the resource teacher following the decision that further progress was unlikely. In one case the parents declined to become involved claiming that there were no problems at home, in one case the father was unable to make any of the changes which he kept agreeing
to, in one case the mother's belief that her child's behaviour was beyond her control meant that little progress was made, in one case the mother had almost no parenting skills which could be built upon, and in one case interventions were repeatedly sabotaged by the stepfather. The average cost per case over the first two years of the project was $3,800.

First Step to Success

The *First Step to Success* programme, developed by Walker and colleagues at the University of Oregon, is an early intervention programme for pre-school children (Walker, Stiller, Golly, Kavanagh, Severson & Feil, 1997). The programme consists of three components. The first is a screening module designed to identify children who are showing early signs of antisocial development. The procedure is the three-stage multiple-gating Early Screening procedure described in Section 4 of this report. The second is a school module which lasts for 30 days. It is an adaptation of the CLASS programme described above and involves a green/red cue card, a group reward for the class when the antisocial child earns sufficient points for good behaviour, and a prearranged home reward for meeting a whole of session criterion. The pre-school programme is introduced by a consultant (such as an RTLB), who gradually passes responsibility to the teacher over a two week period. During the final 10 days, the group reward and consultant support is gradually faded and the improved child behaviour maintained using teacher praise. The third component is a parent training module called HomeBase which lasts for 6 weeks. Training sessions, which are conducted by the consultant at the parent's home, teach the parent how to teach their child such skills as sharing, cooperating, accepting limits, problem solving, and developing friendships. Home school cooperation is two-way with the teacher informing the parent when the child has earned a home reward and the parent informing the teacher when the child has learned a new skill so that the teacher can praise the child for using it at pre-school.

Three evaluation reports have been published, a within-subject study of two sets of twins (Golly, Sprague, Walker, Beard & Gorham, 2000), a clinical trial (Walker, Kavanagh, Stiller, Golly, Severson & Feil, 1998) and a replication (Golly, Stiller & Walker, 1998). In the clinical trial the mean proportion of engaged time increased from 63% at baseline to 80% post-intervention for Cohort 1 (ES = 1.05) and from 60% to 90.8% for Cohort 2 (ES = 2.2). These remained above 80% in 1st grade the following year. At the same time, CBCL aggression scores fell from a mean of 20.3 and 24.8 to 11.0 and 16.8 for Cohorts 1 and 2 respectively. Closely similar results were obtained in the replication study.

Linking the Interests of Families and Teachers (LIFT)

Developed by the OSLC team in the early 1990s, LIFT is a universal (untargeted) intervention designed to prevent the development of antisocial behaviour (Eddy, Reid & Fetrow, 2000; Reid & Eddy, 2002). Initial trials have been with 1st grade (6-year old) and 5th grade (10 year old) students, their families and their teachers. LIFT consists of a home intervention, classroom intervention, and playground intervention. The *home intervention* consists of six, weekly, 1.5 hour group training sessions for the caregivers of 10 to 15 children held in a neighbourhood school classroom with free child care provided. The programme focuses on monitoring skills, consistent and effective positive reinforcement, consistent and fair discipline, teaching the child how to play positively with peers, and keeping in touch with teachers. Homework exercises are also provided. The *classroom intervention* consists of 20 30-minute lessons, held twice weekly, on listening skills, emotion recognition and emotion.
management, group co-operation skills, giving and receiving compliments, problem solving skills and other peer relationship skills. Each lesson includes practice activities. The playground intervention involves a group contingency in which the children earn tokens for positive behaviours both during structured group activities and during recess. When the class as a whole has earned a certain number of tokens the entire class earns a special privilege. If a child is observed engaging in a negative manner, the child's group loses a point from a pre-set number of “good faith” points awarded at the start of the school day. If a group manages to retain a predetermined percentage of their points over several recess periods each member earns a small prize.

The evaluation consisted of a randomised clinical trial involving some 600 children and their families drawn from a low decile high crime school district (Eddy et al., 2000). The participation rate was very high (85%) and the drop out rate was very low (7%). Both short term and long term outcomes have been reported. At the end of the first year, the LIFT children were less aggressive in the playground, were perceived as more positive by their teachers and their parents and behaved less aversively in a standard problem solving session (Eddy et al., 2000). The children who were most aggressive in the playground showed the largest change. At programme end they were no more aggressive than normally developing peers. The ES for this change was 0.79 (Stoolmiller, Eddy & Reid, 2000). Similarly, the mothers who were most aversive on entry made the greatest change during the intervention (Reid & Eddy, 2002). At a 3-year follow-up, the younger LIFT participants were reported as being much less hyperactive and off-task. On this measure the ES was 1.5 (Eddy et al., 2000).

The Montréal Study

The Montréal Study is a large longitudinal study involving French Canadian children who were identified as “at-risk” of antisocial development during their Kindergarten year. A subsample of 46 of these children received a two-year intervention beginning at age 7. The intervention consisted of OSLC parenting skills training over a 2-year period plus a social skills training programme administered in small groups (consisting of both at-risk and normally developing peers) at school during lunch times. The school-based programme was designed to teach prosocial skills such as how to make contact, how to provide help, and how to ask “Why?” during the first year (9 sessions) and anger management skills, coping with rejection, and self control skills (10 sessions) in the second year. Reports of the Montréal Study are particularly interesting, not only because they provide a replication of this kind of intervention with a non-U.S., French speaking sample, but also because they show that gains achieved during the intervention at age 7 to 9 were maintained to a considerable degree at age 12 (Tremblay et al., 1992) and at age 15 (Tremblay, Pagani-Kurtz, Mâsse, Vitaro & Pihl, 1995).

Comments on the home and school programmes

The home and school programmes described in this section have produced consistently larger effect sizes than the parenting skills training programmes on their own – suggesting that a combination home and school programme is the intervention of choice at this age level. It appears from the results of the Early Social Learning Project and Project Early that 70 to 80 per cent of antisocial children can be returned to a normal developmental path with home and
school interventions of the type described in this section provided these are delivered prior to age 7.

Part 5. Other Interventions

The Fast Track project

Fast Track is a large scale prevention project designed by a consortium of well known American researchers. The FAST Track programme is a multimodal, multisite experimental programme for children with high levels of antisocial behaviour on entry to school. Teacher interviews and parent interviews are used to identify the 10% of children with the most severe behaviour difficulties on entry to school. The program includes a universal component the PATHS programme. PATHS is social learning curriculum designed to teach emotional recognition skills, friendship skills, self control skills, and social problem solving skills. The targeted components are contained in a 2-hour programme provided at the school on Saturdays or a weekday night. During the first hour the parents meet as a parent training group and the children meet as a separate group to practice their social skills. The parent group curriculum is based on the Forehand and McMahon parenting skills programme with additional material from the Webster-Stratton programme. During the next half an hour the parents engage in a variety of play activities with their children (to practice their new parenting skills). During the final half an hour the children work on their reading with the assistance of a paraprofessional reading tutor while the parents watch on if they want to. The programme also includes fortnightly home visits for the parents and weekly 30-minute peer-pairing play sessions in the classroom where the children can practise their friendship building skills.

The project is a long-term prevention project. The first cohort consists of an intervention group of 445 children in 191 classrooms and a control group of 446 children in 210 classrooms. Intervention effects at the end of the first year are described in Conduct Problems Prevention Research Group (1999a, 1999b). The intervention appears to have had virtually no effect on any of the measures of antisocial development. “For the CBCL Externalising scores, 36% of the intervention and control children were below the clinical cut-off. For the TRF Externalising score, the corresponding figures were 33% (intervention children) and 34% (control children)” (Conduct Problems Prevention Research Group, 1999a, p. 642).

Parents as First Teachers (PAFT)

The Parents as First Teachers programme was introduced by the N.Z. Government in 1992. It is an adaptation of the Parents as Teachers programme, an effective and well evaluated programme, introduced by the state of Missouri as a universal primary prevention programme. A primary prevention programme is one which attempts to prevent the emergence of academic and behavioural difficulties by increasing the knowledge and skills of parents. The programme is delivered primarily during monthly home visits by specially trained parent educators. Parents also have the opportunity to attend monthly parents' meetings and to make use of parenting resources held at the local PAFT centre. The programme operates for 3 years from birth until the child's 3rd birthday. The results of the four evaluations of the first four regional trials of this programme have been summarised by
Livingstone (nd). “After all this we are left with the overwhelming impression and inescapable conclusion that the measured effects of the PAFT programme in the four areas of New Zealand where it was trialled, over a period of three years, are quite minimal. ... whatever benefits the PAFT programme may have brought to children, parents and families in New Zealand, they have not been captured by the extensive set of measures used in this large-scale, carefully designed and most comprehensive survey” (Livingstone, nd, p. 36).

Comments on Fast Track and Parents as First Teachers

There are important lessons to be learned from the Fast Track and PAFT implementations. Both programmes were based on previously evaluated programmes, or programme elements – evaluations which had shown the respective programmes to have strong effects. What appears to have happened is that interventions which should have had a strong effect may have become degraded in the attempt to train a large number of paraprofessionals to reproduce these interventions over a large number of sites. The lesson to be learned is that the effectiveness of a particular intervention will not necessarily be reproduced following a state-wide or national implementation unless steps are taken to ensure that implementation personnel are adequately trained and that adequate quality control procedures are put in place to ensure treatment fidelity during the implementation.

Part 6. Summary and Conclusions

1. The research reviewed in this report indicates fairly clearly that it is possible to identify children with early onset antisocial development prior to school entry. This means that early intervention designed to prevent further antisocial development is demonstrably feasible.

2. The research reviewed in this section indicates that home and school interventions are more effective in halting and reversing antisocial development than interventions in the home only or the school only.

3. The research reviewed in this section suggests that well designed home and school interventions, which reach the child before the age of 7, may succeed in returning the antisocial child to a normal developmental trajectory in 70 to 80 per cent of cases.

4. A fairly high level of professional training and experience is required for successful work with the parents of antisocial children. Effective parenting skills education requires that the resource teacher or therapist be able to communicate with parents in their own language and that they be sufficiently trained and experienced to be able to establish a positive relationship both with parents from diverse cultural backgrounds and with parents who are experiencing major problems in their personal lives. These requirements are obviously important requirements for parent educators who will be working with Mäori and Pacific Islands parents.

5. The effective interventions reviewed in this section have been derived from basic research into reinforcement processes. One of the findings of this basic research is that contingency management procedures only work if the reward or privilege which is being earned is highly prized by the child who is working to earn it. To ensure that this condition is met, it is important always to consult with the antisocial child and to get
the child to select (from a list of available rewards) the particular reward which they would like to work for. This is particularly important when working with Māori and Pacific Island children because the reinforcing value of particular rewards is culturally relative, that is, different cultures value different kinds of rewards. It is also important to understand that remarks (such as public praise) which function as reinforcers for young New Zealand children may have quite a different meaning for, and may cause very considerable embarrassment to, children from certain Asian cultures.

6 Effective interventions for young antisocial children have a number of common features which, when taken together, appear to be the conditions which need to be met if early intervention is to be effective in reversing antisocial development. (See also Church, 1989; Walker, 1993, Walker & Sylwester, 1991.)

(a) For maximum effectiveness, schools and early childhood centres should take the lead in operating a screening procedure which reliably identifies antisocial children as soon as the indicators of antisocial development begin to become apparent.

(b) For maximum effectiveness, interventions should operate in the both the home (with parenting skills training) and the school. The child should be retained in the ordinary classroom where he or she continues to be part of a normal social group in which normal social expectations apply. Behaviour change requirements should be school-wide requirements. This means that all staff must share the responsibility for monitoring the behaviour of the antisocial child throughout the school day.

(c) Work with parents should focus on five basic parenting practices: (a) how to closely monitor a child's whereabouts and behaviour, (b) how to participate actively in a child's life, (c) how to use such positive techniques as encouragement, praise, rewards, and Good Behaviour Charts to manage child behaviour at home, (d) how to ensure that discipline is fair, timely and appropriate to the misbehaviour, and (e) how to use effective, positive, conflict-resolution and problem-solving strategies.

(d) For maximum effectiveness, the special education co-ordinator should ensure that both the child's parents and the child's teachers have the skills necessary in order to (a) select appropriate and specific behaviour change targets, (b) identify rewards which will provide the child with a strong motivation to achieve the target (e.g. classroom privileges, time in activities which are prized by the child, the first pick of prized equipment, lucky dips, stars or stamps on progress charts, etc.), (c) set up reward systems that provide incentives for the child to behave appropriately and to strive for academic achievement both at home and at school, (d) monitor and record target behaviours from hour to hour, and (e) decide when a new behaviour change target should be added to the child's list and when concrete rewards can be faded.

(e) For maximum effectiveness, the special education co-ordinator should ensure that both the child's parents and the child's teachers understand that the unlearning of antisocial behaviour cannot be accomplished using rewards alone and should ensure that both the parents and the teachers acquire the skills necessary in order to set up and consistently apply either a time out penalty or a response cost penalty for each instance of defiance or aggression.
It should be a primary aim of all intervention work with antisocial children to reduce the frequency of punishment (for both inappropriate behaviour and academic failure) to a level comparable with that being experienced by normally developing age-mates – and to accomplish this as quickly as possible. This is because excessive punishment is one of the main drivers of antisocial development.

Once the worst of the child's antisocial behaviours have been reduced to acceptable levels, the same expectations should be applied to the antisocial child as apply to other children in the class. The child should be expected to complete as much work as other children, to engage in the same kinds of activities as other children, to complete work to the same standard as other children of similar ability, and to abide by the same classroom rules and school rules as apply to other children. If “special arrangements” have been made for the antisocial child in the past, these need to be terminated.

For maximum effectiveness, the special needs co-ordinator should identify the age-appropriate social skills which the antisocial child has yet to acquire and help the child's teacher and parents to teach these missing skills as quickly as possible. This may require setting up co-operative classroom activities and out-of-class activities which require the antisocial child to co-operate with normally developing peers and vice versa. If the child engages in socially immature behaviour in the classroom, the teacher should take a few minutes then and there to teach a more mature social response. Parents should do likewise. Peers should be instructed to do the same during peer activities and peer play.

Academic learning deficits should be identified using appropriate diagnostic testing procedures. Once the child's antisocial behaviour has been reduced to acceptable levels, intensive remedial teaching and practice should be provided to help the child catch up with his or her peers. If concrete rewards are necessary in order to motivate consistent effort on remedial activities then they should be used for this purpose.

A tracking-monitoring system should be set in place to provide daily, two-way communication between teacher and parent so that each can communicate with the other about new behaviour change goals, so the parents can acknowledge and praise improvements at school, and so the teacher can acknowledge and praise improvements at home.

It seems extremely unlikely, on the basis of the research reviewed in this report, that antisocial development can be halted and reversed using just a school-based intervention. This is because young children spend far more time at home than they do at school and learn far more from the learning opportunities provided at home than they do from the learning opportunities provided at school.

The research described in this section indicates fairly clearly that no early intervention, no matter how well designed, is going to be 100 per cent effective. Some parents dropped out of every single parent training study reviewed in this section. Even the open ended interventions used by Project Early staff failed to engage some 20 per cent of parents and, hence, failed to achieve any permanent change in child behaviour. The question of what is to be done for parents who are either uninterested
in changing their parenting practices or else unable to take advantage of any help which is being offered is an issue to which we will return in Section 14.

References


Section 10 - Effective and Ineffective Interventions for Antisocial Children Aged 8 to 12 Years

As children move from early childhood to middle childhood, they become more skilled in a number of different ways, parents and teachers expect children to demonstrate increasing levels of self-control and self-management, and children are allowed greater freedom of access to an increasing variety of recreational activities. All of these changes have important implications for intervention work with antisocial children during the middle school years. Contact with increasing numbers of people in an increasing number of social contexts multiplies the opportunities for social learning – learning which can either inhibit antisocial development or accelerate it. This means that the intervention task becomes increasingly complex with each passing year. During middle childhood, interventions may need to take into account the factors which are contributing to antisocial development at home, in the classroom, in the playground, in school peer groups, in recreational peer groups, and so on.

In addition to the intervention task becoming more complicated, there is considerable evidence to suggest that the intervention task also becomes more difficult in the sense that the antisocial child's attitudes and behaviour become more difficult to change the older the child becomes. A number of researchers (e.g. Kazdin, 1997; Mulvey, Arthur & Reppucci, 1993; Walker, Colvin & Ramsey, 1995; Wolf, Braukmann & Ramp, 1987) now argue that, by the end of the first decade, antisocial development is likely to have become a permanently handicapping condition. By “permanently handicapping condition”, these authors mean a condition which will require treatment on an ongoing rather than “one shot” basis (Chamberlain & Friman, 1997; Mulvey, Arthur & Reppucci, 1993). Walker, Colvin and Ramsey (1995) argue that the point at which this transition begins to occur is around about the age of 8 to 9 years.

We have located only one review (Gottfredson, 2001) which has distinguished between programme evaluations involving lower and upper level primary school students. Most reviews simply treat antisocial children of primary school age as an homogeneous group with similar educational needs (Brestan and Eyberg, 1998; Behan and Carr, 2000; Fonagy, Target, Cottrell, Phillips & Kurtz, 2002; Kazdin, 1995, 1997; Little & Hudson, 1998; Miller & Prinz, 1990; Serketich & Dumas, 1996; Walker, Colvin & Ramsey, 1995; Tremblay, LeMarquand & Vitaro, 1999).

The research into interventions with this age group, although extensive, has pursued many different lines of inquiry, has tended to focus on small and manageable pieces of the intervention puzzle and has been undertaken from a variety of different theoretical perspectives. There appears to have been little attempt to bring order to the field or to develop some kind of multidimensional approach which would begin to bring together at least some of the various specialised approaches.

In this section we have tried to bring a certain amount of order to the account by grouping well-evaluated interventions together under a small number of headings: (a) stimulant medication, (b) personal development approaches, where the primary aim of the intervention is to change the beliefs or increase the skill level of the antisocial child, (c) peer focused approaches, where the primary aim of the intervention is to enlist peers to provide training and support for change, (d) family focused interventions, where the aim is to change the family's treatment of the child, (e) school focused interventions, where the aim is to provide
some kind of remedial intervention in the school setting, and (f) multidimensional approaches which attempt to combine two or more of these approaches.

**Part 1. Outcome Measures for This Age Group**

The primary aim of interventions for antisocial children in the 8 to 12 year age group is to halt and reverse the antisocial development which has been occurring. This means that the treatment evaluation outcomes which are most relevant are those which distinguish between normal and antisocial development for children in this age group. Some of the more important of these developmental tasks (Havighurst, 1974) are listed in Table 6. It should be noted from the outset that very few treatment evaluation studies for 8- to 12-year old antisocial children have sampled these outcomes. The great majority have limited their attention to some measure of the amount of antisocial behaviour engaged in.

**Table 6**

*Developmental milestones which are achieved by normally developing 8- to 12-year old children which are not achieved by children on an antisocial developmental pathway*

<table>
<thead>
<tr>
<th>Outcomes which need to be achieved during the years 8 to 12</th>
<th>Adverse outcomes which need to be avoided during the years 8 to 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquires a level of empathy sufficient to accurately recognise the feelings of others.</td>
<td>Remains too self-centred to recognise or take into account the feelings of others.</td>
</tr>
<tr>
<td>Values and uses assertive and non-violent modes of conflict resolution.</td>
<td>Values and uses coercive and aggressive modes of conflict resolution.</td>
</tr>
<tr>
<td>Acquires age appropriate levels of patience, and self-control.</td>
<td>Remains impulsive. Exhibits levels of patience and self-control which are typical of younger children. Is unable to accept negative feedback about his/her behaviour.</td>
</tr>
<tr>
<td>Acquires a level of social competence sufficient to be able to operate effectively in a range of different kinds of peer groups.</td>
<td>Is excluded from peer groups of normally developing children.</td>
</tr>
<tr>
<td>Concentration span increases dramatically.</td>
<td></td>
</tr>
<tr>
<td>Achieves a level of mastery of reading, writing and other basic academic skills sufficient to cope at secondary school.</td>
<td>Acquisition of basic academic skills sufficiently delayed to prevent normal progress at secondary school.</td>
</tr>
<tr>
<td>Acquires the metacognitive and self-management skills necessary for productive independent study and learning.</td>
<td>Fails to acquire the metacognitive and self-management skills necessary for studying and learning on his/her own.</td>
</tr>
</tbody>
</table>
Acquires an increasing ability to recognise the long term as well as short term consequences of his/her actions.

Remains focused on the short term consequences of his/her actions. Is willing to take risks and experiment (e.g. with drugs).

Is able to assume increasing personal responsibility for decisions and plans.

Planning remains limited to short term plans.

---

**Part 2. Stimulant Medication**

Some antisocial children also meet the DSM IV diagnostic criteria for Attention-Deficit/Hyperactivity Disorder and, as a consequence, are receiving stimulant medication. The most commonly prescribed stimulant medication is methylphenidate (widely sold under the brand name Ritalin) but other types of stimulant medication are also prescribed. The research literature on ADHD and its treatment using stimulant medication is voluminous. Much of this research is medical research which seeks to identify the particular type and/or location of the neurological dysfunction which is responsible for ADHD symptomatology and a review of this research falls outside the scope of the present literature review.

The use of stimulant medication such as Ritalin for the treatment of hyperactive, non-compliant, and disruptive children has been the subject of both public and professional debate for more than 30 years (Crenshaw, Kavale, Forness & Reeve, 1999). The use of Ritalin as a treatment is inextricably tied to the concept of ADHD as a diagnosable mental disorder. If the concept of childhood mental disorders, or the concept of ADHD as a mental disorder, or the concept of ADHD as a diagnosable disorder is rejected, then all of the arguments in support of stimulant medication as a treatment for childhood behaviour problems are likely to be rejected also. However, even if the concept of ADHD as a mental disorder with a neurological basis is accepted, there is still the practical difficulty of identifying those children who “have” the disorder. Some 90 per cent of antisocial children are “hyperactive” (Church, 1996) and more than 50 per cent of antisocial children also meet the diagnostic criteria for ADHD (Abikoff & Klein, 1992). So which of these children are to be treated with Ritalin, and which not?

This debate divides parents many of whom are grateful for the small amount of relief which Ritalin provides in their daily battle with their non-compliant child while other parents are strongly opposed to “drugging” their children just because they have a learning difficulty. This debate also divides educators with some (e.g. Reid, Maag & Vasa, 1993) arguing that the medical evidence simply does not justify the use of ADHD as a disability category (or the use of Ritalin as a treatment) while others (e.g. Forness & Kavale, 2001) argue that the effect of stimulant medication on children with serious behaviour problems is stronger than the effect of well designed educational interventions and, therefore, that “both behavioral and medical treatments should be the standard for best practice in a significant number of cases” (Forness & Kavale, 2001, p. 278).

This debate has not been resolved by research into the treatment of children with hyperactive/inattentive symptomatology even although this research is extensive. The latest of the Kavale and Forness reviews (Crenshaw et al., 1999), a meta-analysis of 115 studies of the effectiveness of stimulant mediation for children with ADHD diagnoses, found a mean ES
for the effects of stimulant medication on ADHD symptoms of 0.71, on aggressive or noncompliant behaviour of 0.61, on measures of classroom achievement of 0.52, and on standardised achievement tests of 0.25. In a meta-analysis of 63 reports of the effects of educational interventions, DuPaul and Eckert (1997) found a mean ES for contingency management interventions on behaviour of 0.94 and a mean ES for educational interventions in general of 0.69. The most recent review (Purdie, Hattie & Carroll, 2002) is a meta-analysis of 74 treatment evaluation studies undertaken between 1990 and 1998. This review found that the effects of medication on behaviour produced a mean ES of 0.58, the effects of educational interventions on behaviour produced a mean ES of 0.35, the effects of medication on learning (mostly memory tasks) produced a mean ES of 0.36, and the effects of educational interventions on learning (mostly general problem solving ability) produced a mean ES of 0.58.

It is important, when interpreting the results of the research summarised in these reviews, to be aware of the fact that most of this research is research into the effects of stimulant medication, that most of the outcome measures are measures of attention or hyperactivity not measures of antisocial development, that most of these studies are quite short (an average length of less than 6 weeks has been reported), and that the results are never broken down by diagnostic group (ADHD only, conduct problems only, ADHD and conduct problems) so there is no way of telling what the effect sizes are for antisocial children.

Purdie et al. conclude that where the aim is to improve educational achievement, an educational intervention, not a medical intervention, is required. “Thus, although medical interventions can help ADHD children control some of their dysfunctional behaviors in the short term and can provide relief to their families and teachers, if the improvement of educational outcomes in the aim, there is little evidence that medical interventions will succeed” (Purdie et al., 2002, p. 89).

Part 3. Personal Development Approaches

Personal development approaches (sometimes referred to as “inoculation” approaches) attempt to change the cognitions (the beliefs) and to improve the interpersonal skills of the antisocial child in the hope that this will prevent (or inoculate the child against) further antisocial development. There is something intuitively appealing about the notion that if we could just change the antisocial child's beliefs and attitudes towards authority and persuade him or her to behave differently then we could turn the defiant and aggressive child into a polite and compliant child. Changing the antisocial child by changing the child's beliefs and skills is highly attractive for a second reason as well. It is much easier to put on a set of lessons in, say, anger management than it is to have to change the way in which the child is being treated by parents, by teachers, by peers, and so on.

Anger management training

Anger management training has high face validity as an intervention target for antisocial youth (who are prone to frequent violent outbursts). However, there has been no research into anger management training which includes follow-up measures of important indicators of childhood adjustment. Fonagy et al. (2002, p. 167) conclude that “the effectiveness of anger
control programmes is not yet demonstrated. It is likely that anger, as a target for intervention, is not sufficiently central to problems of aggression for its control to be an appropriate goal on its own.”

**Cognitive skills training**

A number of research studies have found that, compared to normally developing children, antisocial children tend to pay greater attention to hostile cues, to be more likely to attribute hostile intentions in ambiguous conflict situations, to generate a more restricted set of solutions to interpersonal conflict situations, to select direct action rather than verbal solutions to social problems, and to be deficient in their anticipation of the consequences of different courses of action (Lochman, White & Wayland, 1991). Cognitive skills training programmes (also referred to as cognitive behaviour therapy) are an attempt to address these deficiencies by teaching antisocial children how to recognise the feelings of others, how to take the perspective of others, how to cope with anger, how to deal with difficult situations, how to say “No,” how to generate a range of solutions to social problems, and so on. Reviews and meta-analyses of cognitive behavioural interventions have all found that the effects of these interventions are relatively small (Bennett & Gibbons, 2000; Gottfredson, 2001; Taylor, Eddy & Biglan; 1999) and none have suggested that this kind of intervention, on its own, is effective in halting antisocial development during the middle school years. The most parsimonious explanation for this finding seems to be that the acquisition of prosocial relationship skills may be of little value if the child’s environment continues to provide more reinforcement for antisocial than for prosocial responses.

There is, however, some evidence to suggest that cognitive skills training has an additive effect when combined with other interventions such as parenting skills training. Although the study involved younger children, Webster-Stratton and Hammond (1997) found that the addition of 22 sessions of cognitive skills training for the children to the parenting skills training which was being provided for the parents resulted in a greater reduction in child deviant behaviour than was observed for families which received the parenting training intervention on its own. In a similar fashion, Kazdin, Siegal and Bass (1992) provided both cognitive skills training for a group of antisocial 7- to 12-year olds and parenting skills training for their parents. In the families which received both interventions, antisocial child behaviour fell to lower levels than was the case with the families which received either child cognitive skills training or parenting skills training on their own. These studies suggest that the teaching of perspective taking skills, social problem solving skills, and so on, has the potential to help accelerate social development but only if the child’s social environment is simultaneously changed to provide increased reinforcement for the new prosocial responses and reduced reinforcement for the previously learned antisocial responses.

**Social skills training**

Social skills training involves teaching the antisocial child how to behave and how to react in a variety of social situations. These programmes have high face validity given that antisocial children tend to have poorly developed social skills and to have difficulties in developing positive relationships with both peers and adults. Social skills training programmes are extremely popular upper primary school interventions and there are a number of social skills training courses which are selling well. Social skills training programmes for antisocial
children have been reviewed many times (e.g. Kavale, Mathur, Forness, Rutherford, & Quinn, 1997; Mathur, Kavale, Quinn, Forness & Rutherford, 1998; Quinn, Kavale, Mathur, Rutherford & Forness, 1999). In the most recent of these reviews, Quinn et al. (1999) found that the ES for social skills training interventions on measures of disruptive behaviour was 0.13 and the ES on measures of aggression was 0.13. They concluded that the social skills training interventions which are currently being used are largely ineffective in improving the social competence of antisocial children. A similar conclusion was reached by Fonagy et al. (2002). There is currently no evidence to suggest that social skills training alone can halt antisocial development during the middle school years although it is widely agreed that some kind of social skills training needs to be included as part of a broader intervention for antisocial children who have yet to acquire essential social skills.

**Lochman's Coping Power**

Because each of the above interventions on their own has only a weak effect on the behaviour of aggressive children, a number of researchers have attempted to find combinations of these interventions which might be more effective. Lochman's Coping Power programme combines anger management training and cognitive skills training in a 33 lesson programme in which children review examples of social encounters and discuss social cues and the possible motives of the people in each encounter. Three groups of skills are taught and practised: self-monitoring of feelings and self-control through self-talk, social perspective-taking skills and social problem solving skills. Family, sibling, peer, and school interactions are discussed in order to foster generalisation.

**Effectiveness.** The report of the first evaluation (Lochman, Burch, Curry & Lamprnon, 1984) is very brief and it is not possible to determine whether the 12 lesson intervention had any worthwhile effect. Two subsequent evaluations (Lochman & Curry, 1986; Lochman, Lampron, Gemmer, Harris & Wykoff, 1989), involving further samples of teacher identified 9- to 13-year old “aggressive and disruptive” boys, found that an 18 lesson version of Coping Power produced no changes in observed aggressive/disruptive behaviour in the classroom post treatment, although it did result in small improvements in task engagement. The effectiveness of Coping Power has been reviewed by Gottfredson (2001) who concluded that it is an effective treatment for aggressive middle school children and by Fonagy et al. (2002) who concluded that it is not.

**Kazdin's Problem Solving Skills Training (PSST)**

Developed by Kazdin and colleagues at Yale University in the United States, PSST involves a somewhat different combination of elements. It is most commonly delivered as a 20-25 session one-on-one intervention in which the therapist encourages a step by step approach to interpersonal problems – encouraging self-talk that is likely to lead to a successful solution. Two main types of skills are taught: (a) problem solving skills (e.g. generating alternative solutions, means-ends thinking, and taking the perspective of others) and (b) managing interpersonal situations (with parents, siblings, teachers, and peers). Children practise their social problem solving skills not only in the clinic but also apply them to real life interpersonal and academic problems.
Effectiveness. Judgements regarding effectiveness rest on the results of two clinical trials. The first (Kazdin, Esveldt-Dawson, French, & Unis, 1987a) involved 47 inpatient 7- to 13-year olds with ODD or CD diagnoses of whom one-third were assigned to the PSST training group. The evaluation data consisted of parents' ratings on the Child Behavior Checklist (CBCL) and teachers' ratings on an equivalent instrument (the SBCL). Following intervention, the PSST group moved closer to the normal range on the CBCL but the majority remained in the clinical range according to both parents and teachers. When compared with a no-treatment control, the ES on the parents' ratings was 1.1 post treatment and 1.00 at a 1-year follow-up. The ES on the teachers' ratings was 1.7 post treatment and 0.7 at a 1-year follow-up. The proportion of children who remained below the clinical cut-off point on the CBCL at the 1-year follow-up was 18% (compared to 13% in the untreated control group). The proportion of children who remained below the clinical cut-off point on the teachers' scale was 23% post treatment (compared to 10% for the untreated controls). A second study by Kazdin, Bass, Siegel & Thomas (1989) involved 97 children, recruited in the same manner as in the first study. The children were assigned to three groups, a PSST group, a PSST group with in vivo practice and a treatment-as-usual group. The children took part in a set of 25 lessons. Children in both the treatment groups showed a slightly larger average improvement post treatment and slightly better maintenance at the 1-year follow up on both parent ratings and teacher ratings. Both these evaluations were well designed. Their main weakness is the use of parent and teacher ratings as the measure of treatment effects. The proportion of children who scored in the normal range at follow-up suggests that the intervention had a relatively weak effect.

Part 4. Peer Focused Interventions

The observation that antisocial children experience difficulty with peer group relationships and are commonly excluded from normal peer groups suggests that interventions involving same age peers may be a promising approach. We have been able to identify no reviews of the research into peer focused interventions with antisocial children in their middle primary school years. The peer support study which is most commonly cited (Feldman, Caplinger & Wodarski, 1983) compared peer support groups consisting of antisocial youths with peer support groups consisting of one antisocial youth plus a number of normally developing youths. This study is cited, not because the peer support programme was effective but because the youths who were placed with normal peers improved while the youths who were placed with antisocial peers tended to get worse.

A number of the interventions reviewed in this report made use of structured group activities with small groups of normal peers as part of the intervention. Included under this heading are RECESS, LIFT, the Fast Track project, Lochman's Coping Power programme, Aggression Replacement Training, and Treatment Foster Care (where the antisocial child joins organised sporting and/or recreational groups of normally developing peers). However, the contribution which the peer discussion/peer support component of these interventions makes to their effectiveness has never been evaluated.

It is widely agreed that 8- to 12-year olds learn much from their peers. In fact, it has been claimed that peers play a greater role than parents in the development of social skills at this age. If this is so, then it is clear that normally developing peers have an extremely important role to play in halting and reversing antisocial development at this age. Because most children of this age do not freely choose to play with antisocial classmates, it follows that any
peer mediated intervention will need to be a structured intervention which is established and directed by the teacher or therapist, at least initially. Given that there appears to be no research into the effectiveness of different kinds of peer mediated activities, no conclusions can be drawn regarding the kinds of peer mediated interventions which are likely to be most successful.

**Part 5. Family Focused Interventions**

Parenting skills training remains a widely used intervention for the parents of older antisocial children. However only two of the parent training interventions described in Section 11 were designed for the parents of children in this older age group. These are the OSLC programme and the Triple P programme.

**Oregon type parenting skills training**

The parenting skills training programme developed by Patterson and colleagues at the Oregon Social Learning Centre was described in Section 9. The OSLC parenting programme has been designed for the parents of 3- to 12-year old non-compliant and aggressive children and is widely employed with this age group. In a clinical trial reported by Patterson, Chamberlain and Reid (1982), the mean aversive child behaviour rate in the home declined from 55 per hour to 19 per hour post treatment and the ES on all observed child aversive behaviour in the home, compared to that of a community control group, was 1.3. In an analysis of training effects broken down by the age of the child, Reid (1993) found that 27 per cent of the children aged 6.5 years and above could be classified as successes in the sense that their total aversive behaviour rate at home had fallen to within the normal range. (For 3- to 6-year old children, the success rate was 63 per cent.)

**Triple P type parenting skills training**

The Triple P Positive Parenting programmes were described in Section 9. Although designed for the parents of children up to the age of 12, all of the controlled evaluations of Triple P have involved parents of younger rather than older primary school children. The effectiveness of this programme with older antisocial children is unknown.

**Part 6. School Focused Interventions**

**School-wide discipline plans**

A variety of school-wide discipline plans are in use in New Zealand schools. It seems logical to assume that a well run school with a well organised school-wide behaviour management system will have a lower rate of disciplinary infractions and antisocial behaviour than a school which does not. It also seems logical to assume that, in order for a school-wide behaviour management system to have an effect on the behaviour of children with antisocial behaviour difficulties, the system will need to focus as much on teaching and reinforcing appropriate behaviour as on recognising and penalising rule infractions.
A number of school wide discipline plans have been described in the educational literature (Gottfredson, 2001), but only one appears to have directly targeted antisocial behaviour. The plan is referred to by its developers as Effective Behaviour Support (EBS). In the initial evaluations, however, it was referred to as project PREPARE. Effective Behaviour Support (Colvin, Martz, DeForest & Wilt, 1995) is a research-based attempt to correct the shortcomings of the main school-wide discipline plans currently in use, that is, (a) their failure to provide sufficient staff development to ensure that all teachers are operating well managed classrooms prior to introduction of the school-wide system and (b) their failure to provide clearly defined and workable procedures for teaching and rewarding desired student behaviour. The central feature of the EBS curriculum is that teachers are trained over a period of many months to treat recurring misbehaviours in the same way that they treat recurring academic mistakes, that is, as learning deficits which require a teaching objective, explanations and demonstrations of what is expected, practice opportunities, feedback, monitoring, and reinforcement for improvement. Descriptions of the implementation procedures, teacher development procedures, teaching procedures, school-wide reward scheme, and so on will be found in a number of publications (e.g. Colvin, Kameenui & Sugai, 1993; Colvin et al., 1996; Colvin et al., 1995; Taylor-Greene et al., 1997; Walker, Colvin & Ramsey, 1995).

Effectiveness. There have been at least four controlled evaluations of EBS implementations. The first (Colvin et al., 1993) was an independent evaluation involving two large, matched, primary schools (a control school and an EBS school). Over a 2-month period, disciplinary referrals increased 12% in the control school and reduced by 50% in the EBS school. All categories of misbehaviour decreased to a similar extent. Two further implementations produced similar results (Colvin et al., 1995; Sprague, Walker, Golly, White, Myers & Shannon, 2001). What these three evaluations do not tell us is whether the change to EBS affected the behaviour of the antisocial children (who tend to be the children with the highest frequency of disciplinary referrals). The fourth study (Nelson, 1996) involved two experimental primary schools and two matched comparison schools and reported separate results for the 20 students in each school who qualified as behaviour disordered using the first two stages of Walker and Severson's SSBD screening system. The effect on school wide suspensions and removals was the same as in the two preceding studies (a 50% reduction). Unfortunately only rating scale data was collected on the 20 behaviour disordered and 20 comparison students. Over a 6 month period, the mean score of the 20 BD children on the Devereaux Behavior Rating Scale fell from 116 (which is in the clinical range) to 108 (the same as that for the comparison children). The ES for improvement (experimental vs. control group) was .61. The ES for teacher rated improvement in work habits was 1.4.

In addition to the controlled evaluations described above, there have been many published descriptions of single school implementations of EBS and the effects of these on the number of disciplinary referrals in the year before and after implementation (e.g. Colvin et al., 1996; Nersesian, Todd, Lehmann & Watson, 2000; Sadler, 2000; Taylor-Green et al., 1997).

Classroom based interventions

While there are plenty of classroom studies of antisocial 8- to 12-year olds being treated with a variety of different kinds of contingency management procedures, most of these are within-subject experiments. There do not seem to be any clinical trials of any of these procedures.
nor could we identify any reviews of classroom based interventions for antisocial children in the 8- to 12-year old age group.

A quick review of the within-subject experimental literature suggests the following general conclusions. Assuming that appropriate curriculum modifications have been made and that the student is being asked to work on tasks that he/she is able to complete successfully, contingency management procedures remain the most effective procedures for bringing disruptive and antisocial behaviour down to low levels and for increasing task engagement to age appropriate levels. Group rewards are usually inappropriate at this older age level. This means that extrinsic reinforcement for improvements in performance needs to be individualised. The reinforcement for meeting criterion may take the form of an increase in the amount of choice in subsequent academic tasks (Dunlap et al., 1994), a small amount of free time at the end of the period, credit towards time in a favoured activity during school time, a “mystery prize” (Musser, Bray, Kehle & Jenson, 2001), or a note which authorises the parents to grant access to a previously agreed privilege at home (e.g. Phillips, Wolf, Fixsen & Bailey, 1976; Schumaker, Hovell, & Sherman, 1977). The criterion may be a reduction in disruptive or aggressive responses or it may be an increase in the amount of work completed or the number of exercises completed correctly. In most cases, reinforcing task completion will be more appropriate because, as task completion increases, inappropriate behaviour almost always decreases (e.g. Ayllon & Roberts, 1974).

Time-out also becomes inappropriate at this older age level. This means that some kind of response cost procedure must be introduced as the penalty for aggressive responses at school. This must be independent of any reinforcement contingency which is operating. The simplest procedure is a point loss scheme in which the student loses units of access to a second preferred activity (e.g. Phillips, Wolf, Fixsen & Bailey, 1976), or loses fractions of recess time, or earns fractions of time in detention. Alternatively, the student may lose access to a desired home activity that day (e.g. Todd, Scott, Bostow & Alexander, 1976). The critical criterion to be met is the positive/negative consequence ratio. Reinforcement for appropriate behaviour must be increased (and punishment for deviant behaviour reduced) until the antisocial child is working in an environment in which he or she is receiving five times as many positive consequences as negative consequences or corrections (Friman, Jones, Smith, Daly, & Larzelere, 1997).

With older students it will usually be possible to transfer fairly rapidly, first to a self-monitoring system and then to a full self-management system (e.g. Kern, Dunlap, Childs & Clarke, 1994; Smith, Young, West, Morgan, & Rhode, 1988). It is possible for classroom peers to be involved (a) as tutors/coaches, (b) as monitors/recorders and (c) as reinforcing agents (e.g. Dougherty, Fowler & Paine, 1985; Young, Smith, West, & Morgan, 1987). Provided suitable modifications are made, both the CLASS system (Hops et al., 1978) and the RECESS system (Walker, Hops & Greenwood, 1981) described in Section 9 can be adapted for use at this older age level.

**Interventions which involve changes to teaching practice**

A number of researchers (e.g. Mayer, 1995; Munk & Repp, 1994; Scott, Nelson, & Liaupsin, 2001) have reminded us that, unless carefully managed, the conditions which operate in classrooms can contribute to antisocial development. For example, if the antisocial child falls behind, academic tasks will become more difficult, the child's failure rate will increase with a
Consequent increase in the number of corrections and other kinds of aversive outcomes, and academic tasks will become aversive. Once this happens, any behaviour which is successful in avoiding academic tasks will be strengthened through negative reinforcement processes. To prevent this from happening, several matters need to be attended to.

**Curriculum modifications.** By the age of 8 or 9, most antisocial children will be falling behind academically. To prevent the antisocial child from falling any further behind, appropriate curriculum modifications need to be made. Teaching goals and learning tasks must be within the child's *zone of proximal development*. When learning tasks are too difficult, disruptive behaviour rates increase and much of this disruptive behaviour is escape and avoidance behaviour (e.g. Gunter, Shores, Jack, Denny & DePaepe, 1994; Lee, Sugai & Horner, 1999). In other words, difficult tasks contribute to antisocial development by providing additional negative-reinforcement-for-disruptive-behaviour trials in the classroom. Of course, selecting learning tasks which are at an appropriate level of difficulty for the antisocial child will often involve a departure from the New Zealand curriculum.

**Effective instruction.** To ensure success rather than failure on classroom tasks, new skills need to be clearly demonstrated and explained on a number of occasions, sufficient practice must be provided to ensure mastery, and high densities of feedback and reinforcement for academic responses need to be provided. The kinds of teaching practices which work best for students who are falling behind have been described in many places (e.g. Binder & Watkins, 1990; Church, 1999b; Engelmann & Carnine, 1991; Gardner et al., 1994; Lloyd, 1988; Wolery, Bailey & Sugai, 1988). Summaries of a number of classroom programmes which have been designed to prevent academic failure will be found in Gottfredson (2001). Munk and Repp (1994) argue that there are a number of modifications which can be made to improve classroom instruction for antisocial children. These include using a mixture of less difficult and more difficult tasks, using a mixture of easy and difficult items within learning tasks, teaching procedures which reduce student errors, and procedures which increase the pace of presentation. A review of these teaching programmes and procedures is beyond the scope of this report.

**Pacing and the maintenance of student interest and involvement.** Classroom observations collected by Christchurch College of Education students as part of the Learning Opportunities Project indicate that instruction proceeds at quite a slow pace in a considerable proportion of primary school classrooms. (This data has yet to be published.) On the other hand, the instructional systems which have been found to be most effective, not only in maintaining student interest but also in fostering the learning of at-risk students, all involve fairly fast-paced classroom activities (e.g. Binder & Watkins, 1990). Several studies have shown that simply increasing the pace of instruction and the level of active responding results in a marked reduction in the disruptive behaviour rate of both low decile students (Armendariz & Umbreit, 1999) and students with behaviour difficulties (West & Sloane, 1986).

**Part 7. Multimodal Interventions**

**Project Early**

The New Zealand intervention programme, Project Early (Church, 1999a) was described in Section 9. It was designed primarily to meet the educational needs of younger primary school
aged children with severe behaviour problems. However, the referral process allowed 13
older primary school children into the programme. When the progress of these 8 to 12-year
old children was separately analysed it was found that the proportion of children who were
able to be returned to a normal developmental trajectory was about 54 per cent (rather than 67
per cent as had been the case with the 5- to 7-year olds).

**Linking the Interests of Families and Teachers (LIFT)**

The LIFT programme was described in Section 9. It consists of a 6 week parent training
programme, a 20 lesson classroom intervention focusing on peer relations, and a playground
intervention which involves positive reinforcement for playing nicely and a response cost
penalty for aggressive behaviour. It has been trialled with some 300 1st graders and some
300 5th graders (10 year olds).

The evaluation results for the 5th graders show that, at the end of the first year, the LIFT
children were less aggressive in the playground, were perceived as more positive by their
teachers and their parents and behaved less averagely in a standard problem solving session
(Eddy, Reid & Fetrow, 2000). The children who were most aggressive in the playground
showed the largest change. At programme end they were no more aggressive than normally
developing peers. The ES for this change was 0.79 (Stoolmiller, Eddy & Reid, 2000).
Similarly, the mothers who were most aversively on entry made the greatest change during the
intervention (Reid & Eddy, 2002). At a 3-year follow-up, the programme had delayed the
onset of a number of adverse events. Compared to control youth, the youth in the LIFT group
were two-fifths as likely to have been arrested, less than half as likely to be associated with
deviant peers, less likely to be drinking alcohol regularly, and less likely to have tried
cannabis (Reid & Eddy, 2002). Even the most antisocial children in the LIFT group appeared
to have benefited.

**Kazdin's Parenting Skills Training plus Problem Solving Skills Training**

Later studies from the Kazdin group have combined parenting skills training for the parents of
clinic referred children with individual problem solving skills training (PSST) for the
children. Two clinical trials have been reported. The first (Kazdin, Esveldt-Dawson, French
& Unis, 1987b) involved 34 inpatient children aged 7 to 12 years with ODD or CD diagnoses
of whom 20 were assigned to the treatment group. Parents received 13, weekly, 2-hour,
Oregon type parenting skills training sessions (as described in Section 9 of this report). Their
children received 20 sessions of one-on-one Problem Solving Skills Training (as described
above). Parent ratings of child behaviour on the CBCL indicated fewer child behaviour
problems at post treatment (ES compared to a no-treatment control = 0.96) and this was
maintained at a 1-year follow-up. Teacher ratings fell by a similar amount on average (ES =
0.88) and this too was maintained at follow-up. The percentages of children whose scores fell
in the normal range on the rating scales at the 1-year follow up were 61% for the treatment
group and 40% for the control group (parent ratings), and 47% for the treatment group and
43% for the control group (teacher ratings).

A second clinical trial by Kazdin, Siegel and Bass (1992) compared the effects of Parenting
Skills Training, Problem Solving Skills Training and PST plus PSST combined. Seventy-six
children aged between 7 and 12 years were recruited from an inpatient facility in the same
manner as for the other studies by the Kazdin group. The families in the PST plus PSST group received approximately twice as much therapist time as the families in the other two groups. At the 1-year follow-up, parent ratings on the CBCL for 33% of the children in the PSST group and for 29% of the children in the PST group had fallen to within the normal range. Parent ratings on the CBCL for the PST plus PSST group placed 40% of the children who started and 71% of the children who completed in the normal range, and teacher ratings on the teachers' version of the CBCL placed 40% of the children who started and 65% of the children who completed in the normal range.

Fonagy et al. (2002, p. 140) judge the Kazdin programme to be “the best supported approach currently available for the treatment of this group of children.” However, several cautions are warranted. First, the measure of effectiveness which has been used in all of the above studies is parent (or teacher) ratings on the Child Behaviour Checklist. This kind of measure is known to be unreliable. Secondly, the drop-out rate from this programme is quite high. Following an analysis of 242 referrals to the facility in which the above work has been done, Kazdin, Holland and Crowley (1997) reported that 40 per cent of families had dropped out of treatment.

Part 8. Summary and Conclusions

1. The identification of antisocial children in the 8- to 10-year age group is relatively straightforward. All will be engaging in elevated rates of antisocial behaviour and depressed rates of task engagement in the classroom and all will have come to the school's attention (or the previous school's attention) for these behavioural difficulties during the previous year.

2. The research reviewed in this section indicates that home and school interventions are more effective in halting and reversing antisocial development than interventions in the home only or the school only.

3. When intervention is delayed until the middle school years the proportion of antisocial children who are returned to a normal (rather than antisocial) developmental trajectory is approximately halved. The proportion of antisocial middle school children who were normalised by the OSLC parenting programmes was about 27%, the proportion of this age group who were normalised by Kazdin's parenting plus problem solving skills training was about 40% (but this figure is based on rating scale data), and the proportion of this age group who were normalised during Project Early was 54% (but this figure is based on very small numbers).

4. The research reviewed in this section has repeatedly found that there are significant barriers to implementing effective interventions for antisocial children in middle school classrooms. These barriers include teacher ambivalence about whether they should be responsible for teaching children with severe behaviour difficulties, a lack of teacher knowledge about what works for antisocial children, and difficulties in implementing the kinds of curriculum changes, behaviour management schemes and monitoring procedures which are required for effective work with antisocial children at this level.
The research reviewed in this section has repeatedly found that there are significant barriers to effective work with the parents of antisocial children during the middle school years. These barriers include chaotic and traumatic life histories, major personal problems, violent relationships, and a lack of knowledge or a lack of access to knowledge about child rearing and child management.

The research reviewed for this section suggests that a higher level of professional training and experience is required for successful work with the caregivers and teachers of antisocial children of middle school age than is required for successful work with the caregivers and teachers of children of pre-school or junior school age. Effective parenting skills education requires that the resource teacher or psychologist be able to communicate with parents in their own language and that they be sufficiently trained and experienced to be able to establish a positive relationship both with parents from diverse cultural backgrounds and with parents who are experiencing major problems in their personal lives. These requirements remain important requirements for parent educators who will be working with Māori and Pacific Islands parents.

Most of the interventions reviewed in this section have been derived from basic research into how children learn to relate to others. One of the findings of this basic research is that contingency management procedures only work if the reward or privilege which is being earned is highly prized by the person who is working to earn it and that the reinforcing value of particular rewards is culturally relative. Therefore, it is important always to consult with the antisocial child and to get the child to select (from a list of available rewards) the particular reward which they would like to work for. The reward must also be acceptable to the parents. This is particularly important when working with Māori parents and even more important when working with Pacific Island parents for whom even the concept of a reward will be challenging. Another finding from the basic research is that the reinforcing value of both extrinsic rewards and social rewards such as praise changes with age and this too must be taken into account.

The interventions described in this section have a number of common features which, when taken together, appear to be the conditions which need to be met if intervention is to be effective in reversing antisocial development during the middle school years.

(a) Schools should identify their antisocial children as early in their school career as possible. This is because the task of reversing antisocial development becomes increasingly difficult the older the child becomes.

(b) For maximum effectiveness, interventions for this age group should operate in the home, the school and the peer group. The child should be retained in the ordinary classroom where he or she continues to be part of a normal social group in which normal social expectations apply. Behaviour change requirements should be school-wide requirements. This means that all staff must share the responsibility for monitoring the behaviour of the antisocial child throughout the school day.

(c) Work with parents should focus on five basic parenting practices: (a) how to closely monitor the child's whereabouts, activities, and friends, (b) how to participate actively in the child's life, (c) how to use activity rewards,
privileges, pocket money and saving towards clothes as incentives to manage child behaviour at home, (d) how to ensure that response cost penalties are fair, timely and appropriate to the offence, and (e) how to use effective, positive, conflict-resolution and problem-solving strategies.

(d) Work in the school setting should be aimed at improving the school wide discipline plan to the point where appropriate behaviour comes to be rewarded and exclusions are phased out. Work in the classroom setting should focus on five basic teaching practices: (a) ensuring that new skills are well taught and that learning tasks are at an appropriate level of difficulty, (b) ensuring that all classroom activities occur at a good pace, (c) ensuring that missing social skills are taught, prompted, and practised in the same way as missing academic skills, (d) ensuring that acknowledgements and reinforcements for appropriate academic and social behaviour out-number corrections and punishments for academic and social mistakes by a ratio of five to one, (e) ensuring that the antisocial child is engaged in sufficient guided social learning activities and structured peer group activities to prevent exclusion from normal peer groups.

(e) For maximum effectiveness, the special education co-ordinator should ensure that both the child's parents and the child's teachers understand that the management of well practised antisocial and avoidance responses cannot be accomplished using rewards alone and should ensure that both the parents and the teachers acquire the skills necessary in order to set up and consistently apply an effective response cost penalty for each instance of defiance, aggression or running away.

(f) It should be a primary aim of all intervention work with antisocial children to reduce the frequency of punishment (for both inappropriate behaviour and academic failure) to a level comparable with that being experienced by normally developing age-mates – and to accomplish this as quickly as possible. This is because excessive punishment is one of the main drivers of antisocial development.

(g) Once the worst of the child's antisocial behaviours have been reduced to acceptable levels, the same expectations should be applied to the antisocial child as apply to other children in the class. The child should be expected to complete as much work as other children, to engage in the same kinds of activities as other children, to complete work to the same standard as other children of similar ability, and to abide by the same classroom rules and school rules as apply to other children. If “special arrangements” have been made for the antisocial child in the past, these need to be terminated.

(h) For maximum effectiveness, the special needs co-ordinator should identify the age-appropriate social skills which the antisocial child has yet to acquire and help the child's teacher and parents teach these missing skills as quickly as possible. This may require setting up co-operative classroom activities and out-of-class activities which require the antisocial child to co-operate with normally developing peers and vice versa. If the child engages in socially immature behaviour in the classroom, the teacher should take a few minutes then and there to teach a more mature social response. Parents should do
likewise. Peers should be instructed to do the same during peer activities and peer play.

(i) Academic learning deficits should be identified using appropriate diagnostic testing procedures. Once the child's antisocial behaviour has been reduced to acceptable levels, intensive remedial teaching and practice should be provided to prevent the child from falling any further behind and, if possible, to help the child catch up with his or her peers. If concrete rewards are necessary in order to motivate consistent effort on remedial activities then they should be used for this purpose.

(j) A tracking-monitoring system should be set in place to provide daily, two-way communication between teacher and parent so that each can communicate with the other about new behaviour change goals, so the parents can acknowledge and praise improvements at school, and so the teacher can acknowledge and praise improvements at home.

9 It seems extremely unlikely, on the basis of the research reviewed in this report, that antisocial development can be halted and reversed using just a school-based intervention or just a home-based intervention alone.

10 The research reviewed in this section suggests that it will be difficult to normalise the development of a substantial proportion of the antisocial children in this age group. For these children, the aim should be to halt antisocial development and to provide the student with the opportunity to learn as many of the skills needed for successful adult adjustment as can be taught in the time available. In order to accomplish this goal, it will usually be necessary to set in place an ongoing monitoring procedure, a special curriculum, a mentoring system, a peer support system, and a crisis management system sufficient to prevent further antisocial development.

References


Section 11 - Effective and Ineffective Interventions for Antisocial Adolescents

The research reviewed in Section 6 suggests that early onset antisocial behaviour is highly stable under current New Zealand conditions and that a high proportion of children with early onset behaviour difficulties are likely to experience continued antisocial development during adolescence. The research reviewed in Section 2 suggests that continued antisocial development during adolescence is likely to be driven by a combination of factors including such things as:

- exclusion from normal peer groups, normal school placements and normal family life with a concomitant exclusion from many normal peer, school, and home activities.
- parental withdrawal of effort (e.g. a lack of monitoring of the adolescent's activities)
- a drift into a deviant peer culture which both models and provides reinforcement for new antisocial behaviours
- continuing high levels of punishment as the adolescent continues to fail at school and continues to engage in angry and antisocial behaviours which are unacceptable in most settings.

In short, early onset antisocial adolescents find themselves in an untenable position - placed in multiple settings where they are expected to take increasing levels of personal responsibility for their own behaviour while the cumulative social and academic learning deficits of the previous 12 years leave them without the skills which they will need in order to accomplish this transition.

Part 1. Outcome Measures for Teenagers

Assuming that the aim of intervention or treatment in the adolescent years is to halt or reverse the antisocial development which has been occurring until that age, then it follows that the evaluation outcomes which are most relevant are those which distinguish between normal and antisocial development during adolescence. Some of the more important of these developmental tasks (Havighurst, 1974) are listed in Table 7.

As can be seen from Table 7, there are many developmental tasks to be accomplished during adolescence. Few of these have been measured during research into the effectiveness of different interventions for antisocial adolescents. In the great majority of the evaluation studies at this level, the outcome measure which has been used has been some measure of delinquency such as self-reported delinquent activities, police contact, offences, and so on.

It will be clear from Table 7 that many of the outcomes which are of greatest interest in the intervention research with this age group are outcomes which cannot be measured immediately following the completion of treatment. They are outcomes which the adolescent needs to accomplish during the coming years. It follows from this observation that the most appropriate way to evaluate the effectiveness of treatments for antisocial adolescents is to continue to measure treatment outcomes for several years following the completion of treatment. Very few of the evaluation studies reviewed in this section meet this requirement.
Table 7
Behaviours and achievements (outcomes) which distinguish normally developing adolescents from antisocial adolescents

<table>
<thead>
<tr>
<th>Outcomes which need to be achieved during the teenage years</th>
<th>Adverse outcomes which need to be avoided during the teenage years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance of family relationships</td>
<td>Rejection by parents</td>
</tr>
<tr>
<td>A functional level of literacy</td>
<td>Exclusion from school</td>
</tr>
<tr>
<td>Completion of school</td>
<td>Exclusion from normal peer groups</td>
</tr>
<tr>
<td>School qualifications sufficient to ensure employment</td>
<td>Selection into a gang or other deviant peer group</td>
</tr>
<tr>
<td>Friendships/relationships with normally developing peers</td>
<td>Dangerous driving</td>
</tr>
<tr>
<td>A level of social development sufficient to gain and hold down a job, to establish and maintain an intimate relationship, and so on</td>
<td>Criminal activity, arrest, imprisonment</td>
</tr>
<tr>
<td>Stable employment or tertiary study</td>
<td>Premature or unplanned fatherhood/pregnancy</td>
</tr>
<tr>
<td>A sense of identity and self-esteem</td>
<td>Repeated terminations of employment</td>
</tr>
<tr>
<td></td>
<td>Feelings of worthlessness</td>
</tr>
</tbody>
</table>

Part 2. The Literature Reviews

Interventions and treatment programmes for antisocial teenagers have been reviewed many times (Aos, Phipps, Barnoski, & Lieb, 2001; Brestan & Eyberg, 1998; Brosnan & Carr, 2000; Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002; Garrett, 1985; Gottfredson, 2001; Kazdin, 1995; Lipsey, 1992; Lipsey & Wilson, 1998; Mulvey, Arthur & Reppucci, 1993; Taylor, Eddy & Biglan, 1999; Tolan & Gorman-Smith, 1997). The conclusions drawn by these reviewers are remarkably consistent. The majority of treatments for antisocial adolescents have very little effect.

The most comprehensive of the above reviews is Lipsey's (1992) meta-analysis of 443 published and unpublished evaluations of treatment programmes for delinquent youth. All of the studies in the review included some kind of measure of the effect of the programme on subsequent offending (compared to a control group) and all effect sizes refer to this measure (reductions in offending). The control groups were treatment-as-usual control groups in about three-quarters of the studies. The overall ES across all studies was 0.10. The programmes which produced the largest reductions in offending (effect sizes greater than 0.2) were: multimodal programmes, employment programmes, behavioural programmes (programmes derived from the research on learning), and interpersonal skills training programmes. The treatment programmes which had effect sizes of 0.1 or less included the probation/parole programmes, group counselling programmes, family counselling programmes and individual
casework programmes. Several types of programmes had negative effects, that is, they resulted in increases in offending. Included in this category were the individual counselling programmes, vocational programmes, and deterrence type programmes.

In a subsequent analysis, Lipsey and Wilson (1998) examined the results of a subset of 200 of the 440 studies – the ones which had involved the most delinquent youth, that is, youth who had come before the court. In an analysis of programmes for this group, Lipsey and Wilson found that the average ES for reductions in offending was 0.14. Three groups of programmes had average effect sizes above 0.45. These were interpersonal skills training programmes, individual counselling programmes, and behavioral programmes. The individual counselling programmes appearing in this second review are a subset of eight of the original 24 programmes in the original review. Programmes which had effect sizes of 0.15 or less included employment related programmes, academic programmes, drug abstinence programmes, social casework programmes, group counselling programmes, wilderness and challenge programmes, and early release, probation/parole programmes. Deterrence programmes and vocational programmes had negative effective sizes.

Lipsey's analysis also shows that many of the evaluation studies included in the review were poorly designed and that the research methodology influenced results almost as strongly as the treatments under evaluation. The studies with control groups, larger sample sizes, and longer follow-up periods tended, on average, to produce smaller effect sizes. The main weakness of the Lipsey meta-analysis is that its conclusions are based on measures collected immediately following treatment completion. They are not based on follow-up measures taken in the years following treatment completion.

Part 3. Multimodal Interventions

There is an emerging consensus amongst reviewers that the three most effective treatment programmes for antisocial adolescents are Multisystemic Therapy, Functional Family Therapy, and Multidimensional Treatment Foster Care (Aos et al., 2001; Brosnan & Carr, 2000; Fonagy et al., 2002; Kazdin, 1995; Mulvey et al., 1993; Taylor et al., 1999).

**Multisystemic Therapy**

Multisystemic Therapy was developed by Henggeler and associates at Memphis State University in Tennessee. Training is now available in a number of countries including New Zealand. Multisystemic Therapy (MsT) assumes that conduct problems in adolescence are maintained by multiple factors: factors within the adolescent, the family, the school, the peer group and the community, and that intervention may need to change any or all of these contexts. MsT interventions are individualised and target those subsystems which appear to be having the greatest effect in maintaining the teenager's difficulties. Interventions with the individual focus on improving social skills, academic skills and self-management skills. Interventions with the family focus on improving communication, supervision, contingency management and discipline skills. Peer group interventions focus on reducing contact with deviant peers and increasing contact with non-deviant peers. Interventions, although individualised, are documented in treatment manuals (Henggeler, Schoenwald, Borduin, Rowland & Cunningham, 1998) and typically last about 4 months with multiple therapist-family contacts occurring each week. Interventions are delivered by trained master's level therapists who receive on-site supervision from a doctoral level clinician on a weekly basis.
Each MsT treatment team consists of three to four therapists with each therapist carrying a caseload of four to six families. Treatment teams collaborate to provide 24 hour a day, 7 day a week coverage. Therapists are required to track and document the progress of each family on a weekly basis.

Effectiveness. A summary of past and current MsT evaluation research will be found in Henggeler, Schoenwald, Rowland & Cunningham (2002). Judgements about the effectiveness of MsT rest on six evaluations which have been undertaken by the development team (Borduin, Henggeler, Blaske & Stein, 1990; Borduin et al., 1995; Henggeler, Rodick, Borduin, Hanson, Watson & Urey, 1986; Henggeler, Melton & Smith, 1992; Mann, Borduin, Henggeler, & Blaske, 1990; Scherer, Brondino, Henggeler, Melton & Hanley, 1994). All six evaluations involved adolescent repeat offenders from lower socio-economic groups who had been referred by the courts. Of these, three (Henggeler et al., 1992; Borduin et al., 1990; Borduin et al., 1995) include follow up data. Henggeler et al. (1998) claim that MsT works equally well across diverse cultural groups (whites, blacks, Hispanics, and rural poor). This conclusion has been reached by other reviewers (e.g. Singh & White, 2000). MsT also appears to be as effective with older antisocial adolescents as it is for younger adolescents. Aos et al. (2001) estimated the average cost per case to be about US$4,700, the effect size on avoidance of future arrests to be 0.3, and the return on investment to be about $28 for each dollar spent. The effect size was calculated from three evaluations.

Multidimensional Treatment Foster Care

Treatment foster care involves placement of the antisocial adolescent in the care of specially trained foster parents for 6 to 12 months. The teenager attends his or her local school. TFC is based on the assumption that retraining of the antisocial youth is more likely to be accomplished by foster parents who have not become enmeshed in a long history of aversive interactions and confrontations with the developing child. One version of TFC, the Oregon version, has been evaluated. In this version, foster parents are carefully selected (from diverse ethnic backgrounds) and carefully trained. Management of the adolescent throughout the day is achieved through the use of a 3-level points system. Privileges and level of supervision are based on the teenager's level of compliance with programme rules, adjustment to school, and general progress. “Consequences for rule infractions are tailored for each youth but include point and privilege loss, being demoted to a lower level, work chores for pre-specified amounts of time, and in extreme situations, short stays in detention” (Chamberlain, Fisher & Moore, 2002, p. 206). Youth in TFC take part in a weekly therapy session designed to teach skills for living in a family setting, negotiation skills, perspective taking, problem solving, anger management, and the use of non-aggressive techniques to express dissatisfaction. Treatment foster parents are intensively supervised by a full time clinical supervisor who has a caseload of not more than 10 children.

More recently, the OSLC group has begun to work with court referred adolescent girls. These girls are proving more difficult to work with because, compared to boys, the antisocial girls have experienced a much more chaotic upbringing, have experienced many more parental transitions (1 a year on average), have antisocial parents in a much higher proportion of cases, are much more anxious and hostile, engage in higher rates of antisocial behaviour, and are much more difficult for the TFC parents to manage (Chamberlain et al., 2002).
Effectiveness. The Oregon model of Treatment Foster Care has been systematically evaluated in two separate clinical trials. In the largest of these, Chamberlain and Reid (1998) randomly assigned 79 chronic delinquents to either TFC or a group care programme. Participants were on average 14 years of age and had been arrested, on average, 13 times prior to placement. The adolescents who were placed in TFC engaged in 50% less criminal activity at 1- and 2-year follow ups according to both official records and self-reports, were arrested only half as often, and were more likely to return home than adolescents who were placed in conventional residential facilities. At a 1-year follow up, 41% of the TFC boys had no further arrests compared with 7% of the boys in the control group. In a supplementary analysis, Eddy and Chamberlain (2000) found that three factors predicted subsequent offending: how well a boy was supervised, whether he received fair and consistent discipline, and the quality of his relationship with an adult caretaker. Aos et al. (2001) estimated the effect size on the avoidance of future arrests as 0.37. The effect size was calculated from two evaluations. Chamberlain & Rosicky (1995) say the cost of Treatment Foster Care varies from US$13,000 to US$54,000 per child per year.

Functional Family Therapy

Functional Family Therapy was initially developed by Alexander and Parsons at the University of Utah in the early 1970s. Functional Family Therapy is based on the assumption that the adolescent's antisocial behaviour is serving a necessary function (for the adolescent) and that the aim of intervention should be to change patterns of family interaction and communication in such a way that antisocial behaviour is no longer functional. The procedures which are used are described in Alexander and Parsons (1982). FFT is delivered by individual therapists, usually in the home setting and typically involves 12 to 24 hours of therapist contact. All members of the family attend therapy sessions together to work on identifying and changing their beliefs, patterns of communication, family management practices, and the reinforcement which they are providing for antisocial behaviour. Initially the therapist focuses on disrupting the habitual negative interactions between family members by reframing these interactions in a way that is benign and non-blaming. Next the blaming attributions which are common in the families of delinquent adolescents are identified. The therapist makes extensive use of relabelling and reframing to reduce blaming and to help parents move from viewing the adolescent as intrinsically deviant to someone whose deviant behaviour is being maintained by situational factors. The therapist also identifies contingencies in day-to-day family functioning which are operating to reinforce and maintain coercive responses. The cognitive aspects of the programme are then followed by behavioural components. These include training in communications skills, contingency management, and the negotiation of contingency contracts similar to those used in parenting skills training.

Effectiveness. The effectiveness of FFT has been assessed in seven trials. In the second of these (Barton, Alexander, Waldron, Turner & Warburton, 1985) FFT plus remedial education and job training was provided to the families of delinquents with multiple offences. The comparison group consisted of adolescents in group homes. At a 15-month follow up, 40% of the FFT youth had avoided further offending compared to 7% of the comparison group. These findings have been replicated by an independent research team (Gordon, Arbuthnot, Gustafson & McGreen, 1988) using a somewhat longer intervention and a more extensively trained and supervised therapist. The FFT group consisted of 27 adolescents with multiple offences and the control group was a probation-only group. When followed up in young
adulthood, 90% of the FFT group had avoided further convictions compared to 60% of the comparison group. The research team has also examined the relationship between specific therapeutic components (such as reframing) and changes in the pattern of family interactions in order to better understand the workings of FFT (e.g. Robbins, Alexander & Turner, 2000). Aos et al. (2001) estimated the cost per family to be about US$2,160, the effect size on avoidance of future arrests to be 0.25, and the return on investment to be about $29 for each dollar spent. The effect size was calculated from seven evaluations.

Part 4. Interventions Which Have Been Shown to be Effective in Some Circumstances

Teaching-Family Homes

One of the treatment programmes which has shown the largest gains while the teenager is in the programme is the Teaching Family programme operated by Achievement Place homes and Boys' Town homes in the USA and a number of other countries. In 1990 there were about 250 Teaching-Family homes world wide (Bernfeld, Blase & Fixsen, 1990). Teaching Family homes, which take six antisocial teenagers at a time, are staffed by a married couple who have completed a year long training programme. Continued employment as teaching parents depends upon an annual evaluation and re-certification process and quality control is maintained by a National Teaching-Family Association. Various manuals describe the procedures to be followed while the children are in residence (Coughlin & Shanahan, 1991; Phillips, Phillips, Fixsen & Wolf, 1974). The TF programme includes a number of elements. A positive relationship between the teaching parents and each of the youths in the home is considered to be an essential element of treatment (Braukmann & Wolf, 1987). The development of such a relationship is facilitated by ensuring that the teaching parents provide a high level of reinforcement (relative to corrections and penalties) throughout the youth's stay in the home. Teaching Family homes have a curriculum which includes social skills, self-help skills, problem solving skills, learning to maintain emotional control for extended periods of time, learning to accept feedback, and so on. This curriculum is individualised for each teenager. New skills are taught within the context of a family environment in which the teenager has responsibilities such as keeping his or her room tidy, helping to prepare meals, washing clothes, and cleaning up after meals. Youths who are not motivated by social consequences are placed on a token economy in which all privileges (snacks, going out, extra TV, pocket money, money for clothing, time with one's family, etc.) have to be earned (Phillips, Wolf, Fixsen & Bailey, 1976). As self-control and social skills improve, the teenager advances to a system where natural consequences replace the points system. Teaching Family youth attend the local school. Teaching parents maintain a close liaison with the school, assisting with the development of educational plans, supervising homework, receiving the daily report card, giving points for achievements at school, and keeping the school informed of behaviour changes which are being practised both at home and at school.

Effectiveness. The TF programme has been more carefully evaluated than any other treatment programme for antisocial teenagers. The management procedures, token economy procedures, monitoring procedures and teaching procedures used in Teaching Family homes have been evaluated in numerous single case experiments (e.g. Bailey, Wolf & Phillips, 1970; Kifer, Lewis, Green & Phillips, 1974; Minkin et al., 1976; Phillips, 1968; Phillips, Phillips, Fixsen & Wolf, 1971). Independent investigators have evaluated the effectiveness of the TF teaching and management procedures (e.g. Liberman, Ferris, Salgado & Salgado, 1975) and have undertaken research into programme elements such as the importance of high rates of
positive interactions (Friman, Jones, Smith, Daly & Larzelere, 1997). The programme developers have also undertaken research into the importance of a positive interpersonal relationship between teaching parents and the teenagers in their care (e.g. Solnick, Braukmann, Bedlington, Kirigin and Wolf, 1981). These studies found that the antisocial youth who were living in Teaching Family homes where they had developed a positive relationship with their teaching parents self-reported the lowest levels of delinquent activities. Behaviours identified as enhancing interpersonal relationships included: “explanations and praise; individual, regular, and enjoyable time with each youth; consistent, repeated expressions of interest in, concern for, and appreciation of each youth; humour, encouragement, and enthusiasm; and offering and providing help to the youths in areas important to them” (Braukmann & Wolf, 1987, p. 145).

At least six evaluations of the long term effects of Teaching Family home placements have been undertaken. One of the earliest of these (Kirigin, Braukmann, Atwater & Wolf, 1982), examined outcomes at a 1-year follow up for a group of 140 TF youths (from 12 TF homes) and a control group of 52 youths from traditional residential programmes. The data suggested that the TF youths made greater gains both socially and academically while in the programme but no significant differences were found on any of the police and court measures one year later. Subsequent evaluations (Jones & Timbers, 1982; Jones, Weinrott & Howard, 1981; Braukmann, Wolf, & Kirigin Ramp, 1985) have come to much the same conclusion both with respect to officially recorded and self-reported post-treatment offences. Some changes do, however, persist. A long term follow-up by Thompson, Smith, Osgood, Dowd, Friman & Daly (1996) of boys from Boys Town homes (which use the same programme) found significantly superior performance for Boys Town graduates on a range of educational measures (grade point average, secondary school completion, and attitudes to college) for four years post-treatment compared to youths in community programmes. Braukmann and Wolf, who were closely involved in the development of the TF programme, have concluded that they were, perhaps, naive to think that simply teaching the TF residents new skills would have been sufficient on return “to families that were often uninterested in changing their inappropriate practices and may have been largely responsible for the youth's original problems” (Braukmann & Wolf, 1987, p. 154).

Parenting skills training

A recent innovation within the OSLC research and development programme involves the development of school-based access to Parenting Skills Training. This development has been named the Adolescent Transitions Programme. It involves three elements: (a) a school-based Parenting Resources Center where parents can obtain videos and printed information about parenting in the teenage years, (b) a “Family Check-Up” service where parents can obtain an assessment of their child's risk status and supportive feedback about changes which might be considered, and (c) a 12-session, group format, parenting skills programme. The manual for the parenting skills programme focuses on using incentives to promote positive behaviour change, limit-setting and monitoring, and family communication and problem-solving. A description of the most recent version of the Adolescent Transitions Programme will be found in Dishion and Kavanagh (2002) and an evaluation of an earlier version (without follow-up data) in Andrews, Soberman and Dishion (1995).

Effectiveness. Parenting Skills Training with the parents of antisocial teenagers has been evaluated in two clinical trials (Bank, Marlowe, Reid, Patterson & Weinrott, 1991; Dishion &
Andrews, 1995). Treatment manuals exist for the parenting programme. In the Bank et al. (1991) evaluation, 60 delinquent youth (mean age 14 years) who had at least two recorded offences were randomly assigned to either the OSLC parenting programme or to an existing community service. The PST programme involved 45 hours of contact over a period of about a year. About half of this contact occurred by telephone. The data from this trial suggest that the youth in the PST group committed many fewer offences during both the treatment year and the 2-year follow up period than the youth in the traditional services group. This effect was most marked during the first year of follow up where the effect size for new offences was 0.7. After 3 years, this effect size had dropped to 0.1 – although the PST youth had spent considerably less time incarcerated. The number of youths in each group who ceased offending is not given. The children in the Dishion and Andrews (1995) study averaged 12 years of age and the report provides no data on antisocial behaviour rates, offending rates or movement out of the antisocial trajectory over the 1-year follow up period. Although highly effective with the parents of younger antisocial children, “the available evidence suggests that parent training is not a particularly effective intervention for adolescents” (Fonagy et al., 2002, p. 158).

**Aggression Replacement Training**

Aggression Replacement Training is an American programme which combines training in social skills, anger management and moral reasoning in a formal school curriculum. ART students meet in small groups with their teacher three times a week for 10 weeks. A description of the curriculum and teaching procedures will be found in Goldstein, Glick and Gibbs (1998). The curriculum consists of three components: training and practice in social skills (how to make a complaint, recognising other people's feelings, how to deal with other people's anger, coping with group pressure, how to express affection, and so on), (b) anger control training (identifying triggers, deep breathing, backward counting, pleasant imagery, self-coaching, thinking ahead, and so on), and (c) moral reasoning training using moral dilemmas. Goldstein and his colleagues have collected evaluation data across a number of sites. In the main evaluation study (Goldstein, Glick, Irwin, McCartney & Rubama, 1989), 84 youths who had recently been released from residential facilities for delinquent youths were assigned to one of three treatments: (a) ART for the youth only, (b) ART for both the youth and his parents, and (c) a control group. At a 3-month follow up, 85% of the youth and parent group had avoided re-arrest, 70% of the youth only group had avoided re-arrest, and 57% of the control group had avoided re-arrest. These results have been replicated by the development team using the members of different teenage gangs for the experimental and the control group (Goldstein, Glick, Carthan, & Blancero, 1994). These are fairly weak results and appear not to have been replicated. However, there remains the possibility that training in this selection of interpersonal skills may be of value for some antisocial youth.

**Part 5. Interventions of Unknown Effectiveness**

**Wraparound services**

The term “wraparound” refers to an approach to service delivery which involves “creating services on the basis of specific child and family needs in lieu of determining needs in advance… services are established as they are needed” (Bruns, Burchard, & Yoe, 1995, p. 322). The wraparound approach is becoming increasingly popular in the United States.
Introduction of this kind of service delivery most commonly involves improved co-ordination of existing services rather than improvements to existing services or the creation of new services. There appear to be two published evaluations of the introduction of a wraparound service, one in Milwaukee (Mendel, 2000, described in Fonagy et al., 2002) and one in Vermont (Bruns, Burchard, & Yoe, 1995). In the Milwaukee evaluation, 45% of the 600 participating youth had committed two or more offences prior to introduction of the wraparound service but only 11% committed two or more offences in the year of treatment. One-year follow-up data are uninterpretable (because the client group is not specified and there is no comparison group) but appear to suggest that the arrest rate of a sample of 54 youths was reduced by the service. The Vermont evaluation involved 27 at-risk children with a mean age of 13.6 years. Data presented by the authors suggest that offences had fallen to about 30% of their baseline level at a 1-year follow-up, but the mean Child Behaviour Checklist score remained in the clinical range, no individual data were presented, and there was no control group. Because a wraparound service simply coordinates access to existing services, a wraparound service can only be as effective as the sum of its component services.

**Positive Peer Culture**

A considerable proportion - Chamberlain and Reid (1998) estimate 66% - of overseas residential schools employ some version of positive peer culture where the teenage residents themselves are given a major responsibility for setting personal goals, monitoring their progress, resolving disputes, and managing selected activities within the institution. As far as we can ascertain, this type of programme has never been adequately evaluated. However, it poses a clear risk in the sense that the residents may learn (from each other) new antisocial skills rather than the social skills and attitudes which their teachers hope they will learn (Sprengelmeyer & Chamberlain, 2001).

**Anger management training**

There has been no research into anger management training which includes follow-up measures of important indicators of adolescent adjustment so this intervention, in spite of its high face validity must be considered to be unproven (Fonagy et al., 2002).

**Cognitive skills training**

Cognitive skills training and cognitive behaviour therapy tend to be a component of many treatment services for antisocial teenagers. It is a major component of Functional Family Therapy and Aggression Replacement Training reviewed earlier in this section. Cognitive skills training was reviewed in Section 10 of this report. In a meta analysis of 46 studies of interventions for young offenders, Izzo & Ross (1990) concluded that rehabilitation programmes which included a cognitive skills component may be more effective that those which do not. However, there have been few studies of the effect, on teenage antisocial behaviour. of this kind of intervention on its own (Bennett & Gibbons, 2000) and opinion remains divided with respect to the contribution which cognitive skills training makes to effectiveness when it is included as a component of a multimodal treatment. The inclusion of cognitive skills training in treatment programmes for antisocial teenagers assumes that once the teenager realises why they are getting into trouble they will change their behaviour. However, clinical experience suggests that “some adolescents with severe antisocial behavior problems have good insight into the causes and triggers of their problem behavior, but they
are not skilled enough to change it. They may also have goals that are different from those of the adults around them, so they are not motivated to change” (Sprengelmeyer & Chamberlain 2001, p. 292).

**Social skills training**

Social skills training was reviewed in Section 10. There is no evidence to suggest that social skills training alone can halt antisocial development during adolescence although it may have a role to play as part of a broader intervention approach for those antisocial youth who have yet to acquire particular social skills (Quinn, Kavale, Mathur, Rutherford & Forness, 1999).

**Vocational training and work placement schemes**

Vocational training and work placement schemes usually have two aims: (a) to increase the skill level of the young offender (who is highly likely to have dropped out of school, have few educational qualifications, and no stable work history), and (b) to facilitate re-integration of the young offender back into the community. A number of these schemes have been described but evaluation data is sparse. Sametz, Ahren & Yuan (1994) report that a carefully designed transition to work programme increased employment rates and reduced re-arrest rates by 34 per cent (compared to control students) at a 12 month follow-up. This programme also included an intensive aftercare programme including job placements. Singh & White (2000, p. 51) conclude that “There is some evidence of the benefits of this approach, yet other studies have found no positive effects. It is likely that if such interventions are to be successful, they will need to be ... combined with other types of initiatives.”

**Activity centres**

New Zealand currently has 14 Activity Centres attached to host secondary schools. Activity Centres were set up to cater for “at risk” secondary school students. They tend to attract teenagers with severe behaviour difficulties and, hence, behaviour management is high on their list of priorities. In 80 per cent of the Activity Centres, academic programmes in English and mathematics are provided by the Correspondence School. The performance of New Zealand's Activity Centres was reviewed by the Education Review Office in 2001. The ERO report does not contain any data regarding the number or proportion of antisocial students in these Centres or any data on the effectiveness of these Centres in halting antisocial development (Education Review Office, 2001).

**Alternative education**

There is a wide range of alternative education programmes internationally. While desired outcomes from these programmes vary, many alternative education programmes are provided by community groups for students who have dropped out of school following a history of exclusions. In New Zealand “alternative education” refers to alternative settings for students who have become alienated from the education system. These are funded by the Ministry of Education and administered by selected secondary schools. A sample of New Zealand alternative education programmes has recently been surveyed by O'Brien, Thesing and Herbert (2001). The purpose of this survey was to collect a range of information about indicators of good practice in alternative education programmes, so it did not examine the
educational outcomes being achieved by the programmes or the adjustment of the students passing through these programmes. A meta-analysis of the effectiveness of international alternative education programmes in reducing delinquency has been provided by Cox, Davidson and Bynum (1995). Cox et al. conclude that, according to the published evaluations, educational programmes which involve individualised assessment, individualised curricula and low student-teacher ratios have no effect on future offending. Cox et al. also observe that the research on this topic is of very poor quality.

Programmes arising out of Family Group Conferences

The Family Group Conference is the main youth justice procedure for young offenders in New Zealand. It involves members of the justice and social welfare systems meeting to discuss a treatment plan with the young offender and his or her family. The treatment plan is usually supervised by a social worker. The Family Group Conference was introduced in 1989 and outcomes have been evaluated by Maxwell and Morris (1999) who found that two fifths of a sample of young offenders were not reconvicted or were convicted again only once. Unfortunately, the evaluation does not distinguish between early and late onset offenders and does not include a control group. This makes the results of this evaluation uninterpretable.

Mentoring programmes

Mentoring programmes attempt to pair “at-risk” youth with an adult who can function as a role model and provide supervision, support, and guidance. The mentors are usually volunteers. Several such programmes have been evaluated but in none of these evaluations have the outcomes for early onset antisocial youth been presented separately from the outcomes for other groups of at-risk youth. An evaluation of the American Big Brothers/Big Sisters programme by Grossman and Garry (1997) found that smaller numbers of the mentored youth (than matched control youth) skipped school or initiated drug use while in the programme but an evaluation of a different programme by Royse (1998) failed to find any advantage for the mentored youth. In New Zealand, an evaluation of the Mentoring for Children & Youth at Risk Project (Ave, Evans, Hammerton, Melville, Moeke-Pickering & Robertson, 1999) failed to collect follow-up data on offending rates or school outcomes and found that it was difficult to recruit Māori mentors for the Māori youth. Because there has been no research into mentoring with antisocial youth, no conclusion about the effectiveness of these programmes is possible at this time.

Outdoor programmes and wilderness activities

Outdoor programmes and wilderness activities are designed to reduce re-offending by increasing participants' social skills and self-esteem. Much has been written about these types of programmes but evaluation attempts rarely describe the backgrounds of the participants or collect follow-up data on educational outcomes or offence rates. Where follow-up data has been provided, post-programme arrest rates have been found to be similar to those of control group youth (Altschuler & Armstrong, 1999). It may be a mistake to assume that improvements in self esteem are followed by improvements in behaviour. Clinical experience suggests that improvements in self esteem tend to follow success rather than vice versa. The best way to improve self esteem is for the antisocial teenager to experience repeated success on tasks which they have previously failed on.
Part 6. Interventions Which May Have a Negative Effect

In preparing this section of this review we have come across a number of examples of treatment programmes for antisocial teenagers which have had a negative effect, that is, treatment programmes where the outcomes for the treatment group have been worse than the outcomes for the control group. Negative effects due to treatment are commonly referred to as iatrogenic effects.

In an early intervention study by McCord (described in Dishion, McCord & Poulin, 1999), it was found that pervasive negative effects in adulthood (some 30 years following intervention) were most common amongst delinquents in the treatment group who had been sent to summer camps on more than one occasion. In a study of community-based treatment groups for delinquent teenagers, Feldman, Caplinger and Wodarski (1983) found that the delinquents who were placed in groups with other delinquent teenagers (rather than in groups of normally developing teenagers) and which were taken by inexperienced group leaders engaged in increasing numbers of antisocial acts whereas those in mixed groups taken by experienced leaders engaged in fewer and fewer antisocial acts during the course of the programme. Gottfredson & Gottfredson (1992) describe an intervention, Peer Culture Development, which was delivered to mixed groups of 15 delinquent and normally developing teenagers at three Chicago high schools. An evaluation of this programme showed that it had resulted in negative effects on self-reported delinquency and drug involvement, official contacts, and school suspensions for the targeted youth. Dishion, McCord and Poulin (1999) summarising some of the results of the Adolescent Transitions Programme described how the at-risk teenagers who had received a group focused intervention increasingly engaged in smoking and in delinquent activities over successive 1-year follow-ups compared to the at-risk teenagers in an untreated control group.

Additional examples of iatrogenic effects are contained in several of the meta-analyses. Garrett (1985) reported that delinquent teenagers in residential programmes which were run along Positive Peer Culture lines were slightly more likely to be rearrested following discharge from the programme than control group delinquents. Lipsey (1992), following a meta-analysis of 443 studies of delinquency treatment programmes, reported that boot camps (“shock incarceration”) and other types of deterrence programmes had resulted in considerable increases in post-treatment offending as had the vocational programmes. Evaluation studies of individual counselling programmes were also found to have produced slight increases in offending on average (across 24 studies). In a later analysis of the 200 studies involving the most serious offenders (Lipsey & Wilson, 1998), the observation that deterrence programmes and vocational programmes were having a negative effective was confirmed and programmes involving an early release from probation or parole was also found to have a negative effect with this group of teenagers.

In a discussion of these iatrogenic effects, Dishion, Poulin and Burraaston (2001) point out that peer associates have powerful socialising (or anti-socialising) effects during the adolescent years and that any intervention which groups antisocial teenagers together might expect these teenagers to become more deviant unless strenuous efforts are made to prevent this from happening. “These findings of iatrogenic effect associated with peer aggregation, unfortunately, illustrate … that the unplanned, incidental interactions among the youth were more powerful in shaping their future than those interactions engineered by the curriculum (such as group exercises and social skill role plays)” (Dishion et al., 2001, p. 88).
Part 7. Summary and Conclusions

1. The research reviewed in this report shows that the task of halting antisocial development and promoting prosocial development becomes increasingly more difficult, more complex, and less likely to succeed the older the child becomes. This appears to be because (a) antisocial children acquire increasing numbers of increasingly sophisticated antisocial skills as they become older, (b) these antisocial responses and skills become increasingly entrenched and habitual the more they are practised and (c) the number of adults and peers that the child comes into daily contact with (and who would need to be involved in any intervention) keeps increasing the older the child becomes.

2. The research reviewed in this section suggests that most of the interventions traditionally employed by teachers, social workers and therapists in their work with older antisocial children have a relatively small effect on antisocial development. Meta-analyses of controlled evaluations of delinquency treatments programmes find that they have an effect size (on reductions in subsequent offending) of between 0.10 and 0.14. This is equivalent to a reduction in reoffending of about 10%. This effect size is very much smaller than the size of the effect normally produced by an educational intervention. However, given the very large cost to society of offending (over the lifetime of the offender) interventions which produce a 10% reduction in offending may, nevertheless, still represent a worthwhile investment.

3. Many of the interventions which are currently being provided for adolescents with severe antisocial behaviour difficulties are interventions which have never been shown to have a positive effect on the future quality of life of the antisocial adolescent. Included under this heading are probation and parole, individual counselling, group counselling, family counselling, activity centres, alternative education programmes, mentoring, outdoor programmes, vocational counselling, and deterrence programmes such as shock incarceration (boot camps) and “scared straight” programmes. The continued widespread use of interventions which have never been shown to have a beneficial effect raises important questions about the need for outcomes-based research on these programmes, and for new programmes to be based on evidence of their likely positive effect on outcomes.

4. The three intervention programmes which have been identified as having the largest effect are Multisystemic Therapy, Functional Family Therapy, and Multidimensional Treatment Foster Care. The treatment programme which has been most extensively researched and which appears to have the strongest effect on social and academic development while students are in the programme is the Teaching Family programme. These are all community-based, skills-oriented interventions which attempt to remove the conditions which have been supporting and maintaining antisocial development. The elements which are common to these four interventions are as follows.

(a) Effective interventions for antisocial teenagers are longer and more intensive than the interventions required for young antisocial children. For example, Multisystemic Therapy programmes typically continue for 4 to 5 months and Treatment Foster Care placements typically last for 6 to 12 months.
The most effective interventions for antisocial adolescents intervene in multiple contexts: the home, the school, the peer group and even in recreational settings. This ecological approach is necessary because interventions in just one setting alone are rarely powerful enough to halt antisocial development.

Effective interventions for antisocial adolescents are highly structured rather than experiential and unstructured. This has clear implications for those programmes (such as Activity Centre and homeroom programmes) in which rules of conduct are relaxed in order to keep the antisocial teenager at school.

The most effective interventions for antisocial teenagers are being undertaken by highly trained and experienced case supervisors, therapists and foster parents. Typically, therapists are masters level graduates and case supervisors are doctoral level psychologists. This is a very different model from current practice which makes extensive use of paraprofessionals, community support workers, and teacher aides for treatment delivery and it is a model which has clear implications for the training of staff who will be working with antisocial teenagers and their families.

Effective interventions for antisocial teenagers attempt to build a positive relationship or therapeutic friendship between the therapist and the antisocial teenager – a factor which is increasingly being recognised as essential for effective treatment. This is only possible if there is an adequate level of cultural congruence between those who are providing help and those who are receiving it.

The most effective interventions for antisocial teenagers are tightly supervised by highly qualified case supervisors who closely monitor treatment delivery and client progress. They employ specially trained staff. There is an extensive treatment manual and they provide on-going staff training.

Effective interventions for antisocial teenagers are evidence-based. That is, they are based on research and attempt to change those factors which research has identified as playing a key role in the development and maintenance of antisocial behaviour during adolescence.

The most effective interventions for antisocial adolescents tend to be very expensive. They are much more expensive than interventions (of similar effectiveness) delivered to younger children and their families.

The research reviewed in this section does not allow us to identify the number of early onset antisocial teenagers who are returned to a normal developmental path by any of the interventions which have been described. If this kind of outcome was occurring, we believe it would have been reported. In the absence of such reports, it seems appropriate to conclude that the proportion of early onset antisocial teenagers who are being returned to a normal developmental path by the interventions described in this section must be very small. This probably means that, once introduced, treatment
programmes for antisocial adolescents will need to be ongoing until the adolescent makes the transition to adulthood.

The research reviewed in this section suggests that the aims of intervention during the teenage years will be different from the aims of intervention during the early years. The most appropriate aim to pursue during the teenage years would seem to be one where the aim is to teach the antisocial teenager those basic survival skills which he or she will need in order to hold down a job and stay out of prison together with those parenting skills which will be needed in order to avoid raising another generation of antisocial children. The most appropriate incentive for continued school attendance and task engagement while at school may well be to pay the antisocial teenager to continue his or her studies. In order to accomplish these goals, it will usually be necessary to set in place an ongoing monitoring procedure, a special curriculum, a mentoring system, a peer support system, and a crisis management system sufficient to prevent further antisocial development.

References


Section 12 - Residential Treatment Programmes for Antisocial Adolescents

Contemporary approaches to residential treatment vary widely. They include secure units, training schools, residential schools staffed by shift workers, psychiatric style hospital facilities, family-style group homes in community settings, treatment foster care, wilderness programmes, and boot camps (Chamberlain & Friman, 1997).

The question “How effective are residential schools?” is a question which has no answer. It is like asking “How effective are hospitals?” It all depends on where the hospital is, the treatments which are offered, how well equipped it is, and the collective expertise of its staff. Residential schools are not treatments. They are places. The effectiveness or otherwise of a residential school depends not upon the school but upon the aims and vision of its staff, the educational programme provided by the school, the collective expertise of its staff, its distance from parents, its distance from sports clubs and other kinds of community facilities, and so on.

Reviews of the Effectiveness of Residential Treatment

An extensive search for relevant New Zealand research identified no controlled evaluations of the effectiveness of New Zealand residential school programmes. The research reviewed in the sections which follow has all been undertaken in the U.S.A.

Until recently it has been difficult to draw definite conclusions from the research into residential treatment. This is because “research on the outcome of residential treatment for children and adolescents has lagged behind research in related areas” (Curry, 1991, p. 348) and suffers from numerous shortcomings including “rater subjectivity, use of ... measures with unclear reliability, differences in methodology for evaluating follow-up status, and lack of control ... groups” (Curry, 1991, p. 351).

About all that could be concluded from the studies without control groups was that students with less severe difficulties and students with higher levels of intelligence made greater gains during residential programmes, as did students who actually completed the programme and students who received continuing therapy following discharge from the programme. Many of these early studies also found that the amount of improvement made while in the programme did not predict level of functioning in the years following discharge (Curry, 1991). What did seem to affect long term outcome was the level of therapeutic support available to the youth following discharge from the programme (Pfeiffer & Strzelecki, 1990).

We located one meta-analysis of the effects of residential treatment (Garrett, 1985). This is a review of 126 studies of the effects of residential treatments for adjudicated delinquents. Of the 126 studies, 84 involved some kind of control group, 34 included some kind of measure of subsequent offending, and 19 made use of a “rigorous design” (Garrett, 1985). Taken together, the residential programmes evaluated by Garrett had an average effect size on subsequent offending of about 0.1 which means that, on average, they were probably producing reductions in offending over the follow-up period of about 10%. Garrett also found that the studies with control groups had the smallest effect sizes and that the more rigorous evaluations had smaller effect sizes than the less rigorous studies – confirming again
that much of the research was of poor quality and that poor quality research may result in an overestimate of the effects of treatment programmes for antisocial teenagers.

**Types of Residential Treatment Programmes**

There have been few attempts to compare the relative effectiveness of different kinds of residential programmes. Garrett's (1985) review of 126 studies of residential treatment appears to be the only one which includes an analysis of the effects of different types of residential treatment programmes on various outcomes. The results of part of Garrett's analysis (Garrett, 1985, Table 7) are given in Table 8.

**Table 8**

*Mean effect sizes for different types of residential programmes on offending and educational achievement*

<table>
<thead>
<tr>
<th>Treatment type</th>
<th>Avoiding re-arrest</th>
<th>Academic improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of studies</td>
<td>Mean E.S.</td>
</tr>
<tr>
<td>Individual</td>
<td>1</td>
<td>.07</td>
</tr>
<tr>
<td>Group</td>
<td>6</td>
<td>-.03</td>
</tr>
<tr>
<td>Family</td>
<td>1</td>
<td>.28</td>
</tr>
<tr>
<td>Contingency management</td>
<td>10</td>
<td>.25</td>
</tr>
<tr>
<td>Cognitive behavioral</td>
<td>2</td>
<td>.24</td>
</tr>
<tr>
<td>Group Interaction/ Positive Peer Culture</td>
<td>2</td>
<td>-.07</td>
</tr>
<tr>
<td>Milieu</td>
<td>2</td>
<td>.79</td>
</tr>
<tr>
<td>Academic</td>
<td>1</td>
<td>-.13</td>
</tr>
<tr>
<td>Vocational</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Outdoor/ Outward Bound</td>
<td>2</td>
<td>.49</td>
</tr>
<tr>
<td>Individualised Treatment</td>
<td>3</td>
<td>.27</td>
</tr>
</tbody>
</table>

As can be seen from Table 8, the treatments based on learning research (the Contingency Management and Cognitive Behavioral treatment programmes) produced relatively large reductions in offending and the largest levels of academic improvement (although the “well designed” evaluations produced much smaller gains than those shown in the table). The one study which included family therapy also resulted in a reduction in post-programme offending. It is not clear from the review just which kinds of programmes were included under the “Milieu” heading although, in an earlier table, Garrett included them with the learning theory approaches.
The apparent effectiveness of the Outward Bound type programmes is based on two studies but later reviews (e.g. Altschuler & Armstrong, 1999) have failed to find any reductions in offending as a result of participation in Outward Bound type programmes.

There have been further studies of vocational training programmes since the Garrett review and one of these (Sametz, Ahren & Yuan, 1994) resulted in a 34 per cent reduction in re-offending at a 12 month follow-up. The programme described by Sametz et al. (1994) also included an intensive aftercare programme including job placements.

Of particular concern are the effect sizes for the group treatments and for the Positive Peer Culture type programmes because the review suggests that this type of programme may result in small increases in offending. The programmes which emphasise academic advancement appear to be achieving this aim but the one study which included a measure of re-offending found an increase in re-offending following completion of the programme.

It is important to be aware that many of the evaluations in the Garrett review do not include control groups and that Garrett does not distinguish between measures made at the end of the programme and measures in the years following completion of the programme.

Evaluation of the Teaching Family Home Programme

The Teaching Family Home programme was described in the preceding section. Teaching Family homes are actually a type of foster home rather than a residential school. However, they operate with a group of six teenagers in a residential setting and the treatment programme itself can and has been used in the traditional residential setting.

There have been at least six evaluations of the long term effects of Teaching Family home placements. These were described in the preceding section. The Teaching Family model appears to be the programme which produces the largest documented gains while antisocial teenagers are in the programme. It also results in reductions in the number of youth who continue to offend and the number of offences committed by youth while they are in the programme (Kirigin, Braukmann, Atwater & Wolf, 1982). Several studies have shown that educational gains can be maintained following graduation from the programme (e.g. Thompson, Smith, Osgood, Dowd, Friman & Daly, 1996). However, the proportion of teenagers who maintain lower rates of offending following discharge from the Teaching Family home has been found to be no greater than those who have attended other types of residential programmes (Braukmann & Wolf, 1987, p. 153-154).

Implications for the New Zealand context

There do not appear to be any features of the Teaching Family programme which would prevent its adoption in New Zealand. Adoption would, of course, require the development of appropriate training programmes for potential Teaching Parents and the development of services which (a) provided an adequate level of support to Teaching Parents and (b) ensured that each Teaching Family programme operated as described in the preceding section. Secondly, it would be important to place Māori youth, Cook Island youth, Samoan youth, and so on with Teaching Parents who possessed the level of cultural competency necessary for developing the positive relationships which are an essential component of the programme.
Thirdly, it would be necessary to solve the aftercare problem in a way which works in the New Zealand context.

The Multiple Functions of Residential Schools

One further observation needs to be made in respect of residential training facilities. It needs to be remembered that a residential school can serve a number of functions.

1 A residential school can provide a treatment programme for antisocial youth – especially those older antisocial children who come from families who have declined to become involved in any kind of therapeutic effort.

2 A residential school can function as a kind of “laboratory” – a self-contained setting in which staff can experiment in a systematic way with a variety of different kinds of interventions in an attempt to discover that combination of interventions which is most effective in halting antisocial development and fostering social development in older antisocial children.

3 A residential school can function as a valuable training centre. It can provide trainee psychologists and specialist teachers with opportunities to practise their diagnostic skills, opportunities to practise their newly acquired therapeutic skills and opportunities to observe experienced staff working effectively with some of the most difficult youngsters who are passing through our schools.

Unresolved Issues Relating to Residential Treatment Programmes

While preparing this review it has become clear that there are a number of issues surrounding the provision of residential treatment programmes for antisocial teenagers which cannot be resolved simply by referring to the research which has been undertaken to date.

What type of treatment programme should be used in the residential setting?

There has been little research comparing the relative effectiveness of different types of residential treatment programmes. The consensus amongst researchers at the present time is that highly structured and well supervised programmes are likely to be more effective than more informal types of programmes, that programmes which provide intensive individualised tuition and practice in missing social skills and academic skills are likely to produce the fastest gains in these areas, and that programmes which use a well-designed token economy (reinforcement system) are likely to motivate the most rapid improvements in behaviour within the programme (Braukman & Wolf, 1987; Garrett, 1985; Chamberlain, 1999). Several writers (e.g. Braukman & Wolf, 1987) have also claimed that the development of a positive relationship between those who are providing the programme and those who are receiving it may be a major determinant of the success of the programme. At the present time, the Teaching Family programme remains the programme which has greatest amount of research support and it appears to be the programme which produces the most rapid within-programme gains. Given that this is the case, the issue arises as to why this programme, which is soundly based on the scientific research into learning and motivation, has not been tried in New Zealand.
Should antisocial teenagers be grouped together?

The types of residential treatment programmes which appear to be most common in the United States are programmes which are based on the Positive Peer Culture model (Vorrath & Brendtro, 1985). The Positive Peer Culture model gives resident youth a substantial responsibility for in-house management, discipline, therapy session content, and so on. Several writers (e.g. Chamberlain, 1999) have expressed caution with respect to the Positive Peer Culture model. The risk with this type of programme is that programme goals may be undermined by the antisocial youths who assume leadership roles within the programme.

Normally developing teenagers learn much from each other and there is every reason to believe that the same is true for groups of antisocial teenagers. This seems to be supported by research which has found that deviant peer groups provide much reinforcement for deviant behaviour (e.g. Dishion, Spracklen, Andrews & Patterson, 1996) and also function to teach new forms of deviant behaviour (Dishion & Andrews, 1995). In the therapeutic context, groups which consist entirely of antisocial teenagers make little or no progress compared to adult directed groups and groups consisting of just one antisocial teenager amongst normally developing peers (Dishion & Andrews, 1995; Feldman, Caplinger & Wodarski, 1983).

The observation of iatrogenic effects in both friendship groups and therapy groups of antisocial teenagers raises serious questions about the wisdom of aggregating antisocial youth together in home room classes, activity centres, day schools, residential schools, and so on. It is interesting to note in this regard that one of the aims of Multidimensional Treatment Foster Care programmes is to separate the antisocial youth from deviant peers and to ensure that the antisocial youth spends his or her leisure time in the company of normally developing teenagers in organised sporting and recreational activities.

How can the integrity of the treatment programme be maintained over time?

Aggregating a number of antisocial adolescents together under one roof is always going to be a risky business because antisocial youths arrive with well practised skills in manipulating the behaviour of other people. Clinical reports of life in residential treatment facilities make it clear that life in such a facility can be extremely stressful as teachers and domestic staff attempt to cope with regularly occurring tantrums, swearing, defiance, confrontations, aggression, sexual behaviour, absconding, disrupted group therapy sessions, disrupted classroom activities, negative peer leadership, and continual crisis management (Chamberlain, 1999). This can lead to frequent stress leave, staff burnout and a high staff turnover which further prejudices the smooth and effective operation of both the facility and the treatment programme.

The issue of how to avoid programme collapse is not addressed by the research on residential programmes. Research on Teaching Family homes suggests that it is possible to design a residential treatment programme which avoids these problems. Chamberlain (1999, p. 503) suggests that the likelihood of the programme being disrupted can be reduced by “use of highly structured level systems as a behavioral management tool, immediate feedback to youngsters about positive and negative behaviors, have the program (rather than individual staff) dictate the consequences of behavior, de-emotionalising negative consequences, consequences that can be applied quickly and over short periods of time, rewards and consequences that are individualised, and programming the maximum amount of structure and predictability possible.” Presumably, the smooth and effective operation of a residential
school also depends upon the kind of management structure which is in place to maintain the integrity of the programme, and the collective expertise of the staff who are implementing the programme. These are staff training and staff management issues which fall outside the scope of this report.

A second problem which is unique to residential programmes for antisocial youth is the fact that many of the staff are shift workers. This means that those who are responsible for maintaining a 24 hour therapeutic environment are continually changing, and that much time has to be spent on information exchange at each shift change. Secondly, there is often a conflict between the need to maintain a therapeutic environment and the role which one is expected to perform within the school. Does the administration of each child's behaviour management programme extend to everyone (cooks, cleaners, gardeners and domestic staff) or is this responsibility to be carried by the teachers and the therapeutic staff only? Thirdly, it may be difficult, if not impossible, to develop the professional friendships (the positive relationships) between individual members of staff and individual students which are essential for programme success in a programme in which staff are constantly changing.

The research gives no leads to the answer to this question. However, it does seem likely that residential programmes in which all staff are responsible for reacting in the same way to the appropriate and inappropriate behaviour of each resident are likely to be more effective than those programmes in which certain staff are exempt from operating the behaviour management procedures and the teaching procedures upon which the success of the programme depends.

**What is the best way to maintain treatment gains?**

One of the main issues, if not the main issue, in residential treatment is its apparently limited capacity to produce gains which will be maintained following discharge from the programme (Braukmann & Wolf, 1987; Chamberlain & Friman, 1997). Braukmann & Wolf argue that if the teenager is returned to the family and community circumstances which produced the antisocial development in the first place, we can hardly be surprised if the teenager reverts to the patterns of behaviour previously learned in these contexts. Chamberlain argues that maintenance depends upon the level of aftercare support provided when the teenager leaves the residential programme. “Failure to include parents in youngster's treatment may be the single largest barrier to generalization of treatment effects from residential care to living at home” (Chamberlain, 1999, p. 502).

The research to date does not provide any clear leads as to how the gains made during residential treatment can be maintained once the youth leaves the programme. The best bet at the present time appears to be the provision of family therapy and parenting skills training while the youth is in residence followed up by an appropriate level of aftercare once the youth leaves the programme. The research to date does not adequately address the question of what an “appropriate level of aftercare” might be. In the vocational training study described by Sametz et al. (1994), the aftercare programme included case management, intensive supervision, mentoring, paid work experience with bonuses for completing separate parts of the programme, vocational training in a nearby public school, and assistance in finding suitable work.
Community treatment or residential treatment?

The issue most frequently discussed in the research literature on residential care is the issue of whether children with severe behaviour difficulties should be treated in the community or whether they should be treated in residential type facilities. The Children Young Persons and their Families Act is based on the assumption that children are better off with their families. The Act allows for but discourages out-of-home placement in residential facilities. On the other hand, the public, fed by intense media interest in the worst examples of teenage offending, often calls for teenage offenders to be locked up so that they cannot cause any more havoc. “Juvenile delinquency programs can be characterized as an unhappy marriage between legal procedures designed to establish guilt and exact punishment and psychotherapeutic interventions designed to rehabilitate or to prevent progression to more serious and chronic offending” (Tolan & Gorman-Smith, 1997, p. 405). The arguments advanced in favour of treatment in secure settings rarely have anything to do with the relative effectiveness of the process but are more commonly framed in terms of holding the delinquent youth responsible for his or her misdeeds and keeping the community safe from further offending. The arguments in favour of community-based treatment, on the other hand, are usually based on either the ethical argument that youth should be treated in the least restrictive setting or else on the claim that community-based treatments are more effective.

The research evidence on this issue is relatively clear. All three of the most effective treatments for antisocial teenagers (Treatment Foster Care, Multisystemic Therapy, and Functional Family Therapy) are community-based interventions. Evaluations of state-wide policy changes in a number of US states have found that when residential facilities for juvenile offenders are closed and residents returned to their homes with therapeutic support, there is no increase in the frequency or severity of offending and no increased risk to public safety (Fagan, 1990; Mulvey, Arthur & Reppucci, 1993; Tolan & Gorman-Smith, 1997).

However, the treatment research with older antisocial children also reminds us that a significant proportion of the families of antisocial children either do not accept offers of assistance, or do not engage in the therapeutic process, or else drop out of interventions before they have made any major changes to the way in which their children are being raised.

Should there be a continuum of care?

The very low success rate which is evident in research into the treatment of antisocial adolescents suggests that, once the antisocial child reaches the second decade of life, antisocial development may have become a condition which cannot be “cured” – at least not by any treatments so far devised. This has led a number of researchers to conclude that, by adolescence, antisocial development may have become a permanently handicapping condition (Kazdin, 1997; Mulvey, Arthur & Reppucci, 1993; Wolf, Braukmann & Ramp, 1987) which will require treatment on an ongoing rather than “one shot” basis (Chamberlain & Friman, 1997). This ongoing treatment may need to intervene to change not only those aspects of family, school, peer group and community cultures which are operating to maintain antisocial behaviour but also to ameliorate the adverse conditions generated by the antisocial youth’s behaviour itself (e.g. the adverse reactions of normal peers and of authority figures to the youth's offensive behaviour).
This has led a number of researchers (e.g. Brosnan & Carr, 2000; Chamberlain & Rosicky, 1995; Taylor, Eddy & Biglan, 1999) to suggest that policy makers may need to begin thinking about the treatment of antisocial adolescents in terms of a continuum of care. Less severe cases might be offered Functional Family Therapy and parenting skills training. Moderately severe cases and those not responding to family therapy interventions might be offered Multisystemic Therapy. Severe cases and those where the parents are unable or unwilling to change might be placed in Treatment Foster Care programmes or in Teaching Family foster homes. The treatment foster care option is important because the parents of some antisocial children do not actually have the skills to hold down a job, keep out of trouble, maintain a stable family environment, or raise children. In these cases, obviously, the foster care placements would need to be sufficiently long term to guide the transition from adolescence into adulthood.

In countries like New Zealand which have yet to develop the training programmes and funding policies necessary to sustain the nation-wide network of trained foster parents necessary for both Treatment Foster Care programmes and for Teaching Family programmes, the continuum of care concept suggests that it will be necessary to maintain a network of residential schools for those children whose parents are either unable or unwilling to socialise and to nurture the development of their children.

Summary and Conclusions

1. The kinds of treatment programmes operated by residential schools vary widely. This makes it difficult to measure the effectiveness of residential programmes for antisocial youth.

2. Meta-analyses of the effects of residential treatment programmes suggest that these programmes have an overall effect size of about 0.1, that is, that they reduce subsequent offending by about 10 per cent. Given the very large cost to society of offending (over the lifetime of the offender) interventions which produce a 10% reduction in offending may, nevertheless, still represent a worthwhile investment.

3. The residential treatment programme which has been most extensively researched and which appears to have the strongest effect on social and academic development while students are in the programme is the Teaching Family Model. However, the gains which students make while they are attending Teaching Family homes tend to disappear once the teenagers return home. This has clear implications for the type of aftercare service which is provided following completion of the residential programme.

4. Preparation of this literature review has identified a number of issues which cannot be resolved by referring to the research on residential treatment. These include questions about the kind of intervention programme which should be provided in residential treatment facilities, the question of whether antisocial teenagers should be grouped together in a single facility, questions about the kinds of organisational structure and levels of staff training which are required in order to maintain the integrity of a residential treatment programme over time, the question of how therapeutic continuity can be maintained in an environment which is staffed by shift workers, questions about how treatment gains are to be maintained once the teenager leaves the...
residential programme, and questions about how best to provide a continuum of care for antisocial teenagers.

The final observation made in this section is that residential programmes can and should serve a number of functions in addition to simply providing a treatment programme for antisocial youth. They can also function as a “laboratory” in which staff experiment with a variety of different interventions in an attempt to discover that combination of interventions which is most effective in halting and reversing antisocial development. Secondly, they can function as a valuable training resource providing trainees with opportunities not only to observe an effective treatment programme in operation but also opportunities to practise their newly acquired diagnostic and therapeutic skills.

References


Section 13 - Important Gaps in Current Knowledge

Questions about the origins and treatment of antisocial development have attracted the interest of large numbers of researchers worldwide. This has resulted in a very large amount of research into these questions – much of which is of a high quality. As a result of this research we probably know more about the origins of this disability and what works in the treatment of this disability than we do for any other childhood disability. This is not to say, however, that no further research is required. As has been noted by a number of researchers (e.g. Chamberlain & Friman, 1997; Fonagy, Target, Cottrell, Phillips & Kurtz, 2002; Forness & Hoagwood, 1993; Hinshaw & Park, 1999; Kazdin, 1995; Wells, 1991; Whittaker & Pfeiffer, 1994) there are still questions about antisocial development (and what we should do about it) for which we have no answers.

Areas which have been little studied

Following their review of research into the treatment of conduct disorders, Fonagy et al. (2002) identified a number of areas which have attracted little attention from researchers. In particular they noted that we still do not know very much about

- the long term effects of interventions provided during the first six years of life
- how interventions should be adapted to meet the individual needs of antisocial children with different developmental histories, different patterns of antisocial behaviour, and different patterns of attributions regarding the causes of the difficulties which they face
- how best to export effective interventions into community settings where they will be delivered by therapists and special education personnel who were not involved in the original developments and who will not have the detailed knowledge of the original developers
- how to maintain treatment integrity as interventions are increasingly widely disseminated within and across communities.

Other gaps in the research base which have been identified during the course of the present literature review and which have been commented on in this report include the following.

1 There is a need to develop definitions of various different types of behaviour difficulties (antisocial development, hyperactivity, inattention, self-injurious behaviour, stereotyped behaviour, childhood depression, and so on) which are dimensional rather than categorical, which can be shown to have treatment validity in the New Zealand context, and which avoid the assumptions implicit in the medical conceptualisation of a mental disorder.

2 There is a need to develop a culture fair screening procedure, suitable for New Zealand use, which will accurately identify antisocial development in New Zealand boys and girls at each age level. This need is particularly acute for girls because screening procedures in which identification rests on the performance of overt antisocial acts are failing to identify girls who are being raised in environments which prevent normal social development.

3 There is a need to undertake standardised prevalence surveys on a regular basis so that the effectiveness of existing services can be evaluated and the planning of new
services can be informed by an accurate knowledge of the actual needs of each cultural group at each age level.

4 There is a need to ascertain whether well developed overseas interventions (such as First Step to Success, the Triple P parenting skills courses, PASS, CLASS, RECESS, Effective Behaviour Support, and so on) can be adapted for use in New Zealand settings and, if so adapted, whether they remain effective interventions.

5 There is a need to ascertain whether stimulant medications such as Ritalin have the long term educational benefits which are being claimed for them.

6 There is a need to evaluate in a controlled fashion, and at several different sites, the most effective of the locally developed interventions for children with antisocial behaviour difficulties (such as the Early Social Learning Project and Project Early) and to follow up the children who enter these programmes until they reach adolescence.

7 There is a need to encourage Māori researchers to evaluate adaptations of effective interventions using evaluation methods which meet both Māori cultural requirements and the requirements of sound evaluation research. We have been able to locate no Māori evaluation research into how best to meet the educational needs of Māori students with severe antisocial behaviour difficulties. Perhaps the time has come for Māori researchers to begin to examine the educational needs of specific groups of Māori children such as children with severe developmental delays, children with specific learning disabilities, children with severe behaviour difficulties and so on.

8 There is a need for additional reviews of research into what works (a) for children with severe intellectual disabilities and (b) for children with autistic spectrum disorders who are also developing severe behaviour difficulties of various types.

A number of writers have made the observation that research is especially needed into residential treatment programmes, not only because they are very expensive, but also because they are an intuitively appealing alternative to the difficult problem of trying to accommodate older antisocial children in mainstream school settings (Chamberlain, 1999; Curry, 1991; Wells, 1991; Whittaker & Pfeiffer, 1994). Wells (1991) and Whittaker and Pfeiffer (1994) make a number of suggestions regarding the research which is most needed in this area. They suggest that future research into residential treatment should address the following questions:

- What kinds of data should be collected in longitudinal evaluations of the outcomes of residential treatment programmes and how should this data collection be scheduled in time?
- How can we begin to introduce what we already know about antisocial development and best practice in the treatment of antisocial children and youth into residential treatment programmes?
- Which elements of residential treatment programmes are essential for the success of the programme?
- Which groups of children are best served by residential treatment programmes?
- What kind of after-care service is most likely to result in continued improvement following discharge from a residential treatment programme?
- What role should residential programmes play in the overall, system-wide provision of treatment programmes for antisocial children and youth?
Can we develop more effective residential treatment programmes than those currently being offered? How are innovations in residential treatment best disseminated?

When and how should families be involved in residential treatment programmes?

**Shortcomings which need to be avoided in future research**

Much of the research into the origins and treatment of antisocial development is high quality research, that is, research which meets accepted standards of measurement reliability, internal validity, and generalisability. Like the great majority of educational and psychological research, however, the research reviewed for this report is not without its shortcomings. Some of these shortcomings are a direct result of the nature of the subject matter. Antisocial development is something which unfolds over time and is best studied over periods of time. This requirement can be difficult to meet. Some of the problems which face researchers who work in this area have been identified by Forness and Hoagwood (1993). Forness and Hoagwood group the most important of these problems under the following headings.

- First, many different definitions of “children with behaviour problems” are still being used during the recruitment phase of individual investigations and this greatly complicates attempts to compare the results of studies of even closely similar questions.
- Secondly, studies of antisocial children typically experience high rates of attrition. This is particularly marked in treatment evaluation studies where up to a third of the subjects may be lost during the course of the study. Because it is usually the most chronic cases which are lost, this reduces the generalisability of the results of many evaluation studies.
- Thirdly, there is a need for research into interventions across multiple contexts. However, this requires inter-agency co-operation, that is, a number of agencies with different responsibilities, different conceptions of the problem, different training traditions, different record keeping systems, and so on must all collaborate to pursue the same goal using the same procedures. How this is to be achieved is a problem which has yet to be solved.
- Fourthly, there is the fraught question of what the outcome measures should be. At the present time a variety of outcome measures are being used from “close in” measures of single behaviours such as time on task to indicator measures such as whether or not the child's social behaviour falls within the normal range for children of the same age. The use of different measures of intervention effects from one treatment evaluation study to the next greatly complicates the task of identifying effective interventions.

New Zealand will undoubtedly want to conduct its own research into the provisions which are being made for children with severe antisocial behaviour difficulties. Research which is commissioned in the New Zealand setting is likely to produce more useful results if common protocols can be developed which avoid the shortcomings mentioned above.

**A comment on the New Zealand research**

While preparing this review we have searched for and found most of the New Zealand research reports which looked as if they might be relevant to service provision for children
with antisocial behaviour difficulties and most of the Māori research in the area of special education. Many of these New Zealand studies have been cited in this report. The New Zealand studies of services for antisocial children and youth have been particularly disappointing. Many of the New Zealand research reports are reports of “provider surveys” which, while interesting to read, have failed to collect data on relevant student outcomes and hence have failed to meet the criteria for inclusion in the present review.

Perhaps it is time for those who are funding educational research in New Zealand to begin to develop some quality control standards which can be applied to future research contracts. One of the first things which needs to be considered in this regard is the rule (widely accepted elsewhere) that an evaluation is an investigation which collects outcome data, that is, data which provides a measure of the effect or the impact of the programme or service on the development or learning of the children that the programme or service was designed for.

References


Section 14 - Impediments to the Implementation of Effective Services for Antisocial Children: Implications of the Gap Between Research and Practice

The research reviewed in this report indicates that there have been major developments, during the past 20 years, in our understanding of how early onset antisocial development occurs and the kinds of interventions which are most likely to halt early onset antisocial development and accelerate prosocial development in children and adolescents. It would also be true to say that there now exists a very considerable gap between what we have discovered as a result of this research and the kinds of services which we currently provide for children with severe behaviour difficulties. In this section we explore some of the implications of this gap between what the research suggests that we might do, and what we currently do, in our work with antisocial children, their parents and their teachers.

Part 1. The Importance of Information on Outcomes

Improvements in services for children with special teaching needs are unlikely until we begin to collect data on outcomes. In order to evaluate the effectiveness of different kinds of interventions and services in halting and reversing antisocial development it is necessary to select outcome statistics which are measures of “halting and reversing antisocial development.” These outcome measures must have discriminant validity, that is, they must distinguish with reasonable accuracy between children whose social development is proceeding normally and children whose development is following an antisocial pathway. Without valid outcome data, it is impossible to assess the impact of particular special education services or to measure the return on investment for different kinds of special education provisions.

The failure to collect useful and reliable outcome data is not because we do not know how to do this. The research literature provides plenty of examples of how to do this (see, for example, Chamberlain & Friman, 1997). It is just that we are not doing it. It would be a relatively simple matter to follow up, from year to year, each of the children who were diagnosed has having “severe behaviour difficulties,” who received some kind of intervention designed to treat those difficulties, and to collect some basic data on their behaviour and academic performance the following year. Those who had kept out of trouble could be classified as “intervention successes” and those who had not could be classified as “intervention failures”. If we knew how long the intervention had lasted we could calculate the cost of the intervention (the investment) and it would be easy enough to calculate the lifetime costs to society generated by each antisocial adult (the cost of failure). The only other figure required in order to calculate return on investment is the cost avoided by the service provided. In order to calculate this we need some data on the success rate for this type of service (Aos, Phipps, Barnoski & Lieb, 2001). An educational service without reliable data on outcomes is like a plane with a complete navigation system failure. It can neither determine its current location nor work out how to get to where it wants to go.
Part 2. The Allocation of Services and Resources Across the Age Range

The research described in this report clearly demonstrates that interventions designed to halt antisocial development and accelerate prosocial development have their strongest effect, and the least cost, during the first six years of life. This appears to be because (a) the young antisocial child has acquired only a small number of antisocial behaviours, (b) many of these antisocial responses have not yet been practised to the point where they have become habitual, (c) self esteem has not yet been irretrievably damaged and (d) interventions have only to persuade a small number of people to change the way in which they are responding to the child's behaviour.

The task of halting and reversing antisocial development becomes increasingly more difficult, more expensive, and less likely to succeed the older the child becomes. Whereas interventions during the first six years typically have an effect size (on antisocial behaviour) of about 1.0, the average effect size (on antisocial behaviour) of interventions for antisocial teenagers is about 0.1 and even the strongest, multimodal interventions rarely have an effect size in excess of 0.25 (Aos, Phipps, Barnoski & Lieb, 2001). When cases are counted, 3 to 4 months of early intervention typically returns 70 to 80 per cent of antisocial 3- to 7-year olds to a normal development path (Church, 1999; Ewing, 1999) but only 30 to 40 percent of antisocial 8- to 12-year olds to a normal developmental path and few, if any, early onset antisocial teenagers to a normal developmental path. This appears to be because (a) the older the child becomes, the greater the number of social contacts and the greater the number of people who must be actively involved in the teenager's rehabilitation, (b) antisocial children acquire increasing numbers of increasingly sophisticated antisocial skills as they become older, (c) these antisocial responses become increasingly entrenched and habitual the more they are practised and (d) the child's self-esteem, attitude to others, belief that they can change and willingness to change deteriorate steadily the longer the child is exposed to a history of conflict and punishment.

These findings raise important questions with respect to the way in which we currently allocate funding and services across the age range.

The Cost of Current Policies

As far as we can determine, no one has yet calculated the New Zealand life time cost to society of raising one violent offender – a figure which is needed in order to calculate the savings which result each time we prevent someone from growing up to become an antisocial adult. An estimate of the U.S cost to society over the lifetime of one violent offender has been calculated by Westman (1994) who puts the 1992 cost at just under US$1 million (NZ$2 million) per offender over the lifetime of the offender. We need to know the equivalent N.Z. figure, because this is the cost of doing nothing – or at least doing nothing more than we currently do.

The Cost of Intervening Later Rather Than Earlier

It is beyond the scope of this review to calculate the return on investment for interventions of varying degrees of effectiveness introduced at different points during the development of the antisocial child. However, we have made a rough assessment of the costs of intervening at
age 5, 10 and 15 years given some assumptions which seem reasonable in the light of the research findings summarised in this report. These assumptions are as follows. We have assumed interventions lasting 3 to 4 months in each case. Data for the cost per case at 5 years have been taken from Project Early (Church, 1999) and the Early Social Learning Project (Ewing & Ruth, 1997). The interventions in these projects lasted about 14 weeks on average and cost about $4,000 per case. The success rate in these studies was about 80%. For the 10-year-olds, we have assumed that the cost of intervention has doubled to about $8,000 per case. The Project Early data suggest that the likelihood of halting and reversing antisocial development at this age drops to about 50%. For the 15-year-olds we have assumed a Multisystemic Therapy intervention of 4 to 5 months costing about NZS12,000. (It may be a little less than this.) The effectiveness of this intervention in terms of cases is unknown so we have estimated it at 20%. (It is likely to be less than this.)

Using these data to calculate the cost of returning one antisocial child to a normal developmental pathway gives the cost estimates shown in Figure 2.

![Figure 2. Cost of normalising the development of one antisocial child at ages 5, 10, and 15 given intervention costs of $4,000, $8,000 and $12,000 and success rates of 80%, 50% and 20%](image)

In a model with these assumptions, the cost of halting antisocial development and returning the child to a normal developmental pathway at each age level increases from $5,000 at age 5 to $12,000 at age 10 and then to $60,000 at age 15. Obviously, a more detailed modelling exercise will need to be undertaken before this kind of analysis can be used to inform policy. Nevertheless, it does seem highly likely that the costs of halting and reversing antisocial development will be found to fall on an exponential curve over the ages 3 to 17 years.

Television and newspaper coverage of violent offences suggests that antisocial adults (who are routinely referred to as violent offenders) are perceived as considerable threats to public safety (which they are) – individuals for whom lengthy terms of residential care (imprisonment) are entirely appropriate regardless of cost. Antisocial adolescents are viewed...
as potential violent offenders who need to be “deterred”– again without too much regard to the cost. Antisocial 6-year olds on the other hand are viewed as “difficult to manage.” Because no one views an antisocial 6-year old as a threat to public safety, the child receives no service. What we fail to notice is that 40 per cent of antisocial 8-year olds will have become frequent offenders by the age of 18 (Fergusson & Lynskey, 1998) and that early intervention (at the point of school entry) is the only crime prevention strategy which has ever been shown to be effective (Walker, Zeller, Close, Webber & Gresham, 1999).

The policy issues raised by these observations are profound. Why do we allocate so much money responding to the problems created by antisocial adolescents and adults and so little money to the kinds of early intervention which would prevent these problems from occurring in the first place?

Is Early Intervention Feasible?

In order to justify expenditure on prevention, it must first be shown that it is antisocial children who grow up to become antisocial adults. The research summarised in Section 6 of this report suggests that it is. Children who do not engage in antisocial behaviour during childhood rarely engage in antisocial behaviour during adulthood (although they may do so during adolescence). It is the children who display high rates of antisocial behaviour during childhood who are most likely to engage in high rates of antisocial behaviour as adults. Antisocial behaviour early in a child's school career is the single best predictor of delinquency in adolescence (Fergusson, Horwood & Lynskey, 1993). The more severe the antisocial behaviour pattern, the more stable it is over the long term and the higher the risk of later criminal offending (Fergusson & Lynskey, 1998).

In order to justify expenditure on prevention, it must next be shown that it is possible to identify antisocial children with reasonable accuracy. Evaluation of the two multiple gating procedures for identifying antisocial pre-schoolers (Feil & Becker, 1993) and antisocial primary school children (Walker & Severson, 1992), described in Section 4 of this report, suggests that this is now the case.

In order to justify expenditure on prevention, it must next be shown that the origins or causes of antisocial development are reasonably well understood. This understanding is a prerequisite for the development of effective intervention procedures for young at-risk children and their families. The research on the development of antisocial children summarised in Section 2 of this report suggests that we now have this understanding.

In order to justify expenditure on prevention, it must finally be shown that there are interventions which are effective in returning young antisocial children to a normal developmental trajectory. The research summarised in Section 9 of this report indicates that this is now the case (e.g. Church, 1999; Ewing & Ruth, 1997, Ewing, 1999; Walker, Kavanagh, Stiller, Golly, Severson & Feil, 1998; Webster-Stratton, Kolpacoff & Hollingsworth, 1988).

Part 3. Some Implications of an Ecological Approach to Treatment

An ecological approach is one which attends to each of the contexts in which social learning is occurring. It recognises that social learning occurs in all of the settings or contexts in
which the child interacts with other people. Interactions with parents, relatives, teachers, friends, classmates, team members, and so on, may all contribute to social or, in some cases, antisocial development. The implications of an ecological approach are profound. With an ecological approach “it is the interaction between the child and the social environment that is always the target of intervention. In a classroom or on the playground, every child and adult is involved in the development or non-development of each child’s coercive behavior” (Reid & Eddy, 2002, p. 222).

The importance of an ecological approach has been known for 30 years (Tharp & Wetzel, 1969) and is widely recognised in the research literature (Fonagy, Target, Cottrell, Phillips & Kurtz, 2002). The importance of attending to all of the contexts in which social learning is occurring is signalled by much of the research reviewed in this report: the research which shows the ineffectiveness of just trying to teach interpersonal skills to antisocial children, the research which shows that contingency managed changes in behaviour in the classroom do not generalise to the home setting and vice versa, and the research which shows that multimodal interventions are more effective than unimodal interventions at each age level.

An ecological approach to assessment, goal selection, and intervention has a number of important implications for all of those who work with children with severe antisocial behaviour difficulties.

**An Ecological Approach Requires Expertise in Functional Assessment**

An ecological approach to intervention is only possible if the teacher, resource teacher or psychologist also takes an ecological approach to assessment. For antisocial children, an ecological assessment (usually referred to as a functional assessment) is one which attempts to identify the key conditions which are shaping and maintaining inappropriate ways of responding to the behaviour of others. An ecological assessment examines four major aspects of the ecology of the antisocial child: (a) what the child can do (that is, the skills which the intervention will build upon), (b) what the child cannot yet do, (c) the environmental conditions which are functioning to reinforce and maintain the use of antisocial responses, and (d) the conditions which are functioning to hinder or prevent the acquisition and mastery of the prosocial skills and academic skills which are critical for future development.

Informal observations suggest that functional assessment is not widely used in New Zealand classrooms at the present time. This raises the question of whether functional assessment skills should be more widely disseminated to early childhood educators, teachers, resource teachers and special education personnel than is presently the case and, if so, how this might best be accomplished.

**An Ecological Approach Requires Resource Teachers to Engage in Work Which is Not Teaching Work**

The decision to allow Resource Teachers: Learning and Behaviour (RTLB) to work with parents as well as teachers was, in our view, a very important decision and marked a very important step towards recognising the need to take an ecological approach to the education of antisocial children. However, the opportunity for RTLB to work with the parents of antisocial children introduced a set of completely new duties to those which teachers have been trained to perform. In order to work effectively with the parents of antisocial children
RTLB who are recruited from the classroom must learn how to communicate with parents from diverse backgrounds, how to establish a therapeutic alliance with parents, how to identify missing parenting skills and how to motivate parents to do things differently.

At the present time, the main training programme for RTLB includes no training or supervised practice in any of these skills (Thomson, et al., 2003). This raises questions about whether these skills should be considered to be essential skills for RTLB work and, if they are, how they might be acquired by both existing and new RTLB. It also raises questions about whether RTLB should be recruited solely from the ranks of practising teachers, and questions about whether or not future RTLB training should include a supervised practice component.

**Is an Ecological Approach Possible in the Secondary School Setting?**

An ecological approach to the needs of the antisocial child means that each of the significant adults in the child's life need to be involved in the treatment plan and may need to change the way in which they are responding to the child's antisocial behaviour. At the present time most antisocial children go on to secondary school. Given the internal organisation of the New Zealand secondary school, an ecological approach to antisocial behaviour in this setting typically involves co-ordinating the activities of the special needs co-ordinator, 6 to 8 subject teachers plus each of the teachers with lunch and playground duties for the duration of any intervention which is introduced. RTLB who have worked in secondary schools report that it can be extraordinarily difficult to introduce a school wide individual education plan (IEP), or a school-wide behaviour management plan (IBP) and monitoring system in this setting (Bourke et al., 2002). This is simply because of the large number of people who share the responsibility for implementing the plan.

This observation raises questions about the feasibility of an ecological approach in the secondary school setting, the role and responsibilities of the special needs co-ordinator in the secondary school setting, what can reasonably be expected of Group Special Education personnel and resource teachers in this setting, and whether or not the preservice education of secondary school teachers should include a greater emphasis on the skills which are required for effective work with antisocial, alienated, or disaffected adolescents.

**Is an Ecological Approach Possible With a Highly Mobile Population?**

The New Zealand population is relatively mobile and the children who attend low decile schools are highly mobile (Church, 1996). If all schools and all RTLB clusters operated the same kind of intervention for antisocial students, this would not be a problem. A child who transferred from one school to another could simply continue to receive the same programme or intervention in their new school which they were receiving in their previous school. However, identical services are not being provided from one RTLB cluster to the next. It can be seen, therefore, that the policy of allowing teachers and resource teachers a high level of professional independence is a two edged sword. It may result in the development of an excellent set of services for antisocial children but it can also result in cases where an antisocial child moves from a school where their needs were being well met to a school where their needs cease to be met.
This observation raises questions about the degree of consistency in service provision which should be aimed for and questions about how this consistency might be achieved. It also raises questions about how antisocial children should be tracked as they move from school to school and how information about previous IEPs, IBPs, and the antisocial child's current level of functioning are to be speedily communicated from one school to the next.

**Should Antisocial Children or Youth be Grouped Together?**

The research summarised in this report indicates fairly clearly that, in order to teach an antisocial child how to relate to others in a prosocial manner, the antisocial child should spend as much time as possible in the company of normally developing peers and as little time as possible in the company of deviant peers. In a considerable proportion of secondary schools, however, antisocial youth are being grouped together in low-band or homeroom classes. Others are being referred to activity centres or are being enrolled in alternative education programmes. One of the problems with policies and practices which result in the aggregation of antisocial youth into special classes and facilities is that antisocial teenagers learn from each other just as normally developing teenagers do. As was shown in Section 2, deviant peer groups provide much reinforcement for deviant behaviour (e.g. Dishion, Spracklen, Andrews & Patterson, 1996) and also function to teach each other new forms of deviant behaviour (Dishion & Andrews, 1995).

The observation of iatrogenic effects in groups of antisocial teenagers raises serious questions about educational policies and practices which result in the aggregation of antisocial youth in special classes, facilities and programmes apart from their normally developing peers. It also raises questions about the kinds of staff and the kinds of programmes which should be provided in those rare cases where the grouping together of antisocial youth is unavoidable.

**An Ecological Approach Brings Special Education Personnel into Contact with Parents who are Unable or Unwilling to Make Changes**

**Parents who decline offers of assistance or who drop out of intervention**

Some of the parents and caregivers of antisocial children either decline offers of assistance or else drop out of any intervention programme before they have made any of the changes needed in order to halt and reverse the antisocial development of their child (Kazdin, 1996, 1997). A number of researchers have addressed the issue of how to motivate the parents of antisocial children to agree to involvement and to continue with involvement, once started. The OSLC team have been able to boost participation in prevention trials from 75% to over 95% by using home visits to explain the programme, payment for participation, frequent reminders and multiple tracking procedures for locating families who move (Reid, 1993). Reid has concluded that while “monetary incentives may help, particularly for economically disadvantaged families ... the real power is achieved by sitting down with the parents, in their homes if possible, explaining the importance of their participation and making it easy to get them to come to the meetings (e.g. choices of session times, convenient locations, babysitting). Interventionists go to their homes to offer individual sessions if they are sick or disabled” (Reid, 1993, p. 249).

These observations raise questions regarding who should be providing parenting skills training, how they should be trained and the level of expertise which they should be required
to demonstrate. For example, how far should GSE Behaviour Services personnel and resource teachers (RTLB) be expected to go in their efforts to help parents? If parents need help in paying for babysitters and travel in order to attend parenting courses, who should pay?

**Parents who fail to benefit from parenting skills training**

It is clear from the research reviewed in this report that some parents will be unable to benefit from help even when this is provided by a highly skilled and culturally competent resource teacher or therapist. There will always be some families whose difficulties are simply too numerous or too severe to be overcome by the kinds of interventions described in this report. Some are single parents with few parenting skills, few friends and no family or whanau support. Some were abused as children or raised as antisocial individuals and have learned only the parenting practices that their parents employed. Some are in violent relationships and are too frightened either to seek help or to accept help if it is offered. And some of these parents have relatively severe mental disorders or addictions (Church, 1999; Kazdin & Wassell, 2000; Wahler & Dumas, 1989).

For these families, several possibilities exist. One possibility is to provide some kind of residential care and education for the child. Another possibility is to provide some kind of treatment foster care in the community. (Treatment foster care was described in Section 11. With treatment foster care, the child attends his or her local school, the foster parents are specially trained and are paid for their work with the child they are raising.) At the present time, however, there is no New Zealand wide treatment foster care programme, and no programme for recruiting and training potential TFC parents.

These observations identify a number of questions which need to be addressed. How many families and what proportion of families with antisocial children are declining offers of help from RTLB or dropping out of interventions before any improvements in child behaviour have been achieved? Could these numbers be reduced by improvements in GSE Behaviour Services training or RTLB training? Could these numbers be reduced by providing parenting skills courses for at-risk adolescents? Should courses in child development and parenting be added to the secondary school curriculum? How early in the life of the antisocial child can treatment resistant families be identified? What kind of intervention or service would be most appropriate for the children in these families? If some kind of treatment foster care programme was judged to be the best course of action for this group of children, what kind of training would need to be provided for potential treatment foster care parents, who would provide this training and who would fund it?

**An Ecological Approach Brings Consultants into Contact with Teachers who are Unable or Unwilling to Make Changes**

An ecological approach involves GSE Behaviour Services personnel and resource teachers working with classroom teachers to change the developmental trajectory of children with severe antisocial behaviour difficulties. This is widely seen as a collaborative activity in which both the teacher and the consultant are equal partners (Thomson et al., 2003). This approach assumes that classroom teachers have the knowledge, the time, and the energy to make the kinds of changes which are required to re-educate the antisocial child. However, it is clear that this assumption does not hold for a significant proportion of teachers. RTLB returns, like the earlier returns from Project Early and the Early Social Learning Project
indicate that some teachers are either unwilling or unable to make the kinds of changes which the antisocial child needs in order to move forward. In the October 1999 survey of RTLB by Bourke, Kearney, Poskitt & McAlpine (2001), RTLB ranked resistance from teachers and principals above all other difficulties. Many of the comments under this heading referred to an unwillingness or inability to make changes and a tendency to view the learner as the one who needed to be fixed (or removed).

A second factor which stands in the way of recruiting teachers as intervention agents arises from the fact that the kinds of changes which need to be made to the social environment of the antisocial child are changes which run directly counter to the beliefs of many teachers. For example, the finding that structured reinforcement schemes work well to motivate behaviour change in antisocial children runs counter to deeply held social beliefs in which unruly behaviour implies a need for discipline while discipline implies punishment.

The observation that some classroom teachers are either unwilling or unable to change their management and teaching practices to meet the educational needs of children with antisocial behaviour difficulties (even with RTLB advice and support) is an issue which has not been addressed by the research which has been reviewed for this report. One possible solution might be to include courses on how to teach antisocial children in all preservice teacher education programmes. Alternatively, it might be possible to upgrade teacher understanding of the needs of antisocial children through some kind of professional development programme (in a similar way to the way in which teacher understanding of the needs of Māori students was upgraded by Bishop, Berryman, Richardson & Tiakiwai (in press)). The issue of what to do about teacher beliefs which stand in way of effective work with antisocial children remains a problem in search of a solution.

Maintaining Job Satisfaction and Avoiding Burn-Out

Working with parents who are experiencing multiple personal problems is hard work. Trying to co-ordinate intervention programmes across home, classroom, and playground environments is hard work. Antisocial children and their families often create difficulties for those around them with the result that the GSE psychologist or the resource teacher can become embroiled not only in the at-risk family's own crises but also the crises which they are creating around them. Sometimes intervention efforts have no positive outcome for the child or the family. In short, working with children with antisocial behaviour difficulties is demanding and stressful work (Church, 1997).

These observations suggest that the decision to organise RTLB into teams serving a cluster of schools was a very wise decision because this enables RTLB to support one another in the face of these kinds of stresses. Because RTLB work is fairly stressful, consideration might be given to providing RTLB with training in stress management. It is probably also important to monitor turnover through the RTLB service so that future training needs can be accurately estimated.

Stress and burnout is even more of a problem in activity centres and residential programmes than it is in schools (Chamberlain, 1999). The problem of how to avoid burnout in activity centres and residential facilities has not been addressed by the research reviewed for this report.
How Are Services for Antisocial Children and their Families to be Co-ordinated When Responsibility is Shared by Five Different Government Departments?

At the present time, the Ministry of Education, the Ministry of Health, Child Youth and Family Services, the Police Department, and the Department of Courts all have statutory responsibilities which regularly bring them into contact with antisocial children and their families. Each of these Government agencies has a different set of responsibilities, responsibilities which come into play at different stages in the development of the antisocial child, a different perception of the needs of antisocial children and their families, and different recruitment and training traditions.

The issue of how these services might be co-ordinated in order to track the families of antisocial children, to intervene in a more timely fashion, and to provide a more tightly co-ordinated and effective set of services to the families of antisocial children remains an unsolved problem.

Part 4. The Training of Teachers, Resource Teachers, Educational Psychologists, Teacher Educators and Special Education Administrators

Preservice and Inservice Teacher Education

The interventions which have been identified in this report as most effective in halting antisocial development and accelerating prosocial development are all interventions which have been derived from basic scientific research into the conditions governing human learning. Central insights from this research include the effects of pacing on interest and learning, the effects of active involvement on rate of learning, the effects of consequences on attitudes, motivation, behaviour change and learning, the effects of punishment on attitudes and antisocial behaviour, the conditions under which a reward will function to motivate behaviour change, the conditions which need to be provided to motivate rapid behaviour change, the conditions which need to be provided for mastery and retention, the conditions which need to be provided in order to change a well-practised habit, and so on.

Also important are the insights, described in Section 2 of this report, regarding the way in which antisocial behaviour is learned, especially the finding that antisocial responses are maintained by both positive and negative reinforcement processes, the finding that punishment can have an effect on the behaviour of antisocial children which is quite different to the effect which it has on the behaviour of normally developing children, the finding that antisocial children can rarely be motivated to change their behaviour using reinforcement procedures alone, the finding that many antisocial children are little affected by verbal consequences such as praise and corrections, and so on.

The design of effective Individual Behaviour Plans and Individual Education Plans for antisocial children requires not only an adequate understanding of what works and why, there are also new skills to be acquired. If teachers are to learn to work more effectively with antisocial children, then they will need to learn how to (a) observe and record child behaviour, (b) identify specific social and academic learning needs, (c) select and specify appropriate social learning goals, (d) put multiple learning needs into an appropriate order of priority, (e) complete a functional analysis of the conditions currently preventing learning of the desired behaviour or skill, (f) design effective behaviour management and social skills training.
programmes and (g) effectively manage the consequences of appropriate and inappropriate child behaviour in the classroom while simultaneously teaching 28 other children. There is also evidence to suggest that more than a few teachers still need to learn how to establish a positive relationship with each of their students, especially at the secondary school, and especially with Māori students (e.g. Bishop et al., in press).

These observations raise a number of questions about the preservice education and the ongoing professional development of teachers and special education personnel. How is the new knowledge about learning, about how antisocial children develop, and about what works with antisocial children to be made part of the working knowledge of new teachers? Who will teach the teacher educators? How will this new knowledge and these new skills be acquired in a preservice programme which is already overloaded? How will any of this be achieved within a regulatory framework in which teacher education providers operate as autonomous institutions?

Teachers and special education personnel who received their training before this knowledge became available cannot be expected to have this knowledge as part of their day-to-day working knowledge. This raises important questions with respect to the professional development which is to be expected of classroom teachers, how this professional development is to be provided and how it is to be paid for. Will RTLB have a role in the professional development of existing classroom teachers? If so who will teach the RTLB? Until the knowledge which is necessary in order to educate children with antisocial behaviour difficulties becomes a part of the working knowledge of their teachers, then it will be difficult to achieve much improvement in the educational provisions which are being made for this group of children.

### The Special Training Needs of Resource Teachers

Let us assume for a moment that all New Zealand resource teachers are acquiring the knowledge and the skills outlined above. Resource teachers have additional duties. These include advising and educating parents and advising and mentoring teachers. In order to accomplish these tasks, additional knowledge and skills are required.

---

**Ability to establish a positive relationship with antisocial children, their parents and their teachers**

The importance of a positive relationship between the person being helped and the person providing the help is widely recognised in clinical practice where it is often referred to as the development of *rapport*, or the development of a *therapeutic alliance*, or working *collaboratively* (e.g. Kazdin & Wassell, 1999). Where the child has developed a severe behaviour difficulty, a positive relationship between the helper and the person being helped is essential because the primary task facing the helper (e.g. the resource teacher) is that of assisting the person being helped (e.g. the parent or classroom teacher) to see that it will be in the child's interest if the adult begins to do certain things differently. This is unlikely to happen unless the person being helped feels that they are being listened to, that the consultant can be trusted, that the consultant has their best interests at heart, and that the consultant will provide them with sufficient ongoing support to ensure that new goals will be achieved. In working with Māori parents and caregivers this means creating space for Māori caregivers to
“find their own voice. The more powerful partner needs to listen more carefully to that emerging voice. For it is this voice that is better placed to define the problem and suggest solutions that will work” (Berryman et al., 2002, p. 155).

The development of a positive relationship between, say, an RTLB and a parent means that the RTLB must be able to communicate with the parent in the parent's language and behave in ways which the parent considers to be culturally appropriate. It requires that the RTLB behave at all times in ways which are seen as helpful, supportive, non-patronising, and non-threatening by the parent. It requires that the RTLB understand that the cultural background of the parent and child may result in them choosing behaviour change goals, behaviour change procedures, reinforcers, and sanctions which are culturally appropriate for them.

The need to be able to develop a positive relationship with parents and children from a variety of cultures and subcultures has obvious implications for the recruitment, training, and professional development of resource teachers and special education personnel who will be working with the families and the teachers of antisocial children.

**Teacher mentoring skills**

In order to work effectively with teachers, RTLB need to learn how to operate as an effective mentor, teaching classroom teachers how to complete their own diagnostic assessments and functional analyses, how to select appropriate interventions, how to monitor and record student progress on a day to day basis, and how to implement and follow through on behaviour management plans and social skills teaching. Until such time as teachers are taught how to identify and teach missing social skills at the preservice level, the resource teacher will often also need to show teachers how to identify missing social skills, how to prioritise missing social skills, and how to use incidental teaching procedures to teach these skills to children who have not yet acquired them.

The current RTLB training course stresses the importance of doing these things, and the portfolio component of their training attempts to ensure that they are engaging in this kind of work, but it does not provide instruction or training in how to do these things. This is an issue which will need to be taken up during the current review of training for special education personnel.

**Parent education skills**

In order to help parents make permanent changes to the way in which they respond to antisocial and prosocial behaviour in the home, special education personnel who work with parents need to learn not only how to establish rapport with parents but also how to motivate parents to do things differently. Rarely can this be accomplished simply by providing parents with “advice”. The consultant who works with parents needs to be able to function as a parent educator as well as an advisor. This involves being able to *teach* new parenting skills to parents who want to learn them rather than just describing them. Effective parent education involves knowing what to focus on next, when and how to work one step at a time, how to model appropriate parent behaviour, how to provide useful feedback, and so on.
There are a variety of different kinds of circumstances which can lead to parents inadvertently shaping antisocial behaviour in their children: stress from economic difficulties, stress from cultural alienation, stress from conflict between parents, stress from conflicts within the whanau, a lack of opportunity to learn positive parenting skills, and so on (Patterson, 1982). Because individual families have different sets of needs they will usually require individualised assistance consisting of different combinations of interventions. It also means that special education personnel who work with the families of antisocial children will require diagnostic skills, interpersonal skills, and problem solving skills which are sufficiently well developed and sufficiently creative to solve some quite difficult family problems.

In their 1999 survey, Bourke et al. (2001) found that, when asked about barriers to effective work, RTLB ranked training issues behind only teacher resistance and teacher expectations. Commonly voiced concerns were that the training was too narrow, that there was not enough focus on practical strategies and that there was no training in counselling or in working with families.

These observations raise a number of difficult questions. What kinds of work are RTLB expected to engage in with the parents of children with severe behaviour difficulties? Does this work include parent education? If it does not, who is to provide the parenting skills education which the parents of antisocial children almost always require? If it does, what level of expertise in parent education is expected of RTLB, how is this level of expertise to be acquired during training, and how will it be assessed?

**Social work skills**

When working with some of the parents of antisocial children it will be necessary to address some of the personal difficulties facing the parents before work can even begin on the difficulties facing the child. This is because a third or more of the parents of antisocial children are facing multiple difficulties including but not limited to such things as limited schooling, social isolation, lack of income, marital discord or violence, alcohol or drug problems, deviant or criminal associates, a partner in prison, and so on (Church, 1999; Livingstone, 2002).

To work effectively with these families, resource teachers and specialists need to know more than just how to deliver a parenting skills programme. They need to know how to operate as a counsellor, social worker, and community worker as the need arises. They need to know what resources are available in the community including kaumatua and kuia. They need to know which agencies to make referrals to, and which agencies have the shortest waiting lists. They need to keep themselves up to date on the kinds of financial support which are available to families with no income. They need to know how to track and maintain contact with transient and highly mobile families. They need to know how to distinguish between violent relationships and non-violent relationships and how the former should be handled. They need to know how to distinguish between child abuse and child discipline and what to do in cases of child abuse. They need to know how to handle disclosures of physical abuse, sexual abuse, and neglect. And they need to be clear in their own minds about the kinds of family problems which they are equipped to deal with and those which must be handled by referral to another agency.
At the present time it is unclear which of these needs should be met by GSE personnel, which should be met by RTLB, and which should be dealt with by referral protocols. This is an issue which will need to be addressed during the current review of special education training programmes.

**Part 5. Resourcing Services for Children with Severe Behaviour Difficulties**

Most of the assessment procedures and intervention procedures identified in this report as highly effective could be readily adapted for use in New Zealand because they have been developed to the point where both the procedures and the staff training which need to be provided have been set down in some kind of implementation manual. This is true for many of the school and classroom programmes including Effective Behaviour Support, PASS, CLASS, and RECESS. This is also true for Multisystemic Family Therapy, for the Teaching Family Home programme and for all of the parenting skills training programmes described in this report. In addition, many of the researchers mentioned in this report have written books on how to work effectively with parents from diverse backgrounds. See, for example, Henggeler, Schoenwald, Borduin, Rowland & Cunningham (1998), Sanders and Dadds (1993) and Webster-Stratton and Herbert (1994). The Webster-Stratton and Herbert book is based on detailed qualitative analyses of recordings of actual parent training sessions.

An examination of these implementation manuals and clinician's guides indicates that most of the procedures described in these manuals and guides are procedures which are already being used by at least some New Zealand teachers, resource teachers, and therapists. This observation suggests that most of these programmes could be adapted, with relatively little effort, for use in New Zealand. In addition, many of these programmes are supported by booklets, tip sheets, training videos, and so on prepared specifically for the teachers and parents of antisocial children. These materials too could be adapted for New Zealand use.

Trying to improve special education services by improving training takes a relatively long period of time before it begins to have any effect on practice. This is because someone first has to train the teacher educators, because preservice training programmes train only a small fraction of the total cohort of teachers or resource teachers each year, and because upgrading a particular subset of teaching skills is rarely regarded as sufficiently important to warrant the expense of providing inservice training for all teachers.

One of the ways of speeding up the transition to more effective practice is to make selected resources, such as up-to-date practice guides, freely available to practitioners either in published form or via the internet. Two excellent examples have been provided by the Center for Effective Collaboration and Practice, a resource centre funded by the US Office of Special Education Programmes. These are *Addressing student problem behaviour* (Quinn, Gable, Rutherford, Nelson & Howell, 1998) and *Teaching and working with children who have emotional and behavioral challenges* (Quinn, Osher, Warger, Hanley, Bader & Hoffman, 2000).

One of the implications of this observation is that a working group might be set up to inspect the available resources and to make recommendations about those which might be most suitable for adapting to the New Zealand context. This is probably the best way of bridging the gap between research and practice until such time as improved training procedures begin to take effect.
References


