

Early intervention strategies for children and young people 8 to 14 years

Literature review



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Author

Lucy Tully

Acknowledgments

Many thanks to Stephanie Taplin, whose earlier paper on school programs helped to shape this review. Thanks to Sue Brownhill who drafted the section on Mentoring Programs. Thanks also to the comments provided by Bill Anscombe, Jennifer Baldwin, David Bennett, Jacqueline Goodnow, Virginia Schmied, Stephanie Taplin, Cate Thomas, Peter Walsh and Johanna Watson.

Produced by

Centre for Parenting & Research

NSW Department of Community Services
4 – 6 Cavill Avenue
Ashfield NSW 2131
Phone (02) 9716 2222

November 2007

ISBN 1 7419 0041 7

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Executive summary

Over the past few decades, some of the indicators of health and wellbeing of children and young people in Australia have not improved or have deteriorated despite Australia's prosperity (Australian Research Alliance for Children & Youth, 2005). Early interventions aim to reduce the risk factors for mental health problems and health risk behaviours, and enhance protective factors, thus building resilience. Within the literature, studies examining the effectiveness of early interventions have predominantly targeted infancy and early childhood, and the importance of intervening in late childhood and early adolescence has been overlooked.

Interventions delivered during the transition to adolescence are necessary in order to capture three groups of vulnerable children and young people: (1) those who are currently experiencing problems but who did not receive an intervention during early childhood, (2) those who received an intervention in early childhood but who continue to experience problems and (3) those who are not currently experiencing problems but are at risk for developing problems during adolescence. Given the high rates of mental health problems, substance use and child protection notifications for children and young people aged 8 to 14 years, there is a critical need to provide early intervention for this age group. Thus, the purpose of this literature review is to identify effective early intervention strategies for children and young people aged 8 to 14 years.

Early interventions can be broadly grouped into three categories: parenting programs, child-focussed programs and multi-component programs. Parenting programs are short-term interventions which primarily target the parent or family and provide parenting education or skills training. Child-focussed programs target the child or young person directly and typically involve instructional or skills-based approaches delivered in the school settings. Multi-component programs involve more than one intervention and may target the entire school, the home and/or the community in addition to the child.

This literature review examines the evidence supporting the effectiveness of parenting programs, child-focussed programs and multi-component programs as early interventions for all families (universal interventions), for high risk families (selected interventions), and for families where the child or young person is already showing difficulties (indicated interventions). Selected and indicated interventions are also known as 'targeted' interventions, since those at high risk for future problems are targeted for inclusion.

Parenting programs

The transition from late childhood to adolescence represents a time of significant change in the parent-child relationship. While it is assumed that parental influence becomes less important as children enter adolescence, there is research to show the strong and enduring effects of parenting practices in late childhood and early adolescence. Parenting programs that have been developed for children aged 8 to 14 years old generally aim to strengthen protective factors such as positive parent-child communication and reduce risk factors such as poor monitoring and supervision in order to enhance child, parent and family outcomes.

Evidence of effectiveness of parenting programs

Table 1 lists the parenting programs that are included in this review. There is evidence that universal group parenting programs delivered in the transition to secondary school are effective in preventing alcohol and substance use in young people. Relatively brief programs that focus on enhancing parenting and family communication have been found to show significant preventive effects, even 6 years following the delivery of the program and these programs demonstrate significant cost-benefits in preventing alcohol use disorders. Low-cost, self-directed parenting programs, where families work through the materials at home without the involvement of a facilitator, have also been found to be effective, at least in the short-term, in enhancing a range of parent and child outcomes.

Targeted parenting programs have been found to improve parent and child outcomes for families with multiple risks, families with parental depression, divorced parents, step-families, low income parents, and parents stressed by adolescent substance use. Behavioural parenting programs, based on social learning theory, are effective for children and young people with externalising problems, such as conduct disorder, oppositional defiant disorder and attention deficit hyperactivity disorder. However, there is a lack of research examining programs based on non-behavioural approaches. Participation in behavioural parenting programs has been found to result in short-term improvements in a number of domains of parenting, parental mental health, family functioning and child behaviour. While very few parenting programs have been evaluated in the child protection context, one intensive program (Parent Child Interaction Therapy), that involved in vivo training with parents and children, demonstrated the potential to significantly reduce re-abuse rates.

Factors influencing program effectiveness

Some parenting programs have included children and young people in the parenting program, but there is mixed evidence as to whether this leads to more enhanced outcomes. However, interventions that aggregate high risk young people in groups have been found to lead to an increase, rather than a decrease, in substance use and behavioural problems. There is also mixed support for the inclusion of additional interventions that target parental risk factors, such as depression and domestic violence. There is some evidence that duration of parenting programs is important, with families who attend more sessions showing more positive outcomes. However, there are also some very brief parenting programs that have demonstrated positive effects.

High risk children and families are more likely to drop out of parenting programs than low risk children and families. Factors related to attrition include more severe child behavioural problems, low child IQ, parental depression and stress and low socio-economic status.

A number of studies have examined the processes by which parenting programs lead to changes in child and adolescent behaviour. This research has found that changes in parenting practices, such as increased monitoring and supervision, and improvements in the quality and supportiveness of the parent-child relationship largely account for the improvements in child externalising behaviour.

Child-focussed and multi-component programs

Child-focussed programs for children or young people aged 8 to 14 are typically delivered in the school setting since schools enable access to the majority of children and young people, including those who may be at highest risk of poor outcomes. Outside of the family environment, the school is the primary setting within which the development of children and young people can be directed and shaped. Child-focussed programs typically target risk and protective factors relating to the child and involve classroom-based approaches that target problem-solving and emotional regulation. Multi-component programs, on the other hand, often address risk and protective factors in the home, school and/or community and usually involve a combination of classroom approaches, school-wide approaches and family-based approaches. Table 1 lists the child-focussed and multi-component programs that are included in this review.

Effectiveness of child-focussed and multi-component programs to prevent child sexual abuse, risk behaviours and emotional or behavioural problems

From the research reviewed, there is evidence that skills-based programs to prevent child sexual abuse are effective in changing knowledge and self-protection skills, but it is not known whether these programs also change behaviours. There is evidence that universal and targeted skills-based programs to prevent violence and conduct disorder are effective, at least in the short-term, and universal substance use prevention programs that are 'interactive' in content and delivery are also effective. There is presently mixed support for the effectiveness of programs to prevent bullying, school drop out

and depression, and while recent research has demonstrated that cognitive-behavioural programs to prevent anxiety are effective, further research is needed.

Research suggests that school connectedness is an important protective factor for behavioural, emotional and school-related problems and there is evidence that multi-component interventions that specifically target school connectedness improve children's academic, behavioural and psychological outcomes.

While most of the research reviewed in this paper found early interventions to have positive effects on children's mental health and well-being, some studies have found that programs which aggregate high risk youth into groups actually increase substance use and antisocial behaviour via contact with deviant peers.

Effectiveness of school-based or community-based strategies

The findings of this review demonstrate that interventions that involve home-school collaboration are effective in managing school-related problems. There is evidence that even simple one-way communication between the school and home is also effective in managing problems.

There is mixed evidence to support the effectiveness of extracurricular activities, after-school programs and mentoring programs as a strategy for high-risk children and young people, although these approaches may be beneficial for low-risk children. Community programs appear to be effective when delivered as part of a multi-component intervention. However, the evidence supporting community programs as stand-alone interventions relates to early childhood, and it is not known whether these findings generalise to children aged 8 to 14. Finally, there is a lack of research on the effects of health promoting schools interventions and school suspension and expulsion, although one study found that suspension leads to increases in antisocial behaviours.

Factors influencing program effectiveness and implementation

While there is a lack of research on factors that influence the effectiveness of child-focussed and multi-component programs, there is some evidence that multi-component programs are more effective than single component interventions that simply provide classroom curricula. There is also some evidence that involving parents in school-based programs may enhance the effects of the intervention. For some programs, such as those to prevent child sexual abuse, bullying and anxiety, interventions delivered in primary school may be more effective than in high school. Interventions are effective when delivered by teachers and mental health professionals, although there is evidence that delivery by peers may be important for substance use prevention programs.

The quality of implementation of an intervention has been found to be critical to its effectiveness. There are a number of factors that have been found to determine the quality of implementation, including program standardisation, using a local planning process, organisational capacity and organisational support.

Methodological problems

There are a number of methodological problems with many of the research studies included within this review. These limitations include small sample sizes, high attrition rates or differential attrition, lack of long-term follow-ups to determine the durability of the intervention effects, reliance on self-report measures and exclusion of fathers. The majority of research has been conducted in the USA and there is a lack of research from Australia. As the school system in the USA differs significantly from Australia in terms of structure, policies and practices, replication of study findings in the Australian context is needed. Additionally, the design and analysis of multi-component studies have generally not enabled an estimation of the separate effects of different components of the intervention. Finally, very few programs have been developed for, or adapted to, culturally and linguistically diverse groups, and only one program has been adapted for Indigenous children and young people, so this issue needs to be addressed in future research.

Practice implications

There are a number of implications for the delivery of evidence-based early interventions for parents of children and young people aged 8 to 14. These include:

- Parenting programs should be developmentally appropriate and target risk and protective factors known to be associated with child outcomes such as parental monitoring and supervision, parent-child communication and parent-child relationship quality.
- Universal parenting programs should be delivered early during the transition to adolescence so that intervention occurs prior to initiation of substance use and delinquency.
- Universal parenting programs that target parenting and family interaction have the capacity to prevent the initiation of alcohol and smoking, and may even impact on delinquency.
- Brief or self-directed parenting programs are essential for parents who may not be able to access group or individual programs. Families participating in brief or self-directed programs should be monitored and more intensive interventions should be offered to those who continue to show problems at the end of the program.
- Selected or indicated parenting programs that are behaviourally-based have the potential to improve parenting skills, family functioning and quality of the parent-child relationship and to reduce externalising behaviour problems and risk behaviours in vulnerable children and young people.
- Behaviourally-based parenting programs are likely to be effective for families with parental depression, multiple risk factors, marital separation or divorce, and children with externalising behaviour problems.
- High risk families are more likely to drop out of parenting programs than low risk families, so practitioners may consider implementing strategies such as motivational enhancement programs to improve participation and retention.
- Multi-component interventions that target risk and protective factors in a number of settings may lead to more positive outcomes than single component interventions, especially for high risk children.
- For some child-focussed and multi-component programs, such as those to prevent child sexual abuse, bullying and anxiety, intervention should be delivered in the primary school years, prior to the transition to adolescence.
- Child-focussed and multi-component programs to prevent violence, depression, anxiety and child sexual abuse should use a cognitive-behavioural or skills-based approach. Programs to prevent substance use should be interactive in content and delivery and delivered, at least in part, by peers.
- Involving parents in a school-based intervention may enhance the effectiveness of the intervention.
- Programs which aggregate high risk children and young people into groups should be avoided due to the potential negative effects of antisocial peers.
- Programs that target known risk and protective factors may lead to improvements in a range of outcomes, rather than a single outcome.
- High quality implementation of an evidence-based intervention is essential for effectiveness in real world settings.

Table 1: Overview of programs included in this review

Program/Intervention	Main issue/ problem targeted	Level of intervention
Parenting programs		
Adolescent Transitions Program (ATP)	Prevent substance use and behaviour problems	Selected (families with multiple risk factors)
Amazing Alternatives! Home Program	Prevent substance use	Universal
Behavioural Exchange Systems Training Intervention	Reduce substance use and enhance parenting	Selected (parents of children using substances)
Child and Parent Relations	Prevent substance use	Universal
Common Sense Parenting	Enhance parenting skills and prevent behaviour problems	Selected (low income parents)
Families in Action	Prevent substance use	Universal
Family Matters	Prevent substance use	Universal
New Beginnings Program	Enhance parenting skills and prevent behaviour problems	Selected (separated or divorced mothers)
Parent-Child Interaction Therapy (PCIT)	Prevent abuse recurrence	Indicated (physically abusive parents)
Parent Management Training (PMT)	Enhance parenting skills and prevent behaviour problems	Indicated (children with behaviour problems)
Parenting Adolescents: A Creative Experience (PACE)	Enhance parent problem-solving skills	Universal
Parenting Adolescents Wisely	Enhance parenting skills	Universal
Parenting Between Cultures program	Prevent abuse and neglect in migrant communities	Universal
Parenting Partnership	Enhance parenting skills and prevent behaviour problems	Universal
Parenting Through Change	Enhance parenting skills and prevent behaviour problems	Selected (separated mothers)
Positive Parenting Program (Teen Triple P and Indigenous Triple P)	Enhance parenting skills and prevent behaviour problems	Universal
Preparing for the Drug Free Years (PDFY)	Prevent substance use	Universal
Program for Aware Parenting	Enhance parenting skills prevent behaviour problems	Selected (low income parents)
Saving Sex for Later	Promote sexual abstinence	Universal
Strengthening Families Program (SFP)	Prevent substance use	Universal
Strong African American Families Program	Enhance parenting and prevent substance use	Universal
Systematic Training for Effective Parenting (STEP)	Prevent physical abuse	Indicated (abusive parents)

Program/Intervention	Main issue/ problem targeted	Level of intervention
Child-focussed programs		
Cambridge-Somerville Youth Study	Prevent violence or conduct disorder	Indicated (children with aggressive behaviour)
Life Skills Training (LST) program	Prevent substance use	Universal
Penn Prevention Program	Prevent depression	Universal or indicated (children with depressive symptoms or parental conflict)
Problem Solving For Life (PSFL)	Prevent depression	Universal
Project DARE (Drug Abuse Resistance Education)	Prevent substance use	Universal
Promoting Alternative Thinking Strategies (PATHS)	Prevent violence	Universal
School Health and Alcohol Harm Reduction Project (SHAHRP)	Prevent alcohol-related harm	Universal
Multi-component programs		
Check and Connect program	Prevent school drop out	Indicated (children with learning or behaviour problems)
Child Development Project (CDP)	Enhance school connectedness	Universal
Coping Power program	Prevent violence or conduct disorder	Indicated (children with aggressive behaviour)
Exploring Together	Prevent violence or conduct disorder	Indicated (children with aggressive behaviour)
Families and School Together (FAST Track) program	Prevent violence or conduct disorder	Both universal and indicated (children with aggressive behaviour)
FRIENDS program	Prevent anxiety	Universal
Gatehouse Project	Enhance school connectedness	Universal
Linking the Interests of Families and Teachers (LIFT)	Prevent violence or conduct disorder	Selected (children in high-risk neighbourhoods)
Olweus Bullying Prevention Program	Prevent bullying	Universal
Project Northland	Prevent substance use	Universal
Queensland Early Intervention and Prevention of Anxiety Project (QEIPAP)	Prevent anxiety	Indicated (children with symptoms of anxiety)

Program/Intervention	Main issue/ problem targeted	Level of intervention
Multi-component programs (continued)		
Raising Healthy Children (RHC) project	Enhance school connectedness	Universal
Resourceful Adolescent Program	Prevent depression	Universal
Seattle Social Development Project (SSDP)	Enhance school connectedness	Universal
School-based and community-based programs/strategies		
Big Brothers Big Sisters of America (BBBSA)	Mentoring program to enhance resilience	Universal, selected or indicated
Conjoint Behavioural Consultation (CBC)	Home-school collaboration strategy to manage school related concerns	Indicated (various school related concerns)
MindMatters	Health Promoting Schools Initiative to enhance resilience	Both universal and indicated

1. Introduction

1.1 Rationale and purpose of the review

Over the past few decades, some of the indicators of health and wellbeing of children and young people in Australia have not improved or have deteriorated despite Australia's prosperity (Australian Research Alliance for Children & Youth, 2005). The number of child protection notifications in Australia has more than doubled over the past 6 years (Australian Institute of Health and Welfare, 2006). Children aged 6 to 11 years currently make up a third (34%) of child protection reports in NSW (NSW Department of Community Services, 2006).

While there has been a decrease in recent years in the prevalence of alcohol use for 12 to 15 year olds in Australia, there has been a significant increase in harmful drinking within this age group with 21% of drinkers consuming harmful amounts (White & Hayman, 2006a). One-third (34%) of 12 to 15 year olds reported drinking in the past month (White & Hayman, 2006a) and 15% reported trying at least one illicit drug (White & Hayman, 2006b). Surveys of Australian children have found that 14% of children aged 4 to 17 had mental health problems (Sawyer et al. 2001), while for young people aged from 12 to 17 years, prevalence estimates are as high as 20-25% (Zubrick, Silburn, Burton, & Blair, 2000). However, these prevalence estimates do not include many children and young people who are 'at risk' for poor outcomes and could benefit from early interventions.

Early interventions aim to reduce the risk factors for mental health problems and health risk behaviours and enhance protective factors, thus building resilience. Risk and protective factors can be broadly grouped into five domains:

- individual (examples of risk factors: developmental delays, low IQ, poor problem solving skills; examples of protective factors: social competency and problem solving skills);
- family (examples of risk factors: low socioeconomic status, family conflict, coercive parenting; examples of protective factors: positive parent-child relationships, provision of supervision and monitoring);
- peer (examples of risk factors: peer rejection, involvement with antisocial peers; example of a protective factor: positive peer modelling);
- school (examples of risk factors: low expectation for academic attainment, poor rule enforcement; examples of protective factors: clarity of behavioural norms and consistency of rule enforcement); and
- community or neighbourhood (examples of risk factors: high rates of crime, poverty; examples of protective factors: positive social norms, effective social policies).

The method by which risk and protective factors interact to produce positive or negative outcomes at different stages of development is complex and not always clearly understood (Fraser, 1997). However, defining the goals of early intervention requires knowledge of risk and protective factors that are associated with specific outcomes at different stages of development.

Within the literature, studies examining the effectiveness of early interventions have predominantly targeted infancy and early childhood. There is increasing evidence that some interventions in early childhood are effective for improving child and family outcomes and are cost-effective¹. However, early intervention does not necessarily mean intervening early in life, but rather early in the developmental pathway, with a focus on transition periods, such as the transition from childhood to adolescence. The predominant focus on intervening in the early years has tended to divert attention away from the importance of intervening in late childhood and early adolescence.

¹ DoCS has developed a Database of Benefit Assessments that includes the economic benefits of Australian and overseas early intervention programs in order to help inform funding decisions about early intervention programs.

Interventions delivered during this transition period are necessary in order to capture three groups of vulnerable children and young people: (1) those who are currently experiencing problems but who did not receive an intervention during early childhood, (2) those who received an intervention in early childhood but who continue to experience problems and (3) those who are not currently experiencing problems but are at risk for developing problems during adolescence. Given the high rates of mental health problems, substance use and child protection notifications for children and young people aged 8 to 14, there is a critical need to identify early intervention strategies that are effective in improving the well-being of children and young people in this age range.

Early interventions for children and young people can be grouped into three main categories: parenting programs, child-focussed programs and multi-component programs. The purpose of this literature review is to examine the evidence for these programs as early interventions for children and young people aged 8 to 14.

1.2 Definitions

The term 'parenting programs' can be seen as an umbrella term to encompass parent education, parent training, parent support and family skills training. Parenting programs are short-term interventions that aim to increase parental knowledge of child development, improve parenting skills and attitudes and normalise the challenges and difficulties inherent in parenting (Holzer, Bromfield, & Richardson, 2006). Parenting programs often involve provision of information and skills-training to parents who then apply the knowledge and skills acquired with their child or young person at home. It is through changes in parenting behaviours, attitudes and the parent-child relationship that changes in child behaviour are expected to occur. Parenting programs predominantly target the parent, but may involve some intervention with the child or young person.

Child-focussed programs target the child or young person directly in the intervention and are usually delivered in the school setting by trained teachers or health professionals working in partnership with schools. Child-focussed programs usually target risk and protective factors relating to the child and aim to improve social-cognitive problem-solving and emotional regulation in children and young people through instructional or skills-based approaches.

Multi-component programs involve more than one intervention component and are delivered in more than one context such as school, home, community² and/or neighbourhood settings. Multi-component approaches often address risk and protective factors in a number of settings in order to improve child outcomes. Such approaches may involve a combination of family-based approaches, classroom approaches or school-wide approaches.

As with other early (or preventative) interventions, there are three types of parenting, child-focussed and multi-component interventions:

- Universal interventions typically target all children in a specified population, with the aim of preventing the onset of problems;
- Selected interventions target children who are at greater risk for developing mental health and/or behavioural problems, but who do not show signs or symptoms of problems; and
- Indicated interventions target children who showing signs or symptoms of existing problems (Mrazek & Haggerty, 1994).

Multi-component programs may involve a combination of universal, selective and indicated interventions. Selected and indicated programs are also known as 'targeted' interventions, since those at high risk of future problems are targeted for inclusion in the intervention. Weisz, Sandler, Durlak, and Anton

² It should be noted that the term 'community program' is often used to refer to interventions that aim to change behaviour in entire communities, and such interventions are different from programs that are simply delivered in community settings.

(2005) revised these definitions to make them more specific to children's mental health services and added a new concept 'health promotion/positive development strategies' to the three levels of prevention. Health promotion strategies target an entire population with the goal of enhancing strengths so as to reduce the risk of later problem outcomes and/or to increase prospects for positive development (Weisz et al. 2005).

Early interventions for children and young people aged 8 to 14 differ from early interventions for younger children in three main ways. Firstly, there is greater focus on intervening directly with the child, rather than with the parents. For younger children, parents are seen as the 'agents of change' and interventions often focus on changing parenting skills or the home environment whereas with older children, children's own skills and abilities are more likely to be targeted directly in the intervention. Secondly, interventions for older children are often delivered in the school setting, rather than the home or other community settings, since schools enable access to the majority of children. Thirdly, early interventions for families with older children often target child vulnerabilities (such as behavioural problems) rather than parent vulnerabilities (such as substance abuse and mental illness).

1.3 Scope of the review

This review aims to summarise the evidence for a diverse range of parent-focused, child-focussed and multi-component interventions. As there is much less research available for parenting programs for this age group than for child-focussed and multi-component programs, the scope for these sections of the review will differ.

For the section on parenting programs, the review will aim to be comprehensive in its scope and include findings from all research meeting the inclusion and exclusion criteria for this review (see section 1.4). However, for the section on child-focussed and multi-component programs, given the broad range of outcomes covered, and the large number of research studies, this review will not aim to be comprehensive. It will draw heavily on published reviews, including narrative reviews, systematic reviews and meta-analysis. However, it should be noted that there are two main limitations in relying on the findings from reviews. Firstly, many published reviews include a preponderance of research from the USA, which may not be applicable to the Australian context. To address this limitation, this review will describe findings from Australian studies, where available, in addition to well-evaluated international studies. Secondly, many published literature reviews include studies with children aged 6 to 18, so the findings will not necessarily be specific to the 8 to 14 age group that is targeted in this review.

It is important that the findings of this early intervention literature review are considered along with the findings of a number of other DoCS' reviews that are completed or in preparation. These reviews address the following related topics:

- Early interventions primarily targeting children aged 0 to 8 (Watson, White, Taplin, & Huntsman, 2005).
- Interventions for parental alcohol misuse (Burke, Schmied, & Montrose, 2006) and substance use (Burke & Taplin, in preparation).
- Interventions for children and young people with high needs (Schmied, Brownhill, & Walsh, 2006).
- Therapeutic interventions and strategies for adolescents aged 12 to 18 (Schmied & Tully, in preparation).
- Interventions for parental mental illness (Watson & Huntsman, in preparation).
- Interventions for domestic violence (Mills, Huntsman & Schmied, in preparation).

1.4 Methodology of the review

The review of the literature is based on a search of the following library databases: *SocINDEX with fulltext*, *Psychology and Behavioural Science Collection*, *MEDLINE*, *PsycINFO*, *PsycARTICLES*, *PsycBOOKS*, *PsycEXTRA*, and *Cochrane Controlled Trials Register*. In addition, searches were undertaken by reviewing reference lists of published meta-analytic reviews and systematic reviews, by internet searches and via contact with study authors.

The search terms included words and phrases likely to capture early interventions for children and young people aged 8 to 14 and their families. There were four groups of search terms:

- Intervention focused search terms including 'parenting programs', 'parent training', 'parenting interventions', 'parent education', 'school programs', 'family focused programs', 'early intervention', and 'prevention'.
- Age-related search terms including 'late childhood', 'youth', 'young people', 'adolescence', 'transition to adolescence', 'teens', and 'teenagers'.
- Outcome related search terms such as 'child abuse and neglect', 'maltreatment', 'behaviour problems', 'delinquency', 'conduct disorder', 'child sexual abuse', 'bullying', 'school drop out' and 'substance use'.
- Combinations of these search terms such as 'parenting adolescents', 'parenting during the transition to adolescence', 'parenting programs for teenagers', 'school-based substance prevention programs', 'conduct disorder interventions' and 'prevention of child sexual abuse'.

For studies to be included in this review they must have met the following inclusion criteria:

- *Study participants*: The literature review generally aimed to identify studies where the age of subjects fell within the 8 to 14 year age range. For the section on parenting programs, studies were included if the age range of subjects fell within the 8 to 14 age range (eg, 8-10 years or 12-13 years) or for broader age ranges, if the age range covered at least 3 years in the 8-14 age range. For the section on child-focussed and multi-component programs, since many school-based interventions began in first grade (when students were 6 years) and continued throughout primary school, there was some flexibility with the age range of included studies. No age restrictions were applied to systematic reviews and meta-analysis, since these reviews usually cover much broader age ranges.
- *Study design*: Studies must have been evaluated quantitatively and have a quasi-experimental or experimental design. This included studies with a pre-to-post design, studies using a non-randomised comparison group, and randomised controlled trials (RCTs). Both efficacy and effectiveness studies were included³. In terms of reviews of existing literature, this paper included the findings of meta-analysis, narrative reviews and systematic reviews.
- *Outcomes*: Studies must have evaluated the impact of the intervention on some aspect of child or youth behaviour or adjustment, parenting or family functioning.
- *Years searched/language*: Studies must have been published between 1990 and December 2006. Studies must have been published in English.

³ The efficacy of an intervention is the result of implementation in a well-controlled setting, using procedures to control variability of external variables such as randomisation to condition and adherence to study protocols. In contrast, the effectiveness of an intervention, is the result of implementation in applied or 'real world' settings, which often do not allow such rigorous control (Merrell & Buchanan, 2006).

Due to the limited scope of the review, programs that have targeted the following domains or populations were excluded from the review:

- children or young people with a medical illness, a developmental or intellectual disability, eating disorder or bereavement
- interventions that are focused on health-related outcomes such as sun protection, road safety, and obesity
- interventions that are focussed on sexual and reproductive health outcomes such as prevention of teenage pregnancy and sexually transmitted infections
- interventions that primarily involve public policy or media-based initiatives
- interventions that are delivered in conjunction with, or in comparison to, drug therapy.

1.5 Structure of the review

This literature review is divided into 6 sections covering different topic areas.

Section 2 reviews the research supporting parenting programs that are provided to all children and families in order to prevent the onset of problems (universal programs), to high risk children and families (selected programs) and to children and young people who are already experiencing difficulties (indicated program). This section also reviews the evidence for parenting programs within the child protection context.

Section 3 reviews the factors that influence effectiveness of parenting programs. These factors relate to the program, the facilitator and the characteristics of the child or family. Factors that influence participation in parenting programs and factors that are related to drop out from parenting programs are also reviewed.

Section 4 will review the evidence for child-focussed and multi-component programs which aim to prevent the following outcomes: sexual abuse; bullying; violence and conduct disorder; substance use; anxiety; and depression. This section will explore the concept of school connectedness and review the evidence for the effectiveness of programs to enhance school connectedness and prevent drop out. This section also examines the evidence for a range of school- and community-based strategies for improving child outcomes and preventing problem behaviours. These strategies include: health promoting schools initiatives; home-school collaboration and the involvement of parents; extracurricular activities; after-school programs; school suspension and expulsion; mentoring programs; and community programs.

Section 5 discusses the factors influencing program effectiveness and implementation of child-focussed and multi-component interventions.

Section 6 outlines the methodological problems with research on parenting programs, child-focussed and multi-component interventions and provides directions for future research.

Section 7 discusses the implications of the findings of the review for practice.

2. Evidence of effectiveness of parenting programs

2.1 Background

The transition from late childhood to early adolescence represents a time of significant change in parents' relationships with their children. In early adolescence, it is normal for children to disengage and distance themselves from their parents and to become more dependent on their relationships with peers (Fuglini & Eccles, 1993). This disengagement and the resulting changes in the parent-child relationship may present a significant challenge for parents and may lead to disruptions in the family. In addition, rates of child problem behaviour, including substance use and delinquency, may rise during this transition period (Loveland-Cherry, Ross, & Kaufman, 1999). While the task of parenting younger children is well-defined, there is less clarity about the role of parents as children become older, and the extent to which parents should monitor and supervise teenage children and control their actions in relation to peers, risk behaviours and day-to-day activities (Coleman, 1997; Henricson & Roker, 2000).

It is generally assumed that parental influence becomes less important as children enter adolescence, due to the increasing influence of peers, and due to young people spending less time in the home and therefore being less amenable to change through typical parenting strategies (Kazdin, 2005). However, there is research to confirm the strong and enduring influence of parenting practices during late childhood and early adolescence (DeVore & Ginsburg, 2005). Research has identified a number of parenting practices that operate as risk and protective factors for adaptive and maladaptive child and adolescent outcomes. Protective factors include a warm, nurturing and supportive relationship with the child, positive discipline methods and the provision of monitoring and supervision (see Bassarath, 2001; Bry, Catalano, Kumpfer, Lochman, & Szapocznik, 1998, for review). Steinberg (2001) identified that the three components that comprise authoritative parenting – warmth, firmness and encouragement of psychological autonomy – make independent contributions to healthy adolescent development. Risk factors include a low level of communication between parents and children, failure to monitor children, severe or inconsistent discipline and high levels of family conflict (Kosterman, Hawkins, Spoth, Haggerty, & Zhu, 1997).

The early adolescent years are pivotal for mobilising parents to use constructive and effective parenting to enable young people to become more competent and mature (Dishion & Andrews, 1995). Interventions that target all parents during this stage may strengthen child and family protective factors and reduce risks for future problems. In addition, as poor parenting practices such as low warmth, harsh punishment and low monitoring are associated with child and adolescent behaviour problems (Lynch et al, 2006; Prior, Sanson, Smart, & Oberklaid, 2000), interventions that target parenting skills are essential for children and young people who are experiencing problems. Thus, while parenting programs are seen as important for supporting all parents, they are particularly important for parents of children and young people who are at risk of poor outcomes. While the vast majority of parenting programs have been developed for, and evaluated with, parents of young children, there are a number of parenting programs that have been developed for parents of children and young people aged 8 to 14 years.

2.1.1 Categories of parenting programs

Parenting programs can be delivered in a number of different formats including individual, group or self-directed programs. Self-directed programs involve parents working through materials on their own, without guidance from a facilitator. Individual and group parenting programs can be delivered in a range of settings including the home, clinic or community settings such as schools or neighbourhood centres. Programs vary in intensity and duration and can range from brief self-directed programs that involve the provision of written material alone to facilitator-guided interventions that last several months. Some programs target the parents only while others target the family and involve the child in some or all of the intervention.

Parenting programs that have been evaluated empirically are generally based on either behavioural approaches or relationship approaches, although these approaches are not mutually exclusive (Barlow & Stewart-Brown, 2000). Behavioural approaches are based on social learning theory and the focus is on teaching parents strategies to help them modify their children's behaviours through rewards and punishments. An example of a behaviourally based program is Parent Management Training (PMT). PMT aims to modify coercive parent-child interactions that foster aggressive and antisocial child behaviour (Patterson, 1982). In coercive interactions, parents and children establish a pattern of interaction in which parents escalate their discipline over time to keep up with the children's similarly escalating aversive responses. Within PMT, parents are taught how to promote desirable, prosocial behaviours in their child while at the same time applying discipline to minimise undesirable behaviours (Kazdin, 2005). Specific behaviour modification skills are taught via active skills training involving practice, role play, feedback and modelling by the facilitator.

In contrast, relationship approaches are usually based on humanistic, Adlerian, psychodynamic or family systems theory (Barlow & Stewart-Brown, 2000). An example of a humanistic approach to parenting based on Adlerian theory is Systematic Training for Effective Parenting (STEP) developed by Dinkmeyer and McKay (1976). STEP avoids rewards and punishments as a disciplinary method and teaches parents to use natural and logical consequences, reflective listening and communicating acceptance when they attempt to modify child behaviour. The goal of the program is to improve the child's self-concept and dignity (Kumpfer, 1999a).

2.2 Universal parenting programs

Universal programs aim to normalise and destigmatise parenting education and encourage all families, including the more high risk families, to participate. Universal programs for parents of 8 to 14 year olds generally aim to improve parenting behaviours and strengthen family relationships in order to prevent adolescent-onset antisocial behaviour, delinquency, teenage pregnancy, smoking, and alcohol and drug use. They specifically target risk factors such as low levels of communication between parents and children, poorly defined and poorly communicated expectations for children's behaviour, failure to monitor children, excessively severe or inconsistent discipline and high levels of negative interaction or family conflict (Kosterman et al. 1997; Toumbourou & Gregg, 2001).

Universal interventions need to be developmentally well-timed, occurring at the point at which problem behaviours are beginning to emerge. Programs for parents of children in the 8 to 14 age range have typically targeted the transition to adolescence (which coincides with the transition to secondary school), at around 12 years of age, as this is an important period for the decline in parental influence and escalation of adolescent risk behaviours and family conflict (Fuglini & Eccles, 1993). By targeting the transition to secondary school, parents may be more likely to see parenting programs as a normal and integral part of this transition. According to Ralph et al. (2003, p2) 'the transition from primary to secondary school around the age of 12 or 13 years is often a time of apprehension and anxiety for parents who may then be more receptive to receiving advice on adolescent and parenting problems at this time'.

2.2.1 Parenting programs in the Australian context

There are only three universal parenting programs that have been evaluated for children and young people aged 8 to 14 years in the Australian context: Triple P; Parenting Adolescents: A Creative Experience; and Parenting Between Cultures program.

Triple P

Positive Parenting Program (Triple P) is a multilevel system of behavioural family intervention, largely based on social learning theory. It aims to prevent severe behavioural and emotional problems by enhancing family protective factors and reducing risk factors associated with child maltreatment (Sanders, Cann, & Markie-Dadds, 2003). The Triple P system has five levels of intervention on a tiered continuum of increasing strength from a media-based parenting information at level 1 through to an enhanced behavioural family intervention at level 5 (Sanders, Cann et al. 2003). A number of studies have demonstrated the effectiveness of various Triple P interventions in enhancing parenting and reducing child behavioural problems in Australia and internationally, but these have largely targeted children under 8 years of age (see Sanders, Markie-Dadds, & Turner, 2003, for review).

The Triple P Program was recently modified so that it is suitable to parents of teenagers. *Teen Triple P* involved a 4 week group program followed by 4 weeks of telephone consultations. The primary aim of this program was to assist parents to promote social competence of their teenage children in order to prevent serious adolescent health-risk behaviours and delinquent or antisocial behaviour (Ralph & Sanders, 2004; 2006).

In a preliminary study, the effectiveness of a universal Teen Triple P was examined with 56 parents of 12 to 13 year olds making the transition to secondary school (Ralph & Sanders, 2006). In a pre-to-post design, participation in the group program led to reductions in parents' reports of conflict with their teenager, conflict with their partner, parental depression, anxiety and stress and improvements in parenting styles and parenting attitudes. However, the impact of the program on teenagers' behaviour was not reported. Ralph and Sanders (2006) report that there is a larger evaluation of Teen Triple P that is currently underway.

A version of the Triple P Program for Australian Indigenous families has been developed and examined in a preliminary RCT with 51 families (Turner, Richards, & Sanders, in press). The group based program was modified to be suitable for Indigenous families and comprised 6 group sessions and two individual home-based sessions. The study, conducted in South-East Queensland, found that the program led to significant reductions in parents' reports of child behaviour problems and some dysfunctional parenting practices (verbosity) when compared with the control group. The changes in the intervention group appeared to be maintained at the six month follow-up. There is a second larger study of this program that is underway in 12 sites across four Australian states (K.M.T. Turner, personal communication, January 29, 2007).

Parenting Adolescents: A Creative Experience

Parenting Adolescents: A Creative Experience (PACE) was developed as a universal intervention to reduce the risk factors associated with youth suicide (Toumbourou & Gregg, 2002). It is a group parenting program, based on an adult learning model and aims to empower parents by teaching problem-solving skills. In a large quasi-experimental study (N = 577), families from 14 schools who participated in PACE were compared to families from 14 matched comparison schools (Toumbourou & Gregg, 2002). Young people in intervention schools reported increased maternal care, reductions in conflict with parents and reduced substance use and delinquency compared with the comparison group. However, there were no effects of the intervention on young people's depressive symptoms, self-harm or suicidal behaviour.

Parenting Between Cultures Program

The Parenting Between Cultures program was the first culturally specific parenting program to be evaluated in Australia (Kayrooz & Blunt, 2000). The program was developed as a flexible, bilingual parenting program for parents of 5 to 12 year olds in order to prevent child abuse and neglect in migrant communities. There is some evidence that families with poorer English language skills are

more likely to have family risk factors such as incomes below the poverty line, unemployment and dissatisfaction with family relationships and children's well-being (Weston, 1996). The program addressed key parenting issues found to be relevant to members of culturally and linguistically diverse groups including intergenerational conflict, bicultural parenting identity, knowledge of the school system, discipline options and child abuse laws and strategies for gaining support.

In a small pre-to-post study with a sample of Croatian, Chinese and Samoan parents (N = 21), findings showed that the program was effective in fostering an understanding of the impact of culture on parenting, knowledge of the school system and child abuse laws (Kayrooz & Blunt, 2000). However, the measures used in this study were not validated and there was no measure of parenting behaviour to determine whether the program may have prevented child abuse and neglect, as was the stated aim.

2.2.2 International parenting programs

The majority of parenting programs developed internationally for children aged 8 to 14 have focussed on the prevention of substance use. Family factors have been recognised to play a critical role in adolescent alcohol and drug use (Resnick et al. 1997) and this has led to the development of a number of prevention-oriented family interventions aimed at reducing family risk factors and increasing protective factors for substance use (Sanders, 2000). The strong relationships between early age of initiation and likelihood of subsequent substance misuse in early adulthood, emphasises the importance of identifying effective early interventions (Grant & Dawson, 1997; Kosterman et al. 1997).

Strengthening Families Program and Preparing for the Drug Free Years

Strengthening Families Program (SFP) and *Preparing for the Drug Free Years* (PDFY) are two well-evaluated universal programs that aim to reduce risks and enhance resilience in order to prevent the initiation of substance use in adolescents. PDFY (now known as *Guiding Good Choices*) is based on the social development model, which integrates control theory and social learning theory and includes a five session group program with children attending one session. PDFY aims to increase parents' knowledge of risk factors for substance use and teaches parents how to communicate expectations for children's behaviour, help children to resist peer pressure, manage family conflict, and involve children in family activities in order to strengthen family bonds (Kosterman et al. 1997).

SFP is based on a psychosocial model and comprises seven sessions in which both the parent and child participate, separately and together. Parents are taught effective discipline and communication strategies; children learn skills for dealing with peer pressure; and families practice conflict resolution and communication skills (Spath, Redmond, & Shin, 1998b).

A series of studies has demonstrated the preventive effects of both programs. In an initial RCT with 209 parents, PDFY was observed to result in increased proactive communication and reduced negative interaction between parents and children (Kosterman et al. 1997). In a large study that randomly assigned 667 families to PDFY, SFP or a control group, both programs had a significant effect on parenting behaviours (such as enhancement of positive child involvement in family activities) which in turn impacted on parent-child affective quality and general child management (Spath, Redmond, & Shin, 1998a). These positive interventions effects were also maintained one year following the intervention (Redmond, Spath, Shin, & Lepper, 1999) and, by the two-year follow-up, the likelihood of substance use initiation was significant lower in the two active interventions than the control group (Spath, Reyes, Redmond, & Shin, 1999).

At the four-year follow-up, young people in both groups reported lower alcohol use compared with controls and the SFP group also showed reduced use of cigarettes (Spath, Redmond, & Shin, 2001). At the six-year follow-up, both interventions had a significant impact on cigarette use and the SFP also impacted on marijuana and alcohol use (Spath, Redmond, Shin, & Azevedo, 2004).

In an additional analysis of the four-year follow-up data with the SFP group, significant reductions were found in observed and self-reported aggressive and destructive behaviours relative to the control group (Spoth, Redmond, & Shin, 2000). Similarly, further analysis of the follow-up data with the PDFY group found that the intervention impacted on delinquency when compared with controls (Mason, Kosterman, Hawkins, Haggerty, & Spoth, 2003). These findings suggest that the effects of interventions that target substance use may also generalise to delinquency.

In an economic analysis, Spoth, Gyll and Day (2001) found significant cost-benefits for both programs when considering the benefits in preventing alcohol use disorders. Additionally, an independent economic analysis conducted by Washington State Institute for Public Policy found that both programs were associated with significantly more benefits than costs in preventing youth substance abuse (Aos, Lieb, Mayfield, Miller, & Pennucci, 2004). It should be noted that while these programs are the most thoroughly evaluated family-focused preventive interventions, they are not without limitations. One limitation relates to the generalisability of the findings, given that the sample in the study predominantly consisted of white, two-parent families.

Families in Action

Another group-based family program aimed at preventing substance use in young people which has been evaluated is *Families in Action* (Abbey, Pilgrim, Hendrickson, & Buresh, 2000). This program was based on a social development model and focused on enhancing family communication and attachment to school in order to prevent substance use. In a small quasi-experimental study (N = 28), young people reported greater improvements in family cohesion, self-esteem and alcohol beliefs one year after the intervention. However, this study did not examine the impact on actual substance use.

Child and Parent Relations

Not all programs designed to prevent alcohol use have been group-based programs delivered in community settings. *Child and Parent Relations* is a brief, home-based, family-focused program to prevent alcohol use and has been evaluated in a large RCT (Loveland-Cherry et al. 1999). The impact of the intervention was considered separately for young people (N = 892) who were alcohol users and nonusers at the start of the program. For the nonusers, the intervention did not lead to reductions in alcohol use or misuse immediately following the program relative to the control group, but reductions were observed by two- and three-year follow-ups (Loveland-Cherry et al. 1999). Conversely, for young people who were already alcohol users at baseline, the intervention group showed greater alcohol use and misuse than the control group at the follow-ups. These study findings are concerning as they suggest that programs designed to prevent alcohol use may lead to negative effects for those who are already using alcohol.

Programs for parents of pre-adolescents

While the majority of universal parenting programs have been developed with the aim of preventing alcohol and substance use in young people, there are some programs that have been developed in order to improve parenting with pre-adolescents. Lim, Stormshak and Dishion (2005) developed a one-session intervention for parents of young adolescents, in recognition that the time-consuming nature of most parenting programs may result in low participation rates. This intervention involved videotape modelling and motivational group discussion that aimed to teach parents useful family management skills. In an RCT with 81 families, parents in the brief intervention group were observed to show more positive family interactions at post-intervention than the control group (Lim et al. 2005). The authors recognised that while this brief preventive intervention may be effective for some families, it may not be sufficient to provide all families with the skills to resolve more serious problems.

Felner et al (1994) examined the impact of *Parenting Partnership*, a parenting program delivered in the workplace. The workplace may represent a convenient context to provide parenting programs, especially for parents of adolescents who are more likely to work full-time than parents of younger children (Shuster et al. 2001). Delivery of parenting programs in the work setting may have the capacity to improve access, reduce stigma and increase participation of fathers. Families (N = 191) who attended 80% or more of the sessions showed improvements in child behaviour problems, work-family conflict, parent stress and depression and parenting behaviours, with many of the changes persisting at follow-up (Felner et al. 1994).

Parenting programs for specific cultural groups

Parenting programs need to be relevant to, and respectful of the cultural values, beliefs, aspirations, traditions and identified needs of different ethnic groups (Sanders, 2000). Researchers have noted the lack of parenting programs that have been developed for culturally and linguistically diverse communities (Forehand & Kotchick, 2002). In response to this criticism, two parenting programs for specific cultural groups have recently been developed.

A family-based preventive intervention was developed for African American families (Brody et al. 2006). The *Strong African American Families Program* was designed to enhance parent and youth competence and prevent youth substance use and was based on research with rural African American families that identified family and community contributors to youth competence. In a RCT, 332 families were randomly assigned to the group program or a minimal intervention control (Brody et al. 2006). Following the intervention, participating families showed improvements in communication and lower rates of initiation of risk behaviours compared with the control group.

Martinez and Eddy (2005) adapted Parent Management Training (PMT) to high risk Latino youth. In a RCT with 73 young people, those in the PMT group showed significant reductions in externalising and aggressive behaviour and decreased likelihood of smoking at post-intervention. Parents in the PMT groups also showed improvements in a range of parenting outcomes at post-intervention relative to controls. However, there were no follow-ups to examine whether the intervention effects were maintained over time.

Self-directed parenting programs

While most universal parenting programs involve facilitator-led sessions, self-directed programs have been developed for delivery at home via computer, video, audio CDs or written materials. Self-directed programs have a number of benefits when compared to traditional facilitator-led programs. Firstly, they can reach families who typically would not be able to participate in face-to-face parenting programs, due to lack of transportation, residing in rural areas or other access difficulties (O'Donnell et al. 2005). Secondly, due to the convenience of completing the program in their own home and at their own pace and reduced stigma, parents may be more likely to participate in self-directed programs than facilitator-led programs (Morawska, Stallman, Sanders, & Ralph, 2005). Finally, self-directed programs involve substantially lower costs, than facilitator-led programs. Four self-directed parenting programs have been evaluated with children and young people aged 8 to 14 years.

The first program, *Parenting Adolescents Wisely*, was a brief interactive videodisk (CD-Rom) which presents a series of video clips showing families coping with common problem situations and prompts parents for the correct method of managing the situation (Kacir & Gordon, 1999). A small RCT examined the effectiveness of the three-hour program for 38 mothers living in rural areas. Compared with a control group, participation in the program led to reductions in child behavioural problems and improvements in parenting knowledge at post-intervention and follow-up, but did not affect parenting skills (Kacir & Gordon, 1999).

The second self-directed parenting program was designed to delay youth sexual initiation (O'Donnell et al. 2005). The *Saving Sex for Later* program consisted of three brief audio CDs that presented 'role-model stories' and encouraged parents to talk to their children about values and expectations, set household rules and respond appropriately to their children's pubertal development. In a large RCT with 846 black and Hispanic families, parents who received the program reported improved communication with young people about risk behaviour, and young people reported higher family support, more family rules and fewer risk behaviours three months following the end of program when compared to a control group (O'Donnell et al. 2005).

The third self-directed program was designed to prevent adolescent tobacco and alcohol use (Bauman et al. 2001). *Family Matters* consisted of successive mailing of 4 booklets to families followed by brief telephone discussions with health educators after each mailing. Parents read the booklets and participated in 15 activities with the adolescent, including discussions about consequences of substance use and identifying what the adolescent can do to resist peer pressure. In a RCT with 1316 families, the young people whose families received the intervention showed a significant reduction in smoking onset but not drinking onset compared with the control group (Bauman et al. 2001). There was no evidence that the program reduced alcohol or smoking for those who were already users (Bauman et al. 2000).

The fourth program, the *Amazing Alternatives! Home Program* also consisted of mailed booklets to parents to improve parenting and parent-child communication in order to prevent alcohol use (Toomey et al. 1996). In a quasi-experimental study (N = 521) in which non-participants were used as a comparison group, young people and parents in the intervention reported more discussions about alcohol at post-intervention than the control group (Toomey et al. 1996). However, these group differences were not maintained at the two-year follow-up and there were no effects for adolescents' reports of alcohol use.

2.3 Selected or indicated parenting programs

This section reviews the effectiveness of selected parenting programs for high-risk families, children and young people and indicated parenting programs, for children who are already displaying signs or symptoms of difficulty.

2.3.1 Selected parenting programs

Parenting programs that target children and young people who may be at higher risk of developing problems due to the presence of child or family risk factors are known as selected early interventions. Selected interventions may target families on the basis of a single risk factor such as poverty, parental mental illness, or divorce, or on the basis of multiple risks. For this latter approach, studies usually employ risk checklists and families scoring over a pre-determined cut-off are considered at highest risk of problems and therefore included in the program.

Programs targeting multiple risk factors

The *Adolescent Transitions Program* (ATP) is a family-centred preventive intervention that aims to promote adaptation in the adolescent years (Dishion & Kavanagh, 2000). An initial randomised trial of ATP was conducted with 158 families of young people who had four or more risk factors from a list of ten, such as problem behaviours, stressful life events and peer substance use (Dishion & Andrews, 1995). Families were randomly allocated to one of four 12-week programs: parent focused group (parent management training), teen focused group, parent plus teen focused group, or a self-directed program. The parent focused group showed significant reductions in behavioural problems at post-intervention and a trend for reductions in tobacco use at follow-up. Of concern, the two interventions that aggregated teens into groups (teen focus and parent plus teen focus) showed escalations in tobacco use

and teacher-rated problem behaviour at follow-up. This finding suggests that aggregating high-risk young people into groups may serve to increase risk behaviour via contact with deviant peers, a process which has been described by Dishion, McCord and Poulin (1999) as 'deviancy training'.

The ATP program has also been evaluated to determine whether it would be effective for high-risk young people when delivered by group leaders who were not mental health professionals (Irvine, Biglan, Smolkowski, Metzler, & Ary, 1999). An RCT was conducted with 303 families with young people who had three or more risk factors. Participation in the 12-week parent training program led to improvements in parents' reports of parenting, antisocial child behaviour and problem-solving interactions, relative to controls, and improvements were maintained over time.

A brief ATP intervention, the *Family Check-Up* (FCU), which was designed to enhance parent monitoring and family management, has also been evaluated with 71 families with high-risk young people (Dishion, Nelson, & Kavanagh, 2003). The FCU involves three sessions of motivational interviewing: the facilitator explores parent concerns and stages of change and motivates involvement in a family assessment; the family participates in the assessment; and then the facilitator provides feedback to explore potential intervention services that support family management practices. In an RCT, parents in the active intervention reported enhanced monitoring from one- to two-year follow-up compared to the controls (Dishion et al. 2003). Young people in the control group were more likely to self-report substance use in the control group versus the FCU group at two-year follow-up. It should be noted that while the FCU was developed to be delivered prior to a 12-week parenting program, many parents declined to participate in a more intensive program, preferring participation in the brief FCU at periodic intervals (Dishion et al. 2003).

An independent economic analysis conducted by Washington State Institute for Public Policy found that ATP was associated with significantly more benefits than costs in preventing youth substance abuse (Aos et al. 2004).

Programs targeting low-income families

Parenting programs have targeted low-income families since economic hardship can be a risk factor for poor family functioning. Pinderhughes, Dodge, Bates, Petit and Zelli (2000) found that the relationship between low socio-economic status and harsh parental discipline was attributable to parental beliefs about the efficacy of physical discipline and to negative perceptions of the child.

In a small pre-to-post study with 34 parents, a group parenting intervention *Common Sense Parenting* was found to be effective for both middle-income and low-income families (Thompson, Grow, Ruma, Daly, & Burke, 1993). Regardless of income, parent reports of child behaviour, parental attitudes and problem solving showed improvements at post-intervention and three-month follow-up. In another small study with 20 low-income families, a group parenting program, *Program for Aware Parenting*, led to greater parental responsiveness and guidance at post-intervention and one-year follow-up compared with controls (Bronstein et al. 1998). The intervention also resulted in improved grades at school and teacher ratings of externalising and internalising problems.

Programs targeting children of depressed parents

Studies have found higher rates of adjustment problems in children of parents with affective disorders such as depression (see Beardslee, Versage, & Gladstone, 1998, for review) and the risk factors of marital discord and poor parenting are often present in these families (Beardslee et al. 1993; Beardslee et al. 1998). As a consequence, a psychoeducational parenting program was developed for children of parents with depression (Beardslee et al. 1993). This program aimed to increase parental knowledge about the causes, symptoms and treatment of childhood and adult depression and to modify risk and protective factors in order to prevent the onset of the disorder in non-symptomatic young people.

In an initial RCT (N = 54), the program led to greater changes in family communication and understanding of family members compared to a two-session lecture group discussion (Beardslee et al. 1993) and these changes were maintained three years later (Beardslee, Wright, Rothberg, Salt, & Versage, 1996). The same interventions were evaluated in a second RCT (N = 37), and children in the psychoeducation program reported a better understanding of their parent's illness and enhanced functioning at follow-up (Beardslee, Salt et al. 1997; Beardslee, Versage et al. 1997; Beardslee, Wright et al. 1997).

Programs targeting divorced parents or stepfamilies

Children and young people whose parents divorce often exhibit adjustment problems that may continue for years after the separation (Cui, Conger, & Lorenz, 2005; Gryncch & Fincham, 1992). However, there is evidence that positive parenting by residential parents, particularly acceptance and consistency of discipline, can reduce the negative impact of divorce-related stress on children's adjustment (Wolchik, Wilcox, Tein, & Sandler, 2000). Thus, parenting programs have been targeted to children whose parents divorce in an effort to modify a range of risk and protective factors including maternal warmth, effective discipline, father-child contact and divorce stressors (Wolchik et al. 1993).

There are two parenting programs that have been developed for separated or divorced mothers. The first, the *New Beginnings Program*, consists of a ten session group program plus two individual sessions (Wolchik et al. 1993). In an initial RCT (N = 70), the program had significant effects on child behaviour problems, parenting and willingness to change father visitations at post-intervention, compared to a waitlist control group (Wolchik et al. 1993). A second RCT (N = 240) compared the mother-focussed program to a mother-plus-child-focussed program and found participation in both groups led to improvements in child behaviour problems, parenting, parent-child relationships and attitudes toward the father-child relationship at post-intervention when compared with a self-study control condition (Wolchik, West et al. 2000). The intervention effects for externalising problems were maintained at six-month follow-up (Wolchik, West et al. 2000) and at six-year follow-up, children who received the program showed significant reductions in externalising problems and substance use compared with the self-study control condition (Wolchik et al. 2002). However, the addition of the child-focussed intervention did not produce additional beneficial effects.

The second program for separated mothers, *Parenting Through Change*, consisted of a 14 session group-based parenting training (Martinez & Forgatch, 2001). In a RCT with 238 mothers of boys, the program was found to protect families from increases in non-compliance and coercive discipline and from decreases in positive parenting over a 20-month period (Martinez & Forgatch, 2001). The intervention led to a stable outcome trajectory, relative to the deterioration observed in controls. Additional analyses showed that mothers who improved their parenting skills in the first 12 months also showed significant reductions in maternal depression (Patterson, DeGarmo, & Forgatch, 2004).

As with children whose parents divorce, research has demonstrated that children and young people living in stepfamilies experience more adjustment problems than those living in intact families, particularly lower self-esteem, more symptoms of anxiety and loneliness and more depressed mood (Garnefski & Diekstra, 1997). Therefore, parenting programs have targeted stepfamilies in an effort to modify risk and protective factors and improve child outcomes.

In an Australian study, Nicholson and Sanders (1999) examined the relative effectiveness of a facilitator-directed behavioural family intervention, a self-directed program and a waitlist control group for 60 stepfamilies with a child with behavioural problems. Parent and stepparents in both active interventions reported fewer child behaviour problems and less parenting stress than the control group at post-intervention. No differences were observed between the facilitator-led program and the self-directed program. Nelson and Levant (1991) also examined the effectiveness of a skills training

parenting program for 34 stepfamilies. In a quasi-experimental study, the program led to improvements in parent-reported communication and children's perception of their relationship with parent. There were no follow-ups included in either study, so it is not known whether improvements were maintained over time.

Programs targeting parents stressed by adolescent substance abuse

While programs generally target parent risk factors in order to prevent maladaptive outcomes for children, some have also addressed the potential bi-directionality of risk factors. For example, while parental stress is often seen as a causal or maintaining factor for child problems, it also may be that parental stress develops as a consequence of children's problem behaviour (McGillicuddy, Rychtarik, Duquette, & Morsheimer, 2001). Two parenting programs have been developed to target adolescent substance use and parental stress.

In a small RCT (N = 22), a group coping skills training program was compared with a waitlist control for parents who reported their child was engaged in substance use (McGillicuddy et al. 2001). Moderate to large intervention effects were observed for parent coping, stress, depression, anxiety, anger and communication with small effects for youth marijuana use, but no effects for alcohol use. Similarly, an Australian quasi-experimental study (N = 66) evaluated the *Behavioural Exchange Systems Training Intervention*, a group parenting program for parents of substance-using adolescents (Toumbourou, Blyth, Bamberg, & Forer, 2001). Following the intervention, parents showed greater reductions in mental health symptoms, increased parental satisfaction and increased use of assertive parenting at post-intervention relative to the control group. However, the intervention did not impact on substance use.

2.3.2 Indicated parenting programs

Preventive programs that target children or young people showing signs of difficulty are known as indicated parenting programs. Indicated parenting programs for children with behavioural problems are based on the assumption that parenting practices contribute to the 'genesis, progression and maintenance of disruptive behaviours across childhood' (Lundahl, Risser, & Lovejoy, 2006, p86). Thus, parent training programs attempt to change parents' behaviour, perceptions and communication in order to effect changes in child behaviour (Lundahl, Risser et al. 2006). Parenting programs for children aged 8 to 14 with behaviour problems typically target externalising problems. These include aggression, noncompliance as well as behaviours that may meet the criteria for oppositional defiant disorder (ODD), conduct disorder (CD) and attention deficit hyperactivity disorder (ADHD).

ODD is a pattern of hostile, defiant behaviours toward authority figures, CD is a pattern of behaviour which violates the basic rights of others as well as age-appropriate norms and rules and ADHD is characterised by persistent overactivity, impulsivity and difficulties in sustaining attention (American Psychiatric Association, 1994). Young people who have been involved with the police and the courts may be termed 'delinquents', although the terms 'conduct disorder', 'delinquency' and 'antisocial behaviour' are often used interchangeably. There is increasing evidence that many problem behaviours in young people are interrelated. Young people who show conduct problems, for example, are also likely to engage in tobacco, alcohol and substance use, to engage in high risk sexual behaviour and to experience academic failure (Ary, 1999).

Parent Management Training for conduct problems and delinquency

The majority of the parenting programs that have focussed on children at risk of behavioural problems have involved Parent Management Training (PMT) or another similar behavioural parent training program (Kazdin, 2005). PMT can be delivered as an individual program (usually 12 to 16 sessions in duration) or as a group program. PMT involves didactic instruction, modelling and role plays to develop specific parenting skills and techniques. Sessions typically cover several content areas including:

- defining, observing and recording child behaviour
- positive reinforcement (praise and positive attending)
- time out from reinforcement (or other age-appropriate consequences for problem behaviours such as effective limit setting)
- a school program, in which the child's performance at school is observed and reinforcers are provided at home
- problem-solving
- family meetings
- behavioural contracts and managing low rate behaviours such as truancy or stealing (Kazdin, 2005).

A meta-analysis by Serketich and Dumas (1996) found evidence to support the short-term effectiveness of behavioural parent training in modifying problem behaviour at home and at school and in improving parental adjustment. Based on the 26 studies reviewed, a large effect size was obtained, indicating a strong effect of parent training on behaviour compared to no intervention. However, most of the studies in this meta-analysis included samples of children under 8 years of age. Positive findings for behavioural parent training were also obtained in meta-analytic reviews by Lundahl, Risser and Lovejoy (2006) and Brestan and Eyberg (1998), however, the majority of studies included in these reviews also focussed on parents of young children. It cannot be assumed that parenting programs that are effective with younger children will necessarily be effective for older children. The nature of the problems faced by parents of older children may differ and parent management strategies, such as time out, may not be appropriate for older children and hence the programs will require adaptation.

It has been suggested that older children may respond less well to parent training than younger children. Using archival data, two research studies investigated whether parent training is effective for children of all ages. Dishion and Patterson (1992) found parent training to be equally effective in reducing behaviour problems in both younger children (2.5 to 5.6 years) and older childhood (6.5 to 12.5 years), even though older children were more likely to be in the clinical range for behavioural problems before intervention.

Ruma et al (1996) examined parent training outcomes for three age groups (2 to 5 years, 6 to 11 years and 12 to 16 years) and found that while adolescents did have a lower rate of clinically significant improvement, this was due to the severity of their behavioural problems. In addition, two meta-analytic reviews actually found preliminary evidence for parent training to have a stronger effect with older than younger children (Maughan, Christiansen, Jenson, Olympia, & Clark, 2005; Serketich & Dumas, 1996) and a third found no difference with child age (Lundahl, Risser et al. 2006), so there is some evidence that parent training is robust to age effects.

Studies with older children and young people with conduct problems have generally sought to combine PMT with other empirically supported interventions in an effort to enhance intervention effectiveness. Kazdin, Siegal and Bass (1992) examined whether the addition of child-focussed problem-solving skills training (PSST) to PMT conferred additional benefits for children. Families of children with aggressive and antisocial behaviour (N = 97) were randomised to PMT, PSST or combined intervention. While all three conditions resulted in improvements in child behaviour at

post-intervention and one-year follow-up, the combined intervention group had a more significant impact on child behaviour and parental stress and depression, demonstrating the additional benefits of targeting young people in addition to providing parent training.

Kazdin and Whitley (2003) evaluated whether parent problem-solving training (PPST) for parental stress enhanced the effects of PMT and child-focussed PSST for children referred for aggressive and antisocial behaviour. Families (N = 127) were randomly assigned to receive the additional 5 sessions of PSST in addition to the 16 sessions of PMT and 25 sessions of PSST. While both groups showed improvements, families who received the additional PPST reported less severe child antisocial behaviour and greater reduction in parental depression and stress at post-intervention.

Bank, Marlow, Reid, Patterson, and Weinrott (1991) compared the effectiveness of PMT with a community intervention based on a systems approach for 55 families of chronically offending delinquents. PMT resulted in a faster reduction in arrest rates over the three-year follow-up and fewer days spent in institutional settings at post-intervention and one-year follow-up when compared with the comparison group. Those in the PMT condition spent a total of 1287 fewer days in institutional confinement, which represented a cost saving of nearly US\$100,000 over the three year period.

Parent Management Training for ADHD

The effectiveness of PMT has also been investigated in relation to young people with ADHD. Young people with ADHD often have comorbid ODD or CD (Barkley, 2004). Parent training has been identified as an empirically supported intervention for children with ADHD but relatively little research has been conducted with older children and adolescents (Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004; Smith, Waschbusch, Willoughby, & Evans, 2000).

Horn, Ialongo, Greeberg, Packard and Smith-Winberry (1990) examined the relative efficacy of parent training, child-focussed cognitive behavioural therapy and a combination of the two interventions for children and young people diagnosed with ADHD. In a RCT with 42 families, all groups showed reductions in behavioural problems at post-intervention, with improvements maintained at follow-up. In a quasi-experimental study, parent training was found to be superior to a waitlist control in improving parent-reported severity of ADHD symptoms and parental stress at post-intervention and follow-up (Anastopoulos, Shelton, Dupaul, & Guevremont, 1993). A psychoeducation group was also found to result in decreases in parent-adolescent conflict and youth problems in a sample of 107 parents of young people with ADHD, although no control group was used (McCleary & Ridley, 1999).

Barkley, Guevremont, Anastopoulos and Fletcher (1992) compared the relative effectiveness of eight to 10 sessions of parent training, problem-solving and communication training and structural family therapy for family conflict in 64 parents of young people diagnosed with ADHD. All interventions resulted in significant reductions in negative communication, conflict, child behavioural problems, maternal depressive symptoms and improved ratings of school adjustment at post-intervention and follow-up. Despite these significant improvements, only 5 to 20% of the total sample was considered 'clinically recovered' at follow-up, indicating communication problems persisted after intervention for most children.

In a later study, Barkley, Edwards, Laneri, Fletcher and Metevia (2001) compared 18 sessions of family problem-solving and communication training with nine sessions of parent training plus nine sessions of problem solving training to address parent-adolescent conflict in 97 families of young people with ADHD and ODD. The expectation was that, by increasing the intensity of the intervention from the earlier study, the intervention would be more effective. Improvements were observed in both groups in parent ratings of adolescent behaviour and mothers' behaviour at post and follow-up but only 20-24% of the families showed reliable change in communication and conflict by post-intervention, although 30-70% were considered to be in the normal range.

Other approaches

While the majority of interventions for child externalising problems have focused on behavioural parent training, one study examined the effectiveness of group STEP program, based on a humanistic approach (Adams, 2001). In a RCT (N = 85), the STEP group showed improvements in family functioning at post-intervention when compared to routine services. However, the nature and severity of the children's behavioural problems was not clear from the description of the sample.

It should be noted that other family-based interventions, such as Functional Family Therapy, Multisystemic Therapy, Multidimensional Family Therapy and Brief Strategic Family therapy, that have predominantly been used with older adolescents with behavioural problems are not covered within the scope of this review and have been reviewed elsewhere (Schmied & Tully, in preparation).

2.3.3 Parenting programs in the child protection context

Parenting programs are often relied on in instances where a parent has abused or neglected their child or is considered to be at risk of maltreatment. They operate on the assumption that parents will be less likely to maltreat their child if they improve their parenting skills, reduce their coercive child management strategies and modify attitudes linked to harsh parenting (Dore & Lee, 1999; Lundahl, Nimer, & Parsons, 2006). Parenting programs aim to teach parents effective, non-violent disciplining strategies as well as a range of adaptive coping skills that assist them in managing their own emotion and successfully implementing new parenting strategies (Runyon, Deblinger, Ryan, & Thakker-Kolar, 2004).

Systematic Reviews

Despite the prevalence of parenting programs in child protection clinical practice, relatively few have been evaluated in the scientific literature (Portwood, 2006). In recent years, however, several literature reviews have been conducted in an effort to establish the effectiveness of interventions for parents at risk of child abuse and neglect (Allin, Wathan, & MacMillan, 2005; Barth et al. 2005; Cameron & Karabanow, 2003; Dore & Lee, 1999; Dufour & Chamberland, 2004; Lundahl, Nimer et al. 2006; MacLeod & Nelson, 2000). While these literature reviews have identified some promising programs, the majority of research has been conducted with pre-school or early-school age children. For example, Lundahl, Nimer et al. (2006) conducted a meta-analysis of 23 programs but none included children aged 8 to 14 (some did not specify child age). Thus, the findings of these literature reviews cannot be generalised to parents of children aged 8 to 14.

Parent and Child Interaction Therapy

Parent-Child Interaction Therapy (PCIT) is a parent training intervention that was originally developed for child behavioural problems and has been adapted to physically abusive parents (Chaffin et al. 2004). PCIT is based on Patterson's (1982) coercion hypothesis which states that parents and children establish a pattern of interaction in which parents escalate their discipline over time to keep up with the children's similarly escalating behaviour. Urquiza and McNeil (1996) extended this hypothesis to include physically abusive parent-child dyads, by suggesting that participation in coercive interactions with children may lead some parents to engage in physical aggression as a means to get compliance. In contrast to other parenting programs, parents are shown how to implement specific skills and are coached in vivo with their children (Urquiza & McNeil, 1996).

Chaffin et al. (2004) investigated whether PCIT was more effective than a group-based psychoeducation program in preventing physical abuse recurrence among physically abusive parents in the child welfare system. They also sought to examine whether PCIT enhanced by a program targeting additional parental risk factors was superior to PCIT alone. Families (N = 112) were randomly assigned to three

interventions: PCIT, Enhanced PCIT (EPCIT) or a community psychoeducation group. EPCIT involved individualised services targeting parental depression, substance abuse and domestic violence. At follow-up, 19% of parents assigned to the PCIT had a re-report of physical abuse compared with 36% in the EPCIT and 49% of the community group. EPCIT did not show any additional benefits over the PCIT, and was not significantly different from the community group.

Other research in the child protection context

There are only a handful of additional studies that have evaluated parent-focussed or family-focussed interventions for abusive parents of children aged 8 to 14 years. Systematic Training for Effective Parenting (STEP) has been found to be more effective than a waitlist control in reducing child abuse potential and improving parents' perceptions of their child behaviour (Fennell & Fishel, 1998). This nine-session group program included a very small sample (N = 18) of abusive or potential abusive parents, with some self-referred or referred by court or social services. Multifamily group therapy (MFGT), based on systems theories and families stress theories, has been found to be more effective than family therapy in reducing child abuse potential for low-income parents who have confirmed reports of child maltreatment (Meezan & O'Keefe, 1998a;1998b).

The relative efficacy of individual child and parent cognitive behavioural therapy, family therapy and standard community services has been examined in a sample of parents of 55 physically abused children (Kolko, 1996). Compared with the comparison group, the two intervention groups were associated with improvements on a number of measures of child-to-parent violence, child behavioural problems and family conflict by one-year follow-up. Examination of re-abuse rates showed 5% in the intervention groups and 30% in the comparison group at follow-up, although the small sample sizes make conclusions difficult.

The efficacy of a brief videotape-based intervention has been examined with 64 non-offending mothers of children suspected of sexual abuse (Jinich & Litrownik, 1999). The aim of the 22 minute videotape intervention was to enhance supportive parenting behaviours, and when compared with a control videotape, the intervention resulted in more supportive parental behaviours observed one week after the intervention.

Given the lack of evidence-based parenting programs in the child welfare system, Barth and colleagues (2005) have suggested that the interventions with the greatest potential to improve the delivery of welfare services are those that have shown to be effective in influencing children with behavioural problems. However, programs for children with behavioural problems will require considerable adaptation in order to be used in child welfare. It should be noted that two programs originally developed for child behavioural problems, *Triple P Program* (Sanders et al. 2004) and *Incredible Years* by Webster-Stratton (Hughes & Gottlieb, 2004) have been adapted for maltreating families, but these studies have focussed on parents of younger children. While this review does not consider interventions delivered in the context of out of home care, it should be noted that Multidimensional Treatment Foster Care, an intervention for juvenile offenders in foster care that is based on social learning theory, has been well-evaluated within the literature (Schmied et al. 2006).

2.4 Summary

From the literature reviewed, it would appear that the strongest evidence for the effectiveness of universal parenting programs relates to the prevention of alcohol and substance use. Two brief family-focused programs, PDFY and SFP, were found to have significant effects up to six years following the intervention. The positive effects of the intervention were not only observed for substance use, but appeared to generalise to delinquency, which was not specifically targeted by the intervention. While preventive programs appear to be effective for young people who have not initiated substance use, there is some evidence that programs are not effective for those who are already substance users and intervention may even lead to escalations in substance use for these young people.

There is preliminary evidence that the Triple P Program for Australian Indigenous families may be effective in improving parenting practices and reducing child behavioural problems and a version of the program for parents of teenagers may be effective in improving parenting behaviours, attitudes and parent-child conflict.

There is also some preliminary evidence that self-directed parenting programs may be effective for enhancing family functioning and reducing adolescent risk behaviours, at least in the short-term. However, self-directed programs may not be suitable for all families, particularly the more high risk young people.

There is evidence that indicated parenting programs targeting families with multiple risk factors are effective, although interventions that aggregate high risk young people should be avoided due to potential negative effects. Programs appear to be effective, at least in the short term, for low income families and families experiencing parental depression and divorce, stepfamilies and parents stressed by adolescent substance use. Even very brief interventions have demonstrated the capacity to modify parenting practices and substance use in young people.

For indicated parenting programs, PMT is one of the more effective interventions, based on a number of studies showing positive outcomes for children and young people with conduct problems, oppositional behaviour and ADHD. However, few studies have included long-term follow-ups, so it is not possible to know whether these effects persist over time. Some studies have demonstrated that adjunctive interventions, targeting either the young person or parental risk factors may be more effective than parent training alone, although not all research supports this finding.

There is clearly a lack of research on parenting programs for parents of children aged 8 to 14 who are at risk of maltreating their child. As referral to parenting programs is common when parents are found to be maltreating their children (Dore & Lee, 1999), this lack of research is concerning. While requiring further research, PCIT represents one intensive intervention that shows promise for use in the child protection context.

3. Factors that influence the effectiveness of parenting programs

This section will review factors that have been found to influence the effectiveness of parenting programs. Factors that influence the efficacy of preventive programs are known as program moderators. Knowledge about program moderators is essential for determining which children or families benefit most from parenting programs and under what circumstances the interventions have different effects. This section will review factors related to the program, the facilitator, the child or family as well as factors influencing participation and attrition.

3.1 Factors related to the program

3.1.1 Involvement of the child or young person in the program

As children enter the adolescent years, it may be more important to involve them in parenting interventions in order to address a broader range of risk and protective factors and enhance the effectiveness of the intervention. According to Gladstone and Beardslee (2002a; 2002b), during early adolescence, when children rely heavily on peer relationships as they separate from their families, interventions may benefit from targeting the adolescent and their interactions with significant others, rather than just focusing on the parents and their child management skills. From the literature reviewed, there is mixed support for inclusion of young people in parenting interventions.

In relation to the prevention of alcohol and substance use, an intervention that involved young people in all sessions was found to have greater long-term effects than an intervention which involved the young people in only one session (Spoth, Redmond et al. 2001; Spoth et al. 2004). However, as the former program was two sessions longer than the latter, it is not possible to know whether the benefits were due to longer program duration or the greater involvement of young people. Interventions that included both parents and children resulted in more positive effects than child- or parent-focused interventions in a study of children with ADHD (Horn et al. 1990) and conduct problems (Kazdin et al. 1992). However, in both of these studies, the benefits conferred by targeting both children and parents in the same intervention were only small.

No additional benefits were observed by including children or young people in a parenting intervention for divorced mothers (Wolchik et al. 2002; Wolchik, West et al. 2000) or in an intervention targeting parent-youth conflict in young people with ADHD (Barkley et al. 1992). Finally, an intervention that aggregated high risk young people into groups led to escalations, rather than reductions, in tobacco use and problem behaviour at school, when compared to a parent-focused intervention (Dishion & Andrews, 1995). In a meta-analysis of parent training moderators, Lundahl, Risser et al. (2006) found that the involvement of children in parent training did not enhance outcomes, although the majority of studies reviewed included younger children.

Thus, it would appear that involvement of children or young people in parenting programs may lead to some, albeit small, improvement in intervention effects but that aggregating high risk young people into groups should be avoided due to potential negative effects. Given the few studies and the mixed findings, further research on the benefits of targeting young people in parenting interventions is needed. It may be that for certain populations, inclusion of young people is essential for enhancing the impact of parent training interventions.

3.1.2 Format

Individual parent training offers many advantages over group-based approaches, including greater flexibility in terms of pace, content, involvement and attention to idiosyncratic problems of the family (Chronis et al. 2004). However, group programs can be more cost effective, less time-consuming and offer more opportunities for social support. Self-directed programs have fewer demands than group or individual programs and are cost-effective, but largely rely on parents' self-regulation skills and

motivation. From the literature reviewed, most interventions for the 8 to 14 age group have utilised group programs, followed by individual and then self-directed programs. While there is evidence for the effectiveness of both group and individual programs, no studies have directly compared group and individual programs.

In comparison to other delivery modalities, the effects of self-directed programs appear promising. In a meta-analysis, the effects of self-directed programs on child behaviour were similar to those of individual and group programs (Lundahl, Nimer et al. 2006). In the present review, self-directed programs were found to be superior to controls or comparison groups in four studies (Bauman et al. 2001; Kacir & Gordon, 1999; O'Donnell et al. 2005; Toomey et al. 1996), no different from group parenting programs in two studies (Dishion & Andrews, 1995; Nicholson & Sanders, 1999a) and inferior to a group program in only one study (Wolchik et al. 2002; Wolchik, West et al. 2000). Thus, as a universal intervention, self-directed parenting programs appear to show some evidence of effectiveness, at least in the short-term. However, it is clear that further research is needed to compare the relative benefits of group, individual and self-directed programs and to determine which formats are effective for which families.

3.1.3 Targeting additional parental risk factors

Parenting programs generally target modifiable family risk factors such as coercive parent-child interaction but some have also targeted additional parental risk factors, in an attempt to enhance the effectiveness of the intervention. In an intervention for physically abusive parents, the addition of services targeting parental depression, substance abuse and domestic violence did not enhance the effects of an intensive parent intervention (Chaffin et al. 2004). Similarly, a recent meta-analysis found that additional intervention components did not result in improvements in child behaviour (Lundahl, Nimer et al. 2006). However, the addition of a parent problem solving component to a parent and child-focussed program led to greater reductions in parental depression, stress and child behavioural problems (Kazdin & Whitley, 2003), although this finding may be due to greater duration of the program. It may be that for some multi-problem families, targeting additional parental risk factors will lead to improved outcomes, and this issue should be examined in future research.

3.1.4 Program duration and dosage

From the literature reviewed, there is significant variability in the duration of the parenting interventions provided. Duration is also referred to as the 'strength' or 'intensity' of the program. According to Kumpfer (1999), the needier the family is, in terms of risk factors, the more time is needed to modify dysfunctional family processes. The individual and group programs reviewed here varied in duration from one session to 24 sessions, with an average of around eight sessions for the universal programs and 11 sessions for the selected and indicated programs.

There is some evidence that even relatively brief interventions are effective. For example, a three-hour selected intervention increased parental monitoring and prevented an increase in substance use in high risk families, relative to the control group (Dishion et al. 2003) and a three-hour universal program led to reductions in alcohol use at three-year follow-up for those who were non-users (Loveland-Cherry et al. 1999). There is also evidence that increasing the strength of the intervention does not necessarily lead to enhanced outcomes. For example, an 18 session intervention (Barkley et al. 2001) did not appear to provide any greater benefits than a nine session intervention (Barkley et al. 1992) in reducing conflict in families with young people with ADHD. However, a more intensive family therapy program for maltreating families did appear to result in greater immediate benefits for children (Meezan & O'Keefe, 1998a, 1998b) although it is not clear whether these findings were due to difference in program content or duration. In order to investigate the effects of program duration more thoroughly, future studies should directly compare a condensed and longer version of the same intervention.

Related to the issue of program duration is 'dosage' which usually refers to the amount of the intervention a family is exposed to and is quantified by the number of sessions that a family attended. As the majority of parents are not able to attend all sessions, researchers often set a cut-off for high and low dosage based on the number of sessions completed, and then examine intervention effects on this basis.

Parents who attended four or more sessions (out of 12) showed greater improvements in problem solving and some aspects of their parenting (Irvine et al. 1999). Similarly, stronger effects for changes in parenting were observed for parents who attended four or more sessions (from 14 to 16) (Forgatch & DeGarmo, 1999). In a universal intervention, families who attended five or more sessions (out of seven) showed greater changes in parenting and youth risk behaviours compared to those attending fewer than five sessions (Brody et al. 2006). In a self-directed intervention, greater exposure to the intervention was associated with improvements in parenting outcomes (O'Donnell et al. 2005). Finally, in a workplace intervention, attendance at 80% or more sessions resulted in significant improvements in child behaviour problems and aspects of parenting (Felner et al. 1994).

It is not surprising to find that dosage is related to enhanced intervention outcomes and those who attend more sessions are more likely to experience the positive effects of the program. It is surprising, however, to find how low the cut-offs are set for determining 'high' dosage, with some studies requiring attendance at only one-third of the sessions. Clearly, further research is needed to examine the impact of duration and dosage on program outcomes. If, as Kumpfer (1999b) observes, parents with more risk factors benefit from more from intensive programs, the optimal duration of intervention should be examined in future research.

3.1.5 Theoretical orientation

The majority of studies included in this literature review have evaluated parenting programs based on behavioural approaches. Overall, there is evidence that behaviourally-based parenting programs are effective for the 8 to 14 age group, at least in the short-term. However, very few studies have evaluated programs based on relationships approaches. An intervention based on an Adlerian approach was more effective for enhancing family communication in children with behavioural problems than a treatment-as-usual comparison group (Adams, 2001). For maltreating families, a STEP program was more effective than waitlist in improving parents perceptions of their child's behaviour (Fennell & Fishel, 1998) and multifamily group therapy resulted in greater intervention effects for children than family therapy (Meezan & O'Keefe, 1998a, 1998b).

In the literature reviewed, only three studies directly compared interventions based on different approaches. A behaviourally-based intervention with individual child and family sessions was found to be comparable to family therapy for parents of physically abused children (Kolko, 1996). A behaviourally-based parenting intervention for delinquent young people was more effective than a program based on systems approach, even though the former was briefer in duration than the latter (Bank et al. 1991). Finally, parent training was equivalent to structural family therapy for children with ADHD (Barkley et al. 1992).

3.2 Factors related to the facilitator

No studies included in this review have examined whether factors related to the facilitator, or the relationship between the facilitator and family, influence study outcomes. The facilitators who delivered the group or individual parenting programs in the studies reviewed were predominantly university-trained health professionals, often Masters or PhD level psychologists or social workers. In 'real world' settings those who deliver parenting interventions may not be health professionals with substantial training. However, Irvine et al. (1999) found an intervention for high risk young people to be effective when delivered by group leaders who were not mental health professionals.

The extent to which parenting practices and child behaviour improve by the end of the program may depend on the relationship between the facilitator and the parent. Recently, Kazdin and Whitley (2006) specifically investigated the importance of the facilitator-parent relationship in parent management training for children aged 2 to 14 with behavioural problems. As expected, the better the quality of the relationship, the greater the improvements in parenting practices by the end of intervention.

3.3 Factors related to the child or family

Very few studies have examined whether factors related to the child or family moderate the outcomes of parenting programs. Two studies examined whether child age was related to outcomes and both found parent training to be equally effective with children and adolescents (Dishion & Patterson, 1992b; Ruma et al. 1996). In two meta-analyses of behavioural parent training programs, Serketich and Dumas (1996) and Maughan et al. (2005) reported a positive relationship between child age and outcomes, suggesting that outcomes improved with increasing age.

Lundahl, Risser et al. (2006) conducted a meta-analysis of factors which moderate the effectiveness of parent training and found parent training to be least effective for economically disadvantaged families. They also found that such families benefited significantly more from individual than group parent training. In another recent meta-analysis, Reyno and McGrath (2006) found socio-economic disadvantage to be the only factor that was associated with a poorer response to intervention.

3.4 Factors influencing participation and attrition

Few studies have examined factors influencing families' participation in and attrition from parenting interventions. Understanding these factors is essential for identifying strategies to improve recruitment and prevent drop out, thereby ensuring interventions reach those who are in greatest need.

Low levels of participation and high levels of attrition were a problem with a number of studies reported in this paper, although a significant proportion did not report participation and retention levels. Studies have found the following variables to be associated with attrition from parenting interventions:

- more severe child behaviour problems (Barkley et al. 2001; Kazdin & Whitley, 2003; Nicholson & Sanders, 1999b)
- low child IQ (Kazdin et al. 1992; Kazdin & Whitley, 2003)
- older child age (Dishion & Patterson, 1992a; Kazdin & Whitley, 2003)
- higher parental depression, and parental overreactivity and laxness (Irvine et al. 1999).

Bauman et al. (2001) found that attrition in a self-directed program was associated with greater adolescent substance use, non-white families, single-parent families and low education. Frankel and Simmons (1992) specifically examined factors that were related to drop out in behavioural parent training and found early drop out (during assessment) to be associated with parent personality variables (helplessness and negativity) and later drop out to be associated with facilitator variables (trainee status).

Guyll, Spoth and Redmond (2003) examined the effects of incentives (\$100) and research requirements (videotaping) on participation in a universal parenting program. Incentives had a positive influence on the decision to participate and had a greater influence on parents with less education and those who were less inclined to participate. While the videotape requirement negatively influenced participation decisions, the effect was only marginal. The findings highlight the importance of considering parents' perceived benefits and costs of program participation and that monetary incentives may be a useful strategy for increasing participation rates.

Nock and Kazdin (2005) examined the effect of a motivational enhancement intervention designed to increase participation and attendance in a parent training program. The intervention was brief (5 to 45 minutes) and involved provision of information about the importance of attendance and adherence to the program, eliciting motivational statements from parents and helping parents to identify and develop plans for overcoming barriers to attendance. In a RCT, the intervention was delivered prior to parent training for children aged 2 to 12 with conduct problems and participation in the intervention was associated with greater parent motivation and attendance at parent training. Given the brief nature of this intervention and the positive findings for motivation and attendance, this may represent a potential useful strategy for use in clinical practice.

3.5 Program mediators

While the primary goal of intervention studies is to determine whether the program impacts on targeted outcomes, it is also important to examine the processes or mechanisms by which an intervention leads to change. The mechanisms which account for the observed changes are known as program mediators. In general, it is relatively uncommon for researchers to examine program mediators. According to Kazdin and Whitley (2003), effective interventions, even in the most thorough assessments, are often shown to produce change without evidence that the putative processes involved account for the change. Understanding the mechanisms through which interventions lead to change is important for enhancing intervention effects (Kazdin & Whitley, 2003).

Of the studies that have examined program mediators, most have found intervention effects to be mediated by changes in parenting or the parent-child relationship. For example, reductions in negative parent-child interactions mediated reduction in parental re-abuse rates (Chaffin et al. 2004), increases in parental monitoring mediated reductions in substance use (Dishion et al. 2003) and improvements in the parent-child relationship mediated changes in child behaviour problems (Tein, Sandler, MacKinnon, & Wolchik, 2004; Wolchik et al. 1993). Martinez and Forgatch (2001) found that changes in non-compliance were more strongly associated with changes in positive parenting than in coercive discipline. O'Donnell et al (2005) found that family rules and support were the mechanism by which youth risk behaviours changed.

In general, it would appear that the mechanisms by which parenting interventions are hypothesised to improve outcomes do indeed account for the changes observed. From the mediators identified, it would seem that targeting negative parent-child interaction and enhancing parent-child relationship quality and positive parenting results in positive outcomes for children. However, given the few studies that have examined mediators, these findings need to be interpreted with caution.

3.5 Summary

In relation to program moderators, there is mixed support for the inclusion of the child or young person in the parenting intervention. There is also mixed support for targeting additional parental risk factors, such as parental depression or stress. No studies have directly compared individual or group parenting programs, but in the few studies conducted, self-directed programs appear to show similar effects when compared with group parenting programs. There is evidence that duration and dosage is important, with families who attend more sessions showing greater benefits. However, relatively brief programs, lasting only 3 sessions, have also demonstrated positive effects. Very few studies have evaluated parenting programs based on non-behavioural approaches, or examined whether factors relating to the facilitator are relevant for outcomes.

Families and children who are at greater risk of poor outcomes are more likely to drop out of parenting programs. Factors such as severity of child behaviour problems, low child IQ, higher parental depression and stress, and low socio-economic status are related to drop out. There may be some strategies that will assist in improving participation and attendance at parenting programs such as monetary incentives and motivational enhancement interventions. Studies of program mediators have found that changes in parenting and the quality of the parent-child relationship account for the improvement in child behaviour following participation in a parenting program.

4. Evidence of effectiveness of child-focussed and multi-component programs

4.1 Background

Child-focussed programs and multi-component programs that target children or young people aged 8 to 14 are typically delivered in schools. There are three main reasons for targeting the school setting. First, schools enable access to the majority of children and young people, including those who may be at highest risk of poor outcomes (Gottfredson, Wilson, & Najaka, 2002). Second, outside of the family environment, the school is the primary setting within which the development of children and young people can be directed and shaped (Simons-Morton, Crump, Haynie, & Saylor, 1999). Third, delivering interventions in the school has the potential to reduce the recruitment and retention problems commonly experienced when delivering programs in the community.

Children's experiences in school are fundamental to their successful transition into adulthood (Wilson, 2004). School is one of the primary places where young people interact with their peers, learn to make decisions, and develop a sense of self-identity. Schools have the potential to provide children with opportunities to develop their intellectual capacities, to experience a sense of competence and belonging and to interact with supportive adults (Roeser, Midgley, & Urdan, 1996).

Early interventions in schools are often delivered in late childhood or early adolescence. This transition period has been identified as a critical stage in the development of achievement beliefs and behaviours and for many students it marks the beginning of a downward spiral in behaviour and academic motivation (Eccles et al. 1996). Academic problems and emotional or behavioural difficulties are reciprocally related to each other over the course of a child's development (Roeser, Eccles, & Strobel, 1998). Early academic problems such as poor motivation and declining academic performance are risk factors for behavioural problems during adolescence and, conversely, emotional and behavioural problems can compromise children's ability to learn (Roeser et al. 1998).

Early interventions in schools are usually delivered by trained teachers or by health professionals working in partnership with schools (Bond, Glover, Godfrey, Butler, & Patton, 2001). School-based interventions typically target both individual and school-related risk and protective factors, such as:

- factors related to the school such as the availability of drugs and alcohol, extracurricular activities, clarity of behavioural norms and consistency of rule enforcement – the terms school 'ethos', 'culture' and 'climate' have been used to describe the school environment (Roeser et al. 1996)
- school-related experiences and attitudes such as motivation, attendance, achievement and connectedness to school
- peer-related experiences such as bullying, peer rejection and association with delinquent peers
- individual factors such as attitudes, beliefs, social competency, problem solving skills and coping skills (Gottfredson et al. 2002).

Child-focussed programs generally focus on changing individual risk and protective factors. Such programs often involve instructional or skills-based approaches delivered in the classroom to improve social-cognitive problem solving and emotional regulation. In addition to changing individual risk and protective factors, multi-component programs also address risk and protective factors relating to the school climate, the peer group, the home and/or the community. Multi-component programs usually involve a combination of classroom approaches, school-wide approaches, family-based approaches (parent education, family interventions, home-school collaboration), as well as community development strategies.

According to Bronfenbrenner's (1979; 1986) ecological model, children are influenced by their immediate context such as the family, peer group, classroom, community and neighbourhood, as well as broader systems such as cultural values and social conditions. As multi-component interventions aim to address risk and protective factors in multiple systems, they may lead to more positive and sustained outcomes than interventions that target a single context. Thus, multi-component programs aim to address the complex nature of children's behaviour by developing interventions across and between systems (Shepard & Carlson, 2003).

To conceptualise early interventions in the school setting, Wyn, Cahill, Holdsworth, Rowling and Carson (2000) adapted the World Health Organisation four-level model of school change to offer an infrastructure to promote and support mental health in school settings. This model is illustrated in Figure 1. The top tier of the model consists of broad whole-school environment interventions. Such school-wide approaches aim to restructure the broad school environment or change the 'school climate'. The second tier consists of universal mental health education targeting all students and teachers. The third tier consists of selected or indicated psychosocial interventions. The final tier consists of professional treatment for children with identified problems. Some interventions only involve one level of this model whereas others involve a number of levels that are integrated within the intervention.

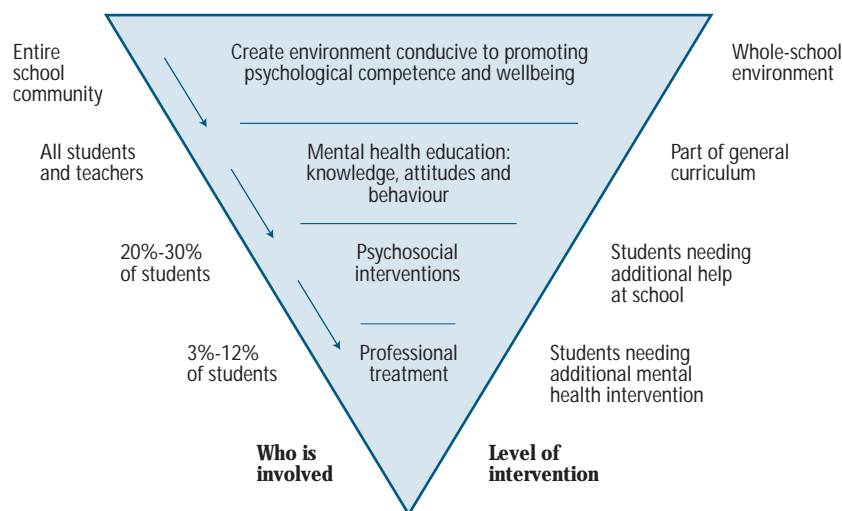


Figure 1. The WHO's (1996) four-level approach to school change adapted by Wyn et al. (2000)

Child-focussed and multi-component programs that are delivered in the school setting may be universal or targeted in their approach. The goal of a universal program is to enhance protective factors on a school-wide basis to keep minor problems and difficulties from developing into more serious problems (Kratochwill, Albers, & Shernoff, 2004). It is expected that all children will benefit from exposure to universal programs, regardless of their risk status (Kratochwill et al. 2004). Universal programs prevent the labelling effects of targeted programs provided to children who are at risk.

Targeted programs typically address groups of students who do not respond to universal programs or who are at heightened risk for developing problems in the future (Kratochwill et al. 2004). Many programs for 'at-risk' populations attempt to change thinking skills and behaviour through the provision of skills training. Programs that incorporate skills training are often based on strategies derived from cognitive behavioural therapy (CBT). Research suggests that children with emotional and behavioural problems are deficient in social skills and cognitive skills. They may be impulsive, have problems interacting with peers or adults, or have difficulties communicating their physical or emotional needs appropriately (Quinn, Kavale, Mathur, Rutherford, & Forness, 1999). Thus, CBT strategies aim to teach children and young people strategies to change the way they think, feel and behave in a given situation. Strategies include relaxation techniques, identifying and challenging unhelpful thoughts, developing coping skills and problem solving skills.

4.2 Child-focussed and multi-component programs to prevent child sexual abuse, risk behaviours and emotional or behavioural problems

Child-focussed and multi-component programs delivered in schools target a range of outcomes relating to the emotional and mental well-being of children and young people and generally involve the second and third tier of the model in Figure 1, although some include whole-school interventions at the top tier. This section of the review will analyse the evidence supporting early interventions to prevent sexual abuse, bullying, violence, substance use, and depression and anxiety. These outcomes have been selected for inclusion in this review because of their high prevalence with children and young people aged 8 to 14 and since they are the main outcomes that have been examined in early intervention programs.

4.2.1 Programs to prevention child sexual abuse

Child sexual abuse represents a significant problem to the community. The prevalence of child sexual abuse is difficult to estimate, but some Australian estimates have indicated that it may be as high as 5.1% for boys and 27.5% for girls which generally corresponds with estimates from comparable countries (Andrews, Gould, & Corry, 2002). As child sexual abuse is significantly underreported, there is much interest in implementing child-focussed programs that aim to reduce the incidence of sexual abuse.

Early interventions to prevent child sexual abuse have a universal focus and often involve personal safety instruction delivered to groups of children in school settings. Programs can also include films, theatrical presentations, lectures and/or behavioural skills training. Generally, the goal of these programs is to teach children to recognise and avoid situations in which sexual abuse could occur and to encourage children to disclose previous or ongoing abuse (Hazzard, Webb, Kleemeier, Angert, & Pohl, 1991). According to Mace (2000), the concepts most commonly discussed in these programs include: children have the right to control who touches their body, there are different kinds of touches (good, bad and questionable) and it is important to tell a trusted adult about inappropriate touching. By working within school systems, these programs are viewed by large numbers of children and some programs also include teacher training components and opportunities for parents to view the program material (Tutty, 1992).

There have been two meta-analyses which have examined the effectiveness of school-based sexual abuse prevention programs (Davis & Gidycz, 2000; Rispens, Aleman, & Goudena, 1997). Both reviews concluded that prevention programs are effective, at least in the short-term, in increasing knowledge about sexual abuse concepts and self-protection skills, when compared with control groups. Programs that involved active participation and made use of behavioural skills training such as modelling, rehearsal and reinforcement produced the largest changes (Davis & Gidycz, 2000). Programs that included more than three sessions appeared to be more effective than briefer programs (Davis & Gidycz, 2000) and younger children appeared to demonstrate the largest gains in knowledge, although this may be due to older children having a higher level of initial knowledge at the start of the program (Davis & Gidycz, 2000).

In Australia, only one evaluation of child sexual abuse prevention program could be identified. Briggs (1991) examined two programs: *Protective Behaviours* program from the United States and *Keeping Ourselves Safe* from New Zealand. However, the qualitative methodology of this study did not enable the relative effectiveness of the two interventions to be examined.

There are three concerns that have been raised about sexual abuse prevention programs. First, while research demonstrates that children gain knowledge and skills as a result of program participation, there is no direct evidence that programs change children's behaviour or reduce the incidence of child sexual abuse (Mace, 2000; Renk, Liljequist, Steinberg, Bosco, & Phares, 2002). However, one study found greater disclosures of abuse (which were later substantiated) following program participation

when compared with a control group (Oldfield, Hays, & Megel, 1996). In addition, a retrospective study with a large sample of female university students found that women who had not participated in school-based prevention programs were nearly twice as likely to have experienced child sexual abuse than women who had participated in a program (Gibson & Leitenberg, 2000).

The second concern about sexual abuse prevention programs is that programs may increase children's worry about abuse. In a survey by Finklehor and Dziuba-Leatherman (1995), some children showed increased worry about abuse and fear of adults following program participation, however these children also expressed the most positive feelings about the program and reported the most use of the skills. Thus, it is possible that temporary increases in anxiety and fear may be a by-product of helping children avoid victimisation (Davis & Gidycz, 2000; Finklehor & Dziuba-Leatherman, 1995).

The final concern about sexual abuse prevention programs is that programs appear to place responsibility for prevention of sexual abuse entirely with the child, rather than with parents, teachers or perpetrators. According to Renk et al. (2002) this narrow focus is widely criticised, as it targets prevention only at the most basic level (the microsystem, only one system within the ecological model described by Bronfenbrenner, 1979, 1986). In addition, as programs teach children how to avoid being victims, it is possible that the child who has already been abused may feel some responsibility for the abuse (Pelcovitz, Adler, Kaplan, Packman, & Krieger, 1992). Given that child-focused programs are implemented so widely in schools (at least in the USA), further research is necessary to examine both the positive and negative effects of these programs, especially in the longer term.

4.2.2 Programs to prevent bullying

There is no standard or universally accepted definition of bullying but it is generally thought of as any behaviour that threatens or hurts someone less powerful and can involve physical, verbal or indirect bullying such as social exclusion or rumour spreading (Rigby, 2002a, 2003a, 2006). The consequences of bullying may include:

- poor psychological well-being, such as general unhappiness and low self-esteem
- poor social adjustment, such as isolation and feelings of loneliness
- psychological distress, such as high levels of anxiety, depression and suicidal thinking
- physical problems (Rigby, 2003a).

There is also some evidence that bullies themselves may be more likely to show psychological problems such as depression (Salmon, James, & Smith, 1998) and suicidal ideation (Rigby & Slee, 1999).

It is widely recognised that bullying is prevalent among students from mid primary school onwards (Rigby, 2002a). In Australia approximately 50% of secondary school students reported being subjected to some form of bullying (Delfabbro et al. 2006). One child in six is subjected to bullying on a weekly basis (Rigby, 2002b) and boys are more likely to be bullied than girls (Rigby, 2000). Education departments in Australia are now encouraging schools to implement anti-bullying programs but the advice given on methods of intervention is often variable and no consistent teacher training is being provided (Rigby, 2002a).

Anti-bullying programs can involve classroom education, staff training, policy development or 'whole school' approaches with multiple components. Most programs generally have a school policy specifically targeting bullying and procedures for dealing with incidents of bullying when they arise (Peterson & Rigby, 1999). Some schools also provide a combination of counselling of students who are involved and sanctions to punish bullies and deter further bullying (Peterson & Rigby, 1999)⁴.

⁴ NSW Department of Education and Training has a website listing the bullying prevention programs that are run in NSW schools (www.det.nsw.edu.au/antibullying).

Rigby (2002a) conducted a meta-analysis of 13 anti-bullying programs, covering programs implemented in pre-school and kindergarten as well as primary and secondary school. In general, anti-bullying programs were found to be successful in reducing bullying but the outcomes varied widely, with some studies showing little or no change. Overall, the review concluded that:

- reductions in bullying appeared to be greater for primary school children when compared to secondary school children
- greater reductions were seen in the proportion of children being victimised when compared with the proportion of children engaging in bullying
- positive outcomes were related to the commitment of the staff to implementation of the program.

According to Rigby (2002a), while strategies were found to vary between programs, they generally had the following elements in common:

- educating school staff about bullying
- clarifying the role of staff members in countering bullying (eg, providing monitoring)
- developing a school-wide policy to counter bullying, using a consultative approach with students and parents
- implementing a school curriculum designed to increase children's knowledge and skills to help them deal with bullying
- working closely with parents to prevent bullying, especially when their children are bullying or being victimised
- addressing cases of bullying that arise, taking into account the nature and severity of the problem.

Of all the programs to prevent bullying, the *Olweus Bullying Prevention Program*, has the strongest evidence base (Olweus, 1993). The program was developed in Norway and is built on the following key principles: that it is critical to develop a school environment that is characterised by warmth and involvement by the adults; where there are key rules for behaviour; where there are consistent sanctions that are applied when rules are broken; and where adults act as positive role models (Olweus, 1993). The program involves components addressing the school, the classroom, individuals and the community. In a recent quasi-experimental study, 21,000 students in grades 4 to 7 were assessed eight months after program participation and there were substantial reductions in bully/victim problems (Olweus, 2005). However, not all evaluations of this program have demonstrated positive findings (Limber et al. 2004).

The main difference between bullying prevention programs lies in what action is taken when bullying is identified. On the one hand there are 'rules and sanctions' programs like the Olweus program that emphasise the need for clear rules against bullying, a zero tolerance policy and sanctions if the rules are broken, whereas on the other hand, there are 'problem-solving' programs that discourage the use of rules and sanctions (Rigby, 2006). At present, the available evidence does not enable a comparison of whether a 'rules and sanctions' approach or a 'problem-solving' approach is superior. The effectiveness of these approaches may depend on the age of the child, severity of the bullying and the readiness of children who bully to respond positively to problem-solving⁵. It is clear that further research is needed to identify which programs are most effective and the factors influencing effectiveness⁶.

⁵ Rigby (2003b; 2003c) has produced helpful guides for parents and teachers on managing bullying in Australian schools (available at www.ag.gov.au).

⁶ While published after the literature searches for this review were undertaken, a recent review of bullying programs was conducted by Baldry and Farrington (2007). This review identified 16 studies on anti-bullying programs and found that 8 studies produced desirable results. This review concluded that more research is required to determine the effectiveness of anti-bullying programs.

4.2.3 Programs to prevent violence or conduct disorder

Violence prevention programs often target the symptoms of conduct disorder, of which violence is usually a key feature. Conduct disorder is a psychiatric term referring to children and young people who display a persistent pattern of behaviour which violates the basic rights of others as well as age-appropriate norms and rules (American Psychiatric Association, 1994). Conduct disorder may involve aggression (for example, bullying, initiating physical fights, physically cruel to animals or people), destruction of property, fire setting, lying or stealing.

The majority of boys with conduct disorder also meet the criteria for depression or Attention Deficit Hyperactivity Disorder (ADHD) (Sawyer et al. 2001) the latter of which is characterised by persistent overactivity, impulsivity and difficulties in sustaining attention (American Psychiatric Association, 1994). In Australia, the prevalence of conduct disorder for children aged 6 to 17 is 3.0% and the prevalence of externalising behaviour problems (which include conduct disorder and ADHD) for children aged 4 to 17 is 12.9% (Sawyer et al. 2001). According to the NSW Bureau of Crime Statistics and Research (unpublished data, reported by Silmalis, 2006), the number of 10 to 14 years old who have been proceeded against by police for alleged assault in NSW has risen almost 50% from 1996. This data demonstrate that violence and conduct problems by children and young people in Australia are a significant problem for the community.

Conduct problems that begin in childhood and persist into adulthood are known as 'life-course persistent' (Moffitt, 1993). There appears to be a developmental trajectory of life-course persistent conduct problems. Children who show early aggressive behaviours often experience negative reactions from teachers, rejection from peers and problems with social-cognitive processing (difficulties in encoding social information and in accurately interpreting social events and the intentions of others) (Lochman & Wells, 2004). As a result, these children often have low academic achievement and connectedness to school, and by early adolescence, become susceptible to deviant peer group influences, substance use, criminal behaviour and school drop out (Lochman & Wells, 2002). Thus, early interventions for conduct problems aim to enhance social competency (including empathy and anger management skills), problem-solving skills and social-cognitive processing skills in order to prevent the onset of or escalation in aggressive behaviour. As poor parenting is a significant risk factor for childhood aggression (Lochman & Wells, 2004), programs to prevent violence often include a component targeting the parent.

Evidence from reviews

There have been numerous school-based programs developed to prevent violence and conduct problems and there are several recent reviews of the evidence supporting the effectiveness of these programs (Clayton, Ballif-Spanvill, & Hunsaker, 2001; Derzon, 2006; Fields & McNamara, 2003; Molina, Dulmus, & Sowers, 2005; Mytton, DiGuseppi, Gough, Taylor, & Logan, 2006; Wilson, Lipsey, & Derzon, 2003). Most of these reviews have concluded that universal and targeted programs generally lead to reductions in aggressive and antisocial behaviour, at least in the short-term.

Recently, Mytton et al. (2006) conducted a meta-analysis of 56 targeted school-based programs for preventing violence in children identified as aggressive or at risk for aggression. The findings of this meta-analysis demonstrated that:

- interventions produced moderate positive effects on teacher-rated or observed aggressive behaviour
- interventions designed to improve relationship or social skills appeared to produce the most positive effects

- positive effects of the intervention were demonstrated up to 12 months following the intervention, but few studies evaluated longer term effects
- interventions delivered in both primary and secondary schools appeared to be effective
- although most programs focused largely on boys, positive program effects appeared similar for both boys and girls.

McCart, Priester and Azen (2006) conducted a meta-analysis that compared the effectiveness of child-focussed CBT and behavioural parent training intervention for aggressive behaviour. For children aged 6 to 12 years, the effect sizes for parent training were significantly higher than for CBT. The authors suggest that parent training may be more effective than CBT for children and young people in this age range because they are still dependent on their parents and have only just begun to develop the more abstract cognitive skills that are emphasised in CBT interventions. CBT appeared to become more effective with increasing age.

The majority of well-evaluated school-based programs have been developed in the USA. Since it is beyond the scope of this paper to describe all of these programs and the evidence supporting their effectiveness, a number of the more well-evaluated child-focussed and multi-component programs will be described.

Child-focussed and multi-component programs

Promoting Alternative Thinking Strategies (PATHS) was a universal child-focussed program that aimed to prevent aggression by enhancing children's interpersonal abilities, critical thinking skills and the classroom environment. PATHS was designed to be implemented by teachers and involved a CBT-based intervention to improve children's ability to discuss and understand emotions and emotion concepts (Greenberg & Kusche, 2006). A RCT of 286 children in Grades 2 and 3 who were in special education or regular education found that the program was effective in improving understanding of emotions, fluency in discussing emotions and perceived efficacy in managing emotions (Greenberg, Kusche, Cook, & Quamma, 1995). A three-year follow-up of the children in special education found that the intervention group showed significant reductions in teacher reports of externalising and internalising problems and self-reported depression (Kam, Greenberg, & Kusche, 2004).

Almost all targeted violence prevention programs have involved multi-component interventions that target the parents as well as the child. An Australian community-based program, *Exploring Together*, was designed for children with aggressive and antisocial behaviours (Hemphill & Littlefield, 2001). The intervention involved a children's group (focusing on anger management, problem-solving and social skills training), a parents' group and a combined children's and parents' group and parent-teacher meetings. In a quasi-experimental study with children aged five to 14 years (N = 145) there were significant reductions in children's behaviour problems and improvements in social skills at home, but not at school, when compared to the control group and changes were maintained at six-month and 12-month follow-ups (Hemphill & Littlefield, 2001).

The *Coping Power* program was a targeted multi-component intervention for boys who were identified as high-risk for disruptive and aggressive behaviour (Lochman & Wells, 2004). The program involved eight sessions in the first year and 25 sessions in the second year and focussed on training in goal setting, awareness of feelings, use of coping strategies and relaxation, attribution retraining, problem solving skills and dealing with peer pressure (Lochman & Wells, 2004). There was also a 16 session program for parents. In an RCT, 183 aggressive boys aged 10 and 11 were assigned to a child intervention only condition, a child plus parent condition or a control condition (Lochman & Wells, 2004). The findings of this study showed that at one-year follow-up, those who had participated in either the child only or the child-plus-parent version of the program showed improvements in teacher reports of school behaviour when compared with a control group.

Linking the Interests of Families and Teachers (LIFT) was a multi-component intervention that was delivered in schools in high-risk neighbourhoods characterised by high rates of juvenile delinquency (Reid, Eddy, Fetrow, & Stoolmiller, 1999). LIFT comprised a classroom-based social and problem-solving training component, a playground-based behavioural modification component, a group parenting program and systematic communication between parents and teachers. In a RCT (N = 671), the 10-week intervention was delivered with children in first and fifth grades. At post-intervention children who received LIFT showed significant reductions in physical aggression in the playground, improvements in positive behaviour in the classroom as well as reductions in mothers' aversive behaviour when compared with controls (Reid et al. 1999). A three-year follow-up of the fifth grade students showed that children in the intervention group were less likely than the control group to be arrested by the police (Eddy, Reid, Stoolmiller, & Fetrow, 2003).

Some prevention programs have included both universal and targeted interventions in recognition that a combined approach may produce more positive and sustained effects. The *Families and Schools Together* (FAST Track) program was designed to prevent serious antisocial behaviour in high-risk children by enhancing their social, cognitive and problem-solving skills (Conduct Problems Prevention Research Group, 2004). Schools were randomly assigned to intervention or control conditions and the intervention commenced in the first year of primary school and continued to high school. All children in the intervention classrooms received the PATHS program and high-risk children in the intervention group were offered parent groups with home visiting, academic tutoring and social skills training. An evaluation of *FAST Track* when children were in grades 4 and 5 showed that the intervention improved children's social competence and social cognition and reduced involvement with deviant peers and conduct problems in the home and community, compared with children in the control condition (Conduct Problems Prevention Research Group, 2004).

Negative effects of aggregating high-risk children

Not all early interventions for conduct problems have been found to have positive effects. Dodge, Dishion and Lansford (2006) have identified a number of studies that found that aggregating high-risk young people into groups led to a reduction in the positive effects of the intervention and was sometimes associated with negative outcomes. These authors emphasise that deviant peer influences are among the most potent factors in the development of antisocial behaviour and that group interventions with high-risk young people may serve to increase risk behaviour via contact with deviant peers, a process which has been described as 'deviancy training' (Dishion et al. 1999) and 'peer contagion' (Dishion & Dodge, 2005).

Of the studies reviewed by Dodge et al (2006), the *Cambridge-Somerville Youth Study* (McCord, 1992, 2003) was one of the largest mental health interventions to prevent antisocial behaviour with high-risk youth which began in the 1930s. Five years after the intervention, boys who received the intervention were more likely than controls to have had a court appearance for offences and 30 years later they had worse outcomes in terms of early death, criminality and psychiatric disorder. More recently Boxer, Guerra, Huesmann, and Morales (2005) found evidence of peer contagion effects in a selective intervention for aggressive children. The intervention reduced aggression for those with high levels of aggression, but also appeared to make those with low levels more aggressive.

Ang and Hughes (2001) conducted a meta-analysis of group-based social skills training programs for antisocial children and young people. Skills training interventions with groups of antisocial peers produced significantly smaller benefits than interventions that avoided aggregating antisocial peers. As aggregation of high-risk children is common practice in education, mental health, juvenile justice and community sectors, such practices may have the capacity to escalate, rather than reduce, behavioural problems for these children. Dodge et al. (2006) has suggested that harmful effects of interventions are not only associated with aggregation of high-risk children and young people but also with interventions that are unstructured, unsupervised and use poorly trained leaders. However, since not all targeted interventions that have aggregated high risk youth have found negative outcomes, further research is needed to broaden our understanding of how peer contagion effects operate.

According to Dishion and Dodge (2005) peer contagion is a process that may or may not occur depending on the characteristics of participants, the skill of the group leader and the context of the interventions.

Summary

From the literature reviewed, there is good evidence that both universal and targeted skills-based approaches are effective in reducing aggressive and antisocial behaviours and promoting social competence, at least in the short-term. Universal programs generally involve school-based curricula while targeted approaches involve multiple components including parenting programs to change parenting skills and enhance home-school communication, as well as child-focussed skills training. For children aged 6 to 12 years, parent training appears to be more effective than child-focussed CBT. While there is evidence that many programs are effective, interventions that aggregate high-risk children have the potential to increase antisocial behaviours, via contact with antisocial peers.

4.2.4 Programs to prevent substance use

Substance misuse is common during adolescence. In an Australian survey, almost one quarter (23.1%) of adolescents reported smoking in the past 30 days, more than one-third (36.7%) reported using alcohol, and 11.0% reported using marijuana (Sawyer et al. 2001). There is increasing evidence to demonstrate that behavioural problems and substance use are related. Australian adolescents with mental health problems were more than twice as likely to report smoking and almost twice as likely to report using marijuana (Sawyer et al. 2001). The early onset of substance use is a risk factor for poor outcomes. For example, the early age of onset of alcohol use has been showed to predict unintentional injury after drinking (Hingson, Heerland, Jamanka, & Howland, 2000) and lifetime alcohol dependence (Grant & Dawson, 1997) and the early onset of smoking is associated with becoming a regular smoker in adulthood (Tyas & Pederson, 1998). Given the high levels of substance use in adolescence and the potential negative outcomes associated with early initiation, numerous prevention programs have been developed.

Programs delivered in school settings use a range of approaches in an effort to prevent, reduce, or delay the onset of substance use. According to Tobler (1986), programs can be divided into five categories based on their content and delivery: (1) knowledge-only interventions which describe the biological and psychological effects of drug use, (2) social competence (or affective-only) intervention which involve enhancing self-esteem or decision making skills, (3) peer-based interventions, including teaching refusal skills and social skills, (4) knowledge plus social-competence interventions and (5) alternative approaches, which encourage participation in alternative activities to drug use.

Evidence from reviews

In the last few decades, there have been hundreds of studies of school-based programs to prevent substance use⁷. Tobler and colleagues have produced a series of meta-analyses on the effectiveness of these programs (Tobler, Lessard, Marshall, Ochshorn, & Roona, 1999; Tobler et al. 2000; Tobler & Stratton, 1997). They identified two program types, 'interactive' and 'non-interactive' based on content and delivery. Interactive programs were those that offered opportunities for interaction among the participants and generally involved the provision of knowledge together with training in refusal skills. Noninteractive programs, on the other hand, involved didactic delivery and emphasised the provision of knowledge and affective content. In general, the reviews by Tobler and colleagues demonstrated that interactive programs were more effective than non-interactive programs at preventing use of tobacco, alcohol and other drugs. The key feature of interactive programs was the exchange of ideas and experiences between students and the opportunity to practice new skills and gain feedback (Tobler et al. 1999).

⁷ The National Drug Research Institute and The Centre for Adolescent Health (2004) have produced a comprehensive review of the evidence regarding the prevention of substance use, risk and harm in Australia (available at www.nationaldrugstrategy.gov.au).

Gottfredson and Wilson (2003) conducted a meta-analysis of 94 studies on school-based prevention programs for alcohol or drug use. The findings from this meta-analysis demonstrated that:

- The majority of school-based interventions that have been evaluated were universal programs rather than targeted programs.
- While universal programs were as effective as targeted programs, cognitive-behavioural programs appeared to be more effective when delivered to high-risk than general populations.
- Programs of brief duration (less than 4.5 months) were generally as effective as those of longer duration.
- The effects of the program were not significantly different according to age of the child.
- Programs that involved peers only in program delivery were most effective and those that involved no peers or peers plus teachers were far less effective.
- Programs that provide 'booster' sessions after the initial program produced more lasting effects than those that did not.

Recent reviews have also analysed the evidence supporting the effectiveness of programs for preventing alcohol use (Foxcroft, Ireland, Lowe, & Breen, 2002) and school-based programs for preventing illicit drug use (Faggiano et al. 2005) and smoking (Thomas & Perera, 2006). The findings of these reviews were consistent in demonstrating that early interventions for substance use appear to be effective in the short-term, although there was a lack of research on long-term effectiveness. All three reviews highlighted the poor methodological quality of available studies including the lack of suitable control groups, high levels of attrition and lack of long-term follow-ups.

Australian programs

The majority of school-based substance use prevention programs have been developed and evaluated in the USA and there is a lack of research from Australia. It should be noted that there are important differences between the USA and Australia in school-based policies regarding substance use. Beyes, Evans-Whipp, Mathers, Toumbourou, and Catalano (2005) compared school substance use policies in Washington and Victoria and found school policies in Washington were oriented more toward total abstinence and more frequently enforced with harsh punishment whereas policies in Victoria were more reflective of harm minimisation principles. Thus, these important differences should be taken into account in analysing the evidence from reviews on substance prevention programs.

One Australian program, the *School Health and Alcohol Harm Reduction Project (SHAHRP)* aimed to reduce alcohol-related harm in secondary school students (McBride, Farrington, Midford, Meuleners, & Philips, 2004). This interactive program involved 17 skills-based activities in the first year (when children were 13 years) and 12 in the second year with a focus on assisting students to identify alcohol-related harm and developing strategies to reduce harm. In a quasi-experimental study with 14 schools, the intervention had significant short-term effects on alcohol-related knowledge and attitudes and alcohol use and the effects on alcohol use were maintained at a 17-month follow-up (McBride et al. 2004). While there are a number of methodological limitations of this study, the positive findings demonstrate that, in contrast to many US programs that teach abstinence, programs based on harm minimisation principles may have positive effects.

Programs from USA

In the USA, the most frequently implemented programs are *Project DARE* and *Life Skills Training*. *Project DARE* (Drug Abuse Resistance Education) involves a 17-week curriculum delivered in the classroom by trained law enforcement officers. The program teaches drug refusal skills, social skills and decision-making skills. An initial meta-analysis of eight evaluations of this program found that it had a significant effect on tobacco use, but not on alcohol and other drug use (Ennett, Tobler, Ringwalt, & Flewelling, 1994). However, a more recent meta-analysis of 11 studies found non-significant effects for alcohol, tobacco and other drug use (West & O'Neal, 2004). Tobler and Stratton (1997) have noted that as *Project DARE* can be considered 'non-interactive' in its content and delivery, it is therefore not surprising that the evidence suggests this program is not effective.

Life Skill Training (LST) Program is another widely implemented and well-evaluated child-focused program in the USA. LST is a CBT-based universal intervention that emphasises self-management skills (for example, decision making and problem solving), social skills and drug resistance skills (Botvin & Griffin, 2004). The program is typically implemented in grade 7, with 15 class sessions in the first year and booster session delivered in grades 8 and 9 (Botvin & Griffin, 2004). Over the last twenty years, a series of efficacy and effectiveness studies have demonstrated the positive effects of this program. In a large study involving almost 6000 students in grade 7, the intervention was found to have significant preventive effects on smoking, marijuana use and alcohol use by the end of the grade 9 (Botvin, Baker, Dusenbury, Tortu, & Botvin, 1990) and grade 12 (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995) when compared with a control group. A follow-up conducted after children had left grade 12 showed that the intervention group had a significantly lower use of illicit drugs (Botvin et al. 2000).

The impact of the LST program on substance use for children from culturally and linguistically diverse (CALD) backgrounds has been examined in a number of studies (Botvin & Kantor, 2000). For example, Botvin and colleagues compared the effectiveness of the generic program with a program specifically tailored for African-American and Hispanic youth and an information only control (Botvin, Schinke, Epstein, & Diaz, 1994; Botvin, Schinke, Epstein, Diaz, & Botvin, 1995). At two-year follow-up, the adapted intervention produced significantly stronger effects than the generic program. The adapted program was also evaluated in a large trial (N = 3621) with children from a range of CALD backgrounds and those who received the program reported less smoking, drinking and multiple drug use relative to controls at a one year follow-up (Botvin, Griffin, Diaz, & Ifill-Williams, 2001). Thus, the findings demonstrate that a prevention program originally designed for a white middle-class population, when adapted, was also effective for CALD populations.

In addition to the numerous child-focused interventions, there have also been several multi-component interventions for the prevention of substance use. One of the largest multi-component studies of substance abuse prevention in the USA is *Project Northland* (Perry et al. 1996). The first phase of this intervention involved five components delivered over a three year period from grades 6 to 8: interactive classroom curricula to increase parent-child communication about alcohol and increase refusal skills; peer leadership of small activities; youth-led extracurricular activities; parent involvement; and community activism involving community-wide task forces (Perry et al. 1996). A RCT in 24 rural districts and communities showed that the intervention was effective in reducing alcohol, cigarette and marijuana use by the end of the three year period (Perry et al. 1996) although effects were not found for those already using alcohol (Perry et al. 1996; Williams, Perry, Farbakhsh, & Veblen-Mortenson, 1999).

A subsequent analysis of the findings aimed to investigate which components of the intervention were most effective in changing behaviour (Stigler, Perry, Komro, Cudeck, & Williams, 2006). There were three components that appeared to alter alcohol use: classroom curricula, extracurricular activities (only for young people who were involved in planning the activities) and parent involvement. While this analysis failed to find specific effects for the community component of the intervention, other studies have found enhanced effects for interventions that include community programs. For example, in a review of universal substance prevention programs by Cuijpers (2002), five studies compared school programs alone with school plus community programs and found enhanced effects when community interventions were added.

An overview of benefits and costs of substance use prevention programs by the Washington State Institute for Public Policy (Aos et al. 2004) found that a number of substance use prevention programs were cost-effective in preventing substance use disorders including *Project Northland* and LST.

Summary

In general there appears to be evidence that child-focussed and multi-component programs that aim to prevent substance use are effective, at least in the short term. Effects appear to be largest for programs that involve significant interaction between participants, include opportunities for rehearsal of skills, involve peers in the delivery of the intervention and that provide booster sessions. Didactic programs that involve the provision of information alone, such as *Project DARE*, are ineffective. Tobler et al. (1999) has argued that since interactive programs are effective in the prevention of all types of substances, this finding supports the development of prevention programs targeting all types of substances, rather than separate programs that target the use of specific substances.

4.2.5 Programs to prevent depression

Emotional disturbances in children and youth occur at alarmingly high rates and are associated with a number of negative consequences (Barrett, Farrell, Ollendick, & Dadds, 2006). Internalising problems such as anxiety and depression in young people are associated with poor academic performance, social dysfunction, substance abuse, suicide attempts and completed suicide (National Health and Medical Research Council, 1997). A recent study of a representative sample of 8984 secondary school students in Victoria (Bond, Toumbourou, Thomas, Catalano, & Patton, 2005), found the prevalence of depressive symptoms was 10.5% for males and 21.7% for females. Depression is an important risk factor for both attempted and completed suicide making it a logical point of intervention in suicide prevention (Merry, McDowell, Hetrick, Bir, & Muller, 2004).

Programs to prevent depression often focus on enhancing protective factors and reducing risk factors within the child. For example, individual protective factors may include possessing problem solving skills, coping skills, social skills and a positive attributional style (Spence et al. 2005). In terms of risk factors, research has found that the use of self-destructive or passive/avoidant coping strategies are predictive of depression when young people are faced with negative life events (Adams & Adams, 1996). In addition, depressive symptoms are associated with a more pessimistic attributional style consisting of internal, stable and global attributions (Gladstone & Kaslow, 1995). That is, when faced with negative events, children who have a pessimistic attributional style perceive the event as permanent (stable), affecting all aspects of their life (global) and believe that they are personally at fault due to some (internal) characteristic of themselves (Cunningham, Brandon, & Frydenberg, 2002). Thus, programs to prevent depression often focus on enhancing children's coping strategies and changing their attributional style.

Programs to prevent depression may be universal or targeted and are often delivered in the transition to high school. The transition to high school can be a stressful period for children, and the change in school environment may result in an increased incidence of depression at this time (Angold & Rutter, 1992). Merry, McDowell, Hetrick et al. (2004) conducted a meta-analysis of universal and targeted interventions for the prevention of depression in children and adolescents. Overall, the findings suggest that depression prevention programs may have short-term effects on depressive symptoms and on cognitive variables such as negative thinking, low self-esteem and hopelessness that are implicated in the development and maintenance of depressive disorder. However, there was a lack of evidence about whether programs were effective in the longer term.

Universal programs to prevent depression

There are two universal programs to prevent depression that have been developed and evaluated in Australia. The first program, the *Resourceful Adolescent Program* (RAP) is an 11-session child-focused program that utilises CBT strategies and is delivered by a psychologist. A RCT was conducted with Grade 9 students to determine the effectiveness of the RAP Adolescent program (RAP-A), the adolescent program plus a three-session program for parents (Family program; RAP-F) and a non-randomised comparison group (Shochet et al. 2001). Both programs were found to demonstrate a greater decrease in depressive symptoms at post-intervention and a 10-month follow-up when compared with the comparison group. The program appeared to be of benefit to adolescents who were initially considered healthy and would not normally be recruited into targeted programs (Shochet et al. 2001).

RAP-A has also been adapted to the New Zealand context and a RCT evaluated the effectiveness of the program delivered by teachers. Greater improvements in depressive symptoms were found at post-intervention and 18-month follow-up for the intervention group when compared with a control intervention of similar duration (Merry, McDowell, Wild, Bir, & Cunliffe, 2004).

The second universal Australian program to prevent depression, the *Problem Solving for Life Program* (PSFL), involved eight weekly classroom sessions delivered by the teacher which integrated cognitive restructuring and problem-solving skills training (Spence, Sheffield, & Donovan, 2003). In a study of 1,500 students aged 12 to 14 years, both high-risk and low-risk students showed reductions in depressive symptoms at post-intervention compared with the no-intervention control group. However, by the 12-month follow-up, these group differences were not maintained and the intervention group did not differ from the control group. The difference between this and the RAP study was that RAP used small groups rather than whole classes and emphasised cognitive therapy rather than problem solving.

There is currently a large scale trial underway in Australia of the *beyondblue* Schools Research Initiative which aims to prevent the development of depression in young people by increasing individual and environmental protective factors in the school context (Spence et al. 2005).

Targeted programs to prevent depression

There are a number of targeted programs to prevent depression that have been developed and evaluated in the USA. The most well-evaluated program, the *Penn Prevention Program* (also known as the *Penn Resiliency Program*) was developed to prevent depressive symptoms among at-risk 10 to 13 year olds (Jaycox, Reivich, Gillham, & Seligman, 1994). The program uses cognitive-behavioural techniques to teach children coping strategies to deal with negative life events and involves attribution re-training to promote optimistic and realistic attributions for positive and negative life events. The program was designed to address the deficits associated with depression in children, such as poor peer relations, low self-esteem, behavioural problems and low academic achievement (Jaycox et al. 1994).

In a non-randomised study with children who were identified as being at-risk for depression based on their level of depressive symptoms and perception of parental conflict, the program led to a reduction in depressive symptoms and improved attributions at post-intervention and six-month follow-up when compared to controls (Jaycox et al. 1994). These group differences were maintained during the two-year follow-up period (Gillham, Reivich, Jaycox, & Seligman, 1995) but at a three-year follow-up, there were no longer group differences in depressive symptoms (Gillham & Reivich, 1999). Thus, it would appear that the preventive effects faded after 3 years.

Three Australian studies have evaluated the *Penn Prevention Program* as a universal intervention. In the first study, the program was modified to a eight-session program, the *Optimism and Lifeskills Program*, and evaluated in a small RCT with girls aged 11 to 12 (Quayle, Dziurawiec, Roberts, Kane, & Ebsworthy, 2001). At the six-month follow-up, the intervention group reported less depression and higher self-worth than the control group, but no differences in attributional style or loneliness.

In the second study, Pattison and Lynd-Stevenson (2001) evaluated the full 24-session program with children aged 9 to 12 years (N = 63). In a RCT, the intervention did not impact on depression, anxiety, social skills or cognitive style at post-intervention or at the eight-month follow-up when compared with a control group. In the final study, children aged 11 to 13 living in rural areas were assigned to the intervention or a normal health education control group (Roberts, Kane, Thomson, Hart, & Bishop, 2003). There were no group differences in depression at post-intervention or six-month follow-up although group differences were found for anxiety. These findings suggest that the *Penn Prevention Program* may not be effective as a universal intervention to prevent depression. However, no Australian studies have examined the effectiveness of this program as a targeted intervention, as it was originally developed.

A recent Australian study also compared a universal, indicated, and a combined universal and indicated intervention with no intervention control for depression among 13 to 15 year olds (Sheffield et al. 2006). This was the first study to directly compare different levels of intervention in the one design. However, the findings showed that young people in the intervention groups did not differ significantly from the control group in terms of depressive symptoms, anxiety, coping skills and social adjustment at the 12-month follow-up.

Thus, there appears to be mixed findings for the effectiveness of depression prevention programs. As a result of their review, Merry, McDowell, Hetrick et al. (2004) conclude that while the short-term results of programs are encouraging, given the lack of control groups and long-term follow-ups in many studies, implementation of programs to prevent depression would be premature until further data are available.

4.2.6 Programs to prevent anxiety

While many childhood fears and anxieties are transient, a significant proportion of children will develop anxiety problems that are associated with long-term impairment (Dadds, Spence, Holland, Barrett, & Laurens, 1997). Anxiety disorders are the most frequently experienced mental health problem in childhood and adolescence with prevalence estimates of about 5 to 10%. Australian studies have found that one in five children experienced high level of anxiety (Dadds et al. 1997; Lowry-Webster, Barrett, & Dadds, 2001). Anxiety symptoms in childhood are often a risk factor for other disorders, particularly depression (Cole, Peeke, Martin, Truglio, & Seroczynski, 1998).

Universal programs to prevent anxiety

There are a number of universal programs to prevent anxiety disorders that have been developed and evaluated in Australia. Most of these programs aim to enhance problem-focussed coping skills, as this is an important protective factor in child anxiety (Donovan & Spence, 2000). Barrett and Turner (2001) examined the effects of the *FRIENDS* program, a group CBT intervention for preventing anxiety. The program consisted of 10 weekly sessions which involved training in relaxation, cognitive restructuring, parent-assisted exposure and family and peer support and there were two booster sessions following the program. In a RCT, children (N = 489) aged 10 to 12 years were randomly assigned (by school) to one of three conditions: a psychologist-led intervention, a teacher-led intervention or a no intervention control condition (Barrett & Turner, 2001). In both active interventions, parents were invited to attend four parent sessions. At post-intervention, children in both intervention groups reported reductions in anxiety symptoms, whereas the control group did not.

Lowry-Webster, Barrett and Dadds (2001) also examined the effectiveness of this program as a universal intervention for anxiety. A large sample (N = 594) of children aged 10 to 13 were allocated (on the basis of classroom) to the teacher-led intervention (with parent sessions) or waitlist control group. At post-intervention, greater reductions in anxiety were observed for the intervention versus

control conditions (Lowry-Webster et al. 2001) and at 12-month follow-up, the intervention group showed lower scores on anxiety and the high-anxiety children reported reductions in both anxiety and depression (Lowry-Webster, Barrett, & Lock, 2003).

Lock and Barrett (2003) also evaluated the effectiveness of the *FRIENDS* program as a universal intervention for anxiety with two age groups: 9 to 10 year olds and 14 to 16 year olds. The aim of this study was to determine the optimal age at which to intervene. In a large RCT (N = 733), greater reductions in anxiety were found for the intervention versus control group at post-intervention and 12-month follow-up. Of significance, the younger children reported higher levels of anxiety at the start of the program and at post-intervention, but showed greater reductions in anxiety at 12-month follow-up and lower rates of depression across time than the older children. At the two-year follow-up, girls in the intervention group showed fewer anxiety symptoms than control group, but these differences were not maintained at the three-year follow-up (Barrett et al. 2006). However, there were significantly more children with elevated anxiety scores in the control group compared to the intervention group at both time points. At three-year follow-up, there were also significantly lower levels of anxiety for the younger children versus controls but not for the older children. This finding suggests that intervening prior to adolescence may be the optimal time for preventing anxiety.

The *FRIENDS* program has also been adapted to be appropriate as a universal intervention for culturally and ethnically diverse young migrants in Australia. In the first quasi-experimental study, 204 children aged 7 to 19 were assigned to the 10-week intervention or waitlist condition. At post-intervention those who received the program had lower anxiety and a more positive future outlook than controls (Barrett, Sonderegger, & Sonderegger, 2001). Similarly, the second study with 324 children found that those who received the intervention showed greater self-esteem, fewer internalising problems and more positive future outlook at both post-intervention and six month follow-up when compared with controls (Barrett, Sonderegger, & Xenos, 2003). Thus, this program appears to be effective in building emotional resilience against cultural adjustment problems.

Targeted interventions to prevent anxiety

The *Queensland Early Intervention and Prevention of Anxiety Project* (QEIPAP) was the first targeted intervention aimed at preventing childhood anxiety (Dadds et al. 1997). The intervention used the *Coping Koala* prevention program (Barrett, Dadds, & Holland, 1994), a CBT-based intervention, and targeted children aged 7 to 14 years who showed symptoms of anxiety. The group program was delivered by clinical psychologists and involved 10 sessions that aimed to teach children strategies for coping with anxiety. There were also three separate parental sessions to encourage parents to address their own anxiety using the same strategies and to teach skills for managing their child's anxiety. In a RCT of the program, children who received the intervention had lower rates of anxiety disorders compared with the control at a six-month follow-up (Dadds et al. 1997). The groups did not differ at a one-year follow-up, but by the two-year follow-up, the intervention group showed a significant lower rate of anxiety disorders (Dadds et al. 1999). Thus, the results of the study showed that a brief intervention has the potential to prevent children with mild to moderate anxiety problems from developing more serious anxiety disorders.

Mifsud and Rapee (2005) examined a targeted school-based intervention for childhood anxiety in an economically disadvantaged community. Children aged 8 to 11 who showed symptoms of anxiety were randomly assigned (based on schools) to an eight week intervention or waitlist control. Those in the intervention group received the *Cool Kids program*, which was based on a clinical intervention for the management of anxiety disorders. Parents were invited to attend two group information sessions. Relative to the waitlist group, children in the intervention group reported a significant reduction in anxiety symptoms and these effects were maintained during the four-month follow-up.

Thus, from a number of recent Australian studies on programs to prevent anxiety, there appears to be emerging evidence that universal and targeted programs to prevent anxiety are effective, both in the short- and longer-term. Specifically, there is good evidence to support the effectiveness of the *FRIENDS* program. However, further replications are needed to confirm the preventive effects of anxiety prevention programs before widespread dissemination of such programs⁸.

4.2.7 Reviews of prevention programs that target a range of outcomes

A number of reviews of the literature have examined the overall effectiveness of child-focussed and multi-component preventive interventions that target a range of mental health outcomes, rather than focusing on specific outcomes (Browne, Gafni, Roberts, Byrne, & Majumdar, 2004; Greenberg, Domitrovich, & Bumbarger, 2000; Rones & Hoagwood, 2000; Wilson, Gottfredson, & Najaka, 2001). Taken together, the findings of these reviews have demonstrated that:

- Cognitive behavioural and behavioural interventions were effective whereas programs that deliver information only in a didactic model were less effective (Browne et al. 2004; Wilson et al. 2001a).
- Programs targeting high-risk young people had larger effect sizes than universal programs (Wilson, Gottfredson, & Najaka, 2001).
- Short-term interventions with high-risk groups produce time-limited benefits, whereas multi-year programs are more likely to foster enduring benefits (Greenberg et al. 2000).
- Multi-component programs that targeted the ecology of the child were more likely to have positive effects than single component programs (Browne et al. 2004; Greenberg et al. 2000; Rones & Hoagwood, 2000).
- Preventive interventions are best directed at risk and protective factors rather than at problem behaviours. Thus, it is feasible and cost-effective to target multiple negative outcomes with a coordinated set of programs (Greenberg et al. 2000).

4.2.8 Summary

This section reviewed a large number and diverse range of child-focussed and multi-component programs. The majority of programs were delivered in the school setting and, while some programs simply targeted the child, others also targeted the whole school environment, the home and/or the community.

Overall, from the research reviewed, there appears to be evidence that universal and targeted programs to prevent violence and conduct disorder are effective, at least in the short term. Universal programs to prevent substance use, such as *Project Northland* and *LST*, are effective and also demonstrate significant cost-benefits in preventing substance use disorders. Programs to prevent child sexual abuse are effective in changing knowledge and self-protection skills, but it is not known whether these programs also change behaviours. There is mixed support for the effectiveness of programs to prevent bullying and depression and, while recent research has demonstrated that programs to prevent anxiety are effective, further research is needed. The evidence suggests that programs which are behavioural or skills based are more effective than didactic approaches.

There was some evidence that multi-component programs that targeted multiple contexts such as the entire school, the home or community were more effective than single component programs that simply targeted the child. However, there is a lack of research on the additional benefits of targeting more than one context in early intervention programs.

⁸ While published after the literature searches for this review were undertaken, a systematic review on Australian school-based early intervention programs for depression and anxiety has recently been published by Neil and Christensen (2007). Their review (which included some interventions for children older than 14 years) found that both indicated and universal approaches appear to provide small to moderate reductions in anxiety and depression in the short- to mid-term. However, they cautioned against broad dissemination without further evaluation.

While most interventions were associated with positive outcomes for children and young people, some programs to prevent violence and substance use found negative effects. The research suggests that programs which aggregate high risk youth into groups have the potential to lead to adverse outcomes, through contact with deviant peers. There may also be some unintended negative effects of programs to prevent child sexual abuse such as anxiety and fear of adults.

In general, there was a lack of research that investigated the long term effects of the interventions, particularly beyond 12 months. It is therefore not possible to know whether the effects of the interventions are sustained over time. Additionally, there was a preponderance of research from USA and a lack of research in the Australian context, with the exception of internalising problems, so the findings of the research may not generalise to the Australian context.

4.3 Programs to enhance school connectedness and prevent drop out

School connectedness has been defined as ‘the extent to which students feel personally accepted, respected, included and supported by others in the school environment’ (Goodenow, 1993, p80). School connectedness is also known by a range of other terms such as engagement, bonding, involvement, belonging and attachment, although these terms may not necessarily have the same definitions or be measured in the same way (Libbey, 2004). There appears to be ten constructs that relate to school connectedness. These include: 1) academic engagement, 2) sense of belonging, 3) fairness, 4) extracurricular activities, 5) enjoying school, 6) involvement in decision making, 7) positive peer relations, 8) safety, 9) teacher support and 10) small school size (Libbey, 2004; McNeely, Nonnemaker, & Blum, 2002).

Numerous studies have demonstrated that school connectedness is related to positive academic, behavioural and psychological outcomes in children and young people and is a protective factor against many behavioural, emotional and school-related problems. School connectedness is strongly associated with attendance at school, school achievement and expectations of future success (Anderman, 2002; Finn & Rock, 1997; Goodenow & Grady, 1993; Israelashvili, 1997; Klem & Connell, 2004). It is also associated with enhanced optimism, self-esteem and lower levels of violence, substance use, sexual risk behaviour, emotional distress, depression and suicidal behaviour (Bonny, Britto, Klostermann, Hornung, & Slap, 2000; Resnick et al. 1997; Wang, Matthew, Bellany, & James, 2005). Resnick et al. (1997) found that school connectedness was a stronger protective factor against absenteeism, delinquency and substance use than family connectedness. In a prospective Australian study, Shochet, Dadds, Ham, and Montague (2006) found that low school connectedness at age 12 to 14 was predictive of depression, anxiety and general functioning one year later.

4.3.1 Interventions to enhance school connectedness

Interventions to enhance school connectedness are generally multi-component ‘health promotion’ programs targeting the classroom, school and family. They are different from many of the narrowly-focused prevention programs reviewed in Section 4.2 which consist of specific and discrete curriculum, separate from the activities of the classroom. Instead they are comprehensive ecological interventions which aim to change all aspects of the school including the curriculum, organisation, management and climate (Battistich, Schaps, Watson, Soloman, & Lewis, 2000). They generally target the whole-school environment, the top tier in the four-level approach to school change (see Figure 1). In these programs, the focus is on the promotion of positive development rather than on the prevention of disorder (Battistich, Schaps, & Wilson, 2004). The assumption is that the social context of the school is critically important for fulfilling basic personal and social needs of children and a caring school community will enhance school attachment (Soloman, Battistich, Watson, Schaps, & Lewis, 2000).

At the universal level, there are two American programs for enhancing school connectedness that have been well-evaluated. The first program, the *Child Development Project* (CDP) aims to increase the sense of community within schools in order to promote children's connectedness to school as well as their social, emotional and intellectual development. The CDP program has three components: (1) an intensive classroom component comprising cooperative learning, a reading and language curriculum and 'developmental discipline', an approach to discipline that emphasises the development of children's self-control and personal responsibility; (2) a school-wide component; and (3) a family involvement component (Battistich et al. 2000). Teachers are encouraged to organise and conduct their classrooms in ways which maximise children's feelings of autonomy, competence and social connectedness (Soloman et al. 2000).

In a non-randomised study, the program was implemented over three years in 12 intervention schools and the outcomes were compared with 12 matched control schools (Battistich et al. 2000). As only 5 out of 12 schools achieved widespread changes in program practices, analyses were based only on these 5 high implementation schools. Positive program effects were found for children's academic and social attitudes, motivation, values and behaviour and their 'sense of the school as a community' during the three intervention years, when compared with control schools. In addition, the program appeared to result in a reduction in alcohol and marijuana use when compared to control schools. A follow-up study conducted two years later found that in comparison to the controls, children in the high implementation schools were much more connected to school, had higher grades, were more involved in positive activities and had less problem behaviour (Battistich et al. 2004). However, there were no long-term effects for substance use.

The second program, the *Seattle Social Development Project* (SSDP) was designed to promote school connectedness and positive youth development as well as prevent negative outcomes such as school failure, drug use and delinquency. The SSDP is based on a social development model, which states that a strong bond to school serves as a protective factor against behaviours that violate socially accepted standards (Catalano & Hawkins, 1996). SSDP involved three components of intervention: classroom instruction and management, social skills training for students, and parent training programs (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004).

In a quasi-experimental study of SSDP that began in the 1980s, those receiving the intervention throughout primary school (grades 1 to 6) were compared with those who received the intervention in grades 5 and 6 only and a no intervention control group. Those who received the intervention throughout primary school years showed fewer decreases in level of connectedness than the control group at ages 13 and 18 (Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001). The early intervention also led to higher levels of attachment, commitment and academic achievement and reductions in delinquency, alcohol consumption, school misbehaviour and pregnancy at age 18 (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999) as well as reduced likelihood of risky sexual practices and pregnancy at age 21 (Lonczak, Abbott, Hawkins, Kosterman, & Catalano, 2002). However, the late intervention (in Grades 5 and 6) did not impact on school connectedness or health-risk behaviours. This finding indicates the importance of early and sustained intervention throughout the primary school years in order to improve connectedness.

A more recent study examined the effects of the *Raising Healthy Children* (RHC) project, which included the same intervention components as SSDP (Catalano et al. 2003). However, in this study, the intervention was implemented in schools rather than classrooms and the study was a RCT rather than quasi-experimental. Ten schools were randomly assigned to receive the intervention during the first two years of primary school. A follow-up conducted 18 months after implementation found that children who received the intervention had higher teacher-reported academic performance, stronger commitment to school and greater social competence than control children (Catalano et al. 2003). In grades 6 to 10, those who received the intervention showed greater decreases in alcohol and marijuana use over time when compared to the control group (Brown, Catalano, Fleming, Haggerty, & Abbott, 2005).

An Australian intervention, the *Gatehouse Project* (Bond et al. 2001) aimed to promote student engagement and school connectedness in order to improve emotional well-being and learning outcomes. This intervention comprised a school-based adolescent health team, the identification of risk and protective factors in each school's environment from student surveys and the implementation of strategies to address these factors. Strategies varied between schools according to students' perception of need, but the curriculum generally included problem-solving training. In a RCT, 25 schools were assigned to the intervention or a control and the intervention was delivered with grade 8 students. At a two- and four-year follow-up, the intervention groups showed lower rates of substance use, antisocial behaviour and early initiation of sexual intercourse when compared to control groups, but no difference was observed in commitment to school, social relationships or depressive symptoms (Bond et al. 2004; Patton et al. 2006).

An overview of benefits and costs of 'youth development programs' by the Washington State Institute for Public Policy (Aos et al. 2004) found that the SSDP and CDP were cost-effective and the SSDP in particular was associated with net benefits of almost US \$10,000 per child in prevention of delinquency.

The findings of these studies demonstrate that whole-school interventions to enhance school connectedness appear to have positive effects on children's academic performance and behaviour and are cost-effective in preventing antisocial behaviour. However, one of the challenges to the provision of school connectedness interventions relates to implementation barriers. The CDP program demonstrated that not all schools were able to achieve widespread changes in program practices. Another challenge for school connectedness interventions relates to student mobility, that is, the extent to which students change school (Rumberger & Larson, 1998). For students who have frequent changes of school, there may be a need for interventions that coordinate the efforts across multiple schools (Christenson & Thurlow, 2004).

4.3.2 Interventions to prevent school drop out

Interventions to improve school connectedness often focus on preventing school drop out. Dropping out of school is the most severe symptom of disengagement and is often preceded by poor attendance and poor academic achievement (Lehr, Sinclair, & Christenson, 2004). Whether or not students drop out of school is influenced by a broad range of factors such as student characteristics (for example, poor school performance), family background factors (for example, low socio-economic status), school characteristics (for example, large schools) and neighbourhood characteristics (for example, poor neighbourhoods).

Gleason and Dynarski (2002) examined the effectiveness of single and composite risk factors for identifying students who drop out of school. The factors associated with the highest dropout rates were absenteeism and overage (those students who were older than their classmates by two or more years), although composite risk factors were more effective at identifying drop out than single risk factors. Overall, this study found that family and student characteristics were relatively *ineffective* at identifying students who drop out of school. This finding has implications for programs that aim to prevent drop out, since targeting students on the basis of these risk factors is a common approach.

In a longitudinal study, Jimerson, Egeland, Sroufe, and Carlson (2000) found that the process of dropping out begins prior to the child entering primary school and that the early home environment and quality of early parenting are strong predictors of later drop out. These authors emphasise that dropping out of school should be viewed as a developmental process and that the early home environment provides a critical foundation for subsequent academic success. In addition, these authors note that many established risk factors, such as truancy and disciplinary problems, may be best conceptualised as 'markers' of those students in an advanced stage of the dropout process. Clearly, early interventions programs should aim to steer children away from the developmental pathway that leads to drop out.

Of the many interventions developed to prevent drop out or promote school completion, very few have been evaluated and there have been no Australian studies. There have been three literature reviews on interventions to prevent drop out and all have emphasised the lack of published intervention studies as well as the poor methodology of research (Dynarski & Gleason, 2002; Lehr, Hansen, Sinclair, & Christenson, 2003; Prevatt & Kelly, 2003). Dynarski and Gleason (2002) reported that programs to prevent drop out shared two features: greater access to school counsellors in order to help students overcome personal, family and social barriers to school attendance; and restructuring the school environment to create smaller and more personal settings in which students could feel secure and learn more effectively. The intervention components that were found to be important for reducing drop out included creating smaller class sizes, more personalised settings and individualised learning plans (Dynarski & Gleason, 2002).

At the targeted level, the *Check and Connect* program is an indicated intervention that aimed to enhance engagement and prevent drop out in high risk young people (Lehr et al. 2004). This program involves a 'monitor' who works closely with the student, their families, and school personnel over several years to 'check' on progress and 'connect' with the student (and family) to provide intervention. The program is tailored to the individual needs of students but usually involves components such as monitoring of attendance, academic performance and behaviour; problem solving skills training; facilitating students' participation in school-related activities and events; academic motivation; and a commitment to stay with students for at least 2 years.

In the first study of this program, 12 year old children (N = 94) who were at risk for school drop out (due to learning difficulties or emotional/behavioural problems) were randomly assigned to the program or control group (Sinclair, Christenson, Evelo, & Hurley, 1998). After two years of implementation of the program, significantly more children in the intervention group were enrolled in school. In a second quasi-experimental study, the program doubled the percentage of children who were engaged (as indicated by absences and tardiness) over a two year period (Lehr et al. 2004). Thus, this individualised targeted approach appears to show promise in preventing school dropout for high-risk children. However, given the lack of methodologically sound interventions, further research on strategies to promote school completion and prevent drop out for high risk children is clearly needed.

4.3.3 Summary

School connectedness is strongly related to academic, behavioural and psychological outcomes in children and young people and is a protective factor against problems such as delinquency and substance use. Interventions to enhance school connectedness involve universal multi-component programs that aim to change the school climate, organisation and management as well as the curriculum. A number of studies have demonstrated that interventions to enhance school connectedness increase commitment to school, academic achievement and reduce delinquency and other health risk behaviours such as substance use and even risky sexual practices. However, given implementation was low in seven out of 12 schools in the CDP, factors such as ease of implementation may be critical for the effectiveness of the interventions. The findings of the SSDP indicate that early and sustained intervention during the primary school years may be necessary to improve school connectedness.

Dropping out of school is often a consequence of low school connectedness and research suggests that dropping out is a developmental process that begins early in life. Based on reviews of the literature, important intervention components for preventing drop out appear to include creating smaller class sizes, more personalised settings and individualised learning plans, although the lack of research and poor methodological quality of research has been highlighted. One promising targeted intervention for high-risk children and young people is the *Check and Connect* program which involves an individualised program for children with learning difficulties and emotional or behavioural problems.

4.4 School-based and community-based strategies to promote well-being and prevent psychosocial problems in children and young people

There are a range of school- and community-based strategies and programs that have been developed to promote well-being and prevent a range of psychosocial problems in children and young people aged 8 to 14. The strategies reviewed in this section include health promoting schools initiatives; home-school collaboration and the involvement of parents; extracurricular programs; after-school programs; school suspension and expulsion; mentoring programs; and community programs.

4.4.1 Health promoting schools initiatives

The term 'health promoting schools' relates to fostering a supportive school environment and a school culture which encourages partnerships between school and community in order to promote mental health and wellbeing in children and young people (Commonwealth Department of Health and Family Services, 1996, cited by Wyn et al. 2000). The emphasis on collaboration between schools and community agencies (such as mental health centres, health departments) is based on the recognition that schools cannot do all of the work alone and are often overburdened by demands that should be addressed in other community systems (Paternite, 2005). A strong connection between schools and other community agencies assists in moving a community towards a system of care.

This new approach to health promotion grew out of the failure to find long-term effects in many child-focussed school-based interventions (Lynagh, Schofield, & Sanson-Fisher, 1997). The framework, which is supported by the World Health Organisation (WHO, 1996), proposes that school community members working in collaboration with the wider community can have a positive effect on children's health status by:

- creating a healthy school environment
- addressing school policies relevant to health issues
- involving local community groups in activities and sharing of resources
- improving health-related knowledge, attitudes and skills of student and staff
- re-orienting school services to provide healthy choices (Lynagh et al. 1997).

Stewart-Brown (2006) conducted a synthesis of reviews of interventions using a health promoting schools approach. This paper found that interventions had beneficial effects on aspects of mental and social well-being, such as greater self-esteem and reduced bullying. However, many of the interventions were small, the quality of the research was variable, and interventions often focussed on physical health outcomes (such as dietary intake) rather than mental health outcomes.

There are a number of health promoting schools initiatives that have been implemented in Australian schools. The first initiative, the *Gatehouse Project* reviewed in Section 4.3, found evidence of preventive effects on a number of outcomes including antisocial behaviour and substance use. The second initiative also examined the effects of health promoting schools on smoking and other health risk behaviours (Schofield, Lynagh, & Mishra, 2003). In a RCT, 24 secondary schools in NSW were assigned to intervention or control. The interventions school adopted a four-stage model: (1) establishing baseline health risk behaviours and gaining school-wide commitment to the initiative, (2) identifying key individuals and optimal structures for each school, (3) planning, implementation and monitoring of strategies and (4) ongoing support and maintenance of structures and activities (Schofield et al. 2003). Strategies included a school curriculum addressing smoking, newsletters to parents, school policy changes, discussion groups with parents. However, the findings of the evaluation showed that the program had no significant effects over two years in modifying rates of smoking initiation.

The third Australian initiative is *MindMatters*, an innovative project which provides a framework that integrates existing mental health education and health promotion interventions in Australian schools (Wyn et al. 2000). The program consists of professional development, in recognition that the development of teachers is fundamental to the success of any innovation. It also provides classroom materials to support programs in four areas: enhancing resilience, dealing with bullying and harassment, grief and loss, and understanding mental illness (Wyn et al. 2000). A key part of *MindMatters* is linking community mental health services with school, which enables comprehensive and integrated approaches for addressing the complex needs of students and their families (Anderson & Doyle, 2005a). *MindMatters* has been disseminated nationally since 2001 and the program is being evaluated for its effect on rates of absenteeism and dropout and social and academic skills (Rowling & Mason, 2005).

The *MindMatters Plus* initiative also addresses the needs of students with high support needs in mental health (Anderson & Doyle, 2005b). Seventeen schools have been involved in the pilot of this program which aims to identify pathways of care in school communities, linking schools and general practitioners. The purpose of this intervention is early intervention for mental health problems, along with a trial of specific evidence-based programs (Rowling & Mason, 2005).

At the time of writing of this review, the findings of the *MindMatters* evaluation were not yet available. Thus, while there is evidence that health promotion interventions that target school connectedness such as the *Gatehouse Project*, CDP and SSDP, are effective in enhancing positive development and preventing a range of problem behaviours, there is not yet evidence available that interventions that encourage partnerships between schools and communities impact on mental health and well-being. According to Mukoma and Flisher (2004), the concept of a health promoting school is still evolving and the complexity of evaluating the wide range of intervention activities included in health promoting school initiatives is a major challenge.

4.4.2 Home-school collaboration and parent involvement in schools

It is well-recognised that parents have an important role to play in their children's development and that links between families and schools can enhance educational outcomes (Raffaele & Knoff, 1999). The active involvement of families in schools can empower them to take a more central role in their children's social, education and emotional development. The term home-school collaboration (also known as family-school partnerships) refers to the relationship between families and schools, where parents and educators work together to promote the academic, social, emotional and behavioural development of children (Christenson & Sheridan, 2001; Cox, 2005). Home-school collaboration is just one type of parent/family intervention in schools and can be distinguished from parent involvement in schools, parent education, and parent consultation (Shepard & Carlson, 2003).

Raffaele and Knoff (1999) have noted that a positive working relationship between home and school is particularly important for high risk families and these partnerships are often the hardest to establish, especially when the child is already experiencing difficulties. An Australian study examined the extent to which teachers were accurate in their knowledge of family risk factors (Dwyer, Nicholson, Battistutta, & Oldenburg, 2005). While teachers were accurate in identifying some risk factors such as adverse life events and family socioeconomic status, accuracy was lowest for those students who were at greater risk of mental health problems. This finding suggests that those who may benefit most from early intervention are those about whom teachers appear to know the least. This study highlights the importance of teachers implementing strategies to identify vulnerable children as well as developing effective communication with parents of vulnerable children.

Cox (2005) conducted a review of 18 studies using home-school collaboration interventions. This review concluded that a range of home-school interventions were effective in improving academic performance and school-related behaviour in both primary and secondary school. The most effective interventions were those where parents and school personnel worked together to implement an intervention and had a two-way exchange of information. However, interventions that involved

one-way, school-to-home communication, such as daily report cards and telephone contact between the home and school, were also found to be effective. Simple techniques such as daily report cards were consistently effective in addressing problems such as quality of schoolwork, academic achievement, behaviour problems and absenteeism (Cox, 2005). Families who find it difficult to be actively involved in their child's school, due to barriers such as work commitments, may find these daily reports helpful for involving them in their child's education.

Conjoint Behavioural Consultation (CBC) is another parent-teacher strategy that is used to manage a variety of school-related concerns. In CBC, parent and teachers and other support staff (for example, school psychologists) collaborate to discuss the academic, social or behavioural needs of a child and determine a course of action (Guli, 2005). There are four stages within CBC: problem identification, problem analysis, treatment implementation and treatment evaluation (Sheridan, Kratochwill, & Bergan, 1996). A review of the evidence supporting the effectiveness of parent consultation interventions found that CBC was effective in changing a broad range of children's academic and social behaviours in the school setting (Guli, 2005).

A number of multi-component programs reviewed in Section 4.2 and 4.3 have incorporated parent involvement in the interventions. Many of these programs, such as *FAST Track* and *SSDP* have included parent training or other forms of parental involvement. Shephard and Carlson (2003) reviewed the evidence for school-based prevention programs that involved parental participation. This review identified four studies which compared school interventions with parent-plus-school interventions and found that the combined interventions showed slightly more improvements on several measures. Thus, it would appear that involvement of parents in multi-component programs via home-school collaboration or parent training has the potential to enhance the effects of the intervention, although given the lack of research on this issue, further research is required.

4.4.3 Extracurricular activities

There is a growing interest in the developmental and behavioural outcomes of participation in extracurricular activities (ECA). According to Fredricks and Eccles (2006) this interest has developed due to high levels of alienation and boredom reported by young people, increasing levels of school disengagement and increases in the amount of time young people are unsupervised by adults (Carnegie Corporation, 1992; Eccles & Gootman, 2002). Participation in school or community-based recreational, sports or leisure activities is thought to provide opportunities to develop social, physical and intellectual skills; to belong to a socially recognised and valued group; to contribute to community well-being; to establish supportive networks of peers and adults; and to experience and deal with challenges (Eccles, Barber, Stone, & Hunt, 2003). These factors may enhance school engagement and achievement, educational and occupational attainment and protect against involvement in problem behaviours (Eccles et al. 2003).

A number of studies, mainly from the USA, have examined the impact of ECA on a range of child outcomes. Participation in ECA has been found to be associated with greater academic attainment and increased educational expectations (Cooper, Valentine, Nye, & Lindsay, 1999; Darling, 2005; Darling, Caldwell, & Smith, 2005; Eccles et al. 2003; Fletcher, Nickerson, & Wright, 2003; Fredricks & Eccles, 2006) and reduced school drop out (Mahoney, 2000; Mahoney & Cairns, 1997). Participation is also associated with improved psychological adjustment (Fredricks & Eccles, 2006), lower levels of depression (Mahoney, Schweder, & Stattin, 2002) decreased substance use (Darling, 2005; Fredricks & Eccles, 2006) and lower arrest rates (Mahoney, 2000). ECA may be particularly beneficial for children and young people at high risk for problems, although one important factor appears to be the simultaneous participation of their peer social network in the activities (Mahoney, 2000).

However, not all research has found that participation in ECA acts as a protective factor for young people at risk for criminal behaviour (Burton & Marshall, 2005) and some studies have found participation to be associated with negative outcomes. For example, positive participation in sports activities has been found to lead to higher rates of drinking (Eccles et al. 2003) and frequent participation in activities at a recreation centre was associated with high rates of juvenile offending (Mahoney, Stattin, & Magnusson, 2001). These authors have suggested that ECA activities will not reduce antisocial behaviour if the activities are not structured, if there is little or no adult supervision, if there are no opportunities for skills building and if the participants are largely composed of young people with antisocial behaviour.

Similarly, Mahoney and Stattin (2000) found that participation in highly structured activities was linked to low levels of antisocial behaviour while participation in activities with low structure was associated with high levels of antisocial behaviour. According to Dodge et al. (2006), the most effective extracurricular programs are those that integrate both high-risk children and low-risk peers.

There are a number of criticisms of the research on the effects of ECA. According to Fredricks and Eccles (2006) these criticisms have included: (1) a focus on white, middle class children, (2) a failure to control for self-selection factors (potentially confounding factors that explain why some children participate in ECA); and (3) aggregating all ECA into one category as there is some research to suggest that type of activity participation may lead to different outcomes. Given these limitations to the research, and the conflicting findings about the effectiveness of ECA, especially for high risk children and young people, it is clear that further research is needed.

4.4.4 After-school programs

The growth in after-school programs (ASPs) is partly due to increased pressure from parents and public for quality care and supervision after school as a result of the changing nature of the work force (Gottfredson, Gerstenblith, Soule, Womer, & Lu, 2004). It is also due to the recognition that unstructured and unsupervised after-school time presents a significant risk for problem behaviour (Zief, Lauer, & Maynard, 2006). In the USA, higher crime rates have been observed in the after-school hours, an effect that is likely to be due to lower parental supervision (Gottfredson et al. 2004).

There have been a number of studies that have examined whether ASPs are associated with reductions in delinquency. These studies have generally found that ASPs are associated with positive effects on academic and social adjustment (Gottfredson et al. 2004; Mahoney, Lord, & Carryl, 2005; Pettit, Laird, Bates, & Dodge, 1997; Pierce & Shields, 1998; Posner & Vandell, 1994; Riggs, 2006). Gottfredson et al. (2004) found that ASPs reduced delinquent behaviour for younger children (grades 4 and 5) but not for older children (grades 6 to 8). The effects of ASPs were due to positive peer associations and increasing intentions not to use drugs, rather than by decreasing time spent unsupervised or increasing involvement in constructive activities.

Mahoney, Lord and Carryl (2005) examined the impact of ASPs compared with parent care and combined parent, self or sibling care in a disadvantaged area in the USA. Participation in ASPs was associated with enhanced academic performance and motivation when compared to the other types of care, especially for those with high rates of engagement in program activities. Similarly, in a sample of Latino children with poor academic performance, Riggs (2006) found that participation in ASPs was related to increased social competence and reduced problem behaviour, but only for those who had high rates of participation.

However, not all research has found positive findings. A systematic review of the impacts of ASPs failed to find a positive impact of these programs on behavioural, social and academic child outcomes (Zief et al. 2006). These authors noted that the lack of positive effect may be due to the limited duration of the interventions or the low participation rate across studies. A RCT of over 1000 children, mostly from low-income and high-risk backgrounds found that those who were assigned to the ASPs

displayed higher rates of deviant behaviour, suspensions and disciplinary actions than those in the control group (James-Burdumy et al. 2005). This finding may be due to social contagion effects of aggregating high risk children into groups.

The characteristics of ASPs may determine their effectiveness, but these factors have largely been overlooked by the research conducted to date. According to Rosenthal and Vandell (1996) characteristics such as child-staff ratios, centre size and staff education have been found to be important for determining positive staff-child interactions in ASPs. In addition, ASPs that offered a greater variety of different activities were observed to have more frequent positive staff-child interactions. Pierce, Hamm, and Vandell (1999) found that three aspects of ASPs (emotional climate, quality of peer interactions, and program curriculum) were associated with children's adjustment at school. Clearly, further research on the effectiveness of ASPs is required and should examine the elements of the programs that result in positive or negative outcomes.

4.4.6 School suspension and expulsion

The school disciplinary system often uses suspensions and expulsions as a consequence for behaviours that violate school rules. Physical fights and aggression are the most common reasons for student suspension and in NSW there is automatic suspension of students for violent behaviour, possession of a weapon or possession of illegal drugs (NSW Department of Education & Training (DET), 2005). In 2005, 356 students were expelled from NSW schools and there were 11,216 incidents of long suspension, which are up to 20 days (NSW DET, 2006a). In 2005, the majority (85%) of long suspensions were for violent behaviour or persistent misbehaviour (NSW DET, 2006b).

Suspensions and expulsions from school aim to punish students, alert parents and protect other students and school staff from the impact of violent or disruptive behaviour. There is a lack of research on the direct impact of suspensions and expulsions on behaviour and overall school safety. The American Academy of Pediatrics (2003) have issued a policy statement which warns that suspension and expulsion may exacerbate academic deterioration and, in cases where there is no educational alternative, may lead to delinquency, crime and substance abuse. They have also stated that access to social, emotional and mental health support may decrease the need for expulsion and suspension.

In a recent study, Hemphill, Toumbourou, Herrenkohl, McMorris, and Catalano (2006) examined the effect of out-of-school suspensions on subsequent adolescent antisocial behaviour in a sample of young people in Victoria, Australia and Washington, USA after controlling for established risk and protective factors. Suspensions were more commonly reported in Washington and were found to significantly increase the likelihood of antisocial behaviour 12 months later. It is unclear why suspensions may have increased antisocial behaviour in this sample, but the authors suggest a number of hypotheses, including stigma, disconnection from a positive social environment and contact with deviant peers. The authors suggest a number of alternatives to out-of-school suspensions such as in-school suspensions, withdrawal of privileges, behavioural contracts and restorative justice.

NSW have recently implemented suspension centres in an effort to provide intensive assistance for disruptive students and keep schools safe. By 2007 there will be seven suspension centres in NSW. In NSW, Behaviour Schools provide specialist programs for students in Years 5 to 10 who have behaviour and learning difficulties while tutorial centres provide similar services but are focused on short term interventions. There is currently no evidence available about the effectiveness of these services in comparison to mainstream schools. The larger teacher-to-student ratios and the provision of structured behavioural programs in these schools may be helpful for children experiencing difficulties. However, according to Dodge et al. (2006), alternative schools (as they are known in the USA) tend to aggregate high-risk children and young people into groups, so they may actually increase, rather than decrease conduct problems via social contagion effects.

4.4.7 Mentoring programs

Mentoring generally refers to a mutually beneficial relationship established between a young person (mentee) and one who is older (mentor) that lasts over time and is focussed primarily on the developmental needs of the younger individual (Guetzloe, 1997). Mentoring creates opportunities for the mentee to develop relationships with caring adults and networks with peers, and to enhance individual competencies (Beltman & MacCallum, 2006).

There are different modes of mentoring, the most common of which are one-to-one (traditional) and group (including peer group) mentoring. Most one-to-one mentoring programs are community- or school-based (Herrera, Sipe, & McClanahan, 2000). School-based programs have a greater emphasis on academic performance while community-based programs typically focus on social behaviours. Young people in community-based programs generally have more contact with their mentors and have the opportunity to form stronger relationships (Herrera et al. 2000). Mentoring programs can be delivered as universal interventions or targeted interventions for high-risk children and young people.

The most well-established of all formal mentoring programs is *Big Brothers Big Sisters of America* (BBBSA), which offers both universal and targeted programs. BBBSA emerged from the USA in the early 1900s and currently involves more than 500 agencies providing programs for children and adolescents aged 6 to 18. BBBSA programs are based on consistent operating standards that provide a level of uniformity in recruitment of mentors, matching of mentors and mentees and supervision of mentors. The program aims to make a difference in the lives of young people, primarily through a professionally supported one-to-one relationship with a caring, concerned adult, in order to assist mentees to improve their self-esteem and reach their highest potential (Tierney, Grossman, & Resch, 2000).

A large study of the BBBSA program was conducted with 1138 young people aged 10 to 16 who were randomly assigned to a mentoring program or a waitlist control over an 18 month period. Mentees who took part in the program were referred by local welfare agencies. When compared with the waitlist group, those who had participated in the mentoring program were less likely to start using drugs and alcohol; less likely to be aggressive; had improved school attendance and performance; and improved relationships with their family (Tierney et al. 2000).

Other studies have also found positive effects of mentoring on a range of outcomes for children and young people. For example, mentoring has been described as a 'viable strategy' for helping children stay more engaged with school (Lee & Cramond, 1999), and 'promising' for increasing school attendance (Gottfredson, 1997), enhancing educational attainment (Grossman & Rhodes, 2002; Shiner, Young, Newburn, & Groven, 2004; Thompson & Kelly-Vance, 2001; Zippay, 1995) and improving positive self-concept (LoSciuto, Rajala, Townsend, & Taylor, 1996; Turner & Scherman, 1996). Beier, Rosenfeld, Spitalny, Zansky, and Bontempo (2000) also found that mentoring had a significant impact on reducing risk behaviours, such as drug use, smoking, carrying a weapon and sexual behaviours.

However, a number of reviews have failed to find evidence of gains related to mentoring. Boaz and Pawson (2005) and Lucas and Liabo (2003) concluded that mentoring programs cannot be recommended as an intervention of proven effectiveness for young people with personal vulnerabilities and with severe behavioural problems. A meta-analysis of 55 mentoring programs (DuBois, Holloway, Valentine, & Cooper, 2002) found only 'modest benefit' to young people being mentored, specifically on measures of emotional, behavioural, and educational functioning. An audit of early intervention programs in Australia (Wilczynski, Culvenor, Cunneen, Schwartzkoff, & Reed-Gilbert, 2003, p68) concluded that mentoring is a 'promising but unproven strategy'.

BBBSA has been implemented as an early intervention strategy in Australia to prevent problem behaviours in children and young people and to promote long-term community-based friendships. According to MacCallum and Beltman (1999) there are a number of other mentoring programs in operation including the *Learning Assistance Program* (LAP: Penhall, Brown, & Carmody, 1992), *Plan-it Youth* and *Deadly Mob* for Indigenous young people based on the *Dusseldorp Skills Forum* (DSF).

However, there appears to be a lack of studies that have examined the effectiveness of these programs. There is currently a national mentoring strategy developing from the collaborative effort of BBBS Australia, The Smith Family and the DSF in order to establish a sustainable funding base for programs and for research to improve practice and to clarify the roles of government and mentoring providers in developing a viable mentoring movement in Australia (Hartley, 2004).

There are a number of factors that have been found to influence effectiveness of mentoring programs. These include the quality and duration of the mentoring relationship and frequency of contact (Grossman & Johnson, 1998; Grossman & Rhodes, 2002; Hall, 2003; Reddy, Roffman, Grossman, & Rhodes, 2002; Rhodes, 2002). For example, Grossman and Rhodes (2002) found that mentoring relationships that lasted a year or longer were associated with the greatest improvements in functioning for young people whereas brief relationships were associated with decreases in functioning. Other important factors include:

- characteristics of the young person (DuBois et al. 2002) and their receptivity to the mentoring process (Reddy et al. 2002; cited in Rhodes, 2002)
- characteristics of mentors (Beltman & MacCallum, 2006)
- the context in which the relationship functions
- ongoing training and support for mentors
- structured activities for mentors and mentees
- mechanisms for support and involvement of parents
- monitoring of overall program implementation (Beltman & MacCallum, 2006; DuBois et al. 2002; Karcher, Nakkula, & Harris, 2005).

According to DuBois et al. (2002), high risk children and young people may not benefit from mentoring alone and may require additional support and services. Thus, mentoring may be more effective as one of several distinct components of a multi-component program, or when implemented in conjunction with other interventions (Jekielek, Moore, & Hair, 2002) rather than as a stand-alone intervention. However, there is currently only limited understanding of how best to integrate mentoring with other types of services (DuBois & Rhodes, 2006).

In summary, there is conflicting evidence about whether mentoring programs are effective as an early intervention strategy for children and young people aged 8 to 14. It is clear that further research is needed to understand the factors which influence the effectiveness of mentoring programs and to establish what constitutes 'best practice' (DuBois et al. 2002), particularly regarding the mentoring relationship, which appear to be the key element of all mentoring programs.

4.4.8 Community programs

There is evidence that neighbourhood economic and social stress exert a powerful but indirect influence on children's developmental outcomes. In an Australian study, Weatherburn and Lind (2001) found that economic and social stress increases the level of juvenile crime through its impact on parenting behaviours. Economic stress appears to produce parental behaviour which is lax in supervision, which weakens the bond between parent and child and/or which involves harsh or inconsistent parenting. Community programs involve working with people in disadvantaged geographical communities in order to improve physical, social and economic conditions in the community and enhance outcomes for families and children (Jack, 2005).

Community interventions with children and their parents have generally had two principal aims: to improve children's physical health and development and/or to reduce levels of child abuse and neglect (Barnes, Katz, Korbin, & O'Brian, 2006). Community programs often aim to increase 'social capital', that is, the quality of the social trust, reciprocity and active social networks that communities possess (Jack, 2005). Community interventions are also known by a variety of terms such as 'whole of community approaches', 'neighbourhood interventions' or 'comprehensive community initiatives'.

Multi-component programs often involve community interventions in addition to strategies that target the school curriculum and environment. For example, one component of *Project Northland* involved the use of community task forces which used a direct action community organising model to attempt to reduce student access to alcohol in the community (Perry et al. 2002). Another example is the *Olweus Bullying Prevention* program that included meetings with community members and incorporated antibullying messages and strategies into youth-related activities in the community (Olweus, 1993). Cuijpers (2002) reviewed the evidence for school programs versus school plus community programs for the prevention of substance use and found some evidence that the effects of the school program can be increased when community components are added.

There have been a number of large, well-evaluated community interventions implemented internationally, such as *Head Start* in the USA and *Sure Start Local Programmes* in the UK. However, these programs have focused on intervening early in life, prior to children starting school. In the UK, the *Children's Fund* is a national area-based initiative which aims to address the effects of social exclusion for children aged 5 to 13 (Broughton, 2005). This initiative involves the development of partnerships between the voluntary, community and government sectors in order to provide early interventions to prevent social exclusion. The National Evaluation of the Children's Fund is a complex evaluation that will investigate which components of the initiative are effective. However, the evaluation is still underway and there are currently no findings available from this initiative.

One of the best known community interventions, *Communities that care* (CTC), is based on a risk factor paradigm that aims to identify and reduce levels of risk in the community (Hawkins, Catalano, & Arthur, 2002). CTC does not deliver services itself but facilitates and activates change in local areas. It aims to increase partnerships between different agencies, involve local community members, increase evidence-based approaches to early intervention and bring in more resources to enhance work with children and families (France & Crow, 2005). There are 40 programs in place in the UK, 500 in the USA and Australia is presently running a number of programs (France & Crow, 2005; Williams, Toumbourou, McDonald, Jones, & Moore, 2005).

In Australia, there have been a number of other community level programs to enhance child development. These programs, reviewed by Barnes et al. (2006) include *Best Start* in Victoria, *Pathways to Prevention* in Queensland, and *Stronger Families and Communities*, which is a federal government initiative. However, all of these programs focus on early childhood and do not include children older than 8 years.

Thus, there is some evidence that community programs can enhance the effects of other interventions when delivered as part of a multi-component program. In relation to more broad-based community programs, the majority of research has focused on younger children and there is a lack of research on programs for children age 8 to 14. Thus, it is not known whether the findings of community programs with young children generalise to late childhood and early adolescence. However, according to Jack (2005, p293) community programs are difficult to evaluate because they involve 'so many different individuals, groups and organisations, each subject to an array of potential influences within changing social, economic and political contexts'.

4.4.9 Summary

This section covered a diverse range of school-based and community-based strategies for enhancing well-being and preventing health risk or problem behaviours in children and young people. Research has demonstrated that partnerships between parents and teachers are important for children's educational outcomes. There is evidence that home-school interventions, which involve an exchange of information between parents and teachers, are effective in managing behaviour and school-related problems.

Studies that have examined the effectiveness of extracurricular activities have demonstrated that such programs can reduce problem behaviours such as school dropout, delinquency and improve educational attainment. While these interventions may be of benefit, some studies have shown negative findings. It would appear that programs must be structured, involve adult supervision and skill building and include both high-risk and low-risk children to show positive effects. Similarly, after-school programs may be associated with positive effects, although some studies have found negative outcomes in programs that have included only high risk children.

Currently, there is little available evidence to support Health Promoting Schools initiatives which emphasise the links between schools and communities. However, there are a number of large initiatives currently being implemented. There is also little evidence to support the effectiveness of mentoring programs as stand-alone interventions. While community programs appear to be effective when delivered as part of a multi-component program, the evidence supporting community programs as stand-alone interventions relates to early childhood, and it is not known whether these findings generalise to children aged 8 to 14. There is a lack of research on the effects of school suspension and expulsion for dealing with problem behaviours and one study found that suspension may increase conduct problems.

5. Factors influencing effectiveness and implementation of child-focussed and multi-component interventions

This section will review the factors that have been found to influence the effectiveness of child-focussed and multi-component program. It will also review the factors that are relevant to program implementation.

5.1 Factors influencing program effectiveness

There are a broad range of factors which have the potential to influence the effectiveness of child-focussed and multi-component interventions. While there is generally a lack of research on factors that influence program effectiveness, it was beyond the scope of this paper to provide a comprehensive summary of all the factors that have been found to influence outcomes across the broad range of programs reviewed. Some of the key factors that influence outcomes include: program components; program content and delivery; age of child; who delivers the intervention; and duration of the intervention and booster sessions.

5.1.1 Program components

The findings of this review suggest that there are a number of child-focussed and multi-component programs that are effective for preventing a range of outcomes. In general, there is some evidence to suggest that multi-component programs that involve parent training, school-wide change and community interventions, may lead to stronger effects than single component interventions that simply provide classroom curricula (Browne et al. 2004; Greenberg & Kusche, 2006; Rones & Hoagwood, 2000). There is also some limited evidence that involving parents in a school-based intervention enhances the effects of the intervention (Shepard & Carlson, 2003). These findings are not surprising and suggest that addressing risk and protective factors in multiple domains may have a greater impact on child outcomes than addressing risk and protective factors in a single context.

According to Rones and Hoagwood (2000), while multi-component programs show positive outcomes, they do not guarantee program success. In general, there is a lack of research regarding the added effects of multi-component approaches over and above the effects of the school curricula (Flay, 2000). Studies of multi-component programs should be able to conclude which components of the intervention are effective, but this is rarely the case. According to Weisz et al. (2005, p639), 'there is almost certainly some excess in some programs – that is, elements that do not actually contribute substantially to the benefits achieved'. Thus, it is presently not possible to quantify the additional benefits provided by targeting the home, school environment and community in addition to the classroom setting, nor is it possible to identify which families and children benefit most from which program components.

5.1.2 Program content and delivery

There is evidence that programs that involve active skills training in the context of interactive programs or cognitive-behavioural interventions are more effective in preventing violence, substance use, depression and anxiety than interventions that involve the provision of information alone. Skills-based approaches also appear to be more effective than didactic interventions in increasing knowledge and skills related to the prevention of child sexual abuse. However, for some interventions, such as those to prevent depression and anxiety, this finding simply reflects the lack of research using other approaches.

5.1.3 Age of child

There is some evidence that the effectiveness of the intervention is related to the age of the child, with greater effects observed for younger children. For example, in relation to the prevention of child sexual abuse, there were significant increases in knowledge for younger but not older children. It may be that older children already have sufficient knowledge about sexual abuse and are unlikely to benefit from such interventions. Similarly, primary school age children appeared to show greater benefits from bullying prevention programs than secondary school students (Rigby, 2002a). Finally, an anxiety prevention program was effective for children aged 9 to 10 but not for children aged 14 to 16 (Lock & Barrett, 2003). However, interventions to prevent violence and conduct disorder (Mytton et al. 2006) and substance use (Gottfredson & Wilson, 2003) appeared to be effective for children in both primary and secondary school.

Thus, for some outcomes, there may be a developmental 'window of opportunity' for intervention and it may be critical to deliver the program prior to adolescence in order to obtain a preventive effect. Younger children may be more receptive to the intervention and less likely to have established difficulties than older children. However, further research is needed to fully understand the effects of age on outcomes of the intervention.

5.1.4 Who delivers the intervention?

The majority of school-based interventions have been delivered by teachers who are trained to deliver the curricula. However, interventions have also been delivered by peers and by mental health professionals, such as psychologists. Very few studies have examined the effect of the intervention according to who delivers it. In reviews of substance use prevention programs, interventions delivered by peers were found to lead to more positive effects than interventions delivered by teachers (Gottfredson & Wilson, 2003). Considering that peers often play a significant role in substance use, it is not surprising that anti-drug messages are more credible when delivered by peers than teachers. Programs to prevent depression and anxiety have been delivered by both teachers and psychologists with comparable findings (Barrett & Turner, 2001; Merry, McDowell, Hetrick et al. 2004; Shochet et al. 2001).

5.1.5 Duration of the intervention and booster sessions

The duration of programs included in this review have varied widely from a few sessions, in programs to prevent sexual abuse, to several years in school connectedness interventions. There is a lack of research that has explored the effects of program duration on the outcomes of the interventions. However, there is some limited evidence that longer programs may be associated with stronger outcomes. For example, one program to promote school connectedness compared an intervention delivered from grades 1 to 6 with an intervention delivered in grades 5 and 6 only and found significant effects only for the longer intervention (Hawkins et al. 2001). However, younger age at intervention also may have been an important factor in this example.

Programs duration was also important for prevention of child sexual abuse, with longer programs (more than 3 sessions) associated with more positive findings (Davis & Gidycz, 2000). A review by Greenberg et al. (2000) has suggested that multi-year programs are more likely than time-limited programs to lead to enduring benefits. However, not all research has found duration to be important for the effects of the intervention. In relation to prevention of substance use, greater duration of the intervention (more than 4.5 months) did not result in greater program effects (Gottfredson & Wilson, 2003).

Booster sessions are typically sessions delivered weeks, months or years after the intervention in order to check on progress and to recap on program material with the aim of maintaining the positive effects of the intervention. A number of studies included in this review have included booster sessions. For example, the *FRIENDS* program to prevent anxiety (Barrett & Turner, 2001) and LST to prevent substance use (Botvin & Griffin, 2004) both used booster sessions. In general, there is little research regarding the effectiveness of booster sessions. Gottfredson and Wilson (2003) concluded that programs that provide booster sessions produce more lasting effects on substance use than those that do not. However, this finding was only based on a handful of studies. Cuijpers (2002) found mixed support for the inclusion of booster sessions and concluded that the effects of booster session may depend on other characteristics of the prevention program, such as who delivers it.

5.2 Factors influencing implementation

There is a widely acknowledged gap between interventions that have been shown to work in empirical studies, commonly referred to as 'evidence-based' and the interventions that are typically available to the general public, under 'real-world' conditions (Langberg & Smith, 2006). Interventions delivered in research are typically implemented with a higher degree of attention and are generally associated with greater effectiveness than those delivered in the community. The quality of implementation is also known as program 'fidelity' or 'integrity' or 'adherence' and refers to the degree to which an intervention is conducted as it was originally intended (Durlak, 1998). Gottfredson and Gottfredson (2002) examined the implementation quality of a number of school-based prevention programs and found it to be poor. Less than half of the programs implemented in practice had the same number of sessions as those implemented in research.

According to Payne, Gottfredson and Gottfredson (2006) higher quality of program implementation in school-based programs has been shown to lead to enhanced program effectiveness. For example, a study of the *Child Development Project*, an intervention to enhance school connectedness, found a greater number and magnitude of positive effects for high implementation schools (those that had a greater number of changes in teacher practices and attitudes) when compared to low implementation schools (Battistich et al. 2004). Kam, Greenberg and Walls (2003) conducted an 'effectiveness' study of PATHS for the prevention of violence and found that factors such as support of the principal and the quality of the teacher implementation in the classroom were critical in determining program success. Similarly, Rigby (2002a) found positive outcomes of programs to prevent bullying were related to staff commitment to the program.

Since the quality of program implementation is strongly related to program effectiveness, it is important to determine the factors that influence implementation quality. There are a range of factors at the classroom level, the school level, the district level and the community level that may influence the quality of the implementation (Greenberg, Domitrovich, Graczyk, & Zins, 2005). Gottfredson and Gottfredson (2002) and Payne, Gottfredson and Gottfredson (2006) examined the school and program characteristics that were related to the quality of implementation of school-based programs. These studies found that the following factors were critical to implementation quality:

- program standardisation: programs with clear and explicit materials and procedures
- local planning process: programs that are chosen by school staff (but developed by external researchers) and involve high-quality training
- organisational capacity: schools that have greater program development capacity, better teacher-principal communication and fewer obstacles
- organisational support (support of the principal) and integration into normal school operations (enthusiasm and widespread implementation).

Providing empirically supported interventions in schools often requires a level of staffing and training that exceeds current practice (Evans & Weist, 2004). Some school-based programs, such as programs to enhance school connectedness require complex training, the involvement of numerous school personnel and strong administrative support (Catalano et al. 2003). It is therefore important for schools to consider factors related to organisational support and capacity prior to implementation of programs. It is also important for practitioners to monitor program quality carefully once implementation has begun (Greenberg et al. 2005).

While there are a number of important factors related to implementation that have been identified, there are still many unanswered questions about the factors that lead to program implementation and barriers to successful implementation. As Greenberg et al. (2005, piii) has observed: 'It will take some time before scientists are able to provide communities with the information they need to adapt known effective programs without compromising fidelity and successful outcomes'.

6. Methodological problems and directions for future research

6.1 Methodological problems in research

There are numerous methodological problems with most of the studies included in this literature review, which make interpretation of the findings difficult. Randomised controlled trials (RCTs) are considered the gold standard in research due to their ability to control for biases. However, even the RCTs reviewed in this paper had considerable methodological limitations. These methodological limitations included small sample sizes; high rates of attrition or differential attrition; randomisation procedures inadequate or not described; not determining comparability of groups at baseline; lack of reporting of effect sizes; reliance on self-report measures; and focus on mothers and exclusion of fathers.

Lack of long-term follow-up is also a significant problem in studies of parenting, child-focussed and multi-component programs. Long-term follow-up is essential to determine whether the effects of the intervention are sustained over time or whether positive effects of the intervention only emerge after a significant period of time has elapsed. Long-term follow-up is also important to demonstrate any negative effects of the intervention. Knowledge of the duration of intervention effects can guide decisions about the need for booster sessions and can inform cost-benefit analysis. Interventions that produce only short-term effects are unlikely to demonstrate significant cost-benefits and should not be implemented in practice.

The majority of studies reviewed in this paper were from the USA and there was a lack of interventions from Australia, with some notable exceptions. Australia leads the world with its research into the prevention of depression and anxiety in children, with numerous large studies such as RAP and FRIENDS that have demonstrated positive effects. Australia has also implemented a number of health promotion initiatives, such as the *MindMatters* program and the *Gatehouse Project*. However, for parenting programs and programs to prevent violence, substance use and child sexual abuse, there is a dearth of Australian research. There is also lack of Australian research on after-school programs, extracurricular activities, mentoring programs and community programs.

The findings from American studies on child-focussed and multi-component programs may not be easily generalisable to Australia. The school system in the USA differs significantly from the school system in Australia, in terms of structure (USA has junior, middle and high school versus primary and high school in Australia) and in policies (USA has a focus on abstinence from substance use versus harm minimisation in Australia) and practices (USA uses suspensions more than Australia). Interestingly, the *Penn Prevention Program* to prevent depression achieved positive effects in the USA, but these positive effects were not found in Australian studies (Quayle et al. 2001). However, as the intervention was delivered as a universal rather than a targeted intervention, this may also explain the null findings. As many programs from the USA have a strong evidence base, it would be of benefit to undertake replication studies to test the effectiveness of these programs in the Australian context.

This paper included findings from systematic reviews, narrative reviews and meta-analyses in addition to results of individual studies. While reviews have the advantage of synthesising the findings across a number of studies, and are therefore less likely to be subject to the biases present in individual studies, they are not without their limitations. The quality of findings from reviews is largely dependent on the quality of studies on which they are based. Thus, the inclusion and exclusion criteria for a review are important and have the potential to influence the findings (Stoiber & Kratochwill, 2000). An additional problem is that the outcomes of reviews may simply reflect the studies available. Thus, if the majority of studies on a particular topic have used a cognitive behavioural approach, the finding that cognitive behavioural approaches are effective may be due to the studies available rather than the relative benefits of this approach over other approaches (Stoiber & Kratochwill, 2000).

The design and analysis of studies examining multi-component programs should enable separate estimates of the effects of the school curricula and any additional components. However, few studies have examined which components of the intervention are responsible for the observed effects. Cox (2005) emphasised the importance of future studies using appropriate data analysis so that specific intervention components of the intervention can be clearly linked to specific outcomes. Known as 'dismantling research', it is particularly important to be able to dismantle the benefits of individual components, especially for those that involve home-school collaboration or other parenting interventions as well as those that involve community interventions.

On the basis of the literature reviewed, it is apparent that there are many gaps in the research regarding early interventions for children and young people aged 8 to 14 years. The main gap relates to the few parenting programs that have been developed to meet the needs of culturally and linguistically diverse groups. According to Forehand and Kotchick (2002, p380), 'most parenting interventions have been developed with Caucasian families and some principles or techniques may not generalise well to families of other ethnic backgrounds'. From the literature reviewed, there were three parenting programs from USA that have been recently developed or adapted in order to meet the needs of specific cultural groups (Brody et al. 2006; Martinez & Eddy, 2005; O'Donnell et al. 2005) and two programs from Australia (Kayrooz & Blunt, 2000; Turner et al, in press). Most notably, Turner et al (in press) adapted the Triple P Program for Australian Indigenous families and the findings of a preliminary study show positive effects on parenting and child behaviour.

In terms of child-focussed programs, Barrett and colleagues successfully adapted the FRIENDS program, an anxiety prevention program, to be suitable to young migrants to Australia (Barrett et al. 2001; Barrett et al. 2003). Similarly, the LST program for preventing substance use was successfully modified for culturally and linguistically diverse populations (CALD) (Botvin, Schinke et al. 1995). In relation to the latter program, only small modifications were made to reading level and the nature of examples used throughout the program and no changes were made to the underlying prevention strategy (Botvin et al. 2001). These findings demonstrate the potential of adapting existing programs to be suitable for CALD groups.

The lack of programs that have been developed or adapted for CALD groups has been criticised by many researchers including Weisz et al (2005, p641), who states:

The evidence base does not even begin to capture the rich cultural and ethnic heterogeneity of the United States or the world or the broad array of forms that dysfunction and disorder may take. Moreover, researchers are just beginning to probe the effects of developing or adapting prevention and treatment programs for specific cultural and language groups. Such work should be central to the research agenda for our multicultural world, in this decade and beyond.

6.2 Directions for future research

Future studies should also examine the following issues in order to address gaps identified in research:

- strategies for increasing participation rates and preventing attrition in parenting programs
- benefits of including children and young people in parenting programs
- strategies for involving fathers and the effectiveness of parenting programs with fathers
- relative benefits of brief and more intensive parenting programs
- parenting programs for parents at risk of abuse or neglect
- the separate effects provided by each component of a multi-component intervention
- the factors that lead to high quality program implementation or act as barriers to implementation
- the impact of intervention duration and booster sessions on outcomes
- the long-term effects of an intervention, beyond 12 months
- the effectiveness of interventions that have been designed or adapted for Indigenous Australians or culturally and linguistically diverse groups
- the replication of programs from USA in the Australian context.

7 Practice implications

7.1 Parenting programs

From the research reviewed here, there are a number of important implications for practice and for the delivery of early interventions for parents of children and young people aged 8 to 14 years. Implications for practice related to selecting the type, level and format of the parenting program and implementing parenting programs.

7.1.1 Selecting parenting programs

Parenting programs that are delivered in practice should be evidence-based and address risk and protective factors known to be associated with child outcomes. Practitioners should avoid implementing programs where there is little evidence of effectiveness. Practitioners should aim to select programs that are developmentally appropriate for the children targeted. Many parenting programs designed for children under 8 years would not be appropriate for older children without modification to the strategies. Triple P and PCIT are examples of two evidence-based programs that were originally developed for younger children and have been modified to be suitable for older children. Conversely, programs developed for parents of children aged 12 to 14 may not be suitable for implementation with parents of younger children. Even within the 8 to 14 age range there is developmental difference between children aged 8 to 10 and those aged 11 to 14 that should be taken into account when selecting a parenting program.

When selecting a parenting program, an important consideration is whether to implement universal programs targeting whole populations or targeted programs that select populations based on risk. There are a number of advantages and disadvantages for both universal and targeted interventions. Universal programs have the benefit of reduced stigma and broader application but are less personalised, associated with smaller individual effects and involve greater expense, whereas targeted programs provide more personalised contact, have greater efficacy, are less costly but are likely to be associated with greater stigma and limited reach (Offord, Kraemer, Kazdin, Jensen, & Harrington, 1998). In general, selection of the level of intervention will usually depend on these factors as well as the population and outcomes targeted.

Another consideration is whether to select a group or individual parenting program. Individual programs offer greater flexibility in terms of pace, content and attention to idiosyncratic problems of the family (Chronis et al. 2004). However, group programs may be less costly and time-consuming and offer more opportunities for social support. In this review, both group and individual parenting programs were found to be effective and while no studies directly compared the relative effectiveness of these different formats there is some evidence that financially disadvantaged families may benefit more from individual than group programs.

7.1.2 Implementing parenting programs

In relation to universal parenting programs, the best evidence of program effects relates to the prevention of alcohol and substance use in young people. Group programs that are delivered during the transition to secondary school and aim to improve parenting and family interaction have the capacity to prevent the initiation of alcohol and smoking. Universal parenting programs should be delivered in the school setting and target the transition to secondary school, so parents may be more likely to see parenting programs as a normal and integral part of this transition and so that intervention occurs prior to initiation of substance use for most children.

It is important for practitioners to bear in mind that universal programs may have the potential to impact positively on behaviours not directly targeted, such as delinquency. Universal interventions may not be effective for those who have already initiated alcohol and substance use, so alternative interventions should be considered for parents of these children. Since not all families will benefit from participation in a brief preventive intervention, progress should be monitored and more intensive interventions should be offered to those who continue to show problems at the end of the intervention.

Brief or self-directed parenting programs are important for families who ordinarily would not be able to participate in individual or group programs. There is evidence that very brief interventions based on motivational interviewing and universal self-directed interventions involving CD-Rom, written materials and audio-based materials may be effective in enhancing family functioning and reducing adolescent risk behaviours. While there is lack of research regarding which families are most likely to benefit from brief or self-directed interventions, practitioners should consider these interventions for families who are experiencing milder problems, who have higher education levels and who are more motivated to change. Given the time demands involved in participating in group and individual programs, practitioners should aim to provide briefer interventions, especially as families themselves appear to prefer participation in briefer interventions (Dishion et al. 2003). However, when delivering brief or self-directed programs, progress should be monitored and if problems persist at the end of intervention, a more intensive program should be provided.

Studies of program mediators have found that behavioural parenting programs modify risk and protective factors such as parental monitoring, parent-child communication and parent-child relationship quality and it is changes in these variables that result in improvements in child outcomes. Thus, practitioners should provide evidence-based parenting programs that modify these risk and protective factors. Given the evidence available, it would appear that behavioural parenting programs such as PMT, that are approximately 10 to 12 sessions in duration, have the capacity to impact on risk and protective factors such as parenting practices, family conflict and communication, and the quality of parent-child relationships, which in turn, reduce externalising behaviours and high risk behaviours in children and young people. Thus, practitioners should offer behaviourally-based individual and group parenting programs for the following problems:

- families with parental depression
- families who have multiple risk factors
- families who experience marital separation or divorce
- stepfamilies
- parents stressed by adolescent substance use
- families of children and young people with oppositional or conduct problems
- families of children with ADHD who experience family conflict.

While there is a lack of research that has examined the effectiveness of interventions for parents of 8 to 14 year olds who abuse or neglect their child, an intensive program that provides parent skills training in vivo demonstrated significant reductions in re-occurrence of abuse (Chaffin et al. 2004) and may show promise as an intervention in the child protection context.

Practitioners should consider inclusion of the child or young person in parenting interventions on a case-by-case basis, as there is mixed evidence regarding whether this leads to stronger program effects. However, it should be emphasised that aggregating high risk youth into groups may result in increased delinquency and substance use and therefore should be avoided.

Families who attend more sessions may show enhanced benefits from program participation and longer programs may be particularly beneficial for high-risk families. Families with additional parental risk factors such as parental depression and stress may benefit from adjunctive interventions that target these risk factors, but due to the mixed findings on this issue, adjunctive interventions should be offered only if families still experience problems following a standard parenting program.

Finally, as high risk families are more likely to drop out of parenting programs than low risk families, practitioners should consider strategies such as offering monetary incentives and implementing brief motivational enhancement programs prior to program participation. Motivational enhancement strategies may include the provision of information about the importance of attendance, eliciting statements about parents' plans to attend and developing plans for overcoming parents' barriers to attendance (Nock & Kazdin, 2005).

7.2 Child-focussed and multi-component programs

From the research reviewed in this paper, there are a number of important implications for practice and for the selection and implementation of child-focussed and multi-component programs for children and young people aged 8 to 14 years. Implications relate to selecting and implementing the intervention.

7.2.1 Selecting the intervention

When selecting a child-focussed or multi-component program, an important consideration is whether to implement universal programs or targeted programs. Selecting the level of the intervention may depend on the outcome targeted since programs to prevent child sexual abuse and substance use have used mainly universal approaches whereas programs to prevent bullying, violence, depression, anxiety and school drop out have used both universal and targeted programs. While programs that target more at-risk populations have generally observed larger effects, this finding is likely to be due to the lower base rate of problem behaviours for participants in universal programs (Wilson et al. 2001).

While it is assumed that targeted interventions are associated with greater stigma for participants, there is a lack of research to support this assumption. A recent study investigated young people's perceptions of stigma when participating in universal and indicated programs aimed at preventing depression (Rapee et al. 2006). While the levels of stigma were greater for those participating in the indicated interventions, effect sizes were small, and perceived stigma was more strongly associated with individual characteristics including being male and showing more behavioural problems (Rapee et al. 2006). In addition, participants had more positive perceptions about the indicated intervention. Thus, it may be that concerns about the stigma associated with participating in targeted interventions are largely unjustified.

When considering whether to implement universal versus targeted approaches, the most effective strategy may be to introduce a multi-level model of prevention with both universal programs and targeted initiatives for those not helped sufficiently by the universal programs (Offord et al. 1998). Effective multi-level strategies described in this review included *FAST Track* for preventing antisocial behaviour (Conduct Problems Prevention Research Group, 2004). However, there is no evidence about the added effects provided by multi-level approaches and these interventions are likely to be more costly and may be more difficult to implement than single-level approaches.

Decisions about which child-focussed and multi-component programs to implement in schools and communities should be based on research evidence about the efficacy and effectiveness of the programs. Selecting the type of intervention to implement will also depend on other factors such as the outcomes targeted, the risk and protective factors targeted, the strategies selected, and the school needs and ethos. For many practitioners, decisions about which intervention to select may be based on the specific outcome(s) they wish to target in the intervention. There are a number of important considerations for programs that target different outcomes.

Programs to prevent child sexual abuse

There is evidence that universal programs to prevent child sexual abuse are effective in increasing knowledge and self-protection skills, although it is not known whether these programs also change behaviour. Programs to prevent child sexual abuse should involve behavioural skills training and should last a minimum of three sessions. These programs should be implemented with children in the early primary school years, as they may be more effective with younger children. It should be noted that there may be negative effects associated with these programs, such as increases in anxiety and fear of adults.

Programs to prevent bullying

There is mixed evidence to support the effectiveness of programs to prevent bullying, although it appears that these programs may be effective in reducing victimisation. Bullying prevention programs are often whole-school initiatives that aim to change school policies and practices and may also involve parents. Programs to prevent bullying should be implemented in the primary school years.

Programs to prevent violence or conduct disorder

There is evidence that universal and targeted programs to prevent violence or conduct disorder are effective in reducing aggressive behaviour and increasing social competence, at least in the short-term. Programs to prevent violence should involve active skills training and aim to enhance children's social skills. Programs are likely to be effective when delivered in both primary and high school. Programs that target high-risk children may benefit from including multi-components that also target parenting skills and enhance communication between the parent and the school. However, programs that aggregate high-risk children and young people into groups should be avoided due to potential negative effects. There is some evidence that parent training appears to be more effective than child-focused CBT for children aged 6 to 12 years.

Programs to prevent substance use

There is evidence that universal programs to prevent substance use are effective in the short-term, although there is less evidence for targeted programs. Programs should be interactive in their approach and involve the provision of knowledge and refusal skills. They should also provide participants with significant opportunities to exchange ideas and practice new skills. Programs that simply involve didactic approaches like *Project DARE* are unlikely to be effective and should be avoided. Programs are likely to be effective when delivered in both primary and high school and it may be important to include peers in the delivery of programs.

Programs to prevent depression and anxiety

There is mixed evidence to support the effectiveness of universal and targeted programs to prevent depression. While some cognitive behavioural programs have demonstrated positive effects on depressive symptoms and cognitive variables other programs have found no effects. Recent research suggests that universal or targeted programs to prevent anxiety are effective in the short-term and long-term although further research is needed before widespread dissemination.

Programs to enhance school connectedness and prevent drop out

Research demonstrates that school connectedness is an important protective factor for behavioural, emotional and school-related problems. Interventions to enhance school connectedness generally involve multiple components that target the classroom, entire school, family and community. There is evidence that these interventions enhance children's academic achievement and may prevent a number of problem behaviours, such as substance use and antisocial behaviour. However, there is some evidence that a sustained intervention beginning in the first year of primary school may be necessary to show positive outcomes.

School drop out is a symptom of disengagement from school and research suggests that the process of dropping out begins early. There is a lack of research on interventions to prevent drop out, although one strategy for high-risk youth, the *Check and Connect* program shows promise.

Interventions that target risk and protective factors

It is important for practitioners to select interventions that target risk and protective factors that are known to be associated with a range of outcomes. While many of the prevention programs reviewed in this paper aimed at preventing a single outcome, there is evidence that early interventions may influence a range of outcomes. For example, programs to prevent antisocial behaviour have been found to reduce substance use and depression and programs to enhance school connectedness have reduced antisocial behaviour, substance use and other risk behaviours. Similarly, interventions such as after-school programs and extracurricular activities have been found to impact on a range of emotional, behavioural and academic outcomes. These findings are not surprising given that many problem behaviours are interrelated and associated with the same risk and protective factors.

Interventions using specific strategies

Decisions about which programs to implement may depend on the specific school- and community-based strategies that are of interest. There is evidence to suggest interventions involving home-school collaboration are effective in managing behavioural and school-based problems. This finding has implications for families who may find it difficult to be involved in children's schooling, as simple measures such as daily reports or e-mails from the teacher may be effective. There is evidence to suggest that teachers know less about the family backgrounds of children who are at highest risk for problems, so communication between home and school may be of particular benefit to vulnerable children and young people.

Based on the evidence available, there is mixed support for the effectiveness of extracurricular activities, mentoring programs or after-school programs as a strategy for high-risk children, although these strategies may be more effective for low-risk children. There is no evidence to support the use of school suspension and expulsion as a method for managing aggressive and problem behaviours and one study found that suspension increases antisocial behaviours. There is currently a lack of research on community programs and health promoting schools initiatives, so it would be premature to implement these strategies in practice until further evidence is available.

School needs and ethos

It is important for schools to examine their needs and ethos before deciding on the type of intervention to implement (Anderson & Doyle, 2005b). In selecting an intervention program, Anderson and Doyle (2005b) have listed the factors for schools to consider. These factors include:

- assessing the needs of the school
- selecting a program that will fit with the ethos or culture of the school
- determining whether the program can meet the needs of the school and be implemented with minimal alteration
- determining whether the program has an established evidence-base
- selecting screening tools for use with targeted programs
- understanding issues of sustainability in terms of availability of staff training and costs for staff time and program materials
- determining the availability of evaluation tools
- considering how the program fits with other programs and the rest of the school.

Decisions about whether to select single component versus multi-component intervention will depend on factors such as the outcomes targeted, the population targeted and implementation factors. There is some evidence that programs using multi-component approaches, such as those to prevent substance use and violence, may be more effective than those using single components. However, the available evidence regarding the added effects of multi-component approaches is limited. There is also some evidence that targeting parents in the intervention enhances the effectiveness of the intervention, but once again there is a lack of research on this issue. For high-risk children and young people, multi-component programs that provide parenting programs or encourage home-school collaboration in addition to a classroom curriculum may be essential to change risk and protective factors in both the child and the family. However, factors such as cost and ease of implementation should be considered prior to delivering a multi-component program.

7.2.2 Implementing the intervention

The findings of this review suggest that the quality of implementation in real-world settings is critical to the success of the intervention. Child-focussed and multi-component programs are usually delivered in school settings, since they enable access to the majority of children and young people. However, there are numerous barriers to implementing evidence-based interventions in schools and educators should be aware of the four key factors that are associated with high quality implementation. These factors include ensuring programs have clear and explicit materials and procedures; ensuring the programs are chosen by staff and there is access to high-quality training; ensuring that schools have the support of the principal and good teacher-principal communication; and ensuring that there is enthusiasm for the program and capacity to integrate it into normal school operation. Following implementation, practitioners should aim to carefully monitor the quality of the program delivery.

8. Conclusions

This literature review examined the evidence supporting the effectiveness of parenting programs, child-focussed programs and multi-component programs as early intervention for children and young people aged 8 to 14.

There were significant methodological problems with the studies included in this literature review including small sample sizes, low participation rates, lack of research in the Australian context, high levels of attrition, lack of involvement of fathers, and lack of long-term follow-ups to examine durability of program effects. There is also a significant lack of programs for Indigenous Australians and for culturally and linguistically diverse groups.

The majority of research examining the effectiveness of parenting programs has been conducted with children less than 8 years of age and there is a lack of research for children and young people aged 8 to 14. This lack of research is especially true for parents who are at risk of abuse or neglect. From the literature reviewed, there is evidence that relatively brief universal parenting programs are effective in prevention of substance use, with effects observed up to six years following the intervention. Brief or self-directed programs have also demonstrated positive short-term effects, although it is not known which families benefit from these programs.

Targeted parenting programs have been found to show positive short-term benefits for families with multiple risks, parents with depression, divorced parents and parents of children and young people with externalising problem behaviours. There is evidence that both group and individual programs are effective in improving a range of child, parent and family outcomes. Programs based on a behavioural approach have been found to be effective, although few studies have evaluated programs based on other approaches.

For child-focussed and multi-component programs, the evidence indicated that universal and targeted programs that are skills based were effective in preventing violence, and universal programs that are interactive were effective in preventing substance use. Skills based programs also appeared to be effective in increasing knowledge and skills associated with child sexual abuse, although it is not known whether these programs also impact on behaviour. Multi-component health promotion interventions that target school connectedness were effective in improving a range of outcomes. While there is some support for programs to prevent depression, bullying and drop out, the evidence was mixed. Cognitive behavioural approaches to prevent anxiety appear promising, although further research is needed.

The evidence suggests that interventions that involve home-school collaboration are effective in managing school-related problems. However, there is mixed evidence to support the effectiveness of extracurricular activities, after-school programs and mentoring programs as a strategy for high risk children and young people. There is presently a lack of research on community programs, health promoting schools initiatives and school suspension and expulsion, although one study indicated that suspension may increase antisocial behaviours.

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