# School based intervention programs and shared care collaborative models targeting the prevention of or early intervention in child and adolescent mental health problems: A rapid review

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An *Evidence Check* review brokered by the Sax Institute for the NSW Ministry of Health
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# EXECUTIVE SUMMARY

## *Commissioning agency*

This review was commissioned by MH-Kids (the child and adolescent mental health policy unit of the Mental Health Drug and Alcohol Office, NSW Ministry of Health), to summarise the evidence for the effectiveness of school based programs targeting the prevention of or early intervention in mental health problems in children and adolescents. It also aimed to summarise information about shared care collaborative models between schools and mental health providers. The report is intended to provide an evidence base to inform the future directions of the NSW School-Link initiative.

## *Review brief*

The review aimed to answer three questions:

*Question 1:* For the school aged population (i.e. children 5-17 years), at what age should programs targeting the prevention of or early intervention in common mental health problems be implemented in schools? Does this vary by mental health problem?

*Question 2:* What types of interventions or programs (e.g. multimedia, IT, educative, behavioural, social marketing including whole class, individual/groups of students, professional learning, parent/teacher) delivered in primary and secondary schools are most likely to be effective in preventing or early intervention in common mental health problems, And why?

*Question 3:* Identify and describe specific examples of shared care collaborative models between schools and mental health providers to support prevention of or early intervention in mental health problems in Australia and overseas. Which of these have been most effective? And why? Models that have been evaluated only should be included. Studies of shared care models that also include children younger than 10 years and young adults between 19-24 years may also be included if the reviewer considers them relevant to the NSW context.

## *Approach taken by the research team*

The research team undertook a systematic review of the research literature to determine the most effective early intervention models. The review focused on the following disorders, most of which are common and all of which first emerge during childhood and adolescence and are therefore appropriately targeted in a school environment: (a) anxiety; (b) depression; (c) substance abuse; (d) conduct disorder (CD) including Oppositional Defiant Disorder (ODD) and Attention Deficit Hyperactivity Disorder (ADHD); and (e) Eating disorders.

To identify collaborative and stepped-care programs, a search was undertaken of the grey and black literature, and experts in early intervention were contacted to provide additional input.

## *Findings from the systematic review of black and grey literature sources*

Question 1: *Age for targeting prevention and early intervention programs in schools.*
Different mental disorders emerge at different points of the lifespan. The implementation of school based programs should be timed to coincide with a "prevention window" for each disorder. A more fine-grained approach would also consider information such as the "stress points" in the academic school year, the risk factors for particular disorders, those subgroups most at risk, the need for booster sessions for some disorders, and individual differences.

Question 2: *What types of programs are effective?*
A range of programs are suitable, and within each of the disorders certain types of programs are associated with better outcomes or a greater weight of evidence demonstrating their effectiveness. For anxiety and depression, interventions based on *cognitive behaviour therapy* or *behavioural therapy,* are more effective than others not based on these principles. For substance abuse, there is clear support for programs that are *engaging and interactive* rather than those which simply focus on information delivery. For eating disorders, programs may be effective when delivered when they contain *interactive* features, and comprise *multiple* sessions.

Most programs for anxiety, depression, conduct disorder, and substance abuse are effective when delivered by school teachers. Eating disorder programs may be more effective if delivered by an outside expert.

Most anxiety, depression, substance abuse, and conduct disorder programs can be delivered in universal formats – that is in programs that allow delivery to all students rather than to those with symptoms or at high risk. Eating disorder programs may be better delivered to groups at risk.

Question 3: *What shared care programs are available and which work?*
The review found that very few models of shared care or collaborative care could be identified. The few models that were identified were poorly described, or poorly evaluated or both. The most comprehensive attempt to establish collaborative models is the Wave 3 component of the UK based Social and Emotional Aspects of Learning (SEAL) project, which involves commissioning health service delivery in schools by schools. However, the evaluation report for this critical component of the SEAL project was not available at the time of the review. In Australia, the NSW School-Link initiative is the most clearly articulated model. It has up-to-date documentation of arrangements for providing the service across Education and Health portfolios. Other attempts to provide for early identification of students most at risk may be effective, but little evidence can be found to demonstrate these outcomes. KidsMatter, MindMatters Plus GP, and more recently, headspace, are working in the shared care area, but it is unclear what mental health outcomes have been achieved in the children and adolescents participating in these programs.

PROGRAMS TO PREVENT AND REDUCE MENTAL HEALTH DISORDERS IN SCHOOL ENVIRONMENTS

# 1. Introduction

## *Scope of the review*

The present review aims to examine the types of interventions or programs designed to be delivered in primary and secondary schools that are most likely to be effective in preventing or intervening early. Most prevention programs are designed to be delivered in classrooms to all students. These programs can also be delivered to a selected group of students, or specifically to individuals who may have symptoms of mental health problems but who have not yet reached criteria for disorder.

The present review also aims to review shared care or collaborative models which aim to link education and health sectors and provide assistance to those with a mental health condition. Twenty to thirty percent of young people will experience a mental health condition during the period when they are at school.

There are other types of mental health programs delivered in schools. The next section places into context these programs so that the scope of the present review is clearly defined.

### The nature of mental health programs in schools

Mental health programs in schools can conveniently be classified into six types:

1. Programs designed to *increase awareness and mental health literacy.* An example of such a program is Mental Health First Aid, which aims to provide students and teachers with information about the nature of common mental disorders.
2. Programs designed to *reduce stigma and improve help seeking*. These programs include those involving contact with individuals with the lived experience of mental illness to lower stigma, and those in which peer ambassadors provide direct help seeking advice.
3. Programs designed to *promote social and emotional learning* within the school environments. These programs have a strong component designed to increase "wellness". Examples of such programs include positive psychology programs, which specifically aim to promote well being and happiness.
4. Single element programs aimed specifically at *reducing or preventing one of the common mental disorders*. An example of such a program is MoodGYM which aims to lower anxiety and depression symptoms in all students in a classroom setting. These programs can target at a universal (all students), selective (students from groups at risk) or indicated level (students with symptoms).
5. Whole of school approaches which use elements from all categories to develop a coherent and integrated school program which focuses on children, adolescents, their parents and teachers. Examples of whole of school approaches include the current *beyondblue* schools program SensAbility, and the MindMatters program funded by the Australian Government.

6. Strategies within schools that involve providing medical or psychological help to students. This is usually achieved through school counsellors but commonly also involves outside agencies such as general practice, private psychologists, child and adolescent mental health teams, speech therapy, and psychiatry. External mental health professionals/carers/general public work in collaboration with staff in schools, especially for the 30% of young people who require more intensive mental health input.

The present review is focused on programs in Categories 4, 5 and 6. Thus, the review is concerned with programs aiming to prevent mental disorders and on those that provide early help to children and young people experiencing a mental disorder. We employ a three-level hierarchical classification system for considering these programs as follows:

*Level 1*: Single element Universal prevention programs and whole of school approaches targeting the whole school population.

*Level 2*: Single element Selected and prevention programs targeting students known to be at higher risk because of membership of an at risk group (i.e. indigenous, parent with a mental health problem).

*Level 3*: Single element Indicated prevention programs targeting individuals at very high risk who may be showing early signs of mental ill-health.

Secondary prevention: interventions and programs that aim to lower the severity and duration of an illness through early intervention, including early detection and treatment. The distinguishing feature is that intervention occurs early in the pathway to mental ill-health. Approximately 30% of adolescents experience this level of ill-health in one year.

### Existing literature in the field

There is existing literature in the field that summarises Category 3 and 5 programs. We briefly summarise the key literature and offer points of differentiation from the present report.

headspace has recently compiled a report entitled *Evidence review of secondary school based mental health promotion, prevention and early intervention, May 2011*. This review describes evidence around best approaches to mental health intervention in schools in Australia. It has a focus on whole of school approaches and those that encourage social and emotional learning. However, it does not: (a) focus on the effectiveness of single element programs for preventing or intervening early for specific mental health problems in the classroom (Category 4 above); nor does it (b) investigate the models employed to link external mental health services into schools (Category 6 above). The report does not describe programs for children.

There have also been a range of recent papers evaluating the effectiveness of positive mental health programs and those that encourage social and emotional learning. An example of the world literature review summarising this approach is the paper by Durlak et al., 2011. This paper presented findings from 213 school based social and emotional learning programs from kindergarten to high school. There was consistent improvement in social and

emotional skills, and improvements in achievement. We do not evaluate Category 3 literature.

### *Questions for the review*

Three questions are answered in the following review

Question 1. For the school aged population (i.e. children 5-17 years), at what age should programs targeting the prevention of or early intervention in common mental health problems be implemented in schools? Does this vary by mental health problem?

Question 2: What types of interventions or programs (e.g. multimedia, IT, educative, behavioural, social marketing including whole class, individual/groups of students, professional learning, parent/teacher) delivered in primary and secondary schools are most likely to be effective in preventing or early intervention in common mental health problems? And why?

Question 3: Identify and describe specific examples of shared care collaborative models between schools and mental health providers to support prevention of or early intervention in mental health problems in Australia and overseas. Which of these have been most effective? And why? (Only include models that have been evaluated). Studies of shared care models that also include children younger than 10 years and young adults between 19-24 years may also be included if the reviewer considers them relevant to the NSW context.

### *Definitions*

Below we provide definitions of terms used in the current review including different types of interventions, school stage, and the term "whole of school approach".

**Prevention**: Interventions that take place before the onset of a clinical episode of a target disorder.
*Universal Preventive interventions* are targeted to entire populations.
*Selective Preventive interventions* are targeted at subgroups of the population considered at high risk due to shared characteristics (e.g. poverty, trauma, bereavement).
*Indicated Preventive interventions* focus on individuals who have early signs or symptoms of a targeted disorder but have not crossed the threshold into a clinical episode.

**Early Intervention**: Interventions focus on individuals who are in the early stages of a mental disorder, "particularly… the first episode or first presentation" of a mental disorder such as depression (Allen et al., 2007).

**Treatment**: Any intervention, be it pharmacological or therapy/counselling, provided to individuals who meet criteria for a mental disorder.

**Shared care**: This is a term usually used in association with the management of an individual who has been in contact with a doctor. Shared care is an approach to care which uses the skills and knowledge of a range of health professionals who share joint responsibility in relation to an individual's care. This also implies monitoring and exchanging information about an individual and sharing skills and knowledge between disciplines (Moorehead, 1995).

**Collaborative care**: Collaborative or shared care has been broadly used to describe a way of working together/cooperating to ensure individuals receive the services they most need. How this is achieved has varied and has included enhanced communication, sharing of clinical care, joint education, joint program and system planning. It involves a degree of systemic cooperation (how systems agree to work together) and local cooperation between different groups of clinicians (Craven & Bland, 2006; Holmwood et al., 2010). It is also a term that is used in conjunction with medical treatments.

**School stage**: The following summarises the different terms employed to describe school stage in Australia and the USA.

**Whole of school approaches**: Most current policies in Australia and the United Kingdom describe initiatives in terms of Health Promoting Schools, or Whole of School Interventions (see WHO, 1995). A common framework includes (a) health promotion (increasing wellness and resiliency); (b) prevention, using universal, targeted or indicated approaches; and (c) early intervention, treatment and continued care. The initiative aims to bring mental health knowledge and care into schools through the curriculum, the school environment and through partnerships with the community. Social and emotional learning (SEL) is offered as the most common approach to the curriculum. An example of a whole of school approach is typified by the SEAL UK approach. Outcomes from the SEAL UK approach are described in the section which focuses on shared care and collaborative models (Figure 1).

**Table 1: The name of school stage and the ages of individuals at that school stage**

| School years | | |
|---|---|---|
| **School stage** | **Australia** | **USA** |
| Primary School/ Elementary School | Schools that precede secondary school, and cater to children from about the ages of 4 or 5 to about the ages of 12 and include one early learning year followed by Year 1 to Year 6 or 7 – depending on the State or Territory. | Schools that cater for students from the ages of about 4, 5 or 6 (kindergarten) to 5th grade (most commonly), or 4th, 6th or 8th grade. |
| Middle School | Not particularly common in Australia, but a few do exist. NT has middle schools from grades 7-9. Many QLD schools have an integrated middle school system within their secondary schools (grades 5-8), as do some ACT P-10 schools (preschool to Year 10). | Schools that cater for students in grades 6 through to 8 or 9. Those that go to Year 9 are commonly called junior high schools. There is variation in the years covered, ranging from grade 4 through to grade 9. |
| Junior High School | NA | Term sometimes used to refer to middle schools (which is a more recent term). The term intermediate school is also sometimes used. These schools tend to cover grades 6-9. |
| High School | Secondary school. Schools following on from primary schools, that cater to students from about the age of 12. Depending on the State or Territory they start at Year 7 or 8 and most commonly finish at Year 12. (In Tasmania some government secondary schools finish at Year 10 and Year 11 and 12 students then attend senior colleges. In ACT all Government secondary schools finish at Year 10 and students then attend college). | Senior high school. Schools that tend to cater for grades 9-12 or grades 10-12. |
| Senior High School | NA | Another term for high school. |
| College | Schools in the ACT and Tasmania (called senior colleges in Tasmania) that cater for students in Years 11 and 12 (approximate age 16-18). | A term used to refer to university level schooling. |

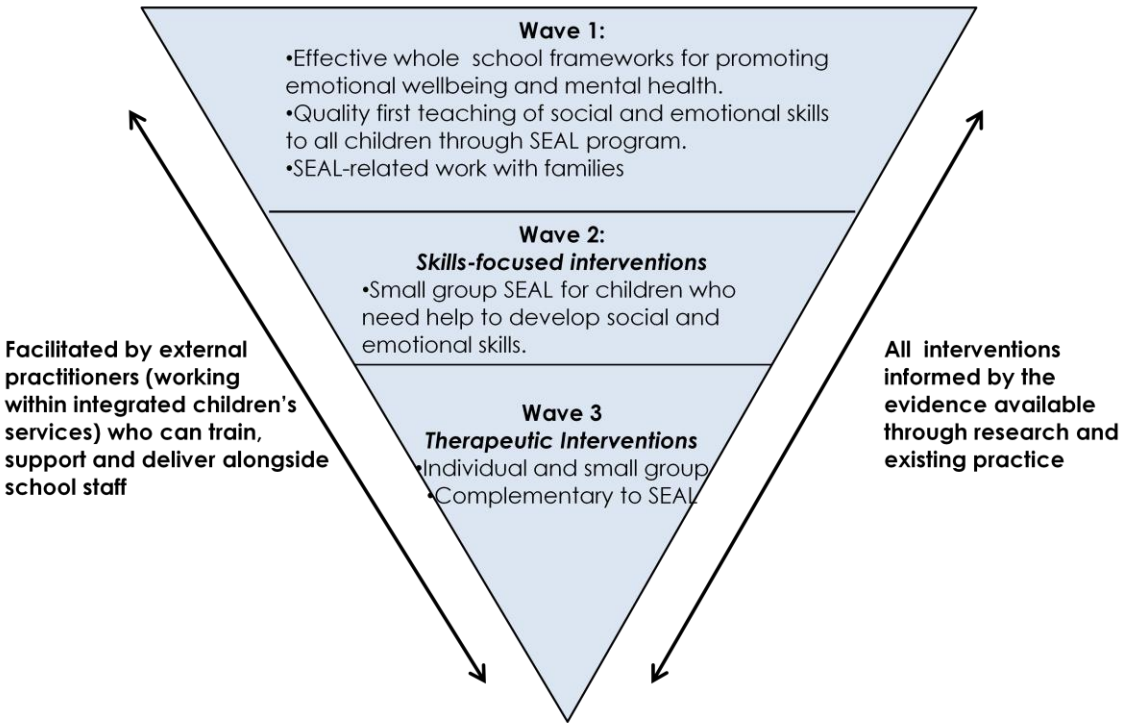


**Figure 1: SEAL model illustrating Waves 1, 2 and 3.**

(adopted from U.K. Dept of Education, Social and emotional aspects of learning (SEAL) programme in secondary schools: national evaluation, 2010, Page 6, Figure 1, Nell Humphrey, Ann Lendrum, Michael Wigelsworth.)

# 2. Methods

## *Methodology for questions 1 and 2*

A series of systematic reviews of the black literature were undertaken to identify and evaluate the effectiveness of school based prevention and early intervention programs for common child and adolescent mental health problems. Separate literature reviews were conducted for (i) anxiety; (ii) depression; (iii) substance use; (iv) conduct disorder (CD) including oppositional defiant disorder (ODD) and attention deficit hyperactivity disorder (ADHD); and (v) eating disorders. A selected review of recent papers was used to determine timing of particular interventions for Question 1.

### Search terms

***Peer-reviewed published literature***
*Search strategies:* Each review consisted of a database search over the last 10 years (2001 to 2011) or a database search from the period of the last comprehensive review of the literature. Review papers identified in the database searches were checked to ensure all relevant programs were identified. Only randomised controlled trials (RCTs) were included. The following search terms and databases were employed to identify the papers that were incorporated in each of the reviews:

***Anxiety review***
*Databases:* The Cochrane Library, PsycInfo and PubMed
*Search terms:*
1. school* OR school-based OR adolescen* OR child* OR youth
2. prevent* OR "early intervent*"
3. anxiety OR anxious

***Depression review***
*Databases:* The Cochrane Library, PsycInfo and PubMed
*Search terms:*
1. School* OR school-based OR adolescen* OR child* OR youth
2. Prevent* OR "early intervent*"
3. Depress* OR mood
4. #1 AND #2 AND #3

***Substance use review***
*Databases:* Ovid Medline
*Search terms:*
1. Substance related disorders and addiction, and abuse, and dependence and illicit and alcohol*
2. School*.
3. #1 AND #2

***Conduct disorder, ODD and ADHD review***
*Databases:* PsycInfo, PubMed and Ovid Medline
*Search terms:*
1. School* OR "school-based" OR Adolescen" OR Child" OR Youth

2. Prevent* OR "early intervent*"
3. "Conduct Disorder" OR Conduct OR CD
4. "Oppositional Defiant Disorder" OR "Oppositional Defiant" OR Oppositional OR ODD
5. ADHD OR "Attention-Deficit"
6. #3 OR #4 OR #5
7. #1 AND #2 AND #6

***Eating disorders review***
*Databases:* PubMed
*Search terms:*
1. School* OR school-based OR adolescen* OR child* OR youth
2. Prevent* OR "early intervent*"
3. "Eating disorder" OR anorexi* OR bulimi*
4. #1 AND #2 AND #3

For each individual review, the titles and abstracts of the articles initially identified by the searches were screened to determine their relevance to the review. Completely irrelevant articles that were unrelated to the topic of the review (i.e. did not discuss the disorder in children and adolescents) were excluded at this stage, while relevant studies and reviews were retained and the full-text article examined. Studies that fulfilled the inclusion criteria were coded, with all relevant data collected and recorded.

*Inclusion criteria:* The inclusion criteria for each review were: (a) study participants were children (5-11 years) or adolescents (12-18 years); (b) the primary aim of the intervention trialled was to reduce or prevent the symptoms or incidence of the disorder (e.g. depression, anxiety), or to build resilience; (c) the intervention reported was a structured school based program (delivered as part of the formal school curriculum or as an after school endorsed activity targeting school children); (d) one of the primary outcome measures in the study was disorder symptomatology or diagnosis; (e) the study was a randomised controlled trial (RCT); and (f) the study was published in a peer-reviewed, English language journal.

### Tables

The studies were then tabulated as a function of disorder type and type of prevention intervention (universal, targeted, indicated). Where treatment programs were captured in the review, these are separately listed. Each disorder is presented in Tables 8 to 15, with each table distinguishing between universal prevention trials, indicated/selected prevention trials and treatment/early intervention trials. Trials are also classified into age ranges with trials targeting childhood (5-11 years), early adolescence (12-14 years) and adolescence (15-18 years). Both single element (Category 4) and whole of school approaches (Category 5) were included, if they met inclusion criteria.

## *Methodology for question 3*

### Searches

A number of searches were undertaken to generate a list of potential services.

## Direct interrogation of government websites

### Australia, New Zealand and the United Kingdom

Grey literature searches were undertaken to identify government reports by conducting general searches on Education and Health Government Websites. Searches were conducted under the "Publications" section for each Department, if it existed. The reference lists of identified reports were then searched for other relevant sources of information.

### Canada

As Canada has no formal federal-level health or education agency, the Provincial websites of the Department of Education or Health (or equivalent) were searched for each Province (Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland & Labrador, Northwest Territories).

## Search to find leads from Australian experts

### headspace

headspace undertook an extensive review of health promotion and school based programs. The report, *Evidence review of secondary school based mental health promotion, prevention and early intervention* was published in 2011.

### Orygen Youth Health

Lisa Catania, Sarah Hetrick, Louise Newman, and Rosemary Purcell were currently undertaking a review of health models in children and adolescent mental health at the time of the review. Using a systematic and exhaustive search of the research literature on models of mental health care for children and youth (aged 0-25 years), they reviewed evidence that involved integrated mental health, primary health care and psychosocial services for prevention and early intervention. The review found 779 articles. The literature search was also combined with "snowballing", and consultation with youth experts from around Australia.

### Commissioning body

The MH-KIDS, NSW Ministry of Health provided information about the NSW School-Link initiative.

## Types of programs

Programs were categorised as either "Predominantly Education Auspiced" or "Predominantly Mental Health Auspiced". The focus of the evaluation of these programs was to provide clinical services to children and young people and thus the programs were classed as Category 6 programs.

## List of Services

The following services were identified using the methods described above.

### Education auspicing services

KidsMatter (Australia)
MindMatters (Australia)
*beyondblue* Secondary Schools and Tertiary Programs (Australia)
GateHouse Project (Australia)
Social and Emotional Aspects of Learning (SEAL) (UK)

### Health auspicing services

Child and Adolescent Mental Health Services in interaction with Schools (UK*)*
headspace (Australia)
headstrong Jigsaw Project, The National Centre for Youth Mental Health (Ireland)
Youth One Stop Shops (NZ)
Massachusetts Child Psychiatry Access Project *(*USA) (Primary Care and Psychiatry), Massachusetts Mental Health Service Program for Youth (USA) (home-based clinical intervention) via managed care organisation
Primary Care Based Child Clinical Psychology Service (UK)
On-site mental health workers within primary care (UK)
Transdisciplinary Care for Early intervention, Collaborative Care for Depressed Adolescents (USA)
SCCAP Shared Care in Child and Adolescent Psychiatry (Australia)
Helping Children with Autism Model (Australia)
Menzies Program for Indigenous Youth (Australia)
Wrap Around Kids (Australia)
The Abecedarian Program (Australia)
The NSW School-Link initiative (Australia)

# 3. Findings

## *Question 1: Optimal target/developmental stage for school based intervention*

The optimal period for delivering a school based preventive or early intervention mental health program will be most appropriately determined by a consideration of:

- the age at which disorder develops (usually 2-3 years before the average age of diagnosis);
- the risk factors and triggers associated with the development of mental disorder;
- target groups more likely to experience mental health problems;
- the known life transition and stressors which are likely to predict the development of a disorder (e.g. transition from middle to high school; transitions between schools; examination schedules); and
- the availability of effective programs targeting the appropriate age band for prevention.

The evidence related to each of these is summarised below.

### Age of onset of disorder

Figure 2 below describes the average age of onset of the range of disorders covered by this review. This diagram also describes the trajectory of the disorders, most of which extend into adulthood. It should be noted that conduct disorder is no longer diagnosed after 18 years of age.

Most disorders have their onset during childhood or early adolescence; however, symptoms of a disorder will typically emerge a few years before the diagnostic criteria can be met (National Research Council and Institute of Medicine, 2009). Further, the recurrence of a mental disorder that emerged in early adolescence is not uncommon, with the disorder often recurring during late adolescence and into adulthood (Costello, Pine, Hammen, March et al., 2002; Wittchen, Beesdo, Bittner, & Goodwin, 2003).

The median age of onset for substance use disorders varies widely in international studies, ranging from 18-29 years (Kessler et al., 2007). However, for substance use disorders, another critical factor is the age of first use: in Australia the mean age of first use for tobacco, alcohol, cannabis and heroin are respectively 16, 17, 19 and 22 years (Australian Institute of Health and Welfare, 2008) with earlier use associated with increased risk of developing a disorder.

Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) have a median age of onset of 11 and an interquartile range of 7-15 years (Kessler et al., 2005). ODD is the earliest to emerge, being prevalent in 9-12% of preschoolers (Boylan et al., 2007). Conduct Disorder (CD), more extreme than ODD and often preceded by ODD, has a slightly later age of onset, occurring from age 5 or 6 (DSM-IV-TR). Two CD subtypes exist: Adolescent-Limited CD and Life-Course Persistent CD, and whilst Adolescent-Limited CD has both an onset and cessation during adolescence, Life-Course Persistent CD starts in prepubescence and persists throughout life. ADHD has a relatively early and restricted range of age of onset. It can be evident as early as 10 to 18 months (Pary et al., 2002), must be evident prior to the age of 7

for a diagnosis to be made (DSM-IV-TR), and has an interquartile range of 7-9 years (Kessler et al., 2007).

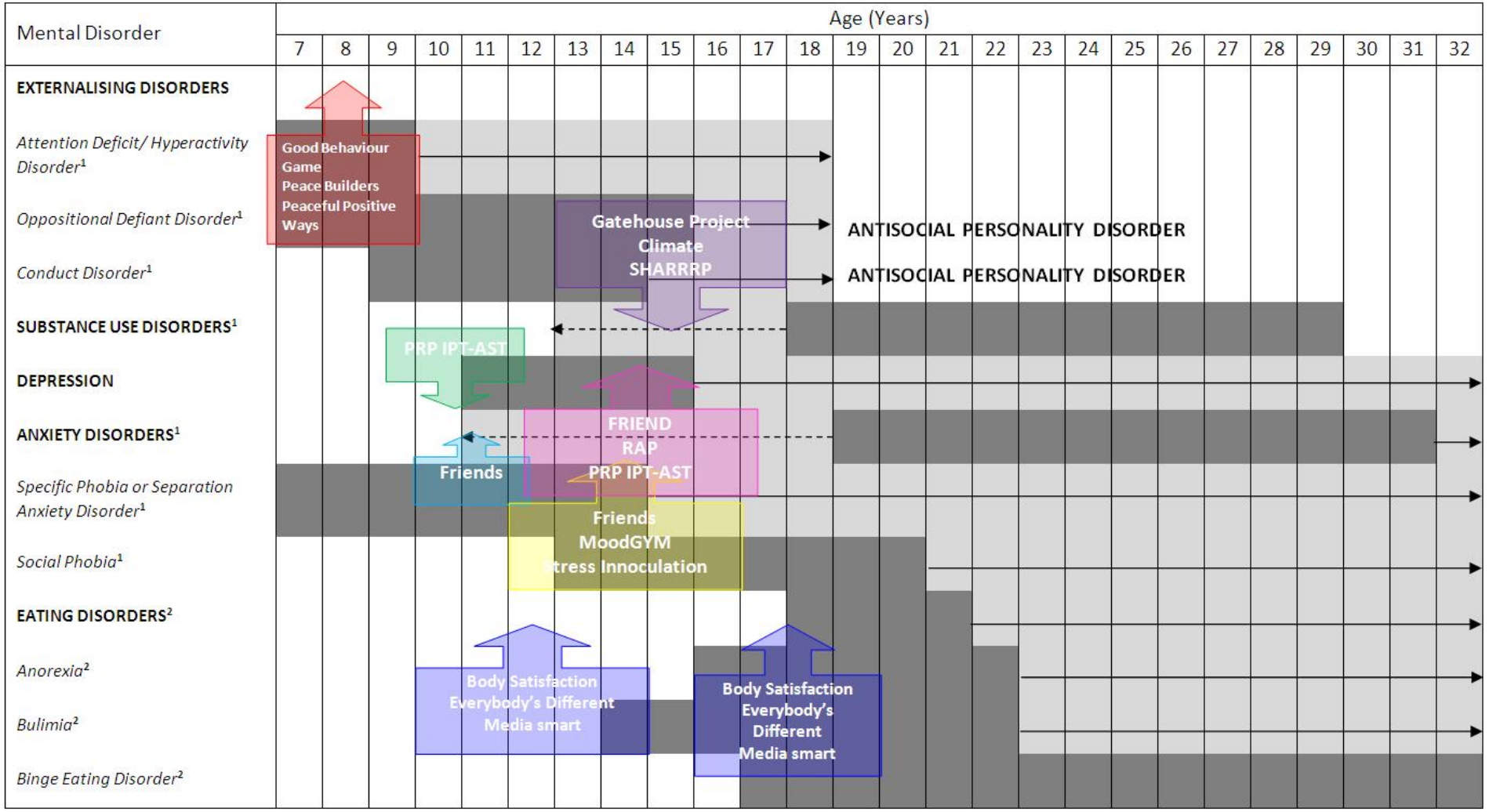


**Figure 2: Onset of mental health disorders** [Data from Hudson, Hiripi, Pope, & Kessler, 2007; Kessler, Berglund, Delmer, Jin, et al., 2005; Kovacs, Obroksy, Gatonis, & Richards, 1997; Lewinsohn, Clarke, Seely, Rhode, 1994] **1** Median Range **2** Interquartile Range

### Risk factors and triggers for disorders

Risk factors for depression in young people identified from the present review include being bullied, low school attachment, absent or poor attachments, arguments with three or more people *(*Australian GateHouse Project). Other known risk factors for depression and anxiety include having a parent with depression or anxiety, behavioural inhibition (shy, cautious, emotionally restrained), anxious-resistant attachment style, negative and stressful life events, certain parenting characteristics (e.g. reinforcement of avoidant behaviours, overprotection and control), emotion focused and avoidant coping strategies, parental divorce and separation, death of a parent, and poverty.

Major social, emotional and biological transitions have been identified as high risk periods for the initiation and development of substance use problems. These include transitions to puberty and adulthood, commencement or change of school or employment and stressors such as parental separation and bereavement. The confluence of transitions in early adolescence is associated with the initiation of substance use (National Institute on Drug Abuse 2003, Darke et al., 2006).

Risk factors for eating disorders are being female, having a mother with an eating disorder, and particular birth complications (Striegal-Moore & Bulik). In addition, it has been reported that thin-idealisation, body dissatisfaction and excess weight (Striegel-Moore & Bulik) as well as negative effect, perfectionism impulsiveness, and substance abuse are risk factors for eating *problems* (Stice, 2002; Streigel-Moore & Bulik, 2007).

ODD and CD develop through an interaction of neurobiological vulnerability and environmental/parenting factors (inadvertent parental reinforcement of early temperament and problem behaviours) (Moffitt,1993). Male gender increases risk for ODD and CD (particularly Life-Course Persistent CD – Eme, 2007), but this becomes less pronounced during puberty when female rates for both disorders rise (Boylan, 2007). ADHD has a strong genetic influence (mean heritability of 76% based on twin studies). Non genetic risk factors include low birth weight and maternal smoking, followed by poverty, lead exposure, maternal alcohol drinking during pregnancy, and psychosocial adversity (BMJ Evidence Centre, 2011). Males are 4-6 times more likely to have ADHD than females, and male sufferers experience more behavioural disturbance whilst females tend to experience more inattentiveness (Pary et al., 2002).

### Expected transitions and pressure points

Evidence from prevention studies in young people indicates that prevention before major transition substantially lowers later risk of developing a disorder, particularly depression. Where relevant this aspect is discussed within data from the single element intervention programs discussed for Question 2.

### Availability of programs targeting the appropriate age band

Optimal intervention will depend on the availability of particular programs targeting the prevention window. To facilitate a consideration of the availability of programs across the developmental span, the reviews of program effectiveness each classified the research undertaken on specific programs into three categories:

Childhood - Kindergarten to Grade 5 = 5-11 years
Early Adolescence - Grade 6-8 = 12-14 years
Adolescence - Grade 9-12 = 15-18 years

The summary tables also outline the age at which the programs were found to be effective. However, with respect to substance use, the major focus for preventing the development of these problems in children is through programs that are directed at risk factors rather than drug use *per se*. For example, conduct problems, aggression, poor social skills and academic problems can be targeted from preschool onwards to address problems that are likely to lead to substance use in older children and adolescents (National Institute on Drug Abuse, 2003).

### Targeted groups

Some children and adolescents are at increased risk of mental health problems. These include children and adolescents:

- of Aboriginal and Torres Strait Islander background;
- involved with Juvenile Justice;
- exposed to and/or experienced trauma, violence, abuse or neglect ;
- in out-of-home care;
- who are homeless;
- living with disabilities or chronic physical health problems;
- with an intellectual disability; and
- have a parent with a mental illness.

The Office of National Statistics in the UK surveyed 12, 294 children and young people 5-16 years. Mental health problems were higher among those from single parent families (31%), from low income households (54%), with parents in semi-routine or routine occupations (15%), where neither parent worked (20%), and children from reconstituted families (14%). Other relevant factors that increased the risk of mental health problems in children and young people included living in rented accommodation (17-14%), holding refugee status, being in the care of health services, and being gay or lesbian (see Kavanagh et al., 2009).

## *Question 2: What programs are effective?*

### Anxiety programs

The systematic review of anxiety programs identified 38 randomised controlled trials (21 universal and 17 indicated/selected) pertaining to 25 prevention or early intervention programs for children and/or adolescents (Table 8). Of the trials identified, 60% reported significant differences in anxiety symptoms between the intervention and control conditions at post intervention and/or follow-up. Sixty-two percent of universal trials reported positive effects compared to 59% of indicated/selected trials. Approximately 74% of effective trials evaluated a program based on cognitive behavioural therapy, with classroom teachers, mental health professionals and graduate students leading these programs. The two anxiety programs with the most research evidence supporting their effectiveness are the FRIENDS and Stress Inoculation Training (SIT) programs. Both of these programs have been evaluated in universal and indicated/selected trials. The FRIENDS program was developed in Australia

and is available for both children and adolescents, while SIT was developed in the United States and is only available for adolescents. One effective Internet based program, MoodGYM, was identified in the review and may offer an alternate IT delivery platform for anxiety prevention programs in the classroom. Table 2 presents the recommended programs for anxiety.

**Table 2: Recommended programs for anxiety**

| Program | Age effective | Key reference |
|---|---|---|
| FRIENDS | 9-16 years. Optimal time to intervene is late childhood (9-12 years). | Lock & Barrett, 2003; Barrett et al., 2006. |
| Stress Inoculation Training (SIT) | 15-17 years | Hains & Szyjakowski, 1990. |
| MoodGYM | 13-17 years | Calear et al., 2009. |

## Depression programs

The systematic review of depression programs identified 56 randomised controlled trials (32 universal and 24 indicated/selected) pertaining to 34 prevention or early intervention programs for children and/or adolescents (Table 8). Of the trials identified, 50% reported significant differences in depressive symptoms between the intervention and control conditions at post intervention and/or follow-up. Fifty-four percent of indicated/selected trials reported positive effects compared to 47% of universal trials. Approximately 82% of effective trials evaluated a program based on cognitive behavioural therapy, with classroom teachers, mental health professionals and graduate students leading these programs. The two depression programs with the most research evidence supporting their effectiveness are the Penn Resiliency Program (PRP) and the Interpersonal Psychotherapy-Adolescent Skills Training (IPT-AST) programs. Both of these programs have been evaluated in universal and indicated/selected trials. The PRP IPT-AST programs were developed in the United States and are available for both children and adolescents. The most effective Australian programs are the FRIENDS program and the Resourceful Adolescent Program (RAP). Table 3 presents the recommended programs for depression.

**Table 3: Recommended programs for depression**

| Program | Age effective | Key reference |
|---|---|---|
| FRIENDS | 9-16 years. Optimal time to intervene is late childhood (9-12 years). | Lock & Barrett, 2003; Barrett et al., 2006. |
| Resourceful Adolescent Program (RAP) | 13-14 years | Shochet & Ham, 2004. |
| Penn Resiliency Program (PRP) | 11-14 years | Chaplin et al., 2006. |
| Interpersonal Psychotherapy-Adolescent Skills Training (IPT-AST) | 11-16 years | Young et al., 2006. |

## Substance disorders

There is an extended and extensive evidence base for using school based programs to deliver a range of substance use interventions (alcohol, tobacco, illicit drugs) in the classroom. A recent review found over 600 papers and reports on school based alcohol programs alone (National Centre for Education and Training on Addiction, 2010). Therefore, the section will summarise recent findings in the field and tabulate the outcomes. Given that there has been an acknowledged methodological improvement in studies over time (McBride, 2003), emphasis will be given to more recent reports. Table 10 describes RCTs for alcohol programs; Table 11 systematic reviews of alcohol programs; Table 12 systematic reviews of drug interventions; and Table 13 RCTs of drug and other interventions.

Note: Only one intervention was classed as a 'treatment' (Winters, Leitten et al., 2007), where students were referred for a chemical health assessment (e.g. if they had been caught with or using drugs). Eligibility criteria for the study included DSM-IV substance abuse disorder. The resulting 79 participants were randomised to one of three conditions – control or brief motivational intervention, with or without a parent. Measures of alcohol and illicit drug use were significantly better for the intervention groups than the control at six months.

Alcohol: A comprehensive review of universal prevention programs for schools, to identify key features of successful alcohol interventions programs was recently undertaken (National Centre for Education and Training on Addiction, 2010). The features of effective interventions were: use of a social influence approach (e.g. basic information, resistance skills training and normative information); highly interactive sessions; improvement of the school environment (reducing bullying, victimisation and increasing social connection); inclusion of the community; and parents. However, most trials to assess more comprehensive programs have not extended beyond parental involvement to the wider community. Nevertheless there is preliminary evidence that inclusion of a wider range of community elements would increase the effectiveness of interventions (Wood et al., 2006).

Due to the ingrained nature of alcohol use in Australia, programs typically adopt a harm minimisation approach, to ensure that they are credible to pupils (National Centre for Education and Training on Addiction, 2010). However, the majority of studies have been conducted in the USA, where there are different ideological and legal factors i.e. a focus on an abstinence approach together with a minimum legal purchasing age of 21 years *versus* 18 years in Australia (National Centre for Education and Training on Addiction, 2010). (Table 10 provides a list of recent systematic reviews of alcohol interventions). Other key elements, such as the appropriate age and the status of the person delivering the intervention are discussed below with interventions for other categories of drugs.

Other drugs: The meta-analysis by Tobler of 207 universal drug prevention programs was seminal in the field (Tobler et al., 2000). The key findings were that non interactive programs e.g. knowledge of physiological or psychological effects and affective interventions (attempts to build self-esteem) were not effective. Programs that were based on a moral or value driven approach only had marginal effects, while interactive programs that allow the exchange of ideas and development of new skills were effective. Support was also found for more extended programs involving a whole of school approach or including community and parent involvement in the program. The more elements that were added, the more effective

the programs were, but the difficulty of sustaining funding and maintaining the continued commitment of stakeholders were noted (Tobler et al., 2000).

As with the alcohol programs, the issue of abstinence *versus* harm minimisation approaches is hard to disentangle in the literature, as the majority of the research has been untaken in the USA, where abstinence (non use/delayed onset) is the dominant objective (McBride 2003). Furthermore, virtually all schools in the USA now offer evidence based drug prevention programs1 as part of their standard activities. Therefore, any novel interventions that are assessed against the 'usual curriculum' are in fact compared to an existing effective program, making it difficult to demonstrate incremental improvement in programs or to evaluate specific elements (Sloboda et al., 2008). (Table 11 provides a list of recent systematic reviews of other drug interventions and Table 13 summarises the major randomised trials of school based programs.)

Features of successful interventions: The most appropriate age or developmental stage for the delivery of alcohol and other drug interventions is of key interest to educators. That is, should programs be delivered early, before experimental substance use has started, or later, after initiation. This is further complicated when considering universal *versus* selective/indicated programs. Currently, the limited data on programs targeting high risk groups means that unequivocal recommendations for this approach are not appropriate, but there is evidence that universal programs do confer benefits in selected groups (Gottfredson and Wilson, 2003). Among non users, alcohol interventions with college age (typically $\geq$ 18 years) students have been found to be less effective than among college age drinkers, with non drinkers initiating alcohol use (Bersamin et al., 2007; Croom et al., 2009; Tait and Christensen, 2010). Overall, there is support for universal programs delivered in grades 6-9 (also termed 'middle school') (Soole et al., 2005). Thus, this period may represent a time when adolescents are starting to use alcohol and other drugs, but in general have not developed significant problems.[1]

There is clear support for interactive, engaging programs rather than simply focusing on information delivery (Cuijpers, 2002; Soole et al., 2005; Tobler et al., 2000). These programs can be effectively delivered by classroom teachers, with the potential to include external presenters to supplement the programs (Buckley and White, 2007). A further advantage is that students appear to enjoy and engage with content delivered by external providers (Buckley and White, 2007). To date, there have been few online interventions for school age youth. However, the CLIMATE school program, developed in Australia, used online resources in addition to traditional classroom based activities and has been successful in reducing alcohol use to 12 months and cannabis use to six months post intervention (Newton et al., 2010).

The GateHouse Project is an Australian example of a successful whole of school approach (Bond et al., 2004a; Patton et al., 2003) where the aim is to change the ethos of a school without necessarily focusing on drugs or drug prevention activities. While these interventions

[1]The Substance Abuse and Mental Health Services Administration maintains a register of evidence-based programs which currently lists 64 interventions suitable for children and adolescents, of which 52 are school based (Substance Abuse and Mental Health Services Administration, 2011).

can be expected to bring benefits on a range on indices, the effect on substance use may be moderate. As such these interventions may complement other specific substance use programs (Fletcher et al., 2008). The School Health and Alcohol Harm Reduction Project (SHAHRP) was also developed and evaluated in Australia (McBride, 2004) and is considered to have sufficient evidence to support its use. Teaching materials are still available via the National Drug Research Centre. Table 4 presents the recommended programs for substance disorders.

The analysis of other types of intervention, designed to be delivered outside the classroom, such as community, family focused or policy/legislative approaches, is beyond the scope of this review.

**Table 4: Recommended programs for substance disorders**

| Program | Age effective | Key reference(s) |
|---|---|---|
| CLIMATE Schools | 13 years | (Newton, Andrews et al., 2009). (Newton, Teesson et al., 2010). |
| GateHouse Project | 13 years | (Patton, Bond et al., 2006). |
| SHAHRP | 13 years | (McBride, Farringdon et al., 2004). |

### Externalising Disorders: Includes Conduct Disorder, Oppositional Defiant Disorder and Attention Deficit Hyperactivity Disorder

Over the past decade, RCTs dealing with externalising behaviour through school based intervention programs have taken one of three forms. Firstly, there are those that deliver large scale, multifaceted interventions bundling multiple components such as classroom curricula, small group sessions and parenting programs but are not experimentally designed in such a way as to compartmentalise the effects of the different components (examples include *Early Risers* and *Fasttrack*). Secondly, there are programs that bundle multiple components but allow separate elements to be analysed (examples include *Yes I Can* and *Guiding Responsibility and Expectations for Adolescents for Today and Tomorrow)*. Thirdly, there are programs that deliver single element school based interventions (examples include *Good Behavior Game* and *Responding in Peaceful and Positive Ways)*.

The recent popularity of the first type of design, especially in early primary school, is due in part to pre 2000 findings that single component programs for aggressive and delinquent behaviour, particularly those that emphasised interpersonal/social skills training, had little effect (see Taylor, Eddy & Biglan's (1999) review of RCTs). This gave rise to the suggestion that these programs would best be combined with parenting and academic achievement programs as part of a multifaceted approach, thus: (a) targeting multiple risk factors that serve to interact with and amplify each other over time (Conduct Problem Prevention Research Group, 2002); and (b) overcome issues associated with a lack of generalisation of skills between school and home settings (Barrera et al., 2002, Conduct Problem Prevention Research Group, 2002).

For the purposes of informing decision-making as to which specific school based components are likely to be most applicable and effective, only those RCTs in which these

components can be separated from the effects of other intervention components (see Table 13) will be considered in this analysis.

Of the 19 programs uncovered, seven are based solely on classroom based interventions, whilst 12 are multifaceted. Five of the latter were designed in such a way that the school based/classroom components are able to be portioned out from other elements. Therefore, 12 classroom based intervention programs were assessed (seven sole programs and five combined with other components) through 16 trials (21 individual papers).

It should be noted that data pertaining to the various RCTs are not presented separately in terms of the three disorders of interest (Conduct Disorder, Oppositional Defiant Disorder, Attention Deficit Hyperactivity Disorder). This is due to the fact that there is little delineation in the majority of studies, researchers choosing instead to target conduct problems, externalising behaviour, aggression, or violence (included as risk factors for the development of conduct problems). Furthermore, only one RCT was specific to ADHD (Seely et al., 2009), whist another two incorporated measures of ADHD symptomatology (Jones et al. 2010, Waschbusch et al., 2005). Other than these, ADHD was not addressed in the other RCTs, possibly due to the fact that the first line treatment for ADHD in children is psychopharmacological (see Forness et al., 2006 for a review of RCTs comparing behavioural and psychopharmacological interventions).

Follow-up: Many of the studies did not include follow-up measures. Indeed, only five of the 16 trials from which specific school based component effects can be extracted included follow-up. This is problematic given the fact that other studies uncovered sleeper effects (i.e. intervention effects only become apparent after a certain length of time, being undetectable at immediate post test). Such effects were found in Farrer et al., 2003; Barrera et al., 2002; and Smolkovski et al., 2005, and are fairly common in preventative interventions for primary school aged children (Barrera et al., 2002) due to potential buffering effects on later development of problems.

Temporal foci: The timing of interventions tended to be in the early primary school years (kindergarten through to year 3), or in the transition from primary school to high school (from grades 5 to 8) [1]. Of the 16 trials considered here, five targeted early primary school up to grade 3, eight targeted grades 5-8, two targeted the entire primary school years (K-5 in one case, K-6 in the other), and one compared grades 2 and 5.

Assessment of programs: It is difficult to ascertain which programs are most effective given the differences in outcome measures used (from Child Behaviour Checklist scores to use of Court data during adolescence), and the fact that many of the trials reported significant effects of the intervention when compared to control conditions on at least some of the included outcome measures of externalising behaviour. This is in line with Wilson and Lipsey's (2007) meta-analysis of school based interventions for aggressive and disruptive behaviour (although not limited to RCTs) that all programs, if implemented with fidelity, were effective, and that choice of program should be made based on resources and setting.

[1] Note that many North American studies focus on the transitions from primary school into middle school (grades 5 to 6) and from middle school into high school (grades 8 to 9). The specific timing of implementation in the context of the NSW education system would therefore need to be adjusted accordingly.

In this analysis, however, there are a number of interventions that showed little effect, or effects on more distal cognitive factors rather than externalising behaviours per se, narrowing down the options. These were the *SMART* program: a computerised 10 week anger management program that impacted on students' intentions to use non violent behaviours but little else; the *Yes I Can* curriculum: a 2-year program that only showed effects when combined with small group and family interventions; the *GREAT* curriculum: a 1-year program that only showed main effects for two of the eight variables, and contradictory findings on cognitive variables such as individual norms for nonviolent behaviour and goals and strategies that support use of violence: the *DARE* curriculum: a 10-session program run over two school years that only showed intervention effects when combined with additional components such as after school activities; and the *4Rs* program: a year-long program focusing on academic achievement as a buffer for conduct problem development that showed no effects in terms of externalising behaviour.

The applicability of certain other programs should be assessed cautiously, as it is unclear to what extent they may be culturally relevant to the Australian context. For example, both the Social Developmental Curriculum, which was designed to target African American youth, and Shechtman and Ifargan's untitled intervention, developed and evaluated with Israeli youth, would need further evaluation in the Australian context.

Taking into account the number of trials to show significant positive effects, the inclusion of follow-up measures, the length of intervention, and the use of the classroom teacher as instructor (thus not requiring external personnel), recommended interventions for use in the NSW school system are presented in Table 5.

**Table 5: Recommended programs for externalising behaviours**

| Name of program | Age effective | Key reference |
|---|---|---|
| Good Behavior Game | Grade 1 | Barrish, Saunders & Wolf, 1969. |
| PeaceBuilders | Grades K-5 | Embry et al., 1996. |
| Responding in Peaceful and Positive Ways | Grade 6 | Meyer et al., 2000. |

- ***Good Behavior Game:***
  - Support of 4 separate trials, with between 666 and 1196 students in each.
  - Demonstrated effects on conduct problems, oppositional behaviour and ADHD symptom development.
  - Indications of long term impact on psychiatric diagnosis (Petras et al., 2008; Kellam et al., 2008).
  - 2-year length implemented in early primary school and no need for external instructors/program leaders to be recruited (i.e. teacher led).
  - See also: Embry, 2002 The Good Behavior Game: A Best Practice Candidate as a Universal Behavioral Vaccine.

- ***PeaceBuilders:***
  - Effects for teacher ratings of aggression in grades 3-5, and social competence in Implementation by teachers.
- ***Responding in Peaceful and Positive Ways:***
  - Support of 2 trials involving 626 and 1340 students.
  - Finding of reduced disciplinary violence and in-school suspension at 12 month follow-up.
  - Finding of effects on aggression at 9 month follow-up (sleeper effect).

### Eating disorders

There is evidence that school prevention programs can prevent or improve the risk factors associated with eating disorders in children and adolescents (see Table 15). One study reported a reduction in the prevalence of eating disorder among adolescents (Favaro et al. 2005) and a number of programs have been shown to reduce disordered weight control behaviours (such as dieting, restriction, purging, laxative or diet pill use, steroids, food supplements) including in children (Dohnt & Tiggemann, 2008; Escoto Ponce de Leon, 2008), children and adolescents (Austin et al., 2005) and adolescents (Austin et al., 2007; McVey et al., 2004; Elliot et al., 2004; Elliot et al., 2006). There is little evidence with respect to the effect of the preventive programs on eating intentions although one study did report a reduction in unhealthy weight loss intentions in adolescents (Ranby et al., 2009). Body image dissatisfaction (including weight/shape concern) has been reduced by school preventive interventions in childhood and adolescence (Dalle Grave, 2001; Dohnt & Tiggemann, 2008; McVey & Davis, 2002; McVey et al., 2004; O'Dea & Abraham, 2000; Wade et al., 2003; Wilksch & Wade, 2009; Santonastaso, 1999; Stice et al., 2009). Some programs also improved attitudes with respect to body ideals and body importance in childhood and adolescence (Escoto Ponce de Leon, 2008; O'Dea & Abraham, 2000).

Three of the programs were supported by evidence from more than one study (ATHENA, Every BODY is a Somebody, Planet Health). Of these ATHENA has been subjected to three trials and found to have positive outcomes for weight loss behaviours and intentions in each. However, this program was delivered to school athletes and it is unclear how well it would generalise to the broader school community. The Canadian Every BODY is a Somebody was subjected to two trials, one of which reported improved body image and reduced dieting; the other showed no significant effects. The final program was the US Planet Health program. This was effective both by itself and in extended form in reducing disordered weight control behaviours (e.g. purging, diet pills).

Six of the studies were undertaken in Australia. Of the Australian studies, there were encouraging results from the Everybody's Different stress reduction and self-esteem program which resulted in improved body satisfaction, reduced importance of physical appearance and higher body weight over 12 months in 11-14 year old adolescent girls (O'Dea & Abraham, 2000). The Media Smart program also resulted in reduced shape and weight concern, reduced dieting and reduced body dissatisfaction (Wilksch & Wade, 2009).

### What factors predict programs that work best for the prevention of eating disorders?

Stice et al., 2007 undertook a meta-analysis and comparison of the factors which

distinguished eating disorder prevention programs that were more effective (produced larger effect sizes). The findings are summarised in Box 1 below.

**Box 1: Factors that facilitate better outcomes in eating disorder prevention programs**

| Indicated programs (delivered to at risk group) | Participants older than 15 years. |
|---|---|
| Interactive rather than passive educational material | Intervention delivered by an expert as opposed to an in-house staff member. |
| Multi-session programs | The intervention incorporates dissonance induction or body acceptance content. |

The Stice et al. review was not restricted to school programs. Thus, the extent to which it is possible to apply these findings to the school context and school aged students is unclear. However, in the absence of a sample size sufficient to undertake a similar analysis on the school prevention trials alone, the above factors might provide a framework for guiding the selection of pilot programs to trial in NSW. In particular, they suggest adopting interactive interventions with dissonance induction or body acceptance content and to deliver the programs across more than one session. In practice, it may not be feasible to employ expert staff for the delivery of such programs so it is of relevance that our review indicates that programs delivered by teachers can be effective. Similarly, although selective programs were found to show higher effect sizes in the Stice et al. review, there are good practical arguments for delivering these programs at a universal level. There is some suggestion in the literature that there are two risk periods during the school years for the emergence of anorexia nervosa, the first at 14.5 years and the second in later adolescence (Hallmi et al.). More recent work (Favaro et al., 2009) reported a unique peak at 16 years in anorexia nervosa and 17 years for bulimia nervosa. However, a substantial percentage of cases appeared prior to that, particularly from aged 13 years on. There may be value in targeting prevention programs at two points in the school curriculum: the first in early adolescence to prior to the onset of early cases of eating disorders and the second during later adolescence (16 years) at an age when the effect sizes of the interventions are larger. Table 6 presents the recommended programs for eating disorders.

**Table 6: Recommended programs for eating disorders**

| Name of program | Age effective | Key reference |
|---|---|---|
| US Planet Health | Females, 10-14 years (approximate Grades 4 to 8) | Gortmaker et al., 1999. |
| Everybody's Different | 11-14 years (approximate Grades 5 to 9) | O'Dea, J., 1995. |
| Media Smart | Grade 8 | Wilksch & Wade, 2009. |

- ***US Planet Health:***
  - Supported by 1 trial comprising 480 females aged 10 to 14 years (Austin et al., 2005). Girls in the intervention were found to be less than half as likely to report purging or diet pill use at 21 month follow-up.
  - An extended version of *Planet Health, 5-2-1-Go!* found a reduction by two-thirds in the odds of disordered weight control behaviours among female participants in grades 6 and 7 but no change for male participants (Austin et al., 2007).
  - Implementation by teachers.

- ***Everybody's Different:***
  - Supported by 1 trial comprising 470 adolescents aged 11 to 14 years (O'Dea & Abraham, 2000). Improvements in body satisfaction and reductions in the importance of physical appearance reported.
  - Implementation by teachers.
- ***Media Smart:***
  - Supported by 1 trial comprising 540 adolescents in Grade 8. Reductions in shape and weight concern, dieting and body dissatisfaction were identified in the intervention group over 30 month follow-up.
  - Implementation by researcher.

### *Question 3: What collaborative care models work?*

Education or health sector auspiced programs are described below.

#### Education auspiced programs

KidsMatter designed for primary school (including an early intervention component).
MindMatters designed for high school (including MindMatters Plus and MindMatters Plus GP).
*beyondblue* Secondary and Tertiary Schools Programs .
The GateHouse Project.
Social and Emotional Aspects of Learning including Wave 2 and Wave 3 interventions (SEAL), UK.

These programs offer a range of interventions from Social and Emotional Learning (Category 3), to prevention programs (Category 4), to whole of school involvement (Category 5) and to the provision of clinical services, and early intervention (Category 6). The effectiveness of the universal delivery of the *beyondblue* secondary and tertiary schools program and the GateHouse Project has been evaluated above. However, each of these programs, including any methods to link to health services is evaluated further below. Inclusion in Table 15 was not restricted to RCTs. Each program is assessed for both: (a) its effectiveness in preventing symptoms; and (b) its effectiveness in providing clinical services and early intervention.

In Australia, the KidsMatter and MindMatters programs have attempted to develop associations with health services through the KidsMatter Early Intervention Component, and through MindMatters Plus GP and its association with General Practice Divisions. There is less explicit information for any treatment or health service connections for the *beyondblue* Secondary Schools and Tertiary Program or for the GateHouse Project.

In the UK, the SEAL program has implemented Wave 2 and Wave 3 interventions, which are small group interventions for children and adolescents with difficulties or skills deficits (Wave 2), and it has also attempted to link the schools to the health sector (Wave 3), through the commissioning of services by the schools. The report describing the outcomes of the latter intervention has not yet been published.

Overall, most of the research investigating Category 6 components of these programs is weak or nonexistent. There is little data on the effects of any of the programs for those with more severe mental ill-health. Many of these programs have not evaluated the component

that specifically targets children with mental disorders. The MindMatters Plus GP component was thought not to increase referrals as already existing connections such as those to general practice continued to be used. With respect to the UK SEAL Project, outcomes may be positive for small group work (Wave 2) in primary schools. As noted above, other critical evaluations (particularly of the Wave 3 component) are pending.

### Summary of findings from education based programs for mental health needs

The emphasis of education based programs has been on the entire population of students, teachers and parents within the school community. A specific focus on providing for the mental health needs of individuals who require early intervention or treatment has been lacking. Programs for these students appear to be the last to be implemented or evaluated.

At this stage, there is little data on the effects of these initiatives on mental health outcomes for those identified as being in need of specialist early intervention. In Australia, there is some data from KidsMatter that indicates that those with the lowest levels of functioning at baseline improve to a greater extent than those without problems initially. However, this data is not specific enough to comment further.

With respect to the effectiveness of the programs in forging linkages with external agencies, the most relevant data for Australia come from the KidsMatter program. KidsMatter has been reported to lead to improved referral links for children with high risk. MindMatters Plus and MindMatters Plus GP have not been associated with new linkages to external health agencies, as these already existed.

With respect to funding additional Wave 2 and 3 services, the UK SEAL project Wave 3 has recently initiated a series of grants which allow schools or other bodies to commission "mental health services" from local agencies. The outcomes of this initiative are not yet available.

### Health auspiced programs

Models for providing mental health services to schools were divided into two types from the original list, classed as a function of whether they included a relationship with schools.

**Mental Health Services which have a relationship with schools (Table 17).**
headspace Australia.
headstrong Jigsaw Ireland.
Youth One Stop Shops, NZ.
Child and Adolescent Mental Health Services, UK.
NSW School-Link initiative Australia.

**Programs examined but eliminated because there was no reference to a relationship with schools (Table 12).**
Massachusetts Child Psychiatry Access Project (USA) (Primary Care and Psychiatry), Massachusetts Mental Health Service Program for Youth (USA) (home-based clinical intervention) via managed care organisation.
Primary Care Based Child Clinical Psychology Service (UK).
UK On-site mental health workers in primary care.

Transdisciplinary Care for Early intervention, Collaborative Care for Depressed Adolescents (USA).
SCCAP Shared Care in Child and Adolescent Psychiatry.
Helping Children with Autism Model.
Menzies Program for Indigenous Youth.
Wrap Around Kids.
The Abecedarian Program.

A brief description of programs that have a relationship with schools is provided below.

**headspace (Australia).** This service aims to provide support and clinical services for young people aged 12-25 years. The aim is to establish "communities of youth services", where a lead agency provides services in conjunction with partnerships with relevant services. The agency also provides training to professionals, school counsellors, and other professionals. Within *headspace*, there are initiatives to link central youth officers to schools, to assist teachers and students. The Centre for Mental Health Research at the ANU is currently undertaking a trial which aims to assess the advantages of classroom attendance by headspace youth workers in universal prevention programs for mid high school aged students. The trial directly compares the presence of the workers with a condition where no worker is present, and a third condition which does not include either the worker or the prevention program. This trial is currently in progress.

**headstrong Jigsaw Project (Ireland).** This program provides information for young people, and through "Jigsaw", connects young people with community supports and services. The nature of the services differs as a function of the centre and the needs of youth. Youngballymun (Ireland) offers a café environment, but also services across education and employment, although the details of how these are offered are difficult to determine from the available information on its website. Jigsaw Kerry also aims to establish supports within the school as part of its program. Jigsaw Meath is more explicit about its role in the school:

> "*The Jigsaw Meath initiative will play a significant role in changing the way schools and youthreach centres address the mental health and well-being needs of their young people. This is seen as critical, given that most young people spend up to 1/3 of their day in the school environment. By developing a supportive and nurturing whole school approach to mental health and wellbeing the project is aiming to impact upon learning outcomes for young people*."
> http://www.headstrong.ie/content/communities-we-work%20(2011-10-30)

Further information might be sought about how the Jigsaw Meath program attempts to link to schools, and whether this is effective. At this stage, it seems that this initiative is new, and yet to be evaluated.

**Youth One Stop Shops (NZ).** These shops are community based centres, which provide "services to young people". These services include recreational activities, health care and social care.

> *"There are now at least fourteen such "Youth One Stop Shops" across the country which provide a range of accessible, youth-friendly health,*

> *social and other services in a holistic 'wraparound' manner at little or no cost to young people*."(Ministry of Health, 2009)
>
> *"Youth One Stop Shops provide access to a range of services in youth-friendly settings, including health, social, education and/or employment services with the ability to refer to secondary or tertiary services as required."*
> *http://www.publichealth.hscni.net/sites/default/files/SMR_OneStopShop_REPORT_FINAL_11NOV2011%20(3).pdf*

Some Youth One Stop Shops offer services in schools. These seem to be of two types:

(a) Youth One Stop Shops facilitate workshops in local secondary schools which aim to promote health, wellbeing and resiliency in young people by increasing their awareness and understanding of self care and the support networks available to them. Programs have also been developed which provide young people with an understanding of the nature of addictive behaviours and the impact these have on their lifestyles whilst empowering them with the tools to make positive choices and limit harm.
(b) Youth One Stop Shops take health services into schools. How this happens is not clear from the report. They do state they have mobile and satellite services and/or evening clinics. These services seem to involve nurses and social workers who work within schools (and are paid by schools) attached to them.

**Child and Adolescent Mental Health Services in interaction with Schools (UK).** A review of child and mental health services with links to schools revealed that the type of interaction between Health Services and schools was one based on 'consultation and support to school staff ' and 'direct individual and group work with children in schools, such as social skills and running clinics, doing assessment and observation'. The work in schools represents a small proportion of the CAMHS funds (see Pettitt et al., 2003). The report provides some description of how the services operate, and the possible impacts of stronger links between the CAMHs service and that of the school. The report provides some useful observations about encouraging workable relationships across agencies. The contents of the report may be of interest to current moves to establish useful links across agencies in Australia.

**NSW School-Link initiative (Australia).** This initiative aims to improve the mental health of children and adolescents in NSW. We located an evaluation of the School-Link Training Program which was designed to evaluate the usefulness of the counsellor training program (Department of Health, 2003). This 3 day program trained over 1800 school counsellors and TAFE counsellors. It was reported that 170 Depression Action Plans were developed which were blueprints for enhancing treatment and early intervention delivery for young people with depression across the education and health sectors. The report recommended that this training continue as part of a 5 year plan, that a written agreement should be set up between the Department of Education and Training and NSW Health, that steering committees and reporting remain or be instigated, and that funding be attached through a School-Link Area Coordinator. It was also recommended that evaluation and reporting be introduced. The program has added to it the the Children's Hospital at Westmead (CHW) School-Link Project which is designed to improve links for children with an intellectual

disability comorbid with mental health problems and a School-Link Justice Health Project to address the mental health and education needs of the young offender population.

### Summary of health sector auspiced programs

At this stage, there is insufficient evidence to evaluate the effectiveness of collaborative care models, and in particular there is no evidence to determine whether they improve the mental health of those at risk or who need early intervention. Except for the NSW School -Link initiative, most of the new programs are recent developments (e.g. headspace). In Australia, the provision of mental health services to schools seems to be ad hoc. The only exception may be the NSW School-Link initiative, although other state based models may exist, of which we are unaware.

From the literature we read, it is clear that most Health and Education portfolios are not well linked, so it is instructive to consider how those we reviewed have been joined or integrated. Currently, there seems to be three models for creating these relationships.

- Ad hoc arrangements where schools make connections to services in their local areas.
- Structural arrangements where health services are funded to coordinate the school services and establish links (e.g. NSW School–Link initiative).
- Commissioning arrangements where schools are funded to commission mental health services from local agencies for their school (SEAL Program, UK).

Given the complexities in linking Health and Education portfolios, and in implementing programs in the complex environments of health and education, appropriate funding needs to be provided with clear outcomes and reporting lines articulated when new models are established.

# 4. Conclusions

## *Factors associated with the implementation of school based prevention programs*

The findings of our review suggest that the implementation of school based prevention programs should be timed to coincide with a "prevention window". Figure 3 below summarizes which programs have been shown to be effective and at what ages and for which conditions. A more fine grained approach would also consider information such as the "stress points" in the academic school year, the risk factors for particular disorders, those subgroups most at risk, the need for booster sessions for some disorders, and individual differences. But, as a general guide, the approach we recommend is to take these programs and implement them in the appropriate age window.

### Why are some programs more effective than others?

A range of programs are suitable, and within each of the disorders certain types of programs are associated with better outcomes. For anxiety and depression, interventions based on cognitive behaviour therapy have been found to be more effective than others not based on these principles. For substance use disorders, there is clear support for interactive, engaging programs rather than ones which simply focus on information delivery. A number of specific programs have the strongest evidence and these are outlined in the body of the report. For externalising behaviour, there is clear support for a range of programs delivered in primary school. For eating disorders, there was evidence that programs may be more effective if delivered to at risk groups, in an interactive format and which involve multiple sessions delivered by outside experts.

Most programs for anxiety, depression, conduct disorder, and substance abuse are effective if delivered by school teachers. At this stage, the evidence suggests that eating disorder programs may be more effective if delivered by an outside expert.

Most anxiety, depression, substance abuse, and conduct disorder programs can be delivered in universal formats – that is to all students in the schools. Eating disorder programs may be better delivered to at risk groups.

### Which shared care and collaborative models work?

Programs were divided into those undertaken by Health and Education portfolios of Departments. At this stage it is not possible to identify which of the shared care or collaborative models "works" either in terms of mental health outcomes for the students, or in terms of ease of delivery by the teachers and health professionals. Most of the collaborative care programs were poorly evaluated.

The most comprehensive attempt to establish collaborative models is the SEAL (Wave 3) project, which involves commissioning health service delivery in schools by schools but the evaluation report for this aspect of the project is not yet available. In Australia, the NSW School-Link initiative is the most clearly articulated model. Other attempts to provide early identification and intervention for children and adolescents in schools may be effective, but there is little evidence in support of them at this stage. MindMatters Plus GP and, more recently, headspace, are working in this space, but their effectiveness is unknown.

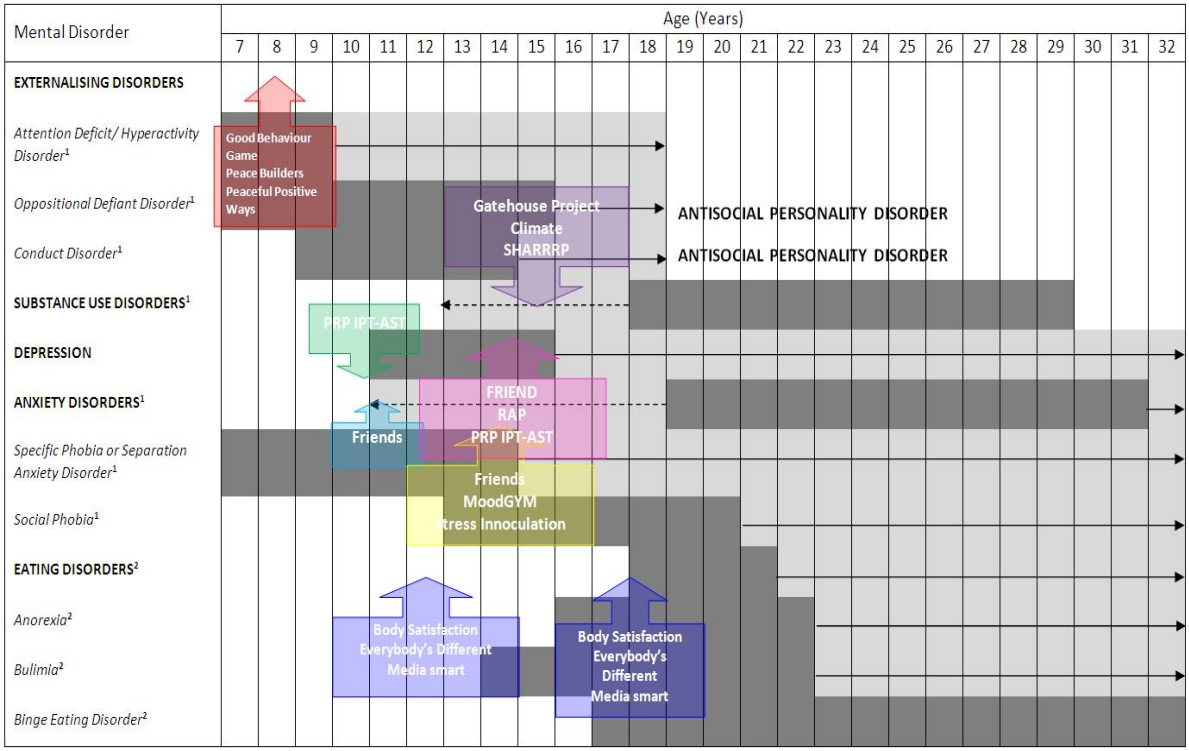


**Figure 3. Recommended programs and optimal point of delivery**
[Data from Hudson, Hiripi, Pope, & Kessler, 2007; Kessler, Berglund, Delmer, Jin, et al.., 2005; Kovacs, Obroksy, Gatonis, & Richards, 1997; Lewinsohn, Clarke, Seely, Rhode, 1994] ¹ Median Range ² Interquartile Range

## *Limitations of the review*

There are a number of limitations of this review. First, it was rapid and some relevant papers may have been missed. Secondly, the review only included RCTs in its evaluation of the research evidence for the specific single element school programs. There may be other evaluations that are relevant. Moreover, the findings may not generalise immediately to the "real world" or between countries. It is possible that some collaborative care programs were not located using the search strategy. Further, evaluation reports of health and education school programs are difficult to locate and some relevant reports may have been missed.

## 5. Recommendations

If schools are to lower mental health problems in schools, a concerted multi pronged approach will be required. As outlined in the introduction to this report, six categories of mental health programs are currently available. These aim to increase awareness, lower stigma, promote well being, prevent mental health problems and offer assistance to young people and children with mental disorders. There will be differences in how successfully these programs can be delivered in primary and high schools, and how easy they will be to deliver to adolescents rather than younger children, as adolescents may be less inclined to engage with such programs. Clearly, all six categories of programs have a place. However, programs designed specifically to decrease mental health problems or treat mental health disorders are priorities.

On the basis of our literature review, we recommend that:

1. Single-element effective prevention programs should be adopted and delivered to all students within the curriculum. This is a relatively easy option and, based on evidence, will lower incidence rates of mental illness in schools.
2. A range of procedures should be adopted in schools that will bring "at risk" students systematically to the attention of mental health staff.
3. A range of mechanisms should be considered in schools through which students, their parents and teachers can gain access to professional and other help from mental health services such as general practice, headspace centres, specialist mental health centres, local youth workers, psychologists or psychiatrists.

Clearly the development of education and health models for schools is in its infancy. There is likely to be much that can be learnt about how to manage services through a series of systematic interviews with key health and education practitioners. Although shared care and collaborative models of mental health care have been shown to be effective in medical practice and in specialist care environments, schools are different environments to medical practices, and the findings from these studies may not be applicable. Nevertheless, an analysis of the core components of collaborative care models from general practice might serve as a starting point for the development of a model for schools.

Mental health and education policy makers might also need to consider new methods, such as virtual counselling, Internet programs and online clinics as mechanisms to allow high school students to reach mental health services. Given the shortage of counsellors, headspace centres and private practitioners in both city and rural areas, there is a need to think clearly about new models for individual health care of students in our schools. These models are currently being developed in association with government initiatives such as the mental health "portal", and the development of virtual clinics, as part of the Young People and Technology Collaborative Research Centre, funded in 2011.

## 6. Tabulated summary

**Table 7. School based prevention and early intervention programs for anxiety**

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| Learn Young, Learn Fair | Kraag et al., 2009; **Netherlands** | Child (9-12 years; *M* = 10.3) | 1,467 | WL | Stress Management | Teacher | 8 + 5 booster | **Post intervention & 9-month follow-up:** No significant differences in anxiety symptoms. |
| Penn Prevention Program | Pattison & Lynd-Stevenson, 2001; **Australia** | Child (9-12 years; *M* =10.4) | 66 | AC + NI | CBT | MHP | 10 | **Post intervention:** No significant differences in anxiety symptoms. |
| Positive Thinking Program | Rooney et al., 2006; **Australia** | Child (8-9 years; *M* = 9.07) | 136 | NI | CBT | MHP | 8 | **Post intervention: 9- & 18-month follow-up:** No significant differences in anxiety symptoms. |
| Taming Worry Dragons | Miller et al., 2010; **Canada** | Child (7-12 years; *M* = 9.8) | 116 | WL | CBT | Teacher | 8 | **Post intervention:** No significant differences in anxiety symptoms. |
| FRIENDS | Barrett & Turner, 2001; **Australia** | Child (10-12 years; *M* = 10.8) | 489 | NI | CBT | MHP + Teacher | 10 + 2 booster | **Post intervention:** Significant differences in anxiety symptoms. |
| | Lowry-Webster et al., 2001, 2003; **Australia** | Child + Adolescent (10-13 years) | 594 | WL | CBT | Teacher | 10 + 2 booster | **Post intervention & 12-month follow-up:** Significant differences in anxiety symptoms. |
| | Miller et al., 2011; **Canada** | Child (9-12 years; *M* = 9.8) | 253 | AC | CBT | MHP/Grad. + Teacher | 9 | **Post intervention:** No significant differences in anxiety symptoms. |
| | Lock & Barrett, 2003; Barrett et al., 2006; **Australia** | Child + Adolescent (9-16 years) | 737 | WL | CBT | MHP | 10 + 2 booster | **Post intervention & 12-month follow-up:** Significant differences in anxiety symptoms for students in Grade 6 and 9. **24- & 36-month follow-up:** Significant differences in anxiety symptoms for students in Grade 6 only. |
| | Barrett et al., 2005; **Australia** | Child + Adolescent (9-16 years) | 693 | NI | CBT | MHP | 10 + 2 booster | **Post intervention:** No significant differences in anxiety symptoms. **12-month follow-up:** Significant differences in anxiety symptoms. |

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| *Aussie Optimism* | Roberts et al., 2010; **Australia** | Child + Adolescent (11-13 years; *M* = 11.99) | 496 | NI | CBT | Teacher | 20 | **Post intervention, 6- & 18-month follow-up**: No significant differences in anxiety symptoms. |
| Norwegian Universal Preventive Program for Social Anxiety | Aune & Stiles, 2009; **Norway** | Child + Adolescent (11-14 years; *M* = 12.6) | 1,439 | NI | CBT + Psyched. + whole school | Teacher | 3 | **Post intervention:** Significant differences in anxiety symptoms. |
| **Early Adolescence** | | | | | | | | |
| MOODGYM | Calear et al., 2009; **Australia** | Adolescent (12-17 years; *M* = 14.3) | 4,477 | WL | CBT | Teacher | 5 | **Post intervention & 6-month follow-up:** Significant differences in anxiety symptoms. |
| Positive Communication | Garaigordobil, 2004; **Spain** | Adolescent (12-14 years; *M* = 12.9) | 174 | NI | Commun. | Teacher | Year-long | **Post intervention:** Significant differences in anxiety symptoms. |
| Problem solving for Life | Sheffield et al., 2006; **Australia** | Adolescent (13-15 years; *M* = 14.3) | 1,045 | NI | CBT | Teacher | 8 | **Post intervention & 12-month follow-up:** No significant differences in anxiety symptoms. |
| - | Hiebert et al., 1989: Study 2; **Canada** | Adolescent (13-14 years) | 113 | NI | Relaxation | Teacher | 11 | **Post intervention:** Significant differences in anxiety symptoms. |
| **Adolescence** | | | | | | | | |
| Anxiety Management Training | Hains, 1992; **USA** | Adolescent (15-16 years) | 16 | WL | Relaxation | Grad. + Researcher | 9 | **Post intervention:** Significant differences in anxiety symptoms. |
| Stress Inoculation Training | Hains & Szyjakowski,1990; **USA** | Adolescent (16-17 years) | 21 | WL | CBT | Researcher | 9 | **Post intervention:** Significant differences in anxiety symptoms. |
| | Hains, 1992; **USA** | Adolescent (15-16 years) | 17 | WL | CBT | Grad. + Researcher | 9 | **Post intervention:** Significant differences in anxiety symptoms. |
| | Hains & Ellmann, 1994; **USA** | Adolescent (NR) | 21 | WL | CBT | Grad. + MHP | 13 | **Post intervention:** Significant differences in anxiety symptoms amongst students with elevated pre-intervention symptoms only. |

**Table 7: School Based prevention and early intervention programs for anxiety**

**Table 7: School Based prevention and early intervention programs for anxiety**

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Adolescence** | | | | | | | | |
| Stress Management Intervention | Keogh et al., 2006; **UK** | Adolescent (15-16 years; *M* = 15.6) | 209 | NI | CBT | MHP | 10 | **Post intervention:** No significant differences in test anxiety symptoms. |
| - | Bonhauser et al., 2005; **Chile** | Adolescent (15-16 years) | 198 | AC | Exercise | Teacher | Year-long | **Post intervention:** Significant differences in anxiety symptoms. |
| **Selected/Indicated Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| Aussie Optimism | Roberts et al., 2003, 2004; **Australia** | Adolescent (11-13 years; *M* = 11.9) | 189 | NI | CBT | MHP | 12 | **Post intervention, 6- & 30-month follow-up:** Significant differences in anxiety symptoms. **18-month follow-up:** No significant differences. |
| Cool Kids | Misfud & Rapee, 2005; **Australia** | Child (8-11 years; *M* = 9.5) | 91 | WL | CBT | MHP | 8 | Post intervention: No significant differences in anxiety symptoms. **4-month follow-up:** Significant differences in anxiety symptoms. |
| Children's Support Group | Stolberg & Mahler, 1994; **USA** | Child (8-12 years; *M* = 9.8) | 129 | NI | CBT | Grad. + MHP | 14 | **Post intervention & 12-month follow-up:** No significant differences in anxiety symptoms. |
| The Feelings Club | Manassis et al., 2010; **Canada** | Child (9-12 years) | 148 | AC | CBT | Grad. + MHP | 12 | **Post intervention & 12-month follow-up:** No significant differences in anxiety symptoms. |
| FRIENDS | Bernstein et al., 2008; **USA** | Child (7-11 years) | 61 | WL | CBT | Grad. + MHP | 9 + 2 booster | **Post intervention, 3-, 6-, & 12-month follow-up:** No significant differences in anxiety symptoms. |
| | Dadds et al., 1997, 1999; **Australia** | Child + Adolescent (7-14 years) | 128 | NI | CBT | MHP | 10 + 2 booster | **Post intervention & 12-month follow-up:** No significant differences in rates of anxiety diagnosis. **6- & 24-month follow-up:** Significant differences in rates of anxiety diagnosis. |
| | Miller et al., 2011; **Canada** | Child + Adolescent (9-12 years; *M* = 10.1) | 191 | AC | CBT | MHP/Grad. + Teacher | 9 | **Post intervention:** No significant differences in anxiety symptoms. |
| | Hunt et al., 2009; **Australia** | Child + Adolescent (11-13 years; *M* = 12.1) | 260 | NI | CBT | Teacher | 10 + 2 booster | **2- & 4-year follow-up**: No significant differences in anxiety symptoms. |

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Selected/Indicated Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| FRIENDS (contd) | Balle et al., 2010; **Spain** | Child + Adolescent (11-17 years; *M* = 13.6) | 92 | WL | CBT | Grad. | 6 | **Post intervention:** No significant differences in anxiety symptoms. **6-month follow-up:** Significant differences in anxiety sensitivity, but not anxiety symptoms. |
| Penn Resiliency Program | Gillham et al., 2006; **USA** | Child + Adolescent (NR) | 44 | NI | CBT | Researcher | 8 | **Post intervention:** No significant differences in anxiety symptoms. **6- & 12-month follow-up:** Significant differences in anxiety symptoms. |
| **Early Adolescence** | | | | | | | | |
| Hero/Heroine Modeling Intervention | Malgady et al., 1990; **USA** | Adolescent (12-15 years; *M* = 13.7) | 90 | AC | SL + Modelling | Grad. + Teacher | 18 | **Post intervention:** Significant differences in anxiety symptoms. |
| Adolescent Coping with Emotions | Sheffield et al., 2006; **Australia** | Adolescent (13-15 years; *M* = 14.3) | 629 | NI | CBT | MHP | 8 | **Post intervention & 12-month follow-up:** No significant differences in anxiety symptoms. |
| Personality-Target Cognitive-Behavioural InterventionPenn Resiliency Program | Castellanos & Conrod, 2006; **UK** | Adolescent (13-16 years) | 423 | NI | CBT + Psychoed. | MHP | 2 | **Post intervention:** Significant differences in panic attack symptoms. |
| Skills for Academic and Social Success | Masia-Warner et al., 2005; **USA** | Adolescent (13-17 years; *M* = 14.8) | 42 | WL | Psychoed. + SST + Expos. | MHP | 12 + 2 booster | **Post intervention:** Significant differences in social anxiety symptoms. |
| Adolescent Coping with Stress Course | Dobson et al., 2010; **Canada** | Adolescent (13-18 years; *M* = 15.3) | 28 | AC | CBT | MHP | 15 | **Post intervention, 3- & 6-month follow-up:** No significant differences in anxiety symptoms. |
| - | Ginsburg & Drake, 2002 | Adolescent (14-17 years) | 12 | AC | CBT | Grad. | 10 | **Post intervention:** Significant differences in anxiety symptoms. |
| **Adolescence** | | | | | | | | |
| Stress Innoculation Training | Kiselica et al., 1994; **USA** | Adolescent (NR) | 48 | NI | CBT | MHP | 8 | **Post intervention & 1-month follow-up:** Significant differences in anxiety symptoms. |

Note. - = No program name. AC = Attention control, WL = Wait-list control, NI = No intervention control. CBT = Cognitive Behavioural Therapy, Commun. = Communication Skills, Expos. = Exposure, Psychoed. = Psychoeducation, SL = Social Learning, SST = Social Skills Training. Grad = Graduate student/intern, MHP = Mental Health Professional. Year-long = sessions presented weekly throughout the school year. NR = Not reported

**Table 7: School Based prevention and early intervention programs for anxiety**

**Table 8. School based prevention and early intervention programs for depression**

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| Penn Treatment Program | Rooney et al., 2006; **Australia** | Child (8-9 years) | 136 | NI | CBT | MHP | 8 | **Post intervention:** Significant differences in depressive symptoms. **9- & 18-month follow-up:** No significant differences in depressive symptoms. |
| Penn State Adolescent Study | Petersen et al., 1997; **USA** | Child (NR) | 335 | NI | Psychoed. | Grad. + MHP | 16 | **Post intervention, 6- & 12-month follow-up:** No significant differences in depressive symptoms. |
| Penn Prevention Program | Pattison & Lynd-Stevenson, 2001; **Australia** | Child + Adolescent (9-12 years; *M* = 10.4) | 66 | AC + NI | CBT | MHP | 10 | **Post intervention & 8-month follow-up:** No significant differences in depressive symptoms. |
| Learn Young, Learn Fair | Kraag et al., 2009; **Netherlands** | Child + Adolescent (9-12 years; *M* = 10.3) | 1,467 | WL | Stress Management | Teacher | 8 + 5 booster | **Post intervention & 9-month follow-up:** No significant differences in depressive symptoms. |
| FRIENDS | Lock & Barrett, 2003; Barrett et al., 2006; **Australia** | Child + Adolescent (9-16 years) | 737 | WL | CBT | MHP | 10 + 2 booster | **Post intervention, 24- & 36-month follow-up:** No significant differences in depressive symptoms. **12-month follow-up:** Significant differences in depressive symptoms. |
| | Barrett et al., 2005; **Australia** | Child + Adolescent (9-16 years) | 693 | NI | CBT | Grad. + MHP | 10 + 2 booster | **Post intervention & 12-month follow-up:** No significant differences in depressive symptoms. |
| | Barrett & Turner, 2001; **Australia** | Child + Adolescent (10-12 years; *M* = 10.8) | 489 | NI | CBT | MHP + Teacher | 10 + 2 booster | **Post intervention:** No significant differences in depressive symptoms. |
| | Lowry-Webster et al., 2001, 2003; **Australia** | Child + Adolescent (10-13 years) | 594 | WL | CBT | Teacher | 10 + 2 booster | **Post intervention:** Significant differences in depressive symptoms amongst students with elevated pre-intervention symptoms only. **12-months follow-up:** Significant differences in depressive symptoms. |

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| Aussie Optimism | Quayle et al., 2001; **Australia** | Child + Adolescent (11-12 years) | 47 | NI | CBT | Grad. | 8 | **Post intervention:** No significant differences in depressive symptoms. **6-months follow-up:** Significant differences in depressive symptoms. |
| | Roberts et al., 2010; **Australia** | Child + Adolescent (11-13 years) | 496 | NI | CBT | Teacher | 20 | **Post intervention, 6- & 18-month follow-up:** No significant differences in depressive symptoms. |
| Penn Resiliency Program | Chaplin et al., 2006; **USA** | Child + Adolescent (11-14 years; *M* = 12.2) | 208 | NI | CBT | MHP + Teacher | 12 | **Post intervention:** Significant differences in depressive symptoms. **12-months follow-up:** No significant differences in depressive symptoms. |
| | Gillham et al., 2007; **USA** | Child + Adolescent (11-14 years) | 463 | AC | CBT | Grad. + Teacher | 12 | **Post intervention & 6 to 18-month follow-up:** No significant differences in depressive symptoms. **24 to 36-month follow-up:** Significant differences in depressive symptoms. |
| | | Child + Adolescent (11-14 years) | 466 | NI | CBT | Grad. + Teacher | 12 | **Post intervention, 6- & 36-month follow-up**: No significant differences in depressive symptoms. **12 to 30-month follow-up:** Significant differences in depressive symptoms. |
| Norwegian Universal Preventive Program for Social Anxiety | Aune & Stiles, 2009; **Norway** | Child + Adolescent (11-14 years; *M* = 12.6) | 1,439 | NI | CBT + whole school approach | Teacher | 3 | **Post intervention:** No significant differences in depressive symptoms. |
| **Early Adolescence** | | | | | | | | |
| Problem Solving For Life | Spence et al., 2003, 2005; **Australia** | Adolescent (12-14 years; *M* = 12.8) | 1500 | NI | CBT | Teacher | 8 | **Post intervention:** Significant differences in depressive symptoms. **12 to 48-month follow-up:** No significant differences in depressive symptoms. |
| MOODGYM | Calear et al., 2009; **Australia** | Adolescent (12-17 years; *M* = 14.3) | 1,477 | WL | CBT | Teacher | 5 | **Post intervention & 6-month follow-up:** Significant differences in depressive symptoms for males only. |

**Table 8. School based prevention and early intervention programs for depression**

**Table 8. School based prevention and early intervention programs for depression**

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Early Adolescence** | | | | | | | | |
| Resourceful Adolescent Program | Rivet-Duval et al., 2011; **Mauritius** | Adolescent (12-16 years; *M* = 13.9) | 160 | WL | CBT + IPT | Teacher | 11 | **Post intervention:** Significant differences in depressive symptoms. **6-month follow-up:** No significant differences in depressive symptoms. |
| | Shochet & Ham, 2004; **Australia** | Adolescent (13-14years) | 2664 | NI | CBT + IPT | Teacher | 11 | **Post intervention & 12-month follow-up:** Significant differences in depressive symptoms. |
| Resourceful Adolescent Program-Kiwi | Merry et al., 2004; **New Zealand** | Adolescent (13-15 years; *M* = 14.2) | 392 | AC | CBT + IPT | Teacher | 11 | **Post intervention:** No significant differences in depressive symptoms. |
| *beyondblue* Schools Research Initiative | Sawyer et al., 2010a, 2010; **Australia** | Adolescent (13-14 years; *M* = 13.1) | 5,634 | NI | CBT + whole school approach | Teacher | 30 (10/year for 3years) | **1-year, 2-year & 5-year follow-up:** No significant differences in depressive symptoms. |
| LARS & LISA | Pössel et al., 2008; **Germany** | Adolescent (13-14 years; *M* = 13.68) | 301 | NI | CBT | Grad. + MHP | 10 | **Post intervention & 6-month follow-up:** No significant differences in depressive symptoms. |
| LISA-T | Pössel et al., 2004; **Germany** | Adolescent (13-14 years; *M* = 14.0) | 347 | NI | CBT | Grad. + MHP | 10 | **Post intervention, 3- & 6-month follow-up:** No significant differences in depressive symptoms. |
| Coping with Stress Course | Horowitz et al., 2007; **USA** | Adolescent (14-15 years; *M* = 14.4) | 281 | NI | CBT + Psychoed. | Grad. | 8 | **Post intervention:** Significant differences in depressive symptoms. **6-month follow-up:** No significant differences in depressive symptoms. |
| Interpersonal Psychotherapy-Adolescent Skills Training | Horowitz et al., 2007; **USA** | Adolescent (14-15 years; *M* = 14.4) | 268 | NI | IPT + Psychoed. | Grad. | 8 | **Post intervention:** Significant differences in depressive symptoms. 6-month follow-up: No significant differences in depressive symptoms. |
| Problem Solving For Life | Sheffield et al., 2006; **Australia** | Adolescent (13-15 years; *M* = 14.3) | 1045 | NI | CBT | Teacher | 8 | **Post intervention & 12-month follow-up:** No significant differences in depressive symptoms. |
| **Adolescence** | | | | | | | | |
| - | Bonhauser et al., 2005; **Chile** | Adolescent (15-16 years) | 198 | NI | Exercise | Teacher | Year-long | **Post intervention:** No significant differences in depressive symptoms. |
| Anxiety Management Training | Hains, 1992; **USA** | Adolescent (15-16 years) | 16 | WL | Relaxation | Grad. + Researcher | 9 | **Post intervention:** Significant differences in depressive symptoms. |

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Adolescence** | | | | | | | | |
| Stress Inoculation Training | Hains, 1992; **USA** | Adolescent (15-16 years) | 17 | WL | CBT | Grad. + Researcher | 9 | **Post intervention:** Significant differences in depressive symptoms. |
| | Hains & Szyjakowski, 1990; **USA** | Adolescent (16-17 years) | 21 | WL | CBT | Researcher | 9 | **Post intervention:** No significant differences in depressive symptoms. |
| | Hains & Ellmann, 1994; **USA** | Adolescent (NR) | 21 | WL | CBT | Grad. + MHP | 13 | **Post intervention:** Significant differences in depressive symptoms amongst students with elevated pre-intervention symptoms only. |
| - | Clarke et al. ,1993: Study 1; **USA** | Adolescent (*M*= 15.3 years) | 513 | NI | Psychoed. | Teacher | 3 | **Post intervention & 3-month follow-up:** No significant differences in depressive symptoms. |
| - | Clarke et al., 1993: Study 2; **USA** | Adolescent (*M* = 15.1 years) | 300 | NI | BT + Psychoed. | Teacher | 5 | **Post intervention & 3-month follow-up:** No significant differences in depressive symptoms. |
| - | Ruini et al., 2006.; **Italy** | Adolescent (*M* = 13.0 years) | 111 | AC | Wellbeing Therapy | MHP | 4 | **Post intervention:** No significant differences in depressive symptoms. |
| **Selected/Indicated Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| Wisconsin Early Intervention | King & Kirschenbaum, 1990; **USA** | Child (*M* = 8.0 years) | 127 | NI | Social Skills | PP | 24 | **Post intervention:** Significant differences in depressive symptoms. |
| Children's Support Group | Stolberg & Mahler, 1994; **USA** | Child (8-12 years; *M* = 9.8) | 129 | NI | CBT | Grad. + MHP | 14 | **Post intervention & 12-month follow-up:** No significant differences in depressive symptoms. |
| Primary and Secondary Control Enhancement Training | Weisz et al., 1997; **USA** | Child (M = 9.6 years) | 48 | NI | CBT | Grad. | 8 | **Post intervention & 9-month follow-up:** Significant differences in depressive symptoms. |
| The Feelings Club | Manassis et al., 2010; **Canada** | Child (NR) | 148 | AC | CBT | Grad. + MHP | 12 | **Post intervention & 12-month follow-up:** No significant differences in depressive symptoms. |

**Table 8. School based prevention and early intervention programs for depression**

**Table 8. School based prevention and early intervention programs for depression**

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Selected/Indicated Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| Penn Resiliency Program | Cardemil et al., 2002, 2007: Study 1 (Latino); **USA** | Child (NR) | 48 | NI | CBT | Grad + Researcher | 12 | **Post intervention & 3 to 24-month follow-up:** Significant differences in depressive symptoms. |
| | Cardemil et al., 2002, 2007: Study 2 (African American); **USA** | Child (NR) | 103 | NI | CBT | Grad. + Researcher | 12 | **Post intervention & 3 to 24-month follow-up:** No significant differences in depressive symptoms. |
| | Cutuli et al., 2006; **USA** | Child + Adolescent (*M* = 12.0) | 56 | NI | CBT | NR | 12 | **Post intervention & 6 to 36-month follow-up:** Significant differences in depressive symptoms. |
| | Gillham et al., 2006; **USA** | Child + Adolescent (NR) | 44 | NI | CBT | Researcher | 8 | **Post intervention:** No significant differences in depressive symptoms.<br>**6- & 12-month follow-up:** Significant differences in depressive symptoms. |
| Penn Optimism Program | Yu & Seligman, 2002: Study 3; **USA** | Child + Adolescent (8-15 years; *M* = 11.7) | 220 | NI | CBT | Teacher | 10 | **Post intervention, 3- & 6-month follow-up:** Significant differences in depressive symptoms. |
| Aussie Optimism | Roberts et al., 2003, 2004; **Australia** | Child + Adolescent (11-13 years; *M* = 11.9) | 189 | NI | CBT | MHP | 12 | **Post intervention & 6 to 30-month follow-up:** No significant differences in depressive symptoms. |
| FRIENDS | Hunt et al., 2009; **Australia** | Child + Adolescent (11-13 years; *M* = 12.1) | 260 | NI | CBT | MHP + Teacher | 10 + 2 booster | **2- & 4-year follow-up:** No significant differences in depressive symptoms. |
| | Balle et al., 2010; **Spain** | Child + Adolescent (11-17 years; *M* = 13.6) | 92 | WL | CBT | Grad. | 6 | **Post intervention:** No significant differences in depressive symptoms. |
| Interpersonal Psychotherapy-Adolescent Skills Training | Young et al., 2006; **USA** | Child + Adolescent (11-16 years; *M* = 13.4) | 41 | NI | IPT + Psychoed. | Grad. + Researcher | 10 | **Post intervention, 3- & 6-month follow-up:** Significant differences in depressive symptoms. |

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Selected/Indicated Interventions** | | | | | | | | |
| **Early Adolescence** | | | | | | | | |
| Personality-Target Cognitive-Behav-ioural Intervention | Castellanos & Conrod, 2006; **UK** | Adolescent (13-16 years) | 423 | NI | CBT + Psychoed. | MHP | 2 | **Post intervention**: No significant differences in depressive symptoms. |
| Interpersonal Psychotherapy-Adolescent Skills Training | Young et al., 2010; **USA** | Adolescent (13-17 years; *M* = 14.5) | 57 | AC | IPT | MHP + Researcher | 10 | **Post intervention & 6-month follow-up**: Significant differences in depressive symptoms and diagnosis rates. **12- & 24-month follow-up**: No significant differences in depressive symptoms and diagnosis rates. |
| Adolescent Coping with Stress Course | Dobson et al., 2010; **Canada** | Adolescent (13-18 years; *M* = 15.3) | 28 | AC | CBT | MHP | 15 | **Post intervention, 3-, 6-month follow-up:** No significant differences in depressive symptoms. |
| Adolescent Coping with Emotions | Sheffield et al., 2006; **Australia** | Adolescent (13-15 years; *M* = 14.3) | 629 | NI | CBT | Teacher | 8 | **Post intervention & 12-month follow-up**: No significant differences in depressive symptoms. |
| Coping with Stress Course | Clarke et al., 1995; **USA** | Adolescent (14-16 years; *M* = 15.3) | 172 | NI | CT | MHP | 15 | **Post intervention**: Significant differences in depressive symptoms. **6- & 12-month follow-up**: No significant differences in depressive symptoms. |
| - | Arnarson & Craighead, 2009, 2011; **Iceland** | Adolescent (14-15 years) | 171 | NI | CBT + IPT | MHP | 14 | **Post intervention, 6- & 12-month follow-up**: Significantly reduced the risk of developing a first episode of depression or dysthymia. |
| Teaching Kids to Cope | Puskar et al. 2003; **USA** | *Adolescent (14-18years; M = 16.0))* | *89* | *NI* | *CBT* | *Nurse* | *10* | **Post intervention & 6-month follow-up**: Significant differences in depressive symptoms. **12-month follow-up**: No significant differences in depressive symptoms. |
| - | Lamb et al. 1998; **USA** | Adolescent (14-19 years; *M* = 15.8) | 41 | NI | CBT | Nurse | 8 | **Post intervention**: Significant differences in depressive symptoms for females only. |
| - | Stice et al. 2008, 2010; **USA** | Adolescent (14-19 years; *M* = 15.6) | 341 | NI | CBT | Grad. | 6 | **Post intervention, 6- & 12-month follow-up**: Significant differences in depressive symptoms. Marginally non significant at 24-month follow-up. |
| | | | | AC | CBT | Grad. | 6 | **Post intervention, 12- & 24-month follow-up**: Significant differences in depressive symptoms (bibliotherapy attention control). |

**Table 8. School based prevention and early intervention programs for depression**

**Table 8. School based prevention and early intervention programs for depression**

| Program | Trial citation Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome (intervention vs. control) |
|---|---|---|---|---|---|---|---|---|
| **Selected/ Indicated Intervention** | | | | | | | | |
| **Adolescence** | | | | | | | | |
| - | Stice et al. 2006; **USA** | Adolescent (15-22 years; *M* = 18.4) | 117 | WL | CBT | Grad. | 4 | **Post intervention & 1-month follow-up:** Significant differences in depressive symptoms. **6-month follow-up:** No significant differences in depressive symptoms. |
| Adolescent Transition Program | Connell & Dishion 2008; **USA** | Adolescent (NR) | 106 | NI | Life Skills | Lay person | 6 | **Post intervention:** Significant differences in depressive symptoms for females only. |

*Note*. - = No program name. AC = Attention control, WL = Wait-list control, NI = No intervention control. BF = Biofeedback, BT = Behaviour Therapy, CBT = Cognitive Behavioural Therapy, CT = Cognitive Therapy, IPT = Interpersonal Therapy, Psychoed. = Psychoeducation. Grad = Graduate student/intern, MHP = Mental Health Professional. Year-long = sessions presented weekly throughout the school year. NR = Not report

**Table 9. School based prevention and early intervention programs for alcohol (± tobacco) 2001 onwards**

| Program | Trial (Citation); Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Universal Interventions | | | | | | | | | | | |
| **Childhood** = Kindergarten to Grade 5 (5-11 years) | | | | | | | | | | | |
| Positive Action Program | Beets (Beets et al., 2009); USA, Hawaii | 5th-6th grade | 20 | 1714 | UC | Social & character development + school wide climate changes + family + community involvement. | Teachers (with training): | 140 (35 hours) | Alcohol, tobacco | Significantly lower substance use (NB also assessed violence & sexual risk behaviour). | 5 years |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| - | Koning (Koning et al., 2009); Netherlands | (M= 12.68) | 19 | 2937 | UC | Student intervention (SI) e-learning on alcohol attitudes & refusal: Parent intervention (PI) – targeting parental rules for alcohol use: Combined SI +PI. | Teacher (with training) | PI 1 session + booklet: SI 4 sessions | Alcohol | Combined SI +PI significantly reduced heavy drinking at 10 months and weekly drinking to 22 months. | 10, 22 months |
| - | Morgenstern (Morgenstern et al., 2009); Germany | 7th grade | 30 | 1686 | UC | Beliefs on conse-quence of use: media literacy, resistance skills and norms. | Teachers | 4 | Alcohol | No significant effects bar life-time binge drinking. | 4, 12 months |
| - | Werch (Werch et al., 2003a); USA | 8th grade | 3 | 465 | 3 interven tion groups | Sport<br>Sport + Alcohol<br>Sport + Alcohol +Parent. | Nurse-delivered consultation | 1 + 5 parental mailed messages | Alcohol | All groups showed significant declines in alcohol problems. | 3 months |
| ATP | Dishion (Dishion et al., 2002); USA | 6th grade | 3 | 672 | ? control | Universal, selected and indicated level interventions. | Project staff | Minimum 6 session | Alcohol & tobacco combined | Significant reduction in combined alcohol / tobacco use. | 4 years post baseline |

**Table 9. School based prevention and early intervention programs for alcohol (± tobacco) 2001 onwards**

**Table 9. School based prevention and early intervention programs for alcohol (± tobacco) 2001 onwards**

| Program | Trial (Citation); Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| CLIMATE | Vogl (Vogl et al., 2009); Australia | (M=13) | 16 | 1466 | UC | Computerised: social influence / harm min. | Teacher | 6 | Alcohol | Females: Reduced alcohol use, harms & fq excess drinking: males: no effect | 6, 12 months |
| Going Places Program | Simons-Morton (Simons-Morton et al., 2005); USA | 6th-8th grade | 7 | 2651 | ? control | Social skills to prevent problem behaviors + parent education + school environment | Teachers (with training) | 18 + 12 +6 | Alcohol, tobacco (other problem behaviors) | Significant effect on smoking stage but no effect on alcohol | 9th grade |
| Project HRIDAY | Reddy (Reddy et al., 2002); India | (12 years) | 30 | 5043 | UC | School based (health behaviours & non-smoking) versus school + family intervention (+ family booklets | Teachers with training | Unclear (up to 20 classroom activities) | Tobacco (alcohol use assessed but not targeted) | Both interventions reduced tobacco & alcohol use. | End of 8th grade (mean 12.9 years) |
| RFP | Shortt (Shortt et al., 2007); Australia | Year 7 (mean 12.3 years) | 24 | 2315 | ? control | Problem solving, communication, emotional awareness, resistance skills + parental intervention | Teachers + professionally facilitated parent sessions | 10 + parent sessions | Alcohol | No significant effect on alcohol use | 12 months |
| SHAHRP | McBride ‡(McBride et al., 2004); Australia | (13-14 years) | 14 | 2343 | UC | Harm minimisation – skill based activities and strategies | Teachers (with training) | 13 | Alcohol | Significant difference in use to 20 months: significant difference in risky use to 32 months | 32 months post baseline |
| STARS FP | Werch (Werch et al., 2001); (Werch et al., 2003b); USA | 6th grade | 2 | 650 | Minimal intervention booklet | Health consultations – stage matched prevention messages | Nurse (with training) | 2 consult-ations + parent activities | Alcohol | No significant differences | 12 months |

| Program | Trial (Citation); Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| STHTP | Komro (Komro et al., 2006); USA | 6th-8th grade | 59 | 3623 | ? control | Adapted Project Northland for cross cultural use. | Teachers + peer leaders | 6 class session + 4 home | Alcohol | No significant differences on combined alcohol use & intention to use scale) | End grade 6 |
| **Adolescence** = Grade 9-12 (15-18) years | | | | | | | | | | | |
| - | Peleg (Peleg et al., 2001); Israel | 10th grade | 7 | 1000 | ? control | Social learning theory focused on personal, moral & social processes. | Teachers, counsellors (with training) | 3 days + parental & com-munity activities | Alcohol | Significantly lower alcohol consumption. | 2 years |
| AMPS | Shope (Shope et al. 2001); USA | 10th grade | 6 districts | 6081 (NB sample licensed 4635) | UC | Information, risks, pressures to misuse. | Project staff | 5 | Alcohol (serious driving offences / crashes) | Marginal effect on serious offences to one year. | 7 years |
| -- | Elder (Elder et al., 2002); USA | Not reported | 22 | 660 | Attention control | Identification, analysis, solution and evaluation of problems + parental skills. | Bilingual group leaders (with training) | 8 + 3 booster phone calls + 3 news-letters | Alcohol, tobacco | No effect on alcohol or tobacco use (floor effects noted). | 1, 2 years |
| **Indicated Interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14) years | | | | | | | | | | | |
| - | Conrod (Conrod et al., 2008); UK | (mean 14 years) | 13 | 368 (screened / 'high-risk' con-sented) | UC | Psycho-educational, motivational, behavioural & cognitive coping skills. | Program therapists | 2 | Alcohol | Binge drinking was reduced at 6 but not 12 months. | 6,12 months |

**Table 9. School based prevention and early intervention programs for alcohol (± tobacco) 2001 onwards**

**Table 9. School based prevention and early intervention programs for alcohol (± tobacco) 2001 onwards**

| Program | Trial (Citation); Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Indicated Interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14) years | | | | | | | | | | | |
| Adventure Trial | O'Leary-Barrett (O'leary-Barrett et al., 2010); UK | (mean 13.7 years) | 18 | 2650 (1159 high-risk criteria) | UC | Psycho-educational, behavioural & cognitive coping skills. | Teachers (with training) | 2 | Alcohol | Significant reductions in drinking and quantity*fq score. | 6 months |
| PN | Perry (Perry et al., 2002); USA | 6th-8th grade | 24 school districts | 3151 (high-risk schools) | Delayed program | Social behavioural curriculum + parental, community & media interventions. | Teachers, peers, community | Phase 1- grades 6-8 multi element grade 9 5 sessions: Phase 2- grades 11-12 multi element | Alcohol | Reduced alcohol use to grade 9. | 7 years post baseline |
| **Adolescence = Grade 9-12 (15-18) years** | | | | | | | | | | | |
| - | Conrod (Conrod et al., 2006); Canada | 9th-12th grade (14-17) | 9 | 297 (screened / 'high-risk' consented) | UC | Psycho-educational, behavioural & cognitive coping skills. | Program therapists | 2 | Alcohol | Reduced alcohol use. | 4 months |
| - | Werch (Werch et al., 2005); USA | 11th-12th grades | 1 | 326 (232 baseline drinkers enrolled) | | Motivational approach, feedback, norms, alcohol misuse. | Project staff | 1 + 'tips sheet' | Alcohol | No significant main effects – some evidence for reduced use of malt liquor. | 4 months |

‡ (randomised schools but 1 changed condition: described as quasi-experimental design)
AAYP = Aban Aya Youth Project: ALERT = America's Law Enforcement Retiree Team: AMPS = Alcohol Misuse Prevention Study: ATHENA = Athletes Targeting Healthy Exercise & Nutrition Alternatives: ATP = Adolescent transition Program: BRAVE = Building Resiliency and Vocational Excellence Program: CASPAR = (not defined): CPP = Coping Power Program: fq = frequency: DARE = Drug Abuse Resistance Education: DARE-A = Drug Abuse Resistance Education – Abbreviated: GBG=Good Behavior Game: GHP= GateHouse project: HRIDAY = Health-related Information & Dissemination Among Youth: ISFP = Iowa Strengthening Families Program: KiR = *keepin' it* REAL (Refuse, Explain, Avoid, Leave): LIFT = Linking the Interests of Families and Teachers: LST = Life Skills Training: LST+SFP Life Skills Training+ Strengthening Families Program for Parents and Youth : MET = Motivational Enhancement Therapy: PI = Parent intervention: PN = Project Northland: PNC = Project Northland Chicago: Recon Youth = Reconnecting Youth: RFP = Resilient Families Program: RHC = Raising Health Children: RSTP = Risk Skills Training Program: SFA = Skills for Adolescence: SFP = Strengthening Families Program for Parents and Youth. SI = Student intervention: SHAHRP = School Health & Alcohol Harm Reduction Project: STARS FP = Start Taking Alcohol Risks Seriously for Families Program: STHTP = Slick Tracy Home Team Program: TCYL = Take Charge of Your Life: TND = Towards No Drug: UC = usual curricula: ? control = control mentioned but not described.

**Table 10. Systematic reviews of school based alcohol interventions 2001 onwards**

| Review Citation | Review period | Grade (age) range | Studies | Random / non-random | Review content | Findings |
|---|---|---|---|---|---|---|
| Elder (Elder et al., 2005) | - 2002 | 9th grade - college students | 19 | Not reported | School based programs related to drink driving. | Not supported: insufficient evidence to determine effectiveness of the program and peer organisations/social norming campaigns |
| Foxcroft (Foxcroft et al., 2003). | - 2001 | Up to 25 years | 56 | 41/14 | Primary prevention (universal) programs | Research into important outcome variables needs to be undertaken and methodology of evaluations needs to be improved |
| Foxcroft (Foxcroft et al., 2002) | - 2002 | <25 | 56 | 41 / 15 | Primary prevention (universal) programs. | (Combines generic drug programs and alcohol specific programs: does not report on school based studies separately from other settings.) No firm conclusions about the effectiveness of interventions in the short/medium term. Over the long-terms, some programs are promising. |
| NCETA (National Centre for Education and Training on Addiction, 2010) | 1998 -2009 | ≈ 11-18 years | 64 | Not reported | Secondary school alcohol programs. | (Secondary schools only). Three programs developed in Australia are identified as having good or reasonable levels of effectiveness (*GateHouse Project, CLIMATE schools, SHARPE Program*). |
| Wood (Wood et al., 2006) | 2000-2004 | 5th-12th (10-17 years) | 16 | 11 / 5 | School + community or parental interventions. | Most studies only involved school + parents. Limited effectiveness for school based interventions. Provisional support for wider community involvement. |

**Table 11. Systematic reviews of school based drug interventions 2001 onwards**

| Review Citation | Review period | Grade (age) range | Studies | Random / non-random | Review content | Drugs targeted | Findings |
|---|---|---|---|---|---|---|---|
| Bergsma (Bergsma and Carney, 2008) | 1990-2006 | Children–college students | 28 | 0 / 28 | General review of media literacy education. | Alcohol, tobacco | Provides framework for evaluating media literacy programs |
| Buckley (Buckley and White, 2007) | 1990-2003 | 3-16yrs | 114 | ? /114 | Assessed external contributors (e.g. police, nurses, researchers). | AOD | Supported: external contributors: not supported - insufficient evidence to judge a particular contributor as most effective |
| Cuijpers (Cuijpers, 2002) | 1983-2001 | - | 3 reviews addressing different elements | - | Assessed meta-analyses, mediating variables, specific characteristics | AOD | 7 evidenced based quality criteria are suggested derived from the literature |
| Faggiano (Faggiano et al., 2008b) | 1963-2004 | 1st-11th | 32 | 29 / 3 | Review of primary prevention (Universal) programs. | Illicit (e.g. cannabis, stimulants, inhalants, opiates) | Supported: Skills based programs: Not supported affective programs: Knowledge based programs improve knowledge but not drug use. |
| Faggiano (Faggiano et al., 2008c) | 1963-2004 | Primary & Secondary | 29 | 29/0 (only 14 contribute to meta analysis) | RCT of any intervention program (universal). | Illicit | Skills based programs appear to be effective in deterring early-stage drug use. Neither affective nor knowledge based programs reduce drug use. |
| Fletcher (Fletcher et al., 2008) | ? - 2008 | (10-16 years) | 22 | 3 / 19 | Impact of "whole of school" interventions on drug use | illicit | Improving school environments is associated with positive outcomes including reduced drug use (especially for boys). |
| Gottfredson (Gottfredson and Wilson, 2003) | ? - 2003 | Late primary to senior. | 94 | Statistically controlled for quality | Universal/targeted interventions for drug use. | AOD | Supported: target middle-school; peer only lead programs. Too few studies on 'high-risk' groups to draw strong conclusions |
| McBride (McBride, 2003) | 1997-2001 primary studies 1990-2001 Meta-review | - | 5 studies<br><br>11 reviews | - | Components for effective drug education programs. | AOD | Effective programs are available and should be implemented. |
| Petrie (Petrie et al., 2007) | 1978-2003 | Primary & Secondary | 20 | 16/4 | Review of parental programs to reduce AOD use. | AOD | Parental programs can be effective, especially those with an emphasis on parental involvement |

| Review Citation | Review period | Grade (age) range | Studies | Random / non-random | Review content | Drugs targeted | Findings |
|---|---|---|---|---|---|---|---|
| Soole (Sooleet al., 2008) | 1990-2005 | Primary & Secondary | 58 | 32/26 | Drug prevention programs (universal to indicated) | Illicit | Successful approaches identified include skills training, social influence and competency enhancement. |
| Soole (Soole et al., 2005) | 1990-2005 | Primary & Secondary | 58 | Not reported | Drug prevention programs (universal to indicated). | Illicit | Supported: universal, interactivity, more intensive, teacher-delivered, middle school age group. Not supported: booster sessions and multifaceted drug prevention programs. Provides an Australian perspective. |

**Table 11. Systematic reviews of school based drug interventions 2001 onwards**

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal interventions** | | | | | | | | | | | |
| **Childhood =** Kindergarden to Grade 5 (5-11 years) | | | | | | | | | | | |
| FSP | Furr-Holden (Furr-Holden et al., 2004); **USA** | 1st grade | 9 | >566 | UC | Family-school partnership (FSP) versus Classroom centred (CC). | Teachers (with training). | Integrated into curriculum: FSP + parent workshops | Alcohol, tobacco, cannabis, inhalants, illicit drugs. | Both CC & FSP reduced tobacco use: CC reduced other illicit drug use (excluding cannabis). | 7 years |
| Good Behaviour Game | Kellam (Kellam et al., 2008); **USA** | 1st-2nd grade | 19 | 1196 | UC | Socialise to role of student, regulated own & others behavior with behavior con-tingent rewards. | Teachers (with training). | Inter-mittently over 2 years | DSM-IV alcohol, drugs + regular tobacco. | Significant reductions in dependence and abuse of drugs, alcohol & regular smoking though less effect in females. | Age 19-21 years |
| kiR (keeping it Real) | Hecht (Hecht et al., 2008); **USA** | 5th grade | 23 | 1566 | UC | Norms, self-efficacy, decision-making & resistance. | Teachers. | 12 + booster | Alcohol, tobacco, cannabis, inhalants. | No significant effect of prevalence of drug use. | 1-2 months & end of grade 6 |
| kiR | Elek (Elek et al., 2010); **USA** | 5th or 7th grade or 5th & 7th grade | 29 | 1984 | UC | Norms, self-efficacy, decision-making & resistance (± Acculturation Enhancement). | - | 12 + booster | Alcohol, tobacco, cannabis, inhalants. | Overall no benefits & some negative outcomes (increased substance use). | 1-2 years |
| LIFT | DeGarmo (DeGarmo et al., 2009); **USA** | 1st or 5th grade | 12 | 671 (NB paper reports 5th grade only 361) | UC | Multiple elements, social & problem-solving skills, GBG, parental involvement. | Unclear. | Unclear + parental session + | Alcohol, tobacco, cannabis, telephone calls. | Slowed rate of growth of tobacco & illicit drugs & average levels of alcohol, tobacco, illicit drugs. | 12th grade |
| Think Smart | Johnson (Johnson et al., 2009); **USA** (Alaska) | 5th-6th grade | 14 | 462 | ? control | Norms / cultural identity, problem-solving, self-assertiveness skills. | Teacher (with training). | 12 + 3 | Harmful legal products, alcohol, tobacco, other drugs. | Reduced use of harmful legal products but not tobacco, cannabis or alcohol. | 6 months |

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| ALERT Plus | Longshore (Longshore et al., 2006); USA | 7th-8th grade | 45 | 4689 | UC | ALERT = Motivation, resistance skills, increased attitudes & beliefs to mitigate use: ALERT Plus = booster sessions using same approaches. | Teacher (with training) ± National Youth Anti-drug campaign. | ALERT 8+5 ALERT Plus 8+5+5+5 | Alcohol, tobacco, cannabis. | Potential synergistic effect of media campaign plus school program on cannabis. | End 9th grade |
| All Stars | McNeal (McNeal et al., 2004); USA | (mode 12 years) | 14 | 2289 | UC | Norms, lifestyle incongruence, commitment not to use, school bond. | Teachers (with training): experts: peers. | 14 class, 4 small group & 4 1-on-1 | Alcohol, tobacco, cannabis, inhalants. | Teacher & specialist interventions, reduced cannabis: teachers reduced tobacco use. | End of year |
| CLIMATE | Newton (Newton et al., 2009); Australia | (13 years) | Year 8 (13 years) | 764 | UC | Computerised: social influence / harm min. | Teacher. | 2 * 6 | Alcohol, cannabis. | Reduced alcohol use and cannabis fq. | 6 months |
| CLIMATE | Newton (Newton et al., 2010); Australia | Year 8 (13 years) | 10 | 764 | UC | Computerised: social influence / harm min. | Teacher (manual only). | 2 * 6 | Alcohol, cannabis. | Decreased average alcohol & alcohol to excess. | 12 months |
| DARE | Perry (Perry et al., 2003); USA | 7th grade | 24 | 6237 | ? control | DARE = resistance skills, character-building, citizenship skills: DARE Plus = Peer + parent on skills relating to peers, social groups, media. | DARE = police: DARE Plus = police. | DARE = 10: DARE Plus = 4 + postcards + after school events + com-munity activities | Alcohol, tobacco, cannabis, multi drugs. | In boys only DARE Plus reduced alcohol and tobacco use. | End 8th grade |

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| EU-Dap | Faggiano (Faggiano et al., 2008a); 7 European | (12-14 years) | 170 | 7079 | UC | Social influence approach (SIA) v SIA + peers + parent component. | Teachers (with training). | 12 | Alcohol, tobacco, illicit drugs. | At 18 months significant reduction in alcohol and cannabis measures not tobacco. | 3 months |
| EU-Dap | Faggiano (Faggiano et al., 2010); 7 European | (12-14 Years) | 170 | 7079 | UC | Social influence approach (SIA) v SIA + peers + parent component. | Teachers (with training). | 12 | Alcohol, tobacco, illicit drugs. | At 18 months significant reduction in alcohol and cannabis measures not tobacco. | 18 months |
| GHP | Bond (Bond et al., 2004b); Australia | 8th grade | 26 | 2678 | ? control | Social & emotion skill, improved inclusive relationship. Whole of school approach – not drug focused. | Teachers (with training). | 20 | Alcohol, tobacco, cannabis. | Non-significant reductions in cannabis use by Year 10 found. | 6, 18, 30 months |
| GHP | Patton (Patton et al., 2006); Australia | 8th grade | 25 | 2678 | ? control | Social & emotion skill, improved inclusive relationship. Whole of school approach – not drug focused. | Teachers (with training). | 20 | Alcohol, tobacco, cannabis. | No significant effect of substance use – significant reduction in combined risky behavior (includes substance use). | 4 years |
| ISFP | Spoth (Spoth et al., 2001); USA | 6th grade | 33 | 667 | Minimal contact – 4 leaflets | ISFP = risk and protective factors: PDFY – family competence training. | Trained imple-menters. | ISFP - 7 PDFY- 5 | Alcohol, tobacco, cannabis. | Significantly lower alcohol use (ISFP & PDFY) and tobacco (ISFP). | 48 months |
| ISFP | Spoth (Spoth et al., 2006); USA | Study 1 6th grade Study 2 7th grade | Study 1 33 Study 2 36 | Study 1 667 Study 2 1632 | Minimal contact – 4 leaflets | Combined cohorts (Spoth et al., 2009) Study 1 (Spoth et al., 2008b) Study 2. | PDFY, ISFP & SFP – project staff LST – teachers (with training). | Study 1 ISFP = 7 PDFY = 5 Study 2 LST = 15 SFP = 7 | Meth-ampheta-mines only assessed post baseline. | Some support for ISFP, SFP and LST programs in reducing methamphetamine use. | Study 1 6.5 years Study 2 4.5-5.5 years |

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| ISFP | Spoth (Spoth et al., 2008b); USA | 7th grade | 36 | 1677 | Minimal contact -4 leaflets | LST = social resistance / skills, self-management information LST+SFP = Parent & youth skills building. | Teachers (with training): SFP-Project staff. | LST = 15 +5 booster SFP = 7 | Alcohol, tobacco, cannabis. | Significant outcomes for key drug types for both LST and LST + SFP conditions. | 5.5 years post baseline |
| ISFP | Spoth (Spoth et al., 2008a); USA | Study 1 6th grade Study 2 7th grade | Study 1 33 Study 2 36 | Study 1 667 Study 2 1632 | Minimal contact -4 leaflets | Combined cohorts (Spoth et al., 2009; Spoth et al., 2001) Study 1 (Spoth et al., 2008b) Study 2. | PDFY, ISFP & SFP – project staff LST – teachers (with training. | Study 1 ISFP =7 PDFY = 5 Study 2 LST = 15 SFP = 7 | Pre-scription drug misuse (narcotics, barb-iturates). | ISFP but not PDFY – young adults significant reductions in narcotics and barbiturate. 12th grade no significant differences. | Study 1 aged 21 years Study 2 Grade 12 |
| ISFP | Spoth (Spoth et al., 2004; Spoth et al., 2009); USA | 6th grade | 33 | 667 | Minimal contact -4 leaflets | ISFP = risk and protective factors: PDFY = family competence training. | Trained imple-menters. | ISFP – 7 PDFY - 5 | Alcohol, tobacco, illicit drugs. | ISFP 19%-31% reduction PDFY 9%-16% reduction. ISFP showed significant effect on lifetime use of alcohol, tobacco & cannabis. | 18, 30, 48, 72 months (plus at age 21) |
| kiR | Hecht (Hecht et al., 2003); USA | 7th grade | 35 | 4234 | UC + media campaign | Three cultural adaptations were trialed. | Teachers (with training). | 10 + booster + media campaign | Alcohol, Tobacco, cannabis. | Significant benefits for alcohol, tobacco and cannabis use. | 48 months post baseline |
| kiR | Kulis (Kulis et al., 2007); USA | 7th-8th grade | 35 | 1364 (drug users at baseline) | UC | Norms, self-efficacy, decision making & resistance. | Teachers. | > 10 | Alcohol, tobacco, cannabis. | Significantly more intervention reduced or discontinued alcohol use and combined drug use: no effect tobacco or cannabis. | 2, 8, 14 months |

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| LST | Botvin (Botvin et al., 2001a); USA | 7th grade | 29 | 5222 | UC | Drug resistance, norms, personal & social skills. | Teachers (with training). | 15 +10 booster | Alcohol, tobacco, cannabis, inhalants. | At 12 months, significant reductions for tobacco, alcohol, cannabis & poly drug measures. | 3,12 months |
| LST | Botvin (Botvin et al., 2001b); USA | 7th grade | 29 | 5233 | UC | Resistance skills, norms, personal & social skills. | Teachers (with training). | 15 + 10 booster | Alcohol, drug use. | Reduced binge drinking – other drug use outcomes not reported. | 1, 2 years |
| LST | Griffin (Griffin et al., 2003); USA | 7th grade | 29 | 758 (high risk sub sample) | UC | Resistance skills, norms, personal & social skills. | Teachers (with training). | 15 + 10 booster | Alcohol, tobacco, cannabis, inhalants. | Significant effects on smoking alcohol & poly drug use. | 12 months |
| LST | Griffin (Griffin et al., 2004); USA | 7th grade | 29 | 2042 (sub sample) | UC | Resistance skills, norms, personal & social skills. | Teachers (with training). | As above | As above. | A protective effect on recorded traffic violations. | 6 years |
| MPP | Riggs (Riggs et al., 2009); USA | 6th-7th grade | 8 | 1002 (sub-study) | UC | Resistance skills, norms, parent-child homework. (NB also included community elements). | Teachers (with training). | 10-13 + 5 booster | Alcohol, tobacco, cannabis. | Reduced prevalence of stimulant use. (NB measures of stimulants started in high school). | To age 28 years |
| PNC | Komro (Komro et al., 2008); USA | 6th-8th grade | 61 | 4259 | UC | Targets personal, social & environmental factors impacting alcohol use. | Teacher (with training). | 6-10 + 4 home based * 3 years | Alcohol, tobacco, cannabis. | No significant effect on growth curves for alcohol or drugs. | Each year post intervention |
| Project ALERT | Ellickson (Ellickson et al., 2003); USA | 7th-8th grade | 55 | 4689 | UC | (Basic ALERT v ALERT + booster) Norms, consequences, self-efficacy. | Teacher (with training). | 11 + 3 v 11 + 3 + 10 | Alcohol, tobacco, cannabis. | Significant effects for tobacco, cannabis and high-risk alcohol users. | 18 months |

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| Project ALERT | St Pierre (St Pierre et al., 2005); USA | 7th-8th grade | 8 | 1649 | ? control | ALERT – adult lead versus ALERT adult & peer lead. | Project staff with ALERT training + peers. | 11 + 3 | Alcohol, tobacco, cannabis. | No significant effect on any substance. | 3 years post baseline |
| Project ALERT | Ellickson (Ellickson et al., 2009); USA | 7th to 8th grade | 55 | 1901 (sexually active non-married) | UC | (Basic ALERT v ALERT + booster) Norms, consequences, self-efficacy. | Teacher (with training) | 11 + 3 v 11 + 3 + 10 | Alcohol, tobacco, cannabis. | Reduced risky sex due to drug / alcohol use. | 5-7 years |
| Project ALERT | Ringwald (Ringwalt et al., 2009); USA | 6th to 8th grade | Cohort 1 = 10 Cohort 2 = 30 | Cohort 1 1128 Cohort 2 5084 | UC | Motivation, resistance skills, increase attitudes & beliefs to mitigate use. | Teachers (with training). | 11 + 3 | Alcohol, tobacco, cannabis, inhalants. | Alcohol showed desired effect: overall ALERT deemed ineffective. | 30 days |
| Project ALERT | Ringwald (Ringwalt et al., 2010); USA | 6th-7th grade | 34 | 6040 | ? control | Motivation, resistance skills, benefits of non-use. | Teacher (with training.) | 11 + 3 booster | Alcohol, tobacco, cannabis, inhalants. | No effect on any key substances. | 12 months |
| PROSPER | Spoth (Spoth et al., 2007); USA | 6th-7th grade | 28 | 12022 | ? control | 1 of 3 family focused + 1 of 3 school interventions. | Trained facilitators. | Family 7 + booster School 11-15 | Alcohol, tobacco, cannabis, inhalants. | Reduction on a range of substance use / initiation measures. | 18 months |
| RHC | Brown (Brown et al., 2005; Catalano et al., 2003); USA | 6th-7th grade | 10 | 1040 | UC | Components for teachers, parents & students. | Teachers (with training), project staff. | Integrated curriculum | Alcohol, tobacco, cannabis. | Reduced fq of alcohol & cannabis use. | 4 years |
| SFA | Eisen (Eisen et al., 2002; Eisen et al., 2003); USA | 6th grade | 34 | 7426 | UC | Social influence & cognitive-behavioural skill, communication, decision-making. | Teachers (with training). | 8-40 | Alcohol, tobacco, cannabis, other drugs. | Significant effects on cannabis use and on binge drinking (for baseline binge drinkers only). | 12, 24 months |

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal interventions** | | | | | | | | | | | |
| **Early Adolescence** = Grade 6-8 (12-14 years) | | | | | | | | | | | |
| STARS FP | Werch (Werch et al., 2005b); USA | 8th grade | 2 | 448 | Minimal control - postcards | STARS FP = alcohol focused: STARS Plus = multiple drugs. | Nurse delivered consult-ation. | 1 + 5 parental mailed messages | Alcohol, tobacco cannabis. | No significant effects (among baseline users, some intervention effects). | 3 months |
| TCYL | Sloboda (Sloboda et al., 2008); USA | 7th grade | 83 clusters | 19529 | ? control | Norms, decision making, communication resistance skills, consequences. | Police officers (with training). | 10 + 7 boosters | Alcohol, tobacco, cannabis. | Iatrogenic effect on alcohol & tobacco, no effect on cannabis. | 24 months |
| - | Wolfe (Wolfe et al., 2009); Canada | 9th grade (14-15) | 20 | 1722 | UC | Interpersonal & problem solving skills. | Teacher (with training). | 21 | Alcohol & Illicit drugs. | No effect (NB focus was on dating violence). | 2.5 years |
| LST | Seal (Seal, 2006); Thailand | 7th-12th grade | 2 | 170 | UC | Resistance skills, norms, personal & social skills. | Unclear. | 10 | Tobacco drug. | Reduced tobacco & drug use | 6 months |
| RSTP | D'Amico (D'amico and Fromme, 2002); USA | (14-19 years) | 1 | 300 | ? control | RSTP = encourage change risk-behaviour, personal feedback, peer input versus DARE-A – information. | DARE certified instructor (police): RSTP-project staff. | 1 session | Alcohol, other drugs. | An increase in drink driving/riding was found for RSTP. No other significant substance effects. | 6 months |
| TCYL | Stephens (Stephens et al., 2009); USA | 7th-9th grade | 83 clusters | 19200 | ? control | Norms, decision making, communication resistance skills, consequences. | Police officers (with training). | 10 + 7 boosters | Alcohol, tobacco, cannabis. | Positive instructor ratings associated with small increases in substance use in intervention group. | 90 days |
| TND | Dent (Dent et al., 2001); USA | (14-17 years) | 3 | 1208 | UC | Learning skills, consequences + coping, skills development and motivation. | Project staff. | 9 | Alcohol, tobacco, cannabis, 'hard' drugs. | Significant reduction in 'hard drug' use: reduced alcohol use (in those with high baseline use). | 12 months |

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Universal interventions** | | | | | | | | | | | |
| **Early Adolescence = Grade 6-8 (12-14 years)** | | | | | | | | | | | |
| TND | Rohrbach (Rohrbach et al., 2010); USA | (13-20 years mean 14.8) | 65 (9 high risk schools) | 3346 | UC | Motivation, skills, decision making, information. | Teacher (with training). | 12 | Alcohol, tobacco, cannabis, 'hard' drugs. | No significant effect on alcohol, tobacco, cannabis, 'hard' drugs. | 12 months |
| TND | Sun (Sun et al., 2008); USA | (13-19 years) | 18 (9 high risk schools) | 2734 | UC | Cognitive perception information only: Cognitive + behavioural skills. | Teachers (with training): Project educators. | Delivered over 4 weeks. | Alcohol, tobacco, cannabis, 'hard' drugs. | No effect on prevalence: fq of 'hard' drug use reduced both intervention groups. | 1 year |
| **Adolescence =** Grade 9-12 (15-18) years | | | | | | | | | | | |
| | Werch (Werch et al., 2010); USA | 10th-11th grade | 1 | 416 | UC | Setting life goals, feedback on current behaviors + printed materials. | Trained personal success coaches. | 1 + printed material sent to home. | Alcohol, tobacco, cannabis. | No significant effects on alcohol or marijuana: reduction in fq of smoking | 3 months |
| ATHENA | Elliot (Elliot et al., 2006); USA | (mean age 15.4 years) | 18 | 928 (all female) | UC | Depression prevention, media awareness, healthy norms, refusal skills. | Coaches (with training) + peer facilitators. | 8 | Diet pills, per-formance enhancers. | Reduced use of diet and performance enhancing drugs. | End of season |
| Project SPORT | Werch (Werch et al., 2005a); USA | 9th & 11th grade | 1 | 604 | Minimal intervention (2 alcohol prevention booklets | Integrative Behaviour-image model – positive personal & social images. | Fitness specialist (e.g. Nurse) with training. | 1 + 'fitness pres-cription' | Alcohol, tobacco, cannabis. | Reduced alcohol and tobacco use. | 12 months |
| Project SPORT | Moore (Moore and Werch, 2009); USA | 10th & 12th grade | 1 | 346 (NB reinter-vention with earlier cohort) | Minimal intervention (prevention booklets) | Integrative Behaviour-image model. | Fitness specialist (e.g. Nurse) with training. | 1 + 'fitness pres-cription' | Alcohol, tobacco, cannabis. | No significant overall effect (effective only in those using at baseline). | 18 months |

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

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| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Indicated Interventions** | | | | | | | | | | | |
| **Childhood/Early Adolescence =** Kindergarten to Grade 5 (5-11) years; Grade 6-8 (12-14) years | | | | | | | | | | | |
| - | Flay (Flay et al., 2004); USA | 5th-8th grade | 12 | 668 (NB high-risk schools) | Health enhance-ment | Social development curriculum (SDC) v SDC +school community intervention. | Project therapists. | 16-21 sessions * 4 years | Drug use. | No effect for girls: boys in both interventions had lower increases in drug use that control. | Unclear (end of grade 8) |
| CPP | Lochman (Lochman and Wells, 2002); USA | 5th-6th grade | 17 | 672 (universal)<br>245 (indicated) | ? control | Comparison interventions: 1) universal, 2) indicated, 3) indicated + universal. | Combined teacher (with training) and project staff. | Universal 5 + 4 parent sessions: Indicated 34 sessions | Alcohol, tobacco, cannabis (combined score). | Significantly lower combined substance use score. | Grade 6 |
| RHC | Haggerty (Haggerty et al., 2006); USA | 1st-2nd grade | 10 | 1040 (NB high-risk schools) | ? control | Family, school and student interventions. | Teachers (with training) Project staff. | Integrated into curriculum | AOD. | Reduced alcohol driving & riding with drunk driver. | Grade 11-12 |
| **Early Adolescence =** Grade 6-8 (12-14) years | | | | | | | | | | | |
| BRAVE | Griffin (Griffin et al., 2009); USA | 6th-8th grade | 1 | 178 (NB high-risk schools) | UC | Life skills & violence prevention curricula. | Trained imple-menter. | ≅ 22 | Alcohol, tobacco, & other drugs. | Reduced alcohol & cannabis. | 6, 12 months |
| CASPAR | Aspler (Apsler et al, 2006); UK | 6th-7th grade | 6 | 202 (Selected high risk students) | ? control | Enhance positive youth development. | Project staff. | 30 | Alcohol, tobacco, cannabis, inhalants. | No significant differences. | 18 months |
| TND | Sun (Sun et al., 2006); USA | (14-19 years) | 21 | 1578 (NB sample from high-risk schools) | UC | Classroom (motivation, social skills, decision making) Classroom + community activities. | Teachers (with training): Project educators. | 9 | Alcohol, tobacco, cannabis, 'hard' drugs. | Lower 30-day hard drug use at 5 years: no other significant differences. | 1, 2-3, 4-5 years |

| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Indicated Interventions** | | | | | | | | | | | |
| **Early Adolescence/Adolescence =** Grade 6-8 (12-14) years; Grade 9-12 (15-18) years | | | | | | | | | | | |
| - | Conrod (Conrod et al., 2010); UK | (13-16 years) | 24 | 732 (screened /'high-risk' cons-ented) | UC | Psycho-educational, motivational, behavioural & cognitive coping skills. | Program therapists or special needs teachers. | 2 | Alcohol, cannabis, cocaine, other drugs. | Significant reductions in fq. and number of drug types used over 24 months. | 6, 12, 18, 24 months |
| ALERT Plus | Longshore (Longshore et al., 2007); USA | 7th-8th grade | 45 | 4689 (n=1383 sub-analysis on high-risk group) | UC | ALERT = Motivation, resistance skills, increase attitudes & beliefs to mitigate use: ALERT Plus = booster sessions using same approaches. | Teacher (with training) ± National Youth Anti-drug campaign. | ALERT 8+5 ALERT Plus 8+5+5+5 | Alcohol, tobacco, cannabis. | Reduced alcohol problems & use in girls in ALERT Plus. | 12 months |
| **Adolescence =** Grade 9-12 (15-18) years | | | | | | | | | | | |
| MET | Walker (Walker et al., 2006); USA | 9th-12th grade | 4 | 97 (cannabis users) | Delayed control | Motivational enhancement, feedback. | Trained clinicians. | 2 | Cannabis. | No significant between group measures. | 3 months |
| Recon Youth | Cho (Cho et al., 2005); USA | 9th-11th grade | 9 | 1218 (NB sample all high-risk of drop out) | ? control | Life skills, positive group environment, group limit setting. | Teachers (with training). | 55 core + 24 booster lessons | Alcohol, tobacco, cannabis, named 'hard' drugs. | No significant benefits in drug use & negative effects on other measures (e.g. grade point average, anger). | 6 months |
| TND | Sussman (Sussman et al., 2003); USA | (mean age 16.7) | 18 | 1037 (NB sample from high-risk schools) | UC | Self-lead versus instructor lead TND – motivation-skills-decision model. | Health educator lead versus self-lead. | 12 | Alcohol, tobacco, cannabis, other named drugs. | The instructor lead TND had significant effect on tobacco and other drugs. | 24 Month |

**Table 12. Randomised trials of school based † alcohol and other drug intervention 2001 onwards**

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| Program | Trial (Citation) Country | Sample grade (age) | Schools N | Baseline N | Control group | Program content | Program leader | No of sessions | Target drugs | Substance-related outcomes | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Indicated Interventions** | | | | | | | | | | | |
| **Adolescence =** Grade 9-12 (15-18) years | | | | | | | | | | | |
| TND | Valente (Valente et al., 2007); USA | (mean age 16.3) | 14 | 938 (NB sample from high-risk schools) | ? control | TND – motivational skills & decision making: TND Network: used peer facilitators. | Teachers (with training) Peer facilitators (with training). | 12 | Alcohol, tobacco, cannabis, cocaine. | TND Network had significant reductions in cannabis, cocaine & composite score. NB This popularion was all 'high risk'. | 12 months |
| **Selected Interventions** | | | | | | | | | | | |
| **Early Adolescence/Adolescence=** Grade 6-8 (12-14) years; Grade 9-12 (15-18) years | | | | | | | | | | | |
| - | Winters (Winters et al., 2007); USA | (13-17 years) | 1 | 79 (teachers id. possible drug abusers) | ? control | Brief motivational type intervention ± parent. | Project therapists. | 2 | AOD. | Reduced alcohol use & binge use & drug use & negative consequences. | 6 months |

‡ (randomised schools but 1 changed condition: described as quasi-experimental design)
AAYP = Aban Aya Youth Project: ALERT = America's Law Enforcement Retiree Team: AMPS = Alcohol Misuse Prevention Study: ATHENA = Athletes Targeting Healthy Exercise & Nutrition Alternatives: ATP = Adolescent transition Program: BRAVE = Building Resiliency and Vocational Excellence Program: CASPAR = (not defined): CPP = Coping Power Program: fq = frequency: DARE = Drug Abuse Resistance Education: DARE-A = Drug Abuse Resistance Education – Abbreviated: GBG=Good Behavior Game: GHP= GateHouse project: HRIDAY = Health-related Information & Dissemination Among Youth: ISFP = Iowa Strengthening Families Program: KiR = *keepin' it* REAL (Refuse, Explain, Avoid, Leave): LIFT = Linking the Interests of Families and Teachers: LST = Life Skills Training: LST+SFP Life Skills Training+ Strengthening Families Program for Parents and Youth : MET = Motivational Enhancement Therapy: PI = Parent intervention: PN = Project Northland: PNC = Project Northland Chicago: Recon Youth = Reconnecting Youth: RFP = Resilient Families Program: RHC = Raising Health Children: RSTP = Risk Skills Training Program: SFA = Skills for Adolescence: SFP = Strengthening Families Program for Parents and Youth. SI = Student intervention: SHAHRP = School Health & Alcohol Harm Reduction Project: STARS FP = Start Taking Alcohol Risks Seriously for Families Program: STHTP = Slick Tracy Home Team Program: TCYL = Take Charge of Your Life: TND = Towards No Drug: UC = usual curricula: ? control = control mentioned but not described.

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Childhood** (Kindergarten to Grade 5) | | | | | | | | |
| Good Behavior Game | Witvliet et al., 2009; **Netherlands** | 6.0 | 758 | NI | SEL | Teacher | 2 years | Significantly reduced externalising behaviour, specific to boys. Medium size effect.<br>Boys and girls more accepted by peers, more friends, more proximity to others.<br>Peer acceptance sig mediated impact on ext behaviour. |
| | van Lier et al., 2004; **Netherlands** | 6.9 | 666 | NI | SEL | Teacher | 2 years | Sig differences in development of ADH symptoms – strongest effect for Ps with intermediate ADH probs at baseline. CD/ ODD impact too, but smaller effect size (again strongest for intermediate baseline ADH). |
| | Petras et al., 2008; Kellam et al., 2008; **USA** | 6.4 | 1196 | NI | SEL | Teacher Researcher | 2 years | Lowered growth of aggression/ disruptive behaviour in males with persistent, high conduct probs – sustained until 4th grade and marginally sig at 5th grade.<br>At young adult follow-up (i.e. age 19-21) – significantly lower rates of ASPD dx (strongest in persistent high conduct males).<br>Similar results for violent/ criminal behav.<br>Females no effects. |
| | Leflot et al., 2010; **Belgium** | 7 years, 5 months | 970 | NI | SEL | Teacher | 2 years | Marginally reduced growth of hyperactive behav.<br>Sig decrease in oppositional behav. Growth: Impact on teachers' behav. – fewer neg remarks. |
| Positive Action | Beets et al., 2009; **USA** | 10-11 | 1712 | NI | Self-concept/ character development | Teacher | 5 years | Intervention participants significantly less likely to engage in substance use, violent behaviour and sexual activity. Effect sizes 0.73 (student report), 0.34( teacher report). |
| | Li et al., 2011; **USA** | Grade 3 (8-9 years) | 510 | WL | Self-concept/ character development | Teacher | 3 years | 31% les lifetime substance use (significant)<br>36% les lifetime violence (significant)<br>41% less bullying behaviour (significant)<br>27% less disruptive behaviour (not significant). |

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Childhood (Kindergarten to Grade 5)** | | | | | | | | |
| Social Developmental Curriculum | Flay et al., 2004; Ngwe et al., 2004; **USA** | 10.8 | 553 | Attention-matched control | SEL | University-based health educator | 4 years | Violence – SDC significantly better than control; School-climate intervention (SCI) also significantly better than control.<br>Provoking behaviour – SCI better than control. SDC no better than control.<br>School delinquency – SDC and SCI both better than control.<br>Significant mediation by behavioural intentions, attitudes toward violence, estimate of best friends' behaviour and peer encouragement. |
| Peace Builders | Flannery et al., 2003; Vazsonyi et al., 2004; **USA** | Grades K-5 (age 5-10) | 4,679 | WL | SEL/ Positive Behaviour Support | Teacher | 2 years | At end of year 1 – Grades K-2 intervention condition showed significantly higher teacher ratings of social competence, grades 3-5 intervention condition teacher ratings of aggression significantly lower than controls.<br>Effects on social competence and aggression maintained in year 2 of intervention.<br>Final follow-up: Effects on social competence and prosocial behaviour (for K-2) and aggression (for grades 3-5) maintained.<br>In terms of pretest risk:<br>High risk students made significant behaviour changes – teacher reported aggression, teacher rated social competence. Found for boys and girls. No intervention effects for self-reported variables – prosocial behaviour or aggression.<br>Medium risk – only teacher rated social competence increased, no effects found for teacher or self-reported aggression.<br>Low risk – contrary findings – increase in teacher reported aggression whilst maintaining relatively high levels of social competence (aggression levels, despite increasing, remained substantially lower than medium or high risk groups – i.e. remained in low risk category). |

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Childhood** (Kindergarten to Grade 5) | | | | | | | | |
| Linking the Interests of Families and Teachers | Eddy et al., 2003; **USA** | 10.4 (intervention); 10.7 (control) | 361 | NI | SEL/ Problem-solving; behavioural parental management training | Teacher | 10 weeks (20 school based session) | Based on court data and yearly interviews from grades 6-8. Control condition 1.55 times more likely to be to be arrested; 1.49 times more likely to report patterned alcohol use during middle school.<br>No int effect on marijuana or tobacco use.<br>No effect of baseline level of risk on outcomes. |
| 4Rs | Jones et al., 2010; **USA** | 8.07 | 942 | NI | SEL/ literacy development | Teacher | 1 year | No main effects for aggression, social competence or academic achievement.<br>Little evidence of short-term change in social-emotional, behavioural and academic functioning.<br>Social-cognitive processes: single statistically significant main effect on hostile attributional biases (out of the 5 social-cognitive processes examined).<br>Significant main effect on child self-report of depression but not on attention problems.<br>Children with higher levels of baseline aggression showed significant improvement in academic skills and attendance and trend-level improvement for standardized tests of reading and aggressive fantasies. |
| **Early Adolescence** (Grade 6 to Grade 8) | | | | | | | | |
| Responding in Peaceful and Positive Ways | Farrell et al., 2001; **USA** | 11.7 | 626 | NI | SEL | External prevention facilitator | 1 year | Rates of disciplinary violence 2.2 times lower; in school suspension 5 times lower.<br>12 month follow-up – in school suspension for boys 3 times lower; girls 2.5 times less likely to threaten to hurt a teacher; students 2.5 times less likely to have been injured in a fight and required med treatment in prior 30 days, 0.6 times less likely to have participated in peer mediation.<br>6 month follow-up: 1.7 times less likely to report having threatened to harm a teacher; 0.6 times less likely to report participation in peer support.<br>Effects most likely to be effective for those with high levels of violence at pretest. |

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Early Adolescence** (Grade 6 to Grade 8) | | | | | | | | |
| Responding in Peaceful and Positive Ways (contd) | Farrell et al., 2003; **USA** | 11.4 | 1340 | NI | SEL | External prevention facilitator | 2 years | Significant aggression effects found at 9 month follow-up but not before (small effect size = .17)<br>Significant delinquent behaviour effect at 4 month follow-up but not 9 month.<br>No impact of pretest aggression on outcomes (contrary to previous findings).<br>Intervention condition boys showed significantly less victimisation midway through intervention, and lower rates of peer provocation at 4 month follow-up.<br>Effects on self-reported behaviours such as threatening someone with a weapon and fight related injuries at 9 month follow-up.<br>Most consistent intervention effect was life satisfaction – evident by end of 1st year of intervention and maintained through to 9 month followup.<br>Significant effects on hypothesised mediating variables of attitudes toward nonviolence and attitudes toward violence. |
| Drug Abuse Resistance Education | Komro et al., 2004; **USA** | Grade 7 (age 12-13) | 4,976 | WL | SEL | Police Officers for standard DARE curriculum; trained volunteers for DARE-Plus com-ponents | 10 sessions over 2 years | Standard DARE curriculum showed no impact for males or females.<br>DARE Plus = significant impact on physical violence and marginally significant impact on verbal violence.<br>Hypothesised mediators of Norms about physical violence and outcome expectancies were significant. |
| Life Skills Training | Botvin et al., 2006; **USA** | Grade 6 (age 11-12) | 4,858 | NI | CBT skills for problem solving/ decision making | Teacher | 15 sessions over 3 months | Intervention significantly reduced delinquency, and fighting.<br>Stronger effect for students who completed at least half of the prevention intervention. |

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Combined Universal and Indicated Interventions** | | | | | | | | |
| **Childhood** (Kindergarten to Grade 5) | | | | | | | | |
| Yes I Can | Metropolitan Area Child Study Research Group, 2002; 2007; **USA** | Grades 2 (age 7-8) and 5 (10-11) | 4,471 | NI/ WL (given materials but not delivered intervention at end of study) | Social-cognitive classroom program; family intervention | Teacher (supported by con-sultant) for classroom component; Grad student for small groups; trained clinician for family intervention | 2 years | Significant effect of most comprehensive intervention (classroom + small groups + family program) in younger age group in urban schools. Effects doubled when reintervention at grade 5-6.<br>Effects not clear for inner city schools.<br>Cognitive elements:<br>Curriculum condition: improvements in prosocial fantasy and normative beliefs about aggression in moderately resourced schools but not lower resourced schools. Less growth in aggressive fantasies, smaller increase in approval of aggression in int condition.<br>Curriculum plus small group: effect on aggressive fantasy and intent to use aggressive responses, effect on normative beliefs. |
| Coping Power | Lochman & Wells 2002a; Lochman et al., 2003; Lochman et al., 2004; **USA** | Grades 5 and 6 (10 – 12) | 672 in uni-versal compo-nent, 245 in indi-cate compo-nent | NI | Social-cognitive/ behavioural | External research staff member for universal program; school-family specialist plus guidance counselor for indicated program; two external research staff members for parenting program | 16 months | Universal alone, indicated alone, and two combined = significantly lower substance use.<br>Combined = higher social competence, less pronounced increases in anger, decrease in teacher rated aggression.<br>Indicated alone = effect on parent-rated proactive aggressive behaviour, teacher rated proactive aggressive behaviour, teacher rated behavioural improvement. No effect on reactive/ impulsive aggression.<br>Universal alone = lower fear, more acceptance by classmates, fewer social problems. |

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Combined Universal and Indicated Interventions** | | | | | | | | |
| **Childhood** (Kindergarten to Grade 5) | | | | | | | | |
| Fasttrack | Conduct Problem Prevention Research Group, 2002; 2004; 2007; 2010; **USA** | 6.5 | 891 | NI | Social skills training, academic enhance-ment, parent training | Teachers, Fasttrack Educational Coordin-ators (tended to be ex-teachers), Family Coordin-ators (counselors, social workers) | 9 years | **At 3 years**<br>Significantly less serious conduct problems.<br>Teacher reports of aggression, disruptive and disobedient behaviour significantly lower.<br>Intervention effects on school behaviour and need for special education resources.<br>Parental observation of fewer daily acts of problem behaviour, but not lower levels of conduct problems on DISC-2 interview.<br>No evidence of improved social competence (through peer nominations) at year 3 despite indication of this at year 1.<br>**At 5 years (end of primary school**)<br>Significant but modest influence on social competence and social cognition; peer deviance; and conduct problem behaviour in home and community =1/4 (for home and community problems) to 1/3 (social competence, social cognition, peer deviance) reduction in risk of problematic outcomes at end of elementary school.<br>**At 9 years:**<br>Significant positive effect in lowering criterion count scores and diagnoses for CD, ADHD, and any externalising disorder, and lowering antisocial behaviour scores, but only among those at highest risk initially.<br>At grade 9, among highest risk group (from Kindergarten screening),75% reduction in risk of CD, 53% reduction in risk of ADHD and 43% reduction in risk of all externalising psychiatric disorder cases. |

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Combined Universal and Indicated Interventions** | | | | | | | | |
| **Childhood** (Kindergarten to Grade 5) | | | | | | | | |
| Behaviour Education Support and Treatment | Waschbusch et al., 2005; **Canada** | 5-12 (grades K-6), mean = 8.13 | 1,115 | NI | SEL | Teachers, with in-class support (for universal program); External staff for small-group intervention and in-home parenting program | 9 months | Main effect of intervention on ODD; ADHD-hyperactive/impulsive; and ADHD-inattention.<br>ODD decreased in school-wide intervention condition but not other conditions.<br>Peer relations improved in all schools but targeted service delivery school (i.e. targeting high risk students within classroom plus small-group sessions) in the absence of school-wide intervention.<br>Academic achievement improved in all schools but Targeted Service Delivery.<br>Classroom behaviour and office referrals improved in school-wide and targeted service delivery, but not home intervention schools (i.e. home intervention effects not generalised to school).<br>Classroom rule violations decreased for all intervention schools but largest effect for targeted children in all interventions.<br>**NB: This was a pilot, with one school in each condition, making effects difficult to interpret.** |

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Combined Universal and Indicated Interventions** | | | | | | | | |
| **Early Adolescence** (Grade 6 to Grade 8) | | | | | | | | |
| Guiding Responsibility and Expectations for Adolescents for Today and Tomorrow | Multisite Violence Prevention Project, 2008, 2009; **USA** | Grade 6 (age 11-12) | 5,581 | NI | SEL | Teacher for universal program; external for group-based family intervention | 1 year | Main effects only for two of eight variables.<br>Contradictory: Higher individual norms for nonviolent behaviour in intervention school, but also higher levels of goals and strategies that support use of aggression.<br>High risk students benefitted most from intervention (low risk actually showed opposite effect)<br>Universal intervention: Anticipated intervention effects on overt victimisation, school safety problems and school norms supporting nonviolent behaviour amongst wider cohort not found.<br>Selective intervention: Small but significant effects found for wider cohort of students targeted on two of three aggression measures. Lower physical aggression and teacher ratings of aggression at selective intervention schools (not evident at post-test but emerged at follow-up).<br>High risk students showed decrease in aggression and victimisation, but reverse was true for low risk students. |
| Untitled | Schechtman & Ifargan, 2009; **Israel** | Grades 5-8 (age 10–14) | 904 | NI | SEL | School counselor | 12 sessions over 4-month period | Adjustment symptoms (both internalising and externalising), child aggression and class aggression significantly decreased in both classroom based and small group interventions.<br>Class relations data less clear – no intervention effect and significant improvement in control condition.<br>Classroom relations also improved for non-aggressive classmates when aggressive children in their class participated in small group counselling sessions. |

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Indicated Interventions** | | | | | | | | |
| **Childhood** (Kindergarten to Grade 5) | | | | | | | | |
| Early Risers | August et al., 2001; August et al., 2002; August et al., 2003; Bernat et al., 2007; **USA** | 6.6 | 245 | NI | SEL/ Cog. Behav.; Parent training | Trained "family advocates" | 2 years, 3 years, 5 years | **At 2 years:** No overall differences in behavioural self-regulation or social competence.<br>Severely aggressive Ps significantly improved in behave self-regulation. At 3 years: Social competence sig better than control.<br>Academic achievement significantly better.<br>No significant differences on aggression, hyperactivity, impulsivity.<br>Significant gains in severely aggressive children<br>Attendance in summer program not related to aggression outcome.<br>Higher severity = lower fam program attendance.<br>Attendance in summer school associated with gains in social confidence for high and low disruptive Ps<br>Attendance in family program related to decreased aggression in low disruptive children.<br>**At 1 year followup:** Intervention Ps had significantly fewer ODD symptoms, no differences in CD symptoms or actual diagnoses.<br>ODD symptoms partially mediated by social skills and effective parental discipline. |
| Schools and Homes in Partnership | Barrera et al., 2002; **USA** | K-3 (age 5–9) | 285 | NI | SEL/ Cog. Behav.; Parent training | Trained consultant, then teacher | 2 years | For students high in aggression, post test observations of negative behaviours towards peers significantly reduced.<br>One year follow-up, non-Hispanic students lower teacher ratings of int behaviour and lower parent ratings of coercive and antisocial behaviour |
| | Smolkovski et al., 2005; **USA** | K-3 (age 5–9) | 329 | NI | SEL/ Cog. Behav.; Parent training | Trained consultant, then teacher | 2 years | Effects on only 2 of 8 outcome measures – parent reports of antisocial behaviour and parent ratings of coercive behaviour (both sleeper effects and accelerating at 2-year follow-up).<br>No effect on directly observed behaviour. |

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

**Table 13. Externalising behaviours**
**(Conduct problems, oppositional behaviour, aggression, violence, ADHD)**

| Program | Trial citation; Country | Sample (mean age at baseline) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Indicated Interventions** | | | | | | | | |
| **Childhood** (Kindergarten to Grade 5) | | | | | | | | |
| Coping Power | Lochman & Wells, 2002b; **USA** | Grades 5 and 6 (age 10–12) | 183 | NI | Social/ cognitive behavioural | School-family specialist plus guidance counselor for indicated program; two external research staff members for parenting program | 15 months | Significant effect on delinquency and school behaviour at 1-year follow-up. Trend toward significance on parent rated substance use (p<.07).<br>Intervention effects mediated by attributions, outcome expectations, internal control, person perception, inconsistent parental discipline. |
| Students Managing Anger Resolution Together | Scheckner & Rollin, 2003; **USA** | Grade 5 (age 10-11) | 40 | Attention-control | Anger management | NA – self-adminis-tered through computer program | 8 weeks | Significant decreases in reported intentions to use nonviolent strategies.<br>No impact on repertoire of nonviolent strategies, knowledge about what triggers anger, confidence in ability to use nonviolent strategies, aggressive behaviour or prosocial behaviour |
| **Early Intervention/ treatment** | | | | | | | | |
| **Childhood** (Kindergarten to Grade 5) | | | | | | | | |
| First Step to Success | Seely et al., 2009; **USA** | 6-10 (mean = 7.2) (Grades 1-3) | 260 | TAU | Behavioural coaching/ SEL | Behavioural coach/ teacher | 30 days | Significant and large impact on school based measures of ADHD/ disruptive behaviour and social functioning.<br>Significant and moderate effects on academic functioning.<br>Home-based assessment – trend-level medium effect size for post intervention improvement on problem behaviour. |

**Table 14. School based prevention and early intervention programs for eating disorders**

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Childhood** | | | | | | | | |
| Shapesville | Dohnt & Tiggemann, 2008; **Australia** | Child * (5–9 years; *M* = 6.56) | 84 | 'Stop, Elephant, Stop' book | Psychoed | Researcher | 1 | No significant interaction between group and time for eating attitudes. **Appearance satisfaction increased more in the intervention than control group** at post intervention but was not maintained at follow-up. |
| - | Escoto Ponce de Leon, 2008; **Mexico** | Child (9-11 years; *M* = 9.93) | 120 | NI | Body image program designed to build a sense of identity based on competencies delivered as (i) interactive program vs (ii) didactic program | Researcher | 8 | **Interactive program resulted in improvements in overeating (boys) and improved body ideals (girls).** |
| Planet Health (PH) | Austin et al., 2005; **USA** | Child + Adolescent * (10-14 years; *M* = 11.5) | 480 | Not specified NI | Psychoed to promote healthy nutrition and physical activity to reduce overweight | Teacher | 32 classroom, 30 physical education | Girls in PH **less than half as likely to report purging or diet pill use** at 21 month follow-up. |
| **Early Adolescence** | | | | | | | | |
| 5-2-1-Go! (extended version of Planet Health) | Austin et al., 2007; **USA** | Adolescent * (Grade 6-7) | 1839 | One module only of 5-2-1-Go ! on school policies and environ-ment, action plan and report on progress of plan at end of year 2 | Psychoed to promote healthy nutrition and physical activity to reduce overweight | Teacher | 32 classroom, 30 physical education | **Odds of disordered weight control behaviours reduced by two thirds among intervention girls** relative to controls, but no effect for boys (at 24 months follow-up). |

| Program | Trial citation; Country | Sample (age) | *N* | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Early Adolescence** | | | | | | | | |
| - | Killen et al.,1993; **USA** | Adolescent * (11-13 years; *M* = 12.4) | 967 | NI | Psychoed; Coping | Researcher | 18 | No significant effect of intervention on eating attitudes or unhealthy weight regulation practices. **Greater improvement in knowledge at 24 month follow-up.** |
| Every BODY is a Somebody | McVey & Davis 2002 **Canada** | Adolescent * (Grade 6-7; *M* = 10.88) | 282 | Health Curriculum | Media literacy; Life skills training | Researcher | 6 | The program did not show an effect on body satisfaction or eating problems relative to control. |
| | McVey et al., 2004; **Canada** | Adolescent * (Grade 6-8; *M* = 11.8) | 258 | School health class | Life skills training | Researcher | 6 | **Intervention improved body image satisfaction and reduced dieting at post-test but not 12 month follow-up**. |
| Self-Esteem and Healthy Body Image program | McCabe 2010; **Australia** | Adolescent # (11-15 years; *M* = 13.2) | 421 | NI | Psychoed; Social skills/Coping skills training | Researcher | 5 | No effect of the program on body image dissatisfaction or body change strategies compared to control. |
| Everybody's Different | O'Dea & Abraham, 2000; **Australia** | Adolescent (11-14 years; M = 12.95) | *470* | Usual personal develop-ment and health class | Psychoed (Stress, self esteem) | Teacher | 9 | **Improved body satisfaction, reduced importance of physical appearance.** Body weight increased over 12 months for intervention whereas it decreased for control group. |
| Adapted GO GIRLS! (Media Literacy); Adapted Everybody's Different (Self-esteem) | Wade et al., 2003; **Australia** | Adolescent (Grade 8; M = 13.42) | *86* | Usual Religious Education class | 2 Psychoed interventions: Media literacy, Self-esteem | Researcher (and Teacher) | 5 | Greater reduction in weight concern (but not shape concern, dietary restriction or body dissatisfaction) for the GO GIRLS! Intervention at post test compared to control. |

| Program | Trial citation; Country | Sample (age) | N | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Universal Interventions** | | | | | | | | |
| **Early Adolescence** | | | | | | | | |
| Nutrition information (NUT), Criticism of the Feminine Aesthetic Beauty Model (AMC), Media Literacy (ML) | Raich et al., 2008; **Spain** | Adolescent * (M = 13.11) | *349* | Usual Class | 2 Psychoed interventions: NUT + AMC +ML vs AMC + ML | Researcher | 2 | **At post-test, significant reduction in influence of body ideal and significant increase in nutrition knowledge.** Not maintained at 6 month follow-up. |
| Media Smart | Wilksch & Wade, 2009; **Australia** | Adolescent (Grade 8; M = 13.62) | *540* | Usual class | Media Literacy | Researcher | 8 | **Intervention reduced shape and weight concern (ES=0.29), dieting (ES=0.26), body dissatisfaction (ES=0.20),** ineffectiveness (ES=0.23) and depression (ES=0.26) over 30 month follow-up. |
| - | Dalle Grave, 2001; **Italy** | Adolescent (11-12 years; M = 11.6) | *106* | Not specified NI | CBT, interactive approach | MHP (Experts in eating disorder) | 6 + 2 booster | **Increased knowledge and decrease in eating concern** relative to control group. |
| **Adolescence** | | | | | | | | |
| **-** | Favaro et al., 2005; **Italy** | Adolescent * (16-18 years) | *141* | NI | Psychoed | Teacher | 6 | **Lower rate of eating disorders at 12 month follow-up in the intervention compared with the control group. EAT Bulimia scores, restricted eating and body importance lower in intervention group** than control group at follow-up. |
| **-** | Santon-astaso,1999; **Italy** | Adolescent (16 years; M = 16.1) | *308* | Not specified NI | Education and discussion about eating disorders | MHP (Psychiatrist & Psychologist experts in eating disorders) | 4 | Prevention program participants showed greater reduction in body dissatisfaction than control at 12 months. No significant change in high risk eating disorder group. |

**Table 14.School based prevention and early intervention programs for eating disorders**

**Table 14. School based prevention and early intervention programs for eating disorders**

| Program | Trial citation; Country | Sample (age) | N | Control group | Program content | Program leader | No. sessions | Trial outcome |
|---|---|---|---|---|---|---|---|---|
| **Adolescence** | | | | | | | | |
| - | Wilksch et al., 2008; **Australia** | Adolescent * (Grade 10; *M* = 15) | 138 | Usual class (religious instruction or English) | 2 Psychoed interventions: Perfectionism; Media Literacy | Researcher | 8 | The interventions had no effect on shape or weight concern. However, the perfectionism program associated with greater reduction in concern over mistakes at 3 months for perfectionism program relative to control (ES= 0.45). High-risk students benefited most from Perfectionism program. |
| ATHENA | Elliot et al., 2004; **USA** | Adolescent * (M = 15.4) | 928 | Usual Care | Psychoed; Cognitive restructuring | Coach facilitated, peer-led | 8 | Significant reduction in recent diet pill use and first use of diet pills at post-test relative to controls. |
| | Elliot et al., 2006; **USA** | Adolescent * (M = 15.4) | 928 | Usual Care | Psychoed; Cognitive restructuring | Coach facilitated, peer-led | 8 | Reduced new and ongoing diet pill use at post-test. |
| | Ranby et al., 2009; **USA** | Adolescent * (Grade 9-10) | 1668 | NI | Psychoed; Cognitive restructuring | Coach-led, peer facilitated | 8 | ATHENA reduced unhealthy weight loss intentions at post test and at 9 month follow-up. |
| **Indicated Interventions** | | | | | | | | |
| **Early Adolescence** | | | | | | | | |
| - | Buddeberg-Fischer et al., 1998; **Switzerland** | Adolescent (14-19 years; *M* = 16.1 yrs) | 314 | NI | CBT; Coping skills training; Psychoed | MHP (Adolescent Psychiatry staff) | 3 | Overall, the control and intervention groups improved equally on all measures. **High risk females in the intervention group showed a significantly greater reduction in physical symptoms** than the high risk control group. |
| - | Stice et al., 2009; **USA** | Adolescent * (14–18 years; *M* = 15.7) | 306 | Psychoed brochure | Dissonance intervention | School staff (two nurses or counsellors) | 4 | **Intervention had larger decrease in eating disorder symptoms, thin-ideal internalisation, and body dissatisfaction, dieting at post-test.** Except for thin-ideal internalisaton**, improvements persisted at 12 month follow-up.** |

*Note*. - = No program name. AC = Attention control, WL = Wait-list control, NI = No intervention control. CBT = Cognitive Behavioural Therapy, Commun. = Communication Skills, Psychoed. = Psychoeducation. Grad = Graduate student / intern, MHP = Mental Health Professional. NA = Not available. US = United States. * = females only. # = males only.

**Table 15. Summary of whole of school approaches to reducing mental health problems in schools**

| Program name and Country | Quality of research design | Summary of the intervention and model | Effective in preventing or reducing mental health symptoms | Effective in terms of outcomes and pathways to specialist help | Reasons for success or otherwise.<br>Quality of evaluation<br>Relevance to NSW |
|---|---|---|---|---|---|
| **AUSTRALA** | | | | | |
| KidsMatter (Australia)[1]<br>KM was piloted in 2007-2008 in 101 schools. Roll out of the program has continued throughout 2009-2011. (Slee et al., 2009) | Low.<br>No com-parator. | CHILDHOOD<br>Whole of school Primary Kids 5-12 4 components: Positive community, SEL, Parenting support, Early intervention. | Teacher and parent's rated children as more socially competent, and as experiencing few Total SDQ difficulties, the equivalent of a small effect size. Larger effects were evident for individuals with lower baseline scores. | This is not clear in the report. The Early Intervention Component was the one that was less commonly implemented. There is a recommendation that teachers receive more staff development and that greater consultation between the school and external agencies be implemented. Project Officers rated schools improvement in linking with external agencies, and for about a quarter of the schools, KM had a strong positive impact. Referrals took on average 1 month to be implemented. | Uptake was high. The programs were supported by *KM* Project Officers who provided support. With respect to the early intervention component this relied on staff "recognising that students have difficulties". One barrier was staff development. The other was the lack of responsiveness on the part of external agency. Highly relevant to NSW. |
| MindMatters (Australia)[1]<br>Seven external reviews of MindMatters undertaken in Australia between 2004 and 2010 plus 23 research papers (Reviewed by Rickwood, 2011)[6] | Low | ADOLESCENT<br>Whole of school HPS approach incorporating SEL. | Quasi experimental comparison (Hazell 2006) indicated no effects.<br>Data were collected from students in years 7-10 at baseline (N=1449) and three years later (N=1205). Only very slight improve-ments were evident in resilience and protective factors, and changes were only significant in one school for resilience and two of the schools for protective factors. More substantial changes were evident in tobacco, alcohol and marijuana use, which decreased significantly.[7] | Not clear. | Uptake of *MM* has been mostly in the use of curriculum materials Staff report lack of time, lack of space in curriculum, and lack of confidence even after training. |

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|---|---|---|---|---|---|
| MindMatters Plus<br>1<br>MindMatters Plus GP<br>(see [6] below)<br>Australian Institute for Primary Care, La Trobe University (AIPC) (Lewis et al., 2005) | Low. | ADOLESCENT<br>School intersection with primary care. Aimed at developing partnerships and resources to provide psychosocial interventions to students needing additional help in school, and access to professional care for students needing mental health care interventions.<br>MindMatters Plus focused on the 20-30% of students who need additional<br>1.<br>MindMatters Plus GP was overseen by the Australian Divisions of General<br>Practice and managed by project officers in each of the Divisions of General Practice in whose catchment area each of the MindMatters Plus demonstration schools was located. | Not tested. | YES, however, this was achieved without investment of whole MM program 1. | For barriers see Rickwood[1].<br>For description of how to establish GPSchool link see Rickwood (2005)[8]. |

| Program name and Country | Quality of research design | Summary of the intervention and model | Effective in preventing or reducing mental health symptoms | Effective in terms of outcomes and pathways to specialist help | Reasons for success or otherwise.<br>Quality of evaluation<br>Relevance to NSW |
|---|---|---|---|---|---|
| *beyondblue* (Australia) | Very high (RCT). | ADOLESCENT Whole of school approach, with CBT taught by teachers in curriculum. | NO. | UNCLEAR. | NOT CLEAR. |
| The Gatehouse Project (Australia)[3] | Very high (Cluster RCT) 26 schools in urban and rural areas. | ADOLESCENT (years 13-14).The foci were building a sense of trust, increasing skills and communication, developing a sense of positive regard. It consisted of an "adolescent health team", implementation of a curriculum component involving the management of key emotions, liaison team for teacher professional development. | 1 year, 2 year and 3 year follow-up.<br>YES: 3-5% risk difference between intervention and control students for drinking, smoking for 3 waves of intervention<br>NO effect on depression, social and school relationships. | ? | Major problem is complexity and implementation difficulties<br>Requires long term commitment by schools. |
| **UNITED KINGDOM** | | | | | |
| SEAL (UK)<br>**WAVE 1**[5]<br>INTERVENTION (Hallam, Rhamie & Shaw, 2006a) | Low.<br>No comparison group. | CHILDHOOD<br>The SEAL program is delivered as three waves of intervention as noted above in diagram. | YES Reported improvements on well being, confidence, social communication, bully and social behaviours<br>Mixed picture and unintended negative effects in attitudes of teachers and declines in academic performance | ? | Ongoing support needed for training schools.<br>Staff attitudes and understanding.<br>Level of fidelity. |

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| Program name and Country | Quality of research design | Summary of the intervention and model | Effective in preventing or reducing mental health symptoms | Effective in terms of outcomes and pathways to specialist help | Reasons for success or otherwise.<br>Quality of evaluation<br>Relevance to NSW |
|---|---|---|---|---|---|
| SEAL (UK)<br>**WAVE 1**[4]<br>INTERVENTION<br>(Humphrey et al., 2010) | Mixed methods.<br>Quasi experimental design with 26 experimental and 23 comparison schools. 2 year post test<br>Plus case studies of 10 of the 26 schools.<br>Barriers were analysed using NVivo. | ADOLESCENT<br>The SEAL program is delivered as three waves of intervention as noted above in diagram. | NO There was no impact on pupils' social and emotional skills, general mental health difficulties, pro-social behaviour or behaviour problems. | "There was very limited evidence of schools directly involving parents/carers and/or the local community in their SEAL". P. 53<br>"Aside from parents, schools did demonstrate clear links with the communities within which they resided. Examples were given of work with the police, community link workers, family support workers, young citizens groups and involvement in various charity and other events. However, this was rarely attributed to SEAL implementation. Rather, such work was described as being part of each schools' existing community links, and only brought up during interviews because it was felt to be in line with SEAL principles" p. 55. | Barriers including lack of awareness of staff, little staff involvement, more help required from local authorities for training and motivation, need leadership from school leaders, need to be introduced as curriculum not add-on's, time constraints etc, lack of teacher skill (see p.94 for summary). |
| *SEAL* (UK)<br>**WAVE 2**<br>INTERVENTION<br>Small group (Humphrey et al., 2008)<br>Family strand (Downey & Williams, 2010) | Mixed methods<br>PRE-POST DESIGN<br>Case studies<br>624 pupils in 37 schools.<br>LOW. | CHILDHOOD. This element involves small group interventions with children thought to need help because of social and emotional needs. This focus is on exploring key issues, improving their skills and opportunities and promoting reflection. | YES. 7 week follow-up evidence that students increased their perception of emotional literacy, self-rated better self regulation and social skills (also rated better by staff) and reductions in pupil rated peer problems. No effects on parents, paradoxical lower empathy ratings by teachers. | ? | Key barriers to success reported to be attitudes of staff, misunderstanding the nature of the small group interventions<br>Skills of the facilitator critical. |

| Program name and Country | Quality of research design | Summary of the intervention and model | Effective in preventing or reducing mental health symptoms | Effective in terms of outcomes and pathways to specialist help | Reasons for success or otherwise.<br>Quality of evaluation<br>Relevance to NSW |
|---|---|---|---|---|---|
| *SEAL* (UK)<br>**WAVE 2**<br>INTERVENTIION | NA | ADOLESCENT. | | | |
| SEAL (UK)<br>**WAVE 3**<br>INTERVENTION (Wolpert, Fonagy, Belsky, and Humphrey[2] ) | NA | CHILDHOOD<br>This involves one to one with children at risk of experiencing mental health problems.<br>"Targeted Mental Health in Schools"<br>The project involves 2 components: strategic integration (all agencies delivering mental health) and evidence informed practice – this is evidence based programs delivered in schools.[9] | NO DATA. | NO DATA. | The concept is aligned to developing better relationships between schools and outside agencies. The initiative aims to have the external agency being commissioned by the school/school district. A publication by the Department for children, schools and families. "Commissioning targeted mental health and emotional well being services in schools". This is a 60M pound initiative. |
| *SEAL* (UK)<br>**WAVE 3**<br>INTERVENTION | NA | SECONDARY. | NO DATA. | NO DATA. | |

[1]A comprehensive summary of this program is available headspace: *Evidence review of secondary school based mental health promotion, prevention and early intervention.* 2011. [2]See Humphrey et al., 2008. [3]*The* GateHouse Project. See Bond, Patton, Glover, Carlin et al., 2004. Evidence based public health policy and practice. [4]See Humphrey et al., 2010. [5]See Hallam et al. [6]Australian Council for Educational Research (ACER, 2010) – national implementation Evaluation (see Rickwood, 2011). See: • Allen Consulting (2009) – national efficiency review • Australian Psychological Society (APS) (Prior, 2008) – mental health content audit • *Hunter Institute for Mental Health (HIMH) (Hazell, 2006) – national implementation and outcome evaluation • *Australian Council for Educational Research (ACER) (Ainley et al., 2006) – national implementation evaluation • *Flinders University (Askell-Williams et al., 2005) – small scale case-study based implementation and outcome evaluation • *Australian Institute for Primary Care, La Trobe University (AIPC) (Lewis et al., 2005) – review of MindMatters Plus and MindMatters Plus GP. [7]Hodder, R. K., Daly, J., Freund, M., Bowman, J., Hazell, T. and Wiggers, J. 2011. A school based resilience intervention to decrease tobacco, alcohol and marijuana use in high school students. BMC Public Health. In press. (see 1 above). [8]Rickwood, D. 2005. *Supporting young people at school with high mental health needs*. *Australian Journal of Guidance and Counselling,*15,137-155. [9]The Childrens Plan. UK Department for Children, Schools and Families, 2010. *Guidance on commissioning targeted mental health and wellbeing services in schools.*

Terms
SEAL: Social and Emotional Aspects of Learning
SEL: Social and Emotional Learning
HPS: Health Promoting Schools

**Table 15. Summary of whole of school approaches to reducing mental health problems in schools**

**Table 16.Summary of collaborative care approaches to reducing disorders in youth and children which mention school based services**

| Program name and Country | Quality of research design | Summary of the intervention and model | Effective in preventing or reducing mental health symptoms | Effective in terms of outcomes and pathways to specialist help | Reasons for success or otherwise.<br>Quality of evaluation<br>Relevance to NSW |
|---|---|---|---|---|---|
| headspace (Australia) SPRC Final Evaluation Report, 2009 | LOW. Interviews with headspace attendees and headspace Centres. | Services for mental health, physical health, drug and alcohol and vocational . | Young people who use headspace report lower levels of symptoms and improvements in their capacity to go to school. | headspace centres visit and promote help seeking to headspace. The report suggests that improvements have been made in coordinating care in the community, including with youth. | Early report.<br>The Centres are open in business hours and this prevents attendance by school aged kids.<br>Evaluation about process and start up.<br>Relevant to NSW. |
| headspace (Australia)/ ANU | RCT. | RCT to determine if headspace in schools improves mental health outcomes relative to internet program delivered by teachers or no program. | NO DATA YET. | NO DATA YET. | NA. |
| *Headstrong* and Jigsaw (Ireland) | ? | Aims to explicitly address mental health disorders within the school. | NO DATA. | NO DATA. | NO EVALUATION. |
| One Stop Shop (NZ) | ? | Aims to run clinics and mental health programs within schools. | NO DATA. | NO DATA. | NO EVALUATION. |
| Child and Adolescent Mental Health Services in interaction with Schools (UK) | ? | *consultation and support to school staff * and *direct individual and group work with children in schools, such as social skills and running clinics, doing assessment and observation. | NO DATA. | NO DATA. | NO EVALUATION. |
| NSW Health Link, 2003 (Australia) | Ratings by school counselors of program. | Increase referral pathways. Train school counselors. | Satisfaction with training. | Depression action plans developed. | Aims to be integrated and paid for by Area Health. |

**Table 17. Excluded primary care programs**

| Name and description of the program |
|---|
| **Massachusetts Child Psychiatry Access Project** (USA) (Primary Care and Psychiatry). Primary care. |
| **Massachusetts Mental Health Service Program for Youth** (USA) (home-based clinical intervention) via managed care organisation. |
| **Primary Care Based Child Clinical Psychology Service** (UK*)* See Abrahams, S. and Udwin, O. an evaluation of a primary care-based child clinical psychology service. Child and Adolescent Mental Health, 7(3), 107-113. "This paper describes a primary care-based clinical psychology service operating in an inner London borough that provides psychological intervention for children with emotional or behavioural difficulties and their families, and consultation and support to the primary health care teams". |
| **UK Onsite Metal Health Workers within primary care**. This initiative seems to be primarily focused in the primary care setting. The authors examined RCTs, controlled before and after studies and interrupted time series analyses of mental health workers either replacing primary care providers as providers of mental health care ('replacement' models) or providing collaborative care/support to primary care providers in managing patients' mental health problems ('consultation-liaison' models). The participants were primary care providers. Reference paper is Bower, P. and Sibblad, B. On site mental health workers in primary care: effects on professional practice. Cochrane Database Systematic Reviews, 2000 (3). CD 000532. |
| **Transdisciplinary Care for Early intervention**. This program is designed primarily for infants and involves a home visiting program. This program is "defined as the sharing of roles across disciplinary boundaries so that communication, interaction, and cooperation are maximised among team members" (see Davies, Johnson). Reference: King, Strachan, Tucker, Duwyn, Desserud, Shillington, Infants and Young Children, The application of a transdisciplinary model for early intervention services. Vol 22, 3, 211-223. My assessment is that this approach is for very young children, most with developmental or genetic delays/disorders. An explicit role for the school was not clear in this paper. |
| **Collaborative Care for Depressed Adolescents (Clarke, 2005).** There is evidence for the effectiveness of collaborative care for adolescents. In the original Clarke et al., study (2005) a RCT compared treatment-as-usual (TAU) with TAU SSRI plus brief CBT (*n*=77). The trial was undertaken in a paediatric clinic, and yielded some improvements. A more recent study had stronger results. However, both studies were not explicitly linked to the school environment. G Collaborative Care for Adolescent Depression: A Pilot Study Laura Richardson, MD, MPH,[1, 2] Elizabeth McCauley, PhD,[2,3] and Wayne Katon, MD General Hospital Psychiatry 2009, 31 (1) 36-45. |
| **SCCAP Shared Care in Child and Adolescent Psychiatry**. Unable to locate specific information. |
| **Helping Children with Autism Model**. Unable to locate specific information. May involve home based intervention. |

**Table 17. Excluded primary care programs**

| Name and description of the program |
| --- |
| **Menzies Program for Indigenous Youth**. Broad community based model. Research recently funded under the Beat Depression program, through Menzies. Associate Professor Tricia Nagel. No specific information about the involvement of schools. Following references should be sought.<br>Nagel T. 2007. Motivational care planning: brief interventions in Indigenous mental health. Australian Family Physician 37(12):996-1001.<br>Nagel T, Frendin J, and Bald J. 2009a. Interim Report AOD Remote Workforce in the NT. Darwin: Remote Workforce Program.<br>Nagel T, Robinson G, Condon J, and Trauer T. 2008. An approach to management of psychotic and depressive illness in indigenous communities. Australian Journal of Primary Health Care 14(1):17-21.<br>Nagel T, Robinson G, Condon J, and Trauer T. 2009b. Approach to treatment of mental illness and substance dependence in remote Indigenous communities: Results of a mixed methods study Aust J Rural Health 17(174-82).<br>However, note - this is neither youth or school specific, but underlines the importance of specific indigenous approaches. |
| **Wrap around kids**. This is an internet software program developed by Fostering Partnerships Pty Ltd designed to help teachers with kids who don't fit into traditional classroom environment. It is said to be a dynamic collaboration between parents, education and health professionals.<br>http://www.wraparoundkids.com/pages/what_is.htm It has been implemented in 10 schools in NSW. Designed for kids with learning disability, autism, hearing, emotional and behavioural disorders. The program is stated to be a "proven program developed for Australia using national and international research". The program was developed by Jude Foster. Originally this developed as part of the Mid North Coast Division of General Practice ADHD project. (check out more on the website). It is a company which links parents, teachers and health professionals. |
| **The Abecedarian Program**. Focus of this program is preschool children, hence not included for this report. Cohort study. Results found<br>http://en.wikipedia.org/wiki/Abecedarian_Early_Intervention_Project |

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## 8. Glossary

Conduct disorder – A general psychiatric classification encompassing a variety of behaviour patterns in which the person affected repetitively and persistently violates the rights, privileges and privacy of others.

Oppositional Defiant Disorder – (sometimes used as proxy for *Conduct Disorder* and *Oppositional Defiant Disorder*) – A developmental disorder marked by defiant, hostile and negativistic behaviour, but without the serious antisocial characteristics observed in the conduct disorder. Children who have it are argumentative, lose their temper easily, are resentful, angry and easily annoyed.

Attention Deficit Hyperactivity Disorder – A disorder characterized by hyperactivity, attentional deficits and impulsivity. Although first manifested in childhood may not be diagnosed until later in life.

Comorbidity – The simultaneous existence of two or more diseases or disorders.

CBT - Cognitive Behavioural therapy – Cognitive behavioral therapy (or cognitive behavioral therapies or CBT) is a psychotherapeutic approach, a talking therapy, that aims to solve problems concerning dysfunctional emotions, behaviors and cognitions through a goal-oriented, systematic procedure. The title is used in diverse ways to designate behavior therapy, cognitive therapy, and to refer to therapy based upon a combination of basic behavioral and cognitive research.

Anxiety – generally, a vague, unpleasant emotional state with qualities of apprehension, dread, distress and uneasiness.

Depression – Generally a mood state characterised by a sense of inadequacy, a feeling of despondency, a decrease in activity or reactivity, pessimism, sadness and related symptoms. In psychiatry, any of a number of mood disorders in which the above characteristics are extreme and intense.

Substance [related] disorder - An umbrella term for disorders associated with chronic and/or inappropriate use or exposure to drugs or other substances.

Eating disorder – a general term used to cover a variety of conditions characterised by serious disturbances in eating habits and appetitive behaviours.

RCT – randomised control trials. A scientific procedure commonly used in testing the effectiveness of psychological interventions. The basic idea is that treatments are allocated to subjects at random. This ensures that the different treatment groups are 'statistically equivalent'. This is considered the most reliable form of scientific evidence because it eliminates all forms of spurious causality

SEL - Social-Emotional Learning. A term that encompasses programs designed to enable the acquisition of emotional skills, foster empathy for others, promote decision making skills and skills in managing peer relationships and boost resiliency in responding to challenges

# 9. Abbreviations

- = no program name

? control = control mentioned but not described.

AAYP = Aban Aya Youth Project

AC = Attention control

ACE = Adolescents Coping with Emotions

ALERT = America's Law Enforcement Retiree Team

AMPS = Alcohol Misuse Prevention Study

AMT = Anxiety management Training

AO = Aussie Optimism

ATHENA = Athletes Targeting Healthy Exercise & Nutrition Alternatives

ATP = Adolescent transition Program

BRAVE = Building Resiliency and Vocational Excellence Program

CASPAR = (not defined)

CBT = Cognitive Behavioural Therapy

Commun. = Communication Skills

CPP = Coping Power Program

CSG = Children's Support Group

DARE = Drug Abuse Resistance Education

DARE-A = Drug Abuse Resistance Education – Abbreviated

Expos. = Exposure

fq = frequency

GBG=Good Behavior Game

GHP= GateHouse project

Grad = Graduate student / intern

HHMI = Hero/Heroine Modeling Intervention

HRIDAY = Health-related Information & Dissemination Among Youth

ISFP = Iowa Strengthening Families Program

KiR = *keepin' it* REAL (Refuse, Explain, Avoid, Leave)

LIFT = Linking the Interests of Families and Teachers

LST = Life Skills Training

LST+SFP Life Skills Training+ Strengthening Families Program for Parents and Youth

MET = Motivational Enhancement Therapy

MHP = Mental Health Professional

NA = Not available.

NI = No intervention control.

OTT = Overshadowing the Threat of Terrorism,

PC = Positive Communication,

PI = Parent intervention

PN = Project Northland

PNC = Project Northland Chicago

PPP = Penn Prevention program

PRP = Penn Resiliency Program

PSFL = Problem Solving for Life

Psychoed. = Psychoeducation

PTCBI = Personality-Targeted Cognitive-Behavioral Intervention.

PTP = Positive Thinking Program

Recon Youth = Reconnecting Youth

RFP = Resilient Families Program

RHC = Raising Health Children

RSTP = Risk Skills Training Program

SASS = Skills for Academic and Social Success

SFA = Skills for Adolescence

SFP = Strengthening Families Program for Parents and Youth

SHAHRP = School Health & Alcohol Harm Reduction Project

SI = Student intervention

SIT = Stress Inoculation Training,

SL = Social Learning

SMI = Stress Management Intervention,

SST = Social Skills Training

STARS FP = Start Taking Alcohol Risks Seriously for Families Program

STHTP = Slick Tracy Home Team Program

TCYL = Take Charge of Your Life

TND = Towards No Drug

UC = usual curricula

WL = Wait-list control