PROMOTING MENTAL HEALTH OF CHILDREN AND ADOLESCENTS THROUGH SCHOOLS AND SCHOOL BASED INTERVENTIONS

EVIDENCE OUTCOMES

SCHOOL BASED INTERVENTIONS

Report of Workpackage Three of the

DATAPREV PROJECT

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1. EXECUTIVE SUMMARY

1.1 Background

The DataPrev project aimed to increase the understanding and knowledge across Member States of mental health promotion and mental disorder prevention policy and practice. It developed and disseminated a standardized online information system that systematically gathered, described, reviewed and appraised best practices across settings; synthesizing the evidence base quantitatively and qualitatively; and translating the evidence into guidelines.

One of the key settings included was schools. The school represents an easy access environment with direct day-to-day contact with children, young people and, often, their families. Schools not only establish the competencies for learning, they are an important setting for mental health promotion, through their role in helping to establish identity, interpersonal relationships and other transferable skills (Greenberg *et al*, 2003). The past two decades have seen a significant growth of research and good practice on mental health prevention and promotion in schools. Activities operate under a variety of headings, not only 'mental health' but also those such as 'social and emotional learning' 'emotional literacy', 'emotional intelligence', 'resilience', 'life skills' or 'character education' (Weare, 2010).

The world leader in the field, both in terms of sheer numbers of programmes and also the amount of resource put into attempts to evaluate them rigorously, is the US, where literally thousands of what are effectively mental health programmes are operating with various levels of demonstrable success including twenty or so major programmes that are consistently identified as successful in rigorous systematic reviews (Zins *et al*, 2004). Australia is also the scene of thriving work and some of its programmes are starting to produce robust and positive evaluations (Shucksmith *et al*, 2007; Adi *et al,* 2007a).

Systematic reviews of interventions, using the most rigorous and exacting criteria, are repeatedly demonstrating definitively that the best of them are effective (Shucksmith *et al*, 2007; Adi *et al* 2007a). Well designed interventions can have a very wide range of positive impacts on specific mental health problems, such as aggression, depression, reduced commonly accepted risk factors, such as

impulsiveness, and antisocial behaviour, and developed the competences that promote mental health such as cooperation, resilience, a sense of optimism, empathy and a positive and realistic self concept (Wells *et al*, 2003). They can help prevent and reduce early sexual experience, alcohol and drug use, and violence and bullying in and outside schools (Greenberg *et al*., 2003), promote pro-social behaviour (Durlak and Wells, 1997) reduce juvenile crime (Caplan *et al*., 1992) and improve learning and attitudes (Zins *et al*, 2004).

1.2 Objectives for work package three

At the start of the Dataprev process many mental health interventions were known to be present in Europe, often labeled coping skills, stress reduction, violence prevention, and anti-bullying (WHO,/HSBC Forum Task Force, 2007; Fundacion Marcelino Botin, 2008). The mental wellbeing of children and young people had long been a major focus for work by the EU, and is one of the five priority areas of the European pact for Mental Health and Wellbeing (European Commission 2009). However efforts to review European work a decade ago concluded that much of the work to be found in Europe was not robustly designed or evaluated (Mental Health Europe, 1999; 2000). Attempts had been made to create databases of effective interventions (e.g. IMPHA, 2008; European Commission, 2010; Nederlands Jeugd Institute, 2010). The overall picture was however far from clear. Workpackage three of the DataPrev project therefore reviewed mental health interventions in schools. It aimed to clarify the evidence for and create a database of key evidence-based principles, approaches and interventions that are relevant to Europe and produce policy and practice guidelines to assist policy-makers as they select approaches and interventions for implementation.

1.3 Methodology

The population focus was school aged children and young people aged 4-19 in schools and classrooms. The scope was global, from 1990 onwards and, as there has been a considerable number of good quality reviews of this area, the work package sought out systematic reviews, reviews of reviews, data synthesis, data extraction, and meta-analyses. Interventions included universal (for all) and targeted programmes (aimed at children and young people with problems). The literature was found by undertaking systematic searches of the databases of literature routinely

used by the scientific community and employing over 80 search terms; further well conducted reviews were identified through existing contacts with, and databases of, the various national and international research agencies in the field that use rigorous evaluation methods to ensure quality.

Once an effective intervention was identified, if it was not a European programme in origin investigations were made to find out if it had taken place anywhere in Europe, by consulting the web and contacting the programme leader. Reviews were critically appraised to enable the assessment of the reliability of the results and for greater significance to be attached to the findings of the most rigorous reviews. The reviews were subjected to content and thematic analysis, with recurrent themes and trends identified and particular attention paid to any quantitative estimates of effectiveness. The principles of effective interventions and approaches were identified from all effective interventions identified across the world.

1.4 Results and conclusions

1.4.1 *Mental health in schools is effective*

Fifty-two reviews met the inclusion criteria. Most (46) addressed universal interventions while many of these also explored the impact on targeted or indicated populations. Twenty of the reviews were carried out by researchers based in Europe. Fifty came to a positive assessment of the evidence they reviewed. The remaining two reviews were inconclusive rather than negative. Interventions reviewed had significant effects on individual children, classrooms, schools and communities, and clear impacts on positive mental health, mental health problems, social and emotional learning, violence and bullying, and educational outcomes. Effect sizes were generally small to moderate in statistical terms but the translation of these effects into the real world terms was impressive, and compares well with other types of mental health and educational interventions e.g. an eleven per cent improvement in achievement tests, a twenty-five per cent improvement in social and emotional skills, and a ten per cent decrease in classroom misbehaviour, anxiety and depression (Durlak et al, 2010). These findings indicate that a continued focus on mental health in schools within Europe is fully justified.

1.4.2 Work is developing in Europe, but more needs to be done

Twenty-eight examples of evidence based interventions were found in Europe; fifteen of these originated in Europe, twelve from the US, and one from Australia. Over half of the European interventions focused on bullying, conflict and violence (9/15). The picture is improved from that of a decade ago in terms of evidence based European interventions when almost none were identified (Mental Health Europe, 1999; 2000) but they are still very few in number compared with the wealth of work in the US, and far more needs to be done to develop and evaluate work on mental health in schools in Europe.

The reviews found that many types of intervention worked sometimes, and interventions that worked very well in some contexts failed to make a difference in others. The more recent reviews therefore included an analysis of the characteristics of interventions that predicted effectiveness.

1.4.3 A balance of universal and targeted work is needed

Evidence suggests both universal and targeted approaches have their place and are stronger in combination, although the exact balance has yet to be determined (Adi et al, 2007a). Most interventions have a more dramatic effect on higher risk children, due to the ceiling effect with populations without overt problems (Horowitz and Garber, 2001). Universal approaches were more effective than targeted approaches alone and supported targeted approaches as well as promoting the mental health of all (Diekstra 2008a). Indeed targeted work for children who bully created more victimisation (Farrington and Ttofi, 2009). The overall focus of European work tends to be on universal approaches, for example all bar one of the evidence based interventions identified were universal, although many of the universal interventions included targeted approaches within them. This review generally supports this European focus on universal approaches, but suggests that there also needs to be a greater emphasis now on integrating targeted work within it to ensure it is robustly delivered.

1.4.4 Approaches in Europe

In terms of approach, nineteen of the evidence based interventions within Europe focused only on skills and the curriculum, six took a whole school approach which

included work on skills, teacher education, liaison with parents and school ethos, two were teacher education intervention and one was a peer support intervention which included work on skills.

1.4.5 Importance of integrating work to develop skills

Teaching skills and developing competence is a central part of any comprehensive and effective intervention (Berkowitz, 2007). Evidence shows the acquisition of social and emotional skills and competences impacts on depression and anxiety (Blank et al, 2009), conduct disorders (Waddell et al, 2007) violence prevention (Mytton, 2002) and conflict resolution (Garrard and Lipsey, 2007). The impact is greater when mental health issues are integrated into the general classroom curriculum and teachers reinforce the classroom curriculum in all interactions with children (Rones and Hoagwood 2002). CBT is a particularly effective approach (Shucksmith et al, 2007). It was pleasing therefore to note that all of the evidence based mental health in schools interventions in Europe included work on skills, a feature which needs to continue, and such work integrated with the mainstream curriculum.

1.4.6 Need for a positive, holistic and interactive approach

Several reviews commented on the need for a positive and holistic approach. Efforts to change students through information only were ineffective (Merry et al, 2004), as were behavioural strategies on their own (Greenberg et al, 2001). Reviews concluded that interventions need also to ‘educate’ the child through impacting on attitudes, values, feelings and behaviour. Interventions were more effective if they were positive rather than fear- or problem-based (Green et al, 2005) and addressed the needs of the whole child, rather than just seeing them as a ‘problem’ (Browne et al, 2004). More effective interventions used active rather than didactic teaching methods, employing interactive methods such as games, simulations and small group work (Durlak and Weissberg, 2007). Use of multiple modalities (a range of integrated and coordinated methods, groups, levels of intervention, one-to-one and whole class work) was more effective (Browne et al, 2004). Most of the European interventions identified in this review took such a holistic, multi-level, active approach, a style which needs to be endorsed and continue.

1.4.7 Importance of a whole school approach

Many reviews, across the topic range, concluded that it is necessary for effectiveness to move beyond a skills, classroom and curriculum focus alone, and embed such work within a whole school, complex, multi-component approach, involving a wide range of people, agencies, methods, and levels of intervention, and mobilising the whole school as an organization (Catalano et al, 2002). Several reviews commented on the importance of a positive school ethos and culture which shapes the underlying values and attitudes that the school represents, particularly in relation to the way staff and students treat one another (Adi et al, 2007; Farrington and Ttofi, 2009), and increased opportunities and recognition for youth participation in positive social activities (Catalano et al, 2002). Six examples of evidence based whole school interventions in Europe were identified, which is gratifying, but the majority of the evidence based interventions were skills based only, a balance which needs redressing with and there is a need for more European whole school programmes and more rigorous implementation and evaluation of those that exist.

1.4.8 Need for a range of leaders

A wide range of leaders need to be involved. Interventions are often best delivered by specialist staff in the early stages, in order to get a new and complex programme off the ground (Shucksmith et al, 2007). However for an intervention to be sustainable in the longer term, teachers then need to be involved, which is particularly important if interventions are to impact on the academic life of the school (Diekstra, 2008b). Several reviews found that peers can be an effective and significant part of effective mental health interventions, although caution needs to be practiced with peer work for children who bully, who need to work with those who do not, or adverse effects can result (Blank et al, 2009; Farrington and Ttofi, 2009).

1.4.9 Involvement of parents, families and the community

Clear evidence emerged that the involvement of parents and families increased the effectiveness of interventions; the involvement of parents was nominated repeatedly as a key component of effective multi-component interventions (Adi et al, 2007). Involved and educated parents can support and reinforce at home the messages children are learning at school. The effect is two way: there have been some statistically significant positive changes in families and communities as a result of

school-based programmes (Durlak et al, 2007). European school based mental health interventions need to do more to include parents and families; only a few of the evidence based interventions identified did this. There were some indications that community involvement is supportive and helpful (Catalano *et al*, 2002; Wilson *et al*, 2007; Diekstra, 2008a).

1.4.10 Starting early and carrying on

It is generally important to start interventions early, with younger children (Browne et, 2007). Interventions then need to continue with older children, with regular booster sessions, which can help to overcome the problem that the impact of most programmes otherwise tends to be short lived (Diekstra, 2008a). Interventions on bullying and violence are better targeted at older children (Farrington and Ttofi, 2009). Shorter interventions aimed at their specific problems, such as mild conduct disorder, can sometimes be effective (Adi et al, 2007b). However on the whole longer interventions, of at least nine months to a year, are more effective for teaching generic skills and/or in response to more severe problems (Shucksmith et al, 2007). More intense interventions, with more sessions per week, generally work better than more diluted ones (Farrington and Ttofi, 2009). The evidence based interventions identified in Europe were well balanced across the age ranges, with eleven focused on elementary school, six on the middle school, six on the high school and three cross-phase. However, most of the European evidence based interventions were restricted to one age group while evidence suggests there needs to be more continuity between interventions to improve mental health across the age ranges. .

1.4.11 Need for high quality implementation

Many recent reviews concluded that well designed interventions can still fail if they are not well implemented, a problem which has particularly affected the impact of recent whole school interventions (Durlak et al, 2011). Interventions were not effective if they were only based on loose guidelines and broad principles as, however sound the principles, effective interventions need high quality implementation. Some of the key interrelated features of high quality implementation identified by a range of reviews were:

- a sound theoretical base

- specific, well defined goals and rationale, communicated effectively to leaders and linked explicitly with the intervention components
- a direct and explicit focus on the desired outcome rather than using a different focus and hoping for indirect effects
- explicit guidelines, possibly manualised
- thorough training and quality control
- feedback on intervention effects
- consistent staffing and the specification of individual responsibilities
- plans to overcome barriers to implementation
- complete and accurate implementation.

There was recent evidence that multi-component/ whole school programmes developed by large national and international agencies are particularly likely to rely too much on broad principles, including democracy, user involvement and choice, not be implemented with enough clarity and rigor to result in hard outcomes. European mental health school based interventions need to ensure high quality implementation, with consistency, clarity and fidelity to clear guidance. .

2. BACKGROUND

2.1 Mental health and schools

Childhood and adolescence present a vital opportunity to develop the foundations for mental health, and schools form a powerful way to deliver this. Throughout Europe attendance at school is compulsory; children and young people spend a large amount of time in schools and the school represents an easy access environment with direct day-to-day contact with children, young people and, often, their families. School is where young people socialise and make friends, and where they are influenced by a wide range of adult role models, it therefore has a major socializing effect on their development. Schools have an important role, not only in cognitive and academic development but also in social and emotional development, through

their role in helping to establish identity, interpersonal relationships and other transferable skills (Greenberg et al, 2003).

The school has for some time been seen as a unique community resource to promote and foster mental, emotional and social wellbeing, and calls for it to be more active in this respect are growing (Mental Health Foundation, 1999; Hosman et al, 2004; WHO/HSBC Forum 2007 Task Force, 2007; Fundacion Marcelino Botin, 2008). The past two decades have seen a significant growth of research and good practice on mental health prevention and promotion in schools (WHO/HSBC Forum 2007 Task Force, 2007; Fundacion Marcelino Botin, 2008). Across the world, an increasing number of schools are engaging in a wide range of mental health related initiatives and policies, which in many places are showing promising results. Activities operate under a variety of headings, not only 'mental health' but also those such as 'social and emotional learning' 'emotional literacy', 'emotional intelligence', 'resilience', 'lifeskills' or 'character education' (Weare, 2004).

2.2 Mental health problems and the young

One of the motivations for this focus on mental health in schools is growing awareness of the substantial, alarming, and possibly growing number of children and young people who experience mental health problems, apparently rising as affluence increases in the West and as life becomes more complex and stressful, particularly for the young (UNICEF 2007). The mental health problems of children and young people are a significant personal, social and economic burden on the children and young people themselves, their families and the community (Zubrick *et al*, 2000). It would appear that around twenty-five per cent of children and young people in the developed world have an identifiable mental health problem (Harden et al, 2001), of whom ten per cent fulfill the criteria for a mental health disorder. The problems from which they suffer are varied. Although the application of psychiatric diagnoses and language to aspects of behavior is contentious, a review of mental health and young people (Harden et al, ibid) found that so called ' anti-social behaviour' (which they defined as conduct disorder and oppositional defiant disorder) to be the most common mental health problem presenting to psychiatrists, affecting over five per cent of children, particularly boys. Anxiety and depression affect four per cent. Suicide is thankfully relatively rare, but is still one of the three most common causes

of death in youth, and the numbers of suicides among young men has risen steadily over the last two decades while attempted suicides have increased among girls (Coleman and Brookes, 2009). Up to ninety per cent of young people who commit suicide have evidence of serious mental health problems, in particular depression (Beautrais et al, 1996).Self harm and eating disorders are a growing problem, particularly in girls (Harden et al, ibid). Many young people suffer from multiple problems, which frequently are undetected and untreated (Offord et al, 1999).

Poor mental health impacts severely on life chances, and can increase the risk of delinquency, trouble with the police, smoking, substance use disorders, and teenage pregnancy (Graham and Power, 2003). It also depresses educational attainment (Edwards, 2003): in a recent survey of child mental health in Great Britain (Green et al, 2005) forty-four per cent of children with emotional disorders were behind in their overall educational attainment, forty-three per cent missed at least five school days in the previous term, one in three children had officially recognised special educational needs, and twelve per cent were excluded. These rates are even higher for children with recognised behavioural (conduct) problems. Mental health problems in childhood are also major predictors of mental health problems in adulthood: half of all lifetime mental disorders are reported as beginning before the age of fourteen years (WHO/HSBC Forum 2007 Task Force, 2007).

The rising prevalence of mental health problems suggests that the demand for services simply cannot be met and the prevention of problems and the promotion of mental health are the only economically viable solutions (Zubrick *et al*, 2000). In this effort, schools are naturally seen as having a strong role in tackling mental health problems, and many approaches and interventions attempt to impact on mental health problems. They do so directly, by addressing the needs of those at risk (the so called ‘targeted’ approach) or those with an established problem (the ‘indicated’ approach), or less directly, using approaches aimed at promoting the mental health of the whole school population (the ‘universal’) approach (Wells *et al*, 2001). Up to the 1990s the focus of health in schools including mental health was very much on selective approaches, which focus all the resource and time onto children at risk of problems (targeted) or who have established problems (indicated). Shifts in fundamental thinking about health partly inspired by the WHO ‘settings’ approach

developed in the 1980s which focuses on the social environments which create health for all, and the 'salutogenic' approaches to health which focus on positive health, lead to the development of 'universal' approaches to mental health in schools aimed at everyone, not just those with problems. This review will explore the evidence for these approaches.

2.3 Positive mental health

The recognition of mental health problems is important and significant, but there is more to mental health promotion than this. Increasingly the focus in health promotion is not just on problems but also on positive states, the so called 'salutogenic' approach. The 'salutogenic' (health focused) approach is moving mental health promotion in schools from a focus on mental health problems to a focus on actions to promote wellbeing, which recognises strengths and capacities as well as vulnerabilities, and explores the characteristics of mentally healthy people as well as those with problems. This shift is strongly assisted by the recent growth of interest in positive psychology (Snyder and Lopez, 2005).

So when exploring mental health and the young it is important to keep a sense of perspective and note that most young people report at least reasonable levels of mental health. An overview (Graham, 2004) concluded that, contrary to the stereotype, most young people enjoy and work hard at school, get along with their parents and do not engage in high levels of risky behaviour. So, there is much positive mental health capacity on which to build.

2.4 Risk and protective factors

The concept of risk and protective/ resilience factors has come to be seen as a useful one as it brings together both the negative and the positive influences and outcomes in one dynamic perspective. There is a strongly confirmed association between emotional and behavioural development and a wide range of influences on children and young people, which are both positive and negative, direct and indirect, and biological and social (Greenberg *et al,* 2001). Social and contextual factors emanate from the family, school, neighbourhood and community (Offord and Lipman, 1996). These factors can be an accumulating risk, undermining mental health (Benson and Saito, 1999) and increasing the likelihood of mental health,

developmental or behavioural problems (Offord *et al*, 1999) Taking schools as an example, low achievement in school is a known risk factors for a range problems such as drug use, teenage pregnancy, behaviour problems and crime (Dryfoos 1997; Wells *et al* 2003).

Conversely schools can be positive and protective by protecting mental health and creating resilience, providing the child or young person with the inner resources to cope, to buffer negative stressors and thrive despite deficits. This is especially true for children who come from less than optimum home backgrounds and neighbourhoods where the intervention of the school can be the turning point for many children with few other supports (Gross, 2008). Schools can strengthen the mental 'immune system' in children by creating the kind of environments which promote wellbeing, providing caring people for support and guidance.

Schools have a key role helping young people learn the positive mental health skills that are critical throughout life, but are especially important during the school years (Harden *et al*, 2001), providing confidence in self-worth, competence, and engagement. These skills can help in negotiating the challenges of growing up and making transitions (Newman and Blackburn, 2002) and may act as protective factors by preventing the development of risky behaviour. They lead to increased school attainment and completion, less involvement in the criminal justice system, lower costs to public services, higher earning potential, and resilience for life (Catalano *et al*, 2002; Zins *et al*, 2004). Higher school achievement often enhances self concept, confidence and leads to life opportunities such as employment and social support (Mentality, 2003), while having a 'sense of connectedness' with school is a recognised protective factor for mental health. (Catalano *et al*, 2003).

It is worth recalling too that schools are also workplaces for school staff, who are some of the most dedicated but overstretched and stressed public workers (Bower, 2004). As such they deserve to have their own mental health needs met, not least because without this they are unlikely to be able to promote the mental health of those of whom they have charge (Howard and Johnson, 2004).

2.5 The impact of mental health interventions in schools

The last twenty years or so have seen a growing evidence base for the effectiveness of mental health promotion in schools. Systematic reviews of interventions, using the most rigorous and exacting criteria, are repeatedly that the best of them, when well implemented, are effective, both in promoting positive mental health for all, and in targeting those with problems. (e.g. Shucksmith *et al* 2007; Adi *et al*, 2007a). Taken together, the reviews provide growing evidence that well designed and implemented interventions to promote mental health and social and emotional wellbeing and learning can have a very wide range of impacts. They include impacts on specific mental health problems, such as aggression, depression, reduction in commonly accepted risk factors, such as impulsiveness, and antisocial behaviour, and development of the competences that promote mental health such as cooperation, resilience, a sense of optimism, empathy and a positive and realistic self concept (Wells *et al*, 2003). Interventions have also been shown to help prevent and reduce early sexual experience, alcohol and drug use, and violence and bullying in and outside schools (Greenberg *et al*., 2003), promote pro-social behaviour (Durlak and Wells, 1997) and in some cases reduce juvenile crime (Caplan *et al*., 1992). Children who receive effective, well designed and well implemented mental health and social and emotional learning are more likely to do well academically (in some cases achieving higher marks in subjects such as mathematics and reading), to make more effort in their school work, and to have improved attitudes to school, with fewer exclusions and absences (Weare, 2004; Zins *et al*, 2004; CASEL, 2009).

2.6 Location of interventions

The world leader in evidence based mental health promotion initiatives, both in terms of sheer numbers of interventions and also the amount of resource put into attempts to evaluate them rigorously, is undoubtedly the US, where literally thousands of what are effectively mental health interventions are operating with various levels of demonstrable success. Of these, twenty or so major interventions are consistently identified as successful by rigorous systematic reviews (Zins *et al*, 2004). Australia is also the scene of thriving work and some of its interventions are starting to produce robust and positive evaluations (Shucksmith *et al,* 2007; Adi *et al,* 2007). Interventions and approaches are also to be found across Europe, some ‘home grown’ and some from outside Europe. They operate under titles such as mental

health, social and emotional competency, violence prevention, anti-bullying and cognitive and coping skills, with interventions aimed universal, targeted and indicated populations (WHO/HSBC Forum 2007 Task Force, 2007; Fundacion Marcelino Botin, 2008). This review will draw on the best evidence from interventions across the world, and also attempt to identify examples of effective interventions in Europe.

2.7 European Policy context

The EU takes a strong role in public health matters in Europe and attempts to ensure the dissemination of good practice and parity of experience of public health across all its member states. The EU has recently prioritised mental health as one of its key areas for action within public health, and over the last decade it has held a sequence of meetings and conferences, commissioned various research projects to uncover good practice and produced a wealth of documents to guide practice and policy in Europe (e.g. European Union, 2005; 2008), within which the mental wellbeing of children and young people has invariably been a strong theme. Children and youth are one of the five priority areas of the European pact for Mental Health and Wellbeing (European Union, 2009).

There is much debate and quite a bit of activity in the development of strategies, interventions, projects and principles on mental health promotion in schools in Europe: however not much of this is based on rigorous evidence, as judged for example on what would pass a systematic review such as conducted by the English National Institute for Health and Clinical Excellence, a national body who set standards for clinical practice in England (NICE, 2010) or the Cochrane Collaboration (2010), who provide expertise in systematic review across the world. Attempts to review European work at the turn of the millennium concluded that much of the work was not robustly designed or evaluated by the standards of a systematic review: the interventions uncovered had, at best, before and after evaluations, and there were almost no instances to be found of evaluations using control groups (Mental Health Europe, 1999; 2000). More recent attempts to review the area have mostly focused on illustrative case studies (Fundacion Marcelino Botin, 2008).

Knowledge about school mental health promotion is very spread and disparate; there is no European equivalent of the kind of national agencies which bring information about interventions together in the way that the Collaborative for Academic, Social and Emotional Learning (CASEL, 2010) achieves in the US. The WHO Helsinki Action Plan for mental health (WHO, 2006) called for:

> an integrated system of databases across the WHO European Region to include information on the status of mental health policies, strategies, implementation and delivery of evidence-based promotion, prevention, treatment, care and recovery.

Several databases of 'good practice' in Europe, including in mental health initiatives for children and young people, have been created (e.g. IMPHA, 2008; European Compass, 2010), but not always selected with an eye to the evidence base. A more systematic database of interventions, with more precise information on how their effectiveness has been evaluated, has been published on the web by the Nederlands Jeugd Institut (2010) but is at the moment only in Dutch.

3. AIMS AND OBJECTIVES

The DataPrev project was funded by the Sixth Framework of the European Community Research Programme under Policy-Orientated Research to establish a database of evidence-based European interventions to promote mental health. Workpackage Three is examining the evidence base for work in schools.

As we have seen, there is a good deal of work on mental health in schools taking place internationally, some of it proven to be effective in some circumstances. Some demonstrably effective interventions have taken place in Europe, some of them imported from countries outside Europe, some home grown. However the picture has been far from clear, and there was a need to clarify what is happening across Europe in terms of evidence based practice on the ground. There was also a need to clarify the principles of design and the implementation factors that support effective interventions right across the globe in order to help those in Europe who want to develop their own interventions to understand the evidence based principles they

need to follow, and/or have some clear criteria from which to select from existing interventions and implement them effectively.

DataPrev Workpackage Three therefore undertook a search for evidence based effective approaches and interventions which promote mental health in schools and are currently used in Europe and identifying the principles that support effective approaches and interventions, including the principles of effective implementation. More specifically this workpackage has:

- undertaken a systematic review of reviews of work to promote mental health in schools, using literature searches and professional contacts, using a wide variety of terms, and coding and describing the key reviews;
- enquired of leaders of effective approaches and interventions and attempted to engage the relevant stakeholders at country level to find out what approaches and interventions are being used in Europe;
- identified best practice through evidence appraisal guidelines and outlined the principles and implantation strategies which drive effective approaches and interventions;
- prepared two academic papers summarising the project, and its findings and implications, one published at mid-way and one submitted for publication at the end;
- prepared this full report;
- selected effective approaches to European school mental health and inputted descriptions of them and a critical account of their evidence base into an internet database.

4. METHODOLOGY

4.1 Databases searched

The following key electronic health, social science and education databases were searched: Embase; CINHAL; PsychInfo; Medline; ERIC; ASSIA; Social Services Abstracts; Sociological Abstracts; DARE, CENTRAL; SIGLE; Social sciences citation index (SSCI); OpenSIGLE (database of grey literature); British Education Index;

Australian Education Index: HealthPromis; Child Data. The Cochrane Database of Systematic Reviews; Campbell Collaboration databases; Web of Knowledge, Google and Google scholar were also included in the search strategy.

4.2 Further sources of reviews

Reviews were also identified through contacts with various national and international research agencies and their databases in the field, including:

- The Collaborative for Academic, Social and Emotional Learning (CASEL) in the United States (CASEL, 2010) (particularly their database of 20 'select' programmes which have been shown through rigorous review to have a significant and long term impact);
- The Cochrane Database in the UK (Cochrane Collaboration, 2010);
- The EPPI Centre in the UK (EppiCentre, 2010);
- The National Institute for Clinical Excellence in the UK (NICE, 2010);
- IMPHA - European Network for Mental Health Promotion and Mental Health Disorder Prevention (2008);
- The Campbell Collaboration (2011);
- Mental Health Europe (2010);
- The World Health Organisation (WHO, 2010).

Additionally, two journals, namely *Advances in School Mental Health Promotion* and the *International Journal of School Mental Health,* were hand searched from 2006-2010. We also identified sound reviews through personal contacts with those known to have produced them in the past, and from the reference lists from previous sound reviews, overviews and reports.

4.3 Inclusion criteria

Studies were selected for analysis based on titles, keywords, and abstracts.
To be included, reviews needed to meet the following criteria, either wholly or partially.

Reviews: Any universal and/or targeted and/ or indicated school based and/or classroom based reviews of interventions which aim to improve mental health,

and/or prevent mental illness/problems and/or tackle mental health problems, aimed at children and young people, with their parents if appropriate, based in classrooms and/or schools, colleges and classrooms, including mainstream, special, and independent institutions.

Years: 1990- 2010

Population: School aged children, young people/ adolescents/teenagers aged four to nineteen years, individuals or groups or whole school, including those with existing conditions, problems and special needs.

Settings: schools (including sixth form colleges), mainstream, special, independent and private, classroom, other educational contexts.

Outcomes:

- *General overarching goals and synonyms for mental health***,** e.g. mental health, wellness/ wellbeing, quality of life, character, autonomy, empowerment, agency, self concept, efficacy;
- *Positive mental states*: e.g. happiness, contentment, satisfaction, confidence, connectedness, sense of coherence, self esteem;
- *Mental health skills/capacities*: e,g, social behaviour, relationships, lifeskills, personal skills, communication, decision making, conflict resolution, emotional intelligence, respect, optimism, resilience, attachment, coping;
- *Mental health problems*: e.g. conduct disorder, depression, anxiety, stress, bullying, aggression, anger, delinquency, self harm, violence, behaviour problems, impulsivity, isolation.

Study designs: systematic reviews, reviews of reviews, data synthesis, data extraction, meta-analyses. Both narrative and quantitative analyses were included.

Availability: Reviews had to be published in English, in peer reviewed journals or by academic publishers, or commissioned and published by rigorous research agencies

e.g. the National Institute for Clinical Excellence. The quality of included reviews was assessed (see below).

It is acknowledged that systematic review, the criteria against which to judge quality, and indeed the whole issue of what constitutes 'evidence' are all contentious issues, and can be problematic. Nevertheless at the present time systematic review remains most policy-makers' preferred method of establishing the evidence base, with widespread acceptability across a range of disciplines and health and social agencies, and thus provides the most useful and accessible basis on which to proceed (Nind and Wearmouth, 2004; Shepherd, 2009).

4.4 Exclusions

Work was excluded if:

- it was published prior to 1990 - the main work on this theme started after 1990 and we were seeking current approaches and interventions it was unnecessary to go back any further;
- the reviews, or reviews of reviews, were not systematic in nature or a meta-analysis or data synthesis or methodical data extraction according to defined evidence based principles and/or which make no attempt to assess the quality of studies using statistical methods;
- the focus was on children below and above the compulsory/statutory school age in the country concerned;
- the focus was on parents alone or beyond the remit of school based interventions, e.g. work with school aged children outside of educational settings such as clinics;
- the setting for intervention was preschool, further education college, higher education, or home tutoring;
- the focus population was a very small and specific demographic group e.g. Inuits;
- the intervention remit was very broad, including mental health in theory but in practice having little specific to say about it, e.g. Health Promoting Schools;
- it related to a technical feature e.g. how to evaluate the implementation of mental health interventions in schools;

    - it was non-empirical e.g. grey literature;
- the outcomes addressed topics too voluminous and specialist for the scope of this review, i.e. drug abuse, suicide, eating disorder, pregnancy, sexually transmitted disease, child sexual abuse, and attention deficit disorder.

4.5 Search terms

A broad set of terms were used to increase the sensitivity of the search:

- *Terms to identify relevant reviews*: systematic or data synthesis or data extraction or meta analysis;
- *Terms to identify the relevant population*: children or young people or teenagers or youth, or child or adolescents;
- *Terms to identify the relevant settings*: school or classroom or college;
- *Terms to identify the relevant interventions*: interventions or program or training or education or promotion or intervention or skills or support or individual or group or prevention or course;
- *Terms to identify outcomes for overarching mental health goals/ synonyms for mental health*: mental health or salutongenic or wellness or wellbeing or positive or quality of life or character or autonomy or empowerment or agency or self or efficacy or pro-social;
- *Terms to identify outcomes for positive mental states*: involvement or happiness or contentment or satisfaction or confidence or connectedness or sense of coherence or emotional or feelings or affect or respect or optimism or resilience or motivation or attachment;
- *Terms to identify mental health skills*: behav$ or relation$ or lifeskills or personal skills or communication or assertion or decision making or problem or social or coping;
- *Terms to identify mental health problems*: delinquency or disturbance or conduct or depression or hopelessness or anxiety or panic or fear or stress or burn out or bullying or aggression or anger or irritability or self harm or disorder$ or alienation or violence or conflict or impuls$ or isolation or loneliness or psychological or truancy or absen& or exclusion;

- *Terms to exclude unwanted settings*: NOT preschool, kindergarten, nursery, infant, further education, adults, university, higher education, post compulsory, home tutoring.

4.6 Critical appraisal

Standardised forms were used for critical appraisal, description, summary and analysis. The form used for critical appraisal (table 2 appendix 2) involved noting: whether the review addressed a clearly focused question, the types of study included (e.g. RCT, CCT), whether a comprehensive search was undertaken, whether the quality of the included studies was assessed, the method used (e.g. systematic review, meta-analysis, narrative review), how the results were presented (e.g. with effect sizes) and whether it included an economic review. This was based on the standardised checklist developed by Oxman *et al* (1994).

The reviews on which this report and its recommendations are placing most weight are those that most closely match the quality criteria for systematic reviews developed by Oxman (ibid) and by the English National Institute for Clinical Excellence (NICE), criteria based on an international Delphi exercise to clarify consensus in the area (Sander and Kitchener, 2006). They include reporting of a literature search strategy for identifying potentially relevant literature, data synthesis, the assessment quality, predetermined written criteria for the selection of studies, explicit methods for extracting data, selecting studies for inclusion, and a pre-defined study protocol.

4.7 Analysis

The next standardised form (table 1 appendix 1) was used for noting aspects of the interventions forming the content of the reviews: the focus of review, aims of the intervention, who delivered, frequency and duration, population, setting and timing.

A further standardised form (table 3 appendix 3) noted results including: number of included studies, relevant outcomes including effects sizes where given, findings and authors' conclusions. Where quantitative results are given and an overall magnitude of the effect reported, these are described in the text. The latter are variously reported depending on the nature of the data extracted but most commonly as effect

sizes (ES) (also called weighted mean difference). All effects reported in the text are statistically significant unless otherwise stated; where ninety-five per cent confidence intervals are reported in the reviews, these are reported in the text.

The reviews and their results and conclusions were subjected to content and thematic analysis, with recurrent themes and trends identified and particular attention paid to any quantitative estimates of effectiveness. The reviews were grouped by the most evident theme they reviewed and in the next part of the study, described to bring out their key findings and principles. Data extracted from each of the included reviews were then examined using a thematic approach to identify successful approaches (e.g. social skills training) or principles (e.g. starting early with younger children). These were used to inform the guidance given later in the report about what approaches and principles 'work'. The principles of effective interventions were extracted both from approaches and interventions that had taken place in Europe and from those that do not.

4.8 Identifying interventions in Europe

As one of the goals was also to identify specific interventions that are successful and are being used in a European context, the reviews were read to identify interventions that are successful (i.e. had significant and at least immediate impact), rigorously reported and current or recent.

A standardized data extraction form (table 4 appendix 4) was used to note thename(s) of the intervention, which review(s) cite(s) it, a short summary of the main approach and its evaluation, details of the main papers that report on the evaluation of the intervention, where the intervention originated and which European country it is in, if any.

The form only included interventions which the reviews concluded show positive results, in at least the short term. Some of these interventions were named 'programmes'. By programmes we mean an intervention which has been carried out in more than one place, has a name, an enduring presence over several years and contains sufficient guidance material to be tried by others. Examples would be Promoting Alternative Thinking Strategies (PATHS) or Second Step to Violence

Prevention. Not all interventions reviewed were named programmes - some were short term only and had no specific name or lasting presence.

Once an effective programme/ intervention was identified, if it was not clearly European in origin, the project team attempted to find out whether it had run anywhere in Europe. Using websites, various personnel were contacted, including programme directors, authors, publishers and evaluators. If it had run in Europe it was included in the table.

5 RESULTS

5.1 THE REVIEWS

5.1.1 Numbers of reviews

Over 500 studies were identified. Of these, fifty-two reviews met the inclusion criteria and are included in the analysis. As well as the exclusions noted above, some studies that were theoretically eligible were excluded as they turned out to be repetitions or smaller subsets of a larger and more comprehensively reported study by the same researchers in the same time frame as another included in the analysis here.

5.1.2 The countries from which the reviews came

The reviews were carried out by researchers representing a wide range of countries. Just over half (27) were carried out by researchers based in the US, but nearly half were not, and came from the UK (13), the Netherlands (3) Germany (2), Canada (2), Australia (2), New Zealand (1), Norway (1) and the Netherlands and Belgium combined (1).

5.1.3 Scope and aims of the reviews

The reviews were very heterogeneous and covered a range of topics, some being focused (e.g. self esteem, stress) and some wide ranging (e.g. mental health and wellbeing and character education). Many overlapped those of other included

reviews in terms of subject matter. Most (46) of the reviews were universal in scope i.e. they targeted all children in the group, including those without problems, although some also explored the impact of interventions and approaches on targeted or indicated populations within their larger sample. Six studies were entirely focused on targeted and/or indicated populations, focusing on children with or showing signs of various mental health problems (2) violence and aggression (2) and emotional and behavioural problems (2). Some reviews focused on interventions with a specific aim (e.g. the prevention of depression in children and adolescents), other reviews covered interventions with a specific approach (e.g. social information processing). A few reviews included interventions and outcomes unrelated to schools and mental health: where this is the case we report here only the results relating to schools and mental health outcomes.

5.1.4 Changes in the reviews across the two decades

Undertaking reviews of mental health is clearly an increasingly popular activity. The 1990s produced six while the 2000s produced forty-six. There have been shifts in quality and focus across the time period. Early studies used experimental designs and clinical staff to deliver small-scale interventions to small samples of children, usually on specific issues and with short term evaluation only. Their applicability to real life classroom settings and their sustainability is therefore open to question. More recent studies have often been larger in scale, with longer term evaluations, using teachers and regular, routinised interventions which are intended to be more relevant and sustainable,

5.1.5 Critical appraisal of the reviews

The results of the critical appraisal of all included reviews are provided in table 2, appendix 2. Seven out of fifty-two reviews were primary reviews restricted to RCTs; twenty-seven were primary reviews restricted to RCTs and non-randomised controlled; four were reviews of reviews of a range of studies, most of them with some element of control. The remaining fourteen reviewed a broad range of designs of primary research studies including interrupted time line. Twenty-eight of the fifty-two reviews reported a meta-analysis of results. Five reviews attempted some kind of health economic appraisal.

5.1.6 The overall effectiveness of work in this area

All fifty-two reviews in the four topic areas contained some kind of indication of the effectiveness of the studies they reviewed. Thirty-eight reviews used statistical procedures to arrive at numerical assessments, using effects sizes or percentage improvement, which they calculated where possible, although in all cases there were a limited number of primary studies that provided the data to do this. The other fourteen reviews were descriptive, narrative and/or qualitative and used descriptors such as 'effective', but did not define them numerically.

It is possible to make some tentative generalisations about the overall picture the reviews presented of the evidence, although generalisations need to be cautious, because, as we have seen, the reviews were very heterogeneous, covering many different issues, topics and populations, undertaken across a twenty year period and of varied quality.

The overall view of the evidence was clearly positive and overwhelmingly in favour of intervening in this area, although with cautions and caveats. Fifty of the reviews came to a positive assessment of the evidence they reviewed, concluding that at least some of the interventions whose studies they reviewed had at least small effects and/or were in some way 'effective'. Interventions reviewed had a wide range of beneficial effects on individual children and young people, on classrooms, families and communities and on a very wide range of mental health, social and emotional and educational outcomes. Some reviews provided a summary and overview, and concluded that overall effects were small to moderate, for example Durlak and Wells (1997) concluded that 177 primary prevention interventions had ES (effect sizes) ranging from 0.24 to 0.93, Durlak and Weissberg (2007) and Durlak *et al* (2011) found that well implemented interventions had mean ES from 0.24 to 0.35, and Durlak *et al* (2011) calculated a grand study-level mean ES of 0.28 for 207 SEL interventions reviewed.

The remaining two reviews were inconclusive rather than negative. Park-Higgerson (2008) concluded that overall the studies reviewed (on violence prevention) did not show significant effects for interventions but attributed this primarily to methodological difficulties. A review in an unusual area (Schachter et al, 2008) on

efforts to reduce mental health stigma was unable to come to any conclusions about effectiveness due to methodological weaknesses in the design rather than any negative evidence.

5.2 INTERVENTIONS IN EUROPE

5.2.1 Overview of the interventions

See table 4,appendix 4 for a summary of the interventions in Europe.

Twenty-eight interventions identified by the reviews as effective had taken place somewhere in Europe. Fifteen of these originated in Europe, twelve in the US, and one in Australia. Over half of the European interventions focused on bullying, conflict and violence (9/15).

In terms of approach, nineteen interventions focused on skills and the curriculum, six took a whole school approach including work on school ethos, two were teacher education interventions and oe was a peer support intervention.

Of those that focused on children (rather than teacher education for example), eleven focused mainly on the primary/ elementary school years (ages three to eleven years), six mainly on the middle school years (ages nine to fourteen) and six mainly on the secondary/ high school years (eleven to eighteen) while and three were cross phase. Eight, six of which were whole school, included work with parents.

5.2.2. Transferability

The vast majority of evidence based interventions identified in reviews came from the US. There were very few trials of interventions outside of the US from which to draw conclusions. So the evidence for effectiveness of these interventions is largely US based.

Several of the non-US reviews were concerned to identify aspects of practice that were transferable to other countries (e.g. Shucksmith *et al,* 2007; Diekstra 2008b) and two specifically explored this issue in relation to a particular county (Maxwell *et al*, 2005 - the United Kingdom; Bayer *et al,* 2009 – Australia). A few trials had taken place in European contexts of evidence based interventions that originated

elsewhere, for example a report on a successful trial of 'the Good Behaviour Game' in the Netherlands (van Lier, 2004) reported in Adi *et al* (2007a) and there were some trials in countries outside of Europe (Diekstra, 2008b). Such clearcut conclusions as it was possible to draw from such small evidence were positive. Diekstra (2008b) found the overall effect size of US and non-US studies similar for the only outcome on which comparison was possible, social and emotional skills, while Shucksmith *et al (*2007) found that CBT-based interventions targeted at reducing anxiety disorders had been transferred successfully between several countries, indicating a degree of generalisability of applicability, at least in this instance.

5.3 CONTENT AREAS AND TOPICS COVERED

In this section we summarise the main findings of the various reviews under the main topic they reviewed. We have classified reviews according to their actual main subject matter, which was not necessarily exactly the same as their title. Later in the report we extract themes which run across all reviews.

The reviews fell into the following four broad areas:

- positive mental health and wellbeing including positive youth development, character education, and self esteem/ self concept (13);
- social and emotional learning/ competence/ coping skills/ stress management (8);
- difficult behaviour (violence, bullying, conflict resolution, aggression, disruptive behaviour, anger) (17);
- mental health disorders and problems, mental health services, including anxiety and depression (14).

In practice there was a good deal of overlap between these four categories, particularly the last two, Twenty two used the terminology of mental health' and 'wellbeing' or 'mental health problems' but thirty, used other terminology

There were thirteen reviews that could be categorised as having a clear and unequivocal focus on universal positive mental health and wellbeing, rather than just being concerned with problems, although all of these positively focused reviews included consideration of mental health problems too. Three studies focused specifically on self esteem and three were in effect positive mental health promotion under another title ('positive youth development' and 'character education'). The reviews showed positive and small to moderate effects of interventions which focused on universal positive mental health, with an average ES of 0.15 - 0.37. Impacts on self esteem and self confidence were consistently shown to be moderate, with ES of 0. 34 – 0.69.

Social and emotional learning' (SEL) has become a term that is widely used in the field, especially in education, where it is generally seen as less threatening and more education friendly than the term 'mental health'. The skills involved coincide with most categorisations of mental health skills and are generally seen as fundamental to mental heath. Eight reviews focused attempted an overview of positive generic SEL interventions. These interventions were consistently shown to have positive moderate to strong effects (ES 0.5 – 1.49.

A major mental health promotion issue for schools is how to prevent externalising behaviour such as violence, aggression, bullying and anger, which can mar the lives of everyone in schools and in the surrounding communities, bringing fear, anxiety and depression to those who are its victims and reduced life chances for the perpetrators. Fifteen reviews addressed these externalising behaviour problems, using various overlapping terminologies. Ten focused predominantly on aggression, violence and conflict resolution, four focused predominantly on bullying, one focused on anger and one focused on disruptive classroom behaviour. The impact on universal populations was positive and small (ES 0.1 on average) but generally markedly stronger for high risk children (ES 0.21 – 0.78 on average). The impact of some individual interventions was particularly strong, for example the Peacebuilders programme reported by Diekstra (2009a) had an ES of 1.49. Impact was generally stronger for older students than younger (Farrington and Tfofi, 2009). Cognitive–behavioural interventions also consistently showed a larger effect than average with an ES of 0.5 (Beelman, 2006; Shucksmith, 2007). Targeting children who have

violent or bullying behaviour, and especially carrying out peer based work with them, in which difficult children work together, generally has an adverse effect, with more bullying and victimisation resulting (Farrington and Ttofi, 2009).

Fourteen reviews were focused particularly on interventions targeted at those at risk or indicated for those with mental health problems, and disorders. Nine reviews were generic and focused on targeted and indicated mental health interventions in general, one review on mental health stigma and four reviews on depression, some with anxiety. The impact of the whole range of interventions on mental health problems, including universal interventions, was positive, with a number of reviews consistently showing overall small to moderate effect sizes (ES) of 0.10 - 0.37 (Waddell *et al,* 2007; Diekstra, 2009a). Impact was generally consistently dramatically higher, and quite strong, on higher risk children, with average ES of about 1.00, rising to 2.46 for some specific interventions and measures (Horowitz and Garber, 2001; Browne *et al,* 2004; Reddy *et al*, 2006; Payton *et al,* 2008).

5.4 THEMES AND PRINCIPLES

5.4.1 Principles of design and implementation

The reviews showed that many different interventions, approaches and populations were used and although some patterns emerged, it was not always clear cut. Many types of intervention working in different contexts, and interventions that worked well in some contexts failing to make a difference in others. Most reviewers concluded that interventions could be effective but that their effectiveness could not be relied upon. They called for further work on the key features of effective interventions – the salient principles and strategies. We review what is known below.

5.4.2 Types of approach

We have already used one type of categorisation of interventions, which is by the ostensible topic area, and explored interventions according to what they tell us about four areas: positive mental health promotion, social and emotional learning, difficult behaviour and mental health problems. However many other categorisations of

approach are possible, and reviews used a wide range of typologies. Some of the main approaches and categorisations they looked at included:

- Targeted/ universal
- Curriculum and skills based interventions
- CBT
- Counselling
- Mentoring
- Peer mediation
- Peer norming (using students without difficulties to buddy those with difficulties)
- School and classroom behaviour management interventions, including teacher training
- Whole school/ multi-modal approaches
- Parenting education
- School ethos
- Academic interventions (that attempt to help students with difficult behaviour do better in their academic work)

All these approaches were found to have some evidence of effectiveness, although in some cases it was just one or two studies and very small effects. This chapter will review the approaches and principles which showed reasonable evidence of effectiveness and explore the evidence relating to some key themes.

5.4.3 Balancing targeted and universal approaches

Having an overall focus on positive mental health was better than focusing only on problems, including for children with problems (Greenberg *et al,* 2001). Similarly several reviews concluded that there was clear evidence for the usefulness of universal approaches over targeted approaches alone for all types of mental health issues (e.g. Wells et al, 2003; Browne *et al*, 2007; Diekstra *et al* 2008a) and suggested that universal approaches not only promote the mental health of everyone but also provide a more effective context for working with students with problems than targeted or indicated alone, reducing the stigma and creating an overall climate that encourages improvements.

Most universal interventions have been generally shown to have a more dramatic effect on higher risk children, due to the ceiling effect with populations without overt problems (Mytton *et al* 2002; Wilson and Lipsey, 2006b; Adi et al 2007b; Diekstra 2008a). For example, Horowitz and Garber (2001) reviewed interventions to prevent depression and found that the mean effect size for selective prevention programs was 0.30, compared with an 0.12 for universal prevention interventions – they hypothesised that this was probably because baseline depression in a universal population is not high. Wilson *et al* (2003) found that the effect sizes for interventions to reduce violence and aggression were of the order of 0.1 for universal interventions and 0.3 for targeted or indicated populations. However Wilson and Lipsey (2007) found that to reduce violence and conflict in special schools had a relatively low impact (0.11), maybe because all is being done already that can be, or that perhaps the problems are so severe that these interventions cannot reach them.

Several reviews (Haney and Durlak, 1998; Beelman, 2006; Shucksmith *et al,* 2007; Payton *et al*, 2008) suggested that targeted alone can be effective. Reviewing studies of targeted SEL interventions Payton *et al* (ibid) they found significant mean effect sizes ranging from 0.38 for improved attitudes toward self, school, and others to 0.77 for improved social and emotional skills in all six outcome categories studied. Although the magnitude of these effects was generally lower at follow-up, they were still significant in five out of the six categories (all except academic performance). Beelman (ibid) in a review of social skills training to prevent anti-social behaviour and promote social competence found that more intensive treatments to be more effective for anti-social behaviour (d= .30) and had higher effect sizes than universal approaches.

However some dangers in targeted alone were highlighted. Farrington and Ttofi (2009) commented that targeting only children who bully and working with them as a group is counterproductive and leads to more victimization as the bullies learn from one another. Shucksmith *et al* (2007) found that a number of studies point to the screening problems inherent in identifying an ‘at risk’ population for targeting at a young age, and that significant numbers of ‘false positives’ appear to emerge from teacher and parent ratings.

The final verdict of most recent reviews was that both universal and targeted approaches have their place and may be stronger in combination (Catalano, 2003; Green *et al*, 2005; Adi *et al*, 2007a°) Maxwell *et al* (2008) concluded that their review of mental wellbeing interventions supported sustained broad-based mental health promotion interventions combined with more targeted behavioural and cognitive-behavioural therapy (CBT) for those children with identifiable emotional well-being and mental health needs. Browne *et al* (2007) concluded that the evidence calls for universal services to bolster protective factors and for tailored, long-term, timely interventions for high-risk children. Wilson and Lipsey (2007) concluded that both universal interventions (ES 0.21) and targeted programs (ES 0.29) for selected/indicated children were effective. Waddell *et al* (2007), reviewing interventions to prevent depression, found that in the most effective programs employed universal CBT training in school-age children supported by interventions targeted at-risk school-age children, also using CBT.

The exact balance to aim at was not however clear. Adi *et al* (2007a) in a review of interventions to promote mental wellbeing in primary schools found insufficient evidence to make recommendations relating to the optimum balance of universal and targeted approaches.

5.4.4 Differential impact

Several reviews addressed the question of how interventions impact on different populations, according to gender or ethnicity for example. Many of the findings were inconclusive, or not replicated in other studies. Adi *et al* (2007a), in a large, good quality, recent review of the whole field, found no trials to show differential effects for universal mental health promotion according to age, gender, ethnic or social groups.

Gender was addressed in some reviews, but without very substantial or clear results emerging. Adi *et al* (2007b) reviewing the evidence on interventions on violence and bullying in primary schools found evidence that they may have more effect on white children than black, and on boys than girls. They attributed the gender difference to the particular focus of their review: as externalising, overt violent and aggressive behaviour is more common in boys than girls with girls more likely to exhibit covert

emotional violence and relational bullying. Mytton *et al* (2002) however, also reviewing school-based violence prevention interventions, concluded that the benefits appeared to be greater among mixed-sex groups. In terms of interventions to prevent depression, Horowitz and Garber (2001) found no clear effect of gender or age, while Merry *et al* (2004) found that reports of effectiveness for boys and girls were contradictory.

We have already commented that generally universal interventions showed most dramatic impact on high risk children across a range of mental health problems (Adi *et al,* 2007b; Mytton *et al,* 2002;,Wilson *et al* 2003 and Wilson and Lipsey, 2006b). This was particularly true in the case of violence and aggression. All reviews attributed this to ceiling effects in the outcome measures: if outcomes focus on violent behaviour and if most children do not exhibit this most of the time, measurable changes would only be observed in children who have major violence problems. Wilson and Lipsey also (2006a) also found that children from low socioeconomic status families or from schools with a large proportion of low income students achieved greater benefit from violence reduction interventions than students from higher socioeconomic status communities. However there was a limit to this effect: Wilson and Lipsey (2006b) found that interventions for special education students were significantly less effective than those for regular education students, hypothesising that such students at the very far end of the spectrum may have had problems that were too serious to respond to relatively short interventions.

5.4.5 Teaching skills and developing competence

Interventions to develop skills and competence are one of the most common approaches to promoting mental heath and preventing mental health problems. Most of the evidence based interventions identified by this review as taking place within Europe were focused on developing skills, usually within the taught curriculum for all students.

There was more or less complete consensus within the reviews that teaching skills and developing competence is a central part of any comprehensive and effective intervention to promote mental health and prevent mental health problems (Durlak and Weissberg, 2007; Catalano *et al*, 2002; Berkowitz, 2007) Skills were indicated

whatever the issue. They were found to be important for universal interventions of mental health promotion (Adi *et al,* 2007a); depression and anxiety (Waddell *et al*, 2007; Blank *et al*, 2009); conduct disorders (Waddell et al, 2007); violence prevention (Mytton, 2002); conflict resolution (Garrard and Lipsey, 2007); anger management (Gansle, 2005); bullying (Vreeman and Carroll, 2007); mental health disorders such as anxiety and depression (Neil and Christensen, 2004; Waddell *et al*, 2007); and emotional disturbance (Reddy *et al*, 2009).

According to Shucksmith *et al* (2007) there is considerable consensus over the type of input that works overall for targeted approaches, and it is clearly centrally concerned with skills development in students, teachers and parents. They conclude that the more complex and effective interventions, despite their different branding, offer a very similar mix of CBT and social skills training for children, training of parents in appropriate reinforcement and better methods of discipline, and training of teachers in the same. This mix seems to be very similar whatever the problem or diagnosis - for depression and anxiety as well as for externalising behaviours such as conduct disorders.

There is a debate however about whether the curriculum and classroom based approaches used alone are effective, or whether it is limited to short term impacts only. We will review that below when we look at whole school/ multi-component approaches.

5.4.6 Integrating work on skills into the taught curriculum

A few interventions taught skills one to one, most usually those that were targeted at those with more severe problems. However many transmitted them through the taught curriculum, most commonly those aimed at universal populations, but often for targeted approaches too. Skills work had more, and longer term, impact when mental health issues were integrated into the general classroom curriculum than when the skills were focused on in isolation (Rones and Hoagwood, 2002). Berkowitz (2007), Diekstra (2008a) and Adi *et al* (2007a) concurred with the need for integration of skills into the everyday life of the classroom, concluding that interventions covering social problem solving, social awareness and emotional literacy, in which teachers reinforce the classroom curriculum in all interactions with

children are effective in the long term. Diekstra (ibid) concluded that only with teachers' involvement do the social and academic sides of the school come together and academic results improve.

5.4.7 Aims and methodologies relating to teaching

The balance of the evidence strongly suggested that the choice of aims and methods used in curriculum type interventions is highly influential over effectiveness of interventions. Only one review suggested otherwise: Hahn *et al* (2007) reviewing interventions to reduce violent found that all methodologies (e.g. informational, cognitive/affective and social skills building) were associated with reduced violent behaviour.

More effective interventions used teaching methods that were active, using a variety of interactive methods, including games, simulations and small group work (Browne *et al*, 2004; Berkowitz, 2007; Durlak and Weissberg, 2007; Diekstra, 2008a). It proved to be more effective to use multiple modalities, i.e. a range of integrated and coordinated methods, groups, levels of intervention, one-to-one and whole class work (Rones and Hoagwood,2000; Browne *et al,* 2004).

Interventions were more effective if they were positive rather than fear- or problem-based (Browne *et al*, 2004; Wells *et al,* 2003; Green *et al,* 2005) and addressed the needs of the whole child, rather than just seeing them as a 'problem' (Browne *et al*, 2004). Merry *et al* (2004) looking at interventions to prevent depression found that skills based ('psychological') depression prevention programs were effective in preventing depression in the short and long term but that knowledge based approaches were not effective at all. Behavioural strategies on their own were also not so effective: Both Wells *et al* (2003) and Greenberg *et al* (2001) concluded that interventions that focus independently on the child's behaviour are not as effective as those that also 'educate' the child through impacting on attitudes, values, feelings and behaviour.

Several reviews nominated CBT as an effective approach, impacting on anti-social behaviour (Beelman, 2006); violence and aggression (Wilson *et al*, 2003); conduct disorder (Waddell *et al*, 2007); pro-social behaviour and skills, conflict resolution, and

anger management (Scheckner *et al*, 2002); and anxiety and depression (Neil and Christensen, 2004; Waddell *et al,* 2007).

5.4.8 Whole school/multi-component approaches

Many reviews, right across the topic range, concluded that it is necessary to move beyond an individual, classroom and curriculum focus only in favour of whole school, complex multi-component interventions that include these skills focused elements but also involve a wide range of people, agencies, approaches and levels of intervention, and mobilises the whole school as an organisation.

Almost all the reviews that commented on the general principles that 'work' in this area were unanimous that multi- component approaches are effective, in most cases more so than individualised and/or curriculum and skills based approaches, and added to the effectiveness and supporting skills based approaches. For example, Catalano *et al* (2002) found that only one third of the effective interventions to promote positive youth development operated in a single setting, and that two-thirds of them combined the resources of the family, the community, and the community's schools. Adi *et al* (2007a) reported that among the universal interventions, greater effects were attributed to multi-component and whole school approaches where classroom components were integrated into the curriculum, involved parents, and were implemented consistently over a longer period of time. Adi *et al* (2007b) found that curriculum only interventions have short, but not longer term effectiveness, and interventions with more components performed better, including in preventing and reducing to aggression, violence and crime. Wells *et al* (2003) found that the most positive evidence of effectiveness for mental health promotion was obtained for interventions that adopted a whole-school approach, those that were limited to the classroom were less likely to be effective. Vreeman and Carroll (2007) found only four of the ten curriculum and social skills based studies they reviewed showed decreased bullying, and three of those four also showed no improvement in some populations, while of ten studies evaluating the whole-school approach, seven revealed decreased bullying, with younger children having fewer positive effects. Miller (2005) found that in developing social competence the more components the better, and that in terms of effect on social competence the most intensive

intervention (curriculum, parent education and summer camp) was more effective than the least intensive (curriculum only).

This review identified six evidence based whole school interventions in Europe, three from the US - the Caring School Community/ Child Development project, and Resolving Conflict Creatively, and three generated within Europe itself, the Olweus anti-bullying programme and the Respect programme, both from Norway and the SAVE programme from Spain (see table 1). The components combined involved in a multi-component approach varied from context to context. Interventions can be greater or lesser in scope and reach and the number of components they contain can vary. Typically a multi-component approach integrates targeted and universal approaches, involves parent education, a taught curriculum and teacher training in key skills, such as behaviour management; it sometimes also involves the community, and outside agencies. However some whole school approaches are quite small in scope. For example, whole school bullying prevention interventions based on the Olweus intervention (Olweus, 1995) have a small curriculum element, a strictly enforced discipline policy, some parental involvement and in some cases a targeted intervention for problem children.

There were some dissenting voices on the consensus on the effectiveness of whole school approaches. Shucksmith *et al* (2007) were struck by how expensive large, multi-component approaches are, and felt that the rewards of them are in comparison fairly modest. In two recent reviews Wilson and Lipsey (2007) and Durlak *et al* (2010) both found that multi-component/ comprehensive programs did not show significant effects compared with individualised interventions, which they both found counter-intuitive and contrary to what they were expecting from previous research. Both hypothesised that it may be that the broad scope of some of the multi-component interventions is associated with some dilution of the intensity and focus of the interventions, and with weaker implementation, so that students have less engagement with them a recent review. This suggests that interventions to be well implemented, an issue to which we will return.

5.4.9 School ethos and culture

Several reviews talked of the importance of school 'environments' (e.g. Durlak and Wells, 1997; Greenberg *et al* 2001; Catalano, 2003) and included references to efforts interventions make to change these environments. Some reviews went into more detail into this issue, formulating the concept of school ethos and culture, which refer to the underlying values and attitudes that the school represents and embodies, particularly in the way staff and students treat one another, and suggesting that they are particularly promising and particularly likely to result in sustainable changes. Two reviews (Adi *et al*, 2007a; 2007b) found the results of interventions to influence and change school ethos and culture were positive and very promising for future research, and one review (Greenberg *et al,* 2001), discussing evidence on preventing mental disorder, concluded that school ecology should in future be a central focus of intervention.

Catalano *et al* (2002) found that effective programs sought to strengthen social, emotional, cognitive and/or behavioural competencies, self-efficacy, and family and community standards for healthy social and personal behaviour. Seventy five percent also targeted healthy bonds between youth and adults, increased opportunities and recognition for youth participation in positive social activities.

For example, Adi *et al* (2007b) discussed the Peacebuilders programme which has demonstrated effects at two years post implementation, as measured by teacher reports of social competence and aggression. The classroom component is small, and it also differs from the usual multi-component interventions by having an emphasis on school culture and ethos with the focus on changing values, attitudes and behaviours relating to the way both staff and students treat each other. Peer mentors take responsibility for supporting these changes alongside staff. The reviewers conclude that putting the PeaceBuilders approach together with the components of the multi-component interventions including parenting education, teacher training and additions to the curriculum is very likely to enhance effectiveness, but will need sensitive measures and long term evaluations.

5.4.10 Who should deliver interventions?

Specialist staff

Across the last twenty years there has been a shift in who delivers interventions. Interventions in the 1990s were largely experimental, short term, intensive, carefully evaluated and necessarily delivered by specialist staff, including psychologists and researchers in order to ensure strict fidelity. The use of specialist staff such as psychologists and researchers remains the norm for targeted interventions: Shucksmith *et al* (2007) reviewed targeted interventions in primary schools and found that almost all of the interventions included were devised and largely delivered by psychologists, particularly in the early part of the period studied. They found that as interventions have become more complex teachers have been recruited into the trials, but often as subjects rather than as planning or delivery partners.

Adi *et al* (2007a) concluded that there is some evidence that short term stress and coping interventions delivered by psychologists are effective in the short term, although effectiveness may be enhanced by addition of an intervention for parents. Blank *et al* (2009), reviewing interventions to promote wellbeing in secondary schools, found some evidence that it is beneficial to involve psychologists in the delivery of interventions to prevent anxiety and depression.

Teachers

It is clear that using specialist staff cannot be sustained in the long term, especially for work aimed at universal populations (Shucksmith *et al* (2007). So more recently effort has been made to implement interventions in real life circumstances, using those who would normally transmit interventions, most notably teachers, parents and sometimes peers, and approach (Rones and Hoagwood, 2002).

Teachers can be effective. Adi *et al* (2007a) found reasonable quality evidence that long term interventions covering social problem solving, social awareness and emotional literacy, in which teachers reinforce the classroom curriculum in all interactions with children are effective in the long term even when delivered alone.

On the question of how effective teachers are, compared with specialist staff, the evidence is mixed. Some of the findings suggest that teachers are not as effective as specialist staff. Beelman (2006) reviewed social skills training to prevent anti-social behaviour and promote social competence and found that intervention authors, trainers and supervised students had more effect than teachers (ES 0.47 compared with 0.33). Wilson *et al* (2003) found that most studies to reduce aggression and violence were conducted on demonstration programs; the few studies of routine practice programs involving teachers showed much smaller effects, and updating this meta-analysis three years on (Wilson and Lipsey 2006a) came to the same conclusion. They wondered whether this was because interventions delivered under routine circumstances were less intense. However some comparative studies have shown that teachers can be as effective as specialist staff. Wilson and Lipsey (2007) found that routine interventions to address violence and aggression delivered by teachers did not have significantly worse effect sizes to those delivered by professional, and were more sustainable and cost effective. Diekstra *et al* (2008a) found that teachers are as effective as other professionals in delivering interventions, and added that only when school staff conduct the intervention does student academic performance improve significantly – possibly because school staff are involved in both aspects of school, and SEL/SFL impacts on wider school culture where school staff involved in delivery.

Peers

Rones and Hoagwood (2002) provided evidence that the involvement of peers is an important features of the implementation process that increases the probability of effectiveness and sustainability. There are several ways in which this can be achieved.

There is reasonable quality evidence that peer mediation interventions are effective. These involve teaching students how to resolve conflicts between peers. Typically, a small group of students are trained to serve as mediators for the student body. When two students have an argument or dispute, they bring their grievances to a pair of mediators who guide them through a standard procedure designed to facilitate a discussion to resolve the conflict. Both Adi *et al* (2007a) and Garrard and Lipsey (2007) found peer mediation to be effective in the short term for primary school

children, while Blank *et al* (2009), looking at young people who were older, found that it could be effective for longer term outcomes too. However, Wilson *et al* (2003) found the effects to be small.

Nonetheless, peer work is an area where it is necessary to proceed with caution: Farrington and Ttofi (2009) found that peer work focused on with children who bully increased actually bullying and victimisation, with children picking up negative attitudes and behaviours from one another.

The problem of adverse effects from putting together children with problems can be overcome by peer norming or peer mentoring, which is where children with a problem are paired with those who do not, with the aim of modelling alternative behaviours and ways of thinking. Browne *et al* (2004) and Shucksmith *et al* (2007) found some evidence that peer norming interventions have at least short term modest impacts.

5.4.11 Parents, families and community involvement

Durlak *et al* (2007) found sixty-four per cent of the positive youth development interventions attempted some type of microsystemic or mesosystemic change involving schools, families, or community-based organizations in an attempt to foster developmental competencies in children and adolescents. Of the studies containing the necessary information produced several mean effect sizes that were statistically significant, and ranged from modest to large in magnitude. Several reviews (e.g. Catalano *et al*, 2002; Browne, 2007; Diekstra, 2008a) concluded that engagement with and support from families and communities is helpful, while Greenberg *et al (*2001) found it to be more effective than prevention programmes that focus only and independently on the child's behaviour.

The effect is two way, and Durlak *et al* (2007) looked at positive youth development interventions that attempted to change schools, families, or community-based organizations. They found some promising results with statistically significant changes, ranging from modest to large.

There was very clear evidence from many reviews that the involvement of parents and families in a wide range of interventions increases their effectiveness and makes them more sustainable (Rones and Hoagwood, 2002). The involvement of parents was nominated repeatedly as a key component of effective multi-component interventions. All reviews which explored the issue concluded that parental involvement was effective. For example, parental involvement was found to increase effectiveness for pro-social youth development (Catalano *et al*, 2002; Durlak *et al*, 2007); universal interventions to promote mental health (Wells *et al*, 2003; Adi *et al,* 2007s); stress and coping interventions (Adi et al 2007a) to reduce violence and bullying (Adi *et al*, 2007b; Blank *et al*, 2009); targeted approaches to prevent mental disorder (Greenberg *et al*, 2001; Shucksmith *et al*, 2007) and conduct disorder (Waddell *et al*, 2007).

However, Shucksmith *et al* (2007) also identified a number of significant problems which emerge in considering the role of parents. As with teachers, parents are often not very good at identifying children's internal mental states. A number of studies they reviewed reported lower levels of parent identification of anxiety states and depression, and suggested that the accuracy of parental ratings is relative to the pathology under discussion. More obviously, with some pathologies, such as oppositional defiance disorder and conduct disorder, parents may be and/or feel heavily implicated in the problems that the child is experiencing and may be very resistant to being recruited into interventions which attempt to change their behaviour as well as that of their children. Thus many of the multi-component studies report problems in recruiting and retention and attendance of parents to such schemes. The provision of transport, childcare and even payment schemes have all been offered in interventions with varying degrees of success.

There were some indications that community involvement is helpful. Catalano *et al* (2002), in a review of positive youth behaviour, found that within a multi-component approach, effective programs shared common themes and principles. All sought to strengthen social, emotional, cognitive and/or behavioural competencies, self-efficacy, and family and community standards for healthy social and personal behaviour. Seventy-five per cent also targeted healthy bonds between youth and adults, increased opportunities and recognition for youth participation in positive

social activities. Wilson *et al* (2007) suggested that adult mentoring programmes (involving adult volunteers spending time each week in recreational or educational activities with children) are effective. Diekstra (2008a) concluded that the most effective interventions are cast within supporting communities and environmental strategies.

5.4.12 Age and stage to target

An issue much discussed in the reviews is age – for example the most effective age at which to start interventions, at what age to target efforts, and how interventions need to develop across the age range.

Most reviews were in favour of starting early, although some that did were also in favour of continuing with older students. Greenberg *et al* (2001), reviewing interventions preventing mental health disorders in school-aged children, concluded interventions need to start in the preschool and early elementary years. Durlak and Wells (1997) reviewed all interventions that aim to reduce adjustment problems in childhood and found that interventions that targeted two- to seven-year-olds were more effective than those that targeted older age groups. Waddell et al (2007) found that the most effective interventions for conduct disorder targeted at-risk children in the early years, and that the effect sizes for these interventions were modest but consequential. Browne *et al* (2007) reviewing interventions to promote mental health found that the more characteristics of more effective interventions to promote mental health were for younger children, although they found that interventions for older children were also effective. Shucksmith *et al* (2007) concluded that complex longitudinal multi-component studies like that undertaken by the Metropolitan Area Child Study Research Group support the case for early intervention with aggressive disruptive children.

There was, however, evidence that, in the case of interventions to prevent bullying, conflict and violence, targeting older students was in fact more effective (Mytton *et al,* 2007; Garrard and Lipsey, 2007; Farrington and Tfofi, 2009).

Some recent good quality reviews have suggested however that the picture is not clear cut. Adi *et al* (2007a), reviewing the promotion of wellbeing children in primary

schools, concluded that reviews showed no consistency in identifying the most effective age group to target and Durlak *et al* (2011) found SEL interventions to be effective for all grades and ages if well designed. Mytton *et al* (2002), reviewing school-based violence prevention programs, concluded that the benefits were similar in interventions introduced in both primary and secondary schools.

This uncertainty may partly be because there is not a great deal of work with adolescents on which to base conclusions. Blank *et al* (2009) attempted to review the evidence on mental wellbeing for young people aged 11 or over and found relatively few interventions to go on, and those that there were, were more restricted in range than those for children under this age, being most one offs focusing on a few types of approaches, such as improving behaviour, reducing violence and bullying and developing pro-social behaviour and skills, with few involving parents or the wider school environment.

The balance of evidence would seem to point to starting early, with well designed and implemented interventions and then continuing with older students – a finding which is supported by evidence from the next section on the length of interventions.

5.4.13 Optimum length and intensity of interventions and timing of evaluations

Some reviews addressed the question of how long and intensive an intervention needs to last to be effective,

The majority of reviews concluded in favour of longer interventions, especially for broad areas and/or in response to more severe problems. Most reviews found that effective interventions were all of longer duration, some lasting throughout primary school. This included SEL, for which Diekstra *et al* (2008a) found short term interventions much less effective than long term and concluded that to be effective interventions need at least a three to six month duration with at least weekly sessions. Positive youth behaviour needed interventions of at least nine months (Catalano *et al* 2002), as did the prevention mental health disorders (Greenberg *et al,* 2001; Green *et al,* 2005) while the promotion of positive mental health needed at least a year (Wells *et al* 2003). Some specific areas in which longer intervention was

better included violence and bullying (Schechner et al, 2002; Adi *et al*, 2007b) and anger (Gansle, 2005).

None of the reviews concluded that single brief interventions had any worthwhile role. There was however some evidence in support of short term interventions for specific and mild problems. Garrard and Lipsey (2007) reviewing conflict resolution interventions found that the majority of beneficial effects was shown for shorter interventions, of two hours a week for fifteen hours on average. Adi *et al* (2007a), reviewing much the same set of studies, also found that there is reasonable quality evidence that short term conflict resolution interventions delivered by teachers and involving peer mediation are effective in the short term (Johnson 1995; Stevahn, 2000). Shucksmith *et al* (2007) reported that some studies have experimented with brief interventions (eight to ten weeks) which seem to work well for children with anxiety problems and emotional disorders but not with conduct disorders which they felt were too deep-rooted and intense to respond to short interventions

Some of the evidence was inconclusive. Blank *et al* (2009), reviewing interventions with secondary school students to promote mental wellbeing found no clear associations between impact and intervention length, with interventions of weeks, months and years duration represented in each impact score when they looked at interventions for pupils over eleven. Similarly Hanh *et al* (2007) reviewing interventions to reduce violent behaviour found no clear association for frequency or duration of intervention.

Most of the evaluations of most of the studies that were reviewed in the reviews analysed here were short term, and there is reasonable evidence that most interventions have an impact in the short term. For example Dieskstra (2008b) found that school based SEL/SFL interventions generally have positive short term effects on a number of desirable outcomes, and found the largest short term effects were on social-emotional skills, attitudes towards self, pro-social behaviour, academic achievement and reduction of anti-social behaviour.

There has been a dearth of evidence about the long term effects of intervention. Adi *et al's* (2007b) review of interventions to prevent bullying and violence found that

most interventions only reported in the short term. This makes commenting on long term impacts and the importance of long term approaches difficult. However, with recent larger studies, some long term effects are starting to emerge. The general conclusion is that effects gradually decrease in the long term but remain significant (e.g. Diekstra, 2008b). Interventions to prevent depression had small but significant in both intervention and follow up (Horowitz and Garber,2001) reviewed.. Some effects actually increase in the longer term, for example the reduction of mental disorders, for which there seems to be a 'sleeper effect' (Diekstra, 2008b).

One cost effective way to solve the problem of short-termism, both in interventions and their effects, may be to provide shorter follow up sessions later in the child's life. Several reviews concluded that there was evidence both for intensive interventions in the early years and for supportive 'booster' sessions later. Shucksmith *et al* (2007) felt that the evaluation of the Metropolitan Area Child Study Research Group (2002) suggested that interventions need to both start early for targeted 'at risk' children and then top up at later primary stages with booster sessions. Browne *et al* (2004) agreed: in their review of interventions to promote mental health looked at the characteristics of more effective interventions and found that long term with follow up rather than short term/ intensive worked best. They also found that effect sizes decreased over time for knowledge and skills acquisition and behaviour reduction suggesting the need for periodic follow-up and reinforcement. Diekstra (2008a) also recommended booster sessions to top off the three to six month weekly interventions. Insufficient evidence exists generally, however, regarding exactly how often early interventions need to be topped up with further work.

5.4.14 Links with learning

Several studies assessed the impact of various interventions on aspects of children's behaviour and attitudes towards school. Their findings were consistently positive. The effect size for children's attitudes towards schooling were consistently small to moderate (ES 0.14 - 0.6) (Catalano *et al,* 2002; Berkowitz 2007; Durlak and Weissberg, 2007; Diekstra, 2008a; Sklad *et al,* 2010). Effects were similarly positive but more variable for achievement in academic skills, test scores and school grades, with some quite large effects being shown (ES 0.11- 1.75) (Durlak and Weissberg, 2007; Reddy et al, 2009; Sklad *et al,* 2010; Durlak *et al*, 2011). As noted above,

Diekstra (2008a) found that only when school staff conduct the intervention did student academic performance improve significantly – possibly because school staff are involved in both aspects of school, and SEL/SFL impacts on wider school culture where school staff involved in delivery.

5.4.15 Implementation quality

Several reviews attributed the major differences to be found in the effects of interventions to differences in implementation. We have outlined some of the key principles of implementation design and strategy which are associated with great or less effectiveness. However they do not account for all the differences and interventions could include all the critical principles and still not be effective.

A key implementation issue which emerges from most good quality reviews since the early 2000s, whatever the particular topic or approach in question is the need for high implementation quality. Several recent reviews attributed the 'black box' differences in effect between interventions that were apparently similar to crucial differences in the detail of the intervention quality. Wilson and Lipsey (2006a) found that interventions that had no obvious implementation difficulties produced the largest effects and concluded that schools seeking prevention interventions might be well-advised to give priority to those that will be easiest to implement well in their settings. Similarly Berkowitz (2007), reviewing range of interventions on character education, concluded that there was a clear trend for complete and accurate implementation to result in more outcome effectiveness than incomplete or inaccurate implementation

Interventions were not effective if they were only based on loose guidelines and broad principles, but also needed high levels of intensity, consistency, clarity and programme fidelity. Some of the key interrelated features of high-quality implementation, identified by a range of reviews (McCarthy and Carr, 2001; Catalano, 2002; Rones and Hoagwood, 2002; Scheckner *et al,* 2002; Wilson and Lipsey, 2006a; Berkowitz 2007; Browne *et al*, 2007; Diekstra 2008a; Farrington and Ttofi, 2009) were:

- a sound theoretical base

- specific, well defined goals and rationale, communicated effectively to staff and leaders and linked explicitly with the intervention components
- a direct, intense and explicit focus on the desired outcome rather than using a different focus and hoping for indirect effects
- explicit guidelines, possibly manualised
- thorough training of all involved
- careful quality control
- feedback on intervention effects
- consistent staffing and the specification of individual responsibilities
- plans to overcome barriers to implementation
- complete and accurate implementation.

A good illustration of this is connected with whole school approaches. While whole school approaches were generally more effective some anomalous results have emerged in two recent reviews. Wilson and Lipsey (2007) and Durlak *et al* (2011) both found that multi-component interventions did not show significant effects compared with interventions which only involved one aspect of school life, a finding which the reviewers found counter-intuitive and contrary to expectations from previous evidence. Both hypothesised that it may be that the broad scope of some of the more recent multi-component interventions is associated with some dilution of the intensity and focus and with weaker implementation, so that students have less engagement with these interventions. Durlak and Weissberg (2007) and Durlak *et al* (2011) found that SEL interventions that were sequenced, active, focused and explicit were consistently successful in producing multiple benefits for youth, while those that did not use such procedures, including whole school approaches, were not successful in any outcome area. As a further illustration, McCarthy and Carr (2001), reviewing four studies of bullying prevention interventions, found that the two which were implemented completely consistently in accordance with the guidelines and with external training, consultancy and support were effective and the two that were not thus implemented were not effective.

5.4.16 Training

An issue which is very much linked with implementation quality is training. Scheckner *et al* (2002), looking at interventions that promote pro-social behaviour and skills, conflict resolution, anger management and resolution, and reduce aggression, found that intervention impact significantly affected by having a qualified intervention leader. Several other reviews commented on the need for extensive and intensive training for staff and parents (e.g. Adi *et al,* 2007a; 2007b; Berkowitz, 2007). Diekstra (2008a), who as we have just seen concluded that teachers can be effective, also concluded that this was only so if they were well trained.

There is evidence that better teacher training could help improve the quality of the evidence base too. Shucksmith *et al* (2007) and Stage and Quiroz (date) both found evidence arises from a number of studies about the unreliability of teacher ratings, with teachers showing a relatively poor concordance with other measures in picking up symptoms, both for internalising disorders (e.g. anxiety, depression, post traumatic stress syndrome) and also for externalising disorders/ conduct problems. This can mean that intervention effects are reduced by teacher ratings of student behaviour post intervention, which are often out of keeping with positive findings on other measures. They concluded that there was evidence from several studies for the need for teacher training to improve reliability.

5.4.17 Views of the authors on the limitations of the evidence

Although the balance of the evidence was positive, authors commented on the lack of methodological rigor in many studies that made coming to unequivocally firm conclusions difficult. Some (e.g. Adi *et al,* 2007a) commented that some of the methodological problems are intrinsic to the subject area, remarking that school based mental health promotion interventions, particularly multi-component whole school interventions that are conducted over a long period, do not lend themselves easily to the randomised controlled, double blind, objectively assessed approach to evaluation.

However the vast majority of authors also commented on the avoidable variations in study quality and inadequacies of research designs which bring limitations when interpreting results. Nearly all authors of the reviews commented on the lack of

methodological rigor in many of the studies they analysed that made coming to firm conclusions difficult. The problems encountered included: lack of control groups; lack of randomization; small numbers; short duration; poor reporting quality and, in particular, inadequate description of methodological procedures; lack of assessment of intervention implementation; missing data; and failure to report all outcomes.

Methodological problems certainly made it harder for reviewers to draw firm conclusions. The authors of the two inconclusive studies attributed their inconclusiveness partly to methodological problems. Park Higgerson (2008), reviewing interventions to reduce aggression and violence, attributed this unexpected finding partly to methodological problems such as missing pretests, differences in outcome focus, small sample sizes, and heterogeneity among the included studies. Schachter et al (2009), reviewing school based interventions to prevent depression and mental health stigma, attributed their inability to draw conclusive inferences about the effectiveness and harms of school-based interventions to five limitations within the evidence base, three of which were methodological: poor reporting quality, a dearth of randomized controlled trial evidence, and poor methods quality for all research designs.

5.4.18 Adverse effects

It is important to know whether interventions to promote mental health and wellbeing might actually be doing harm, so called ‘adverse effects’. There were a few reported cases of this. Adi *et al* (2007a) reported that the Friends intervention ref, which which had a clear, positive intended effect on anxiety, also had a significant negative effect on depression when delivered by teachers, but not when delivered by psychologists.

Several anti-bullying interventions reported some apparent adverse effects with increases of reporting of bullying after the intervention (Adi *et al*, 2007b; Blank *et al* 2009; Baldry and Farringdon 2004). They all commented that it was not clear whether these represented true adverse effects or whether the intervention had raised awareness and thus greater reporting. However they may have been genuine adverse effects: Shucksmith *et al* (2007) reported what seem to be some adverse effects of one aspect of the work of the Metropolitan Area Child Study Research Group where aggressive hostile children brought together in small groups in later

elementary stages of school had their aggression reinforced by what became 'deviancy training', which would appear to throw doubt on the wisdom of bringing such children together. A further clearly adverse effect reported by Blank *et al* (2009) where a study showed that boys, but not girls showed a small tendency to attitudes that favoured bullying after the intervention on some measures (Salmivalli 2007).

6. DISCUSSION

6.1 The effectiveness of work on mental health in schools

All bar two of the reviews came to a positive assessment of the evidence they reviewed, and the remaining two reviews were inconclusive rather than negative. Interventions reviewed had significant effects on individual children, classrooms, schools and communities, and clear impacts on positive mental health, mental health problems, social and emotional learning, violence and bullying, and educational outcomes. This review endorses the importance of work to promote mental health and prevent mental health problems in schools. It confirms the findings of earlier reviews and recent overviews (e.g. Jenkins and Barry, 2007), that over the last twenty-five years a strong group of school mental health programmes have emerged with clear and repeated evidence of positive impact. There were very few examples of adverse effects, which is reassuring in the face of some concerns that have been expressed about the 'dangers' of work in this area (e.g. Ecclestone and Hayes, 2009).

The effects were generally 'small to moderate' in statistical terms but they represent effects that in the real world are important and relatively large. As two reviewers, Durlak and Wells (1997) and Stage and Quiroz (1997) commented, these are outcomes similar to, or higher in, magnitude than those obtained by many other established preventive and treatment interventions in the social sciences and medicine. Participating in primary prevention interventions is clearly advantageous for children as Durlak and Wells showed. More recently, Durlak *et al* (2011) have been able to provide effect sizes for a number of SEL interventions with improvements above ten pent in achievement tests, social and emotional skills, classroom misbehaviour, anxiety and depression, effects which held up for at least

six months after the intervention. By comprehensively and carefully reviewing the data from systematic reviews we can see that the continued focus on mental health in schools within Europe is fully justified and it is important that work on mental health promotion and problem prevention in schools be endorsed, continued and expanded.

6.2 Work in Europe

This review found twenty-two reviews conducted by Europe-based researchers, and twenty-eight European-based interventions that were both effective and subject to controlled evaluation. The picture is improved from that of a decade ago in terms of evidence based European interventions when almost none were identified (Mental Health Europe, 1999; 2000), but they are still very few in number compared with the wealth of work in the US, and far more needs to be done to develop work on mental health in schools in Europe.

The evidence for effectiveness of the US-based interventions in Europe came largely from trials in the US rather than in Europe, and although conclusions about transferability were positive, they were based on weak evidence: it is important to see more European trials of imported work. The number of evidence-based interventions identified in Europe was small in absolute terms, and only fifteen came from Europe itself. There is a continued problem of a lack of focus on evaluation of the many home-grown interventions that are springing up across Europe. As well as an increase in the number of interventions, there also needs to be far greater emphasis placed on high-quality evaluation of European-generated interventions, so they can start to feature in systematic reviews and thus contribute to evidence-based practice.

6.3 The importance of principles

Reviews showed considerable variation of effects. It is clear that many types of interventions can be effective, sometimes strikingly so, but that their effectiveness cannot not be relied on. Since information about the variability of effects became clear, the discussion has moved away from simple impact to focus more on the sometimes subtle characteristics of effective interventions. The findings about effective characteristics that emerge from more recent reviews over the last ten

years contain some important key messages for Europe, and indeed for the rest of the world, which may involve redressing some imbalances in policy and practice. .

6.4 Balance target and universal

The review showed that both universal and targeted approaches have their place and are stronger in combination, although the exact balance has yet to be determined (Adi *et al,* 2007a). Most interventions have a more dramatic effect on higher risk children, due to the ceiling effect with populations without overt problems (Horowitz and Garber, 2001). Universal approaches were more effective than targeted approaches alone and supported targeted approaches as well as promoting the mental health of all (Diekstra 2008a). Indeed targeted work for children who bully created more victimisation (Farrington and Ttofi, 2009).

Within mental health promotion and problem prevention generally the emphasis has long been on a positive approach to mental health in schools, and universal approaches that target everyone. It was notable that, of the evidence-based interventions identified in Europe, only one (FastTrack) took a totally targeted approach, although many of the universal ones contained targeted elements. This review generally endorses this focus on the universal, but with some important caveats. The more effective interventions did indeed focus on positive mental health, not just on problems, and universal approaches were shown both to have a positive, albeit small, impact on the mental health of everyone. They also provided a more effective context for working with students with problems than targeted or indicated approaches alone. However, it was clear that universal approaches on their own were not as effective as those that added in a robust targeted component, and that interventions had a more dramatic effect on higher risk children. It is clear that both universal and targeted approaches are needed and are stronger in combination, although the exact balance has yet to be determined. It may well be that mental health promotion in schools needs to redress the balance somewhat in favour of more work on targeted approaches, while continuing to embed them within a universal approach.

6.5 Age and stage

It is generally important to start interventions early, with younger children (Browne *et al,* 2007). Interventions then need to continue with older children, with regular booster sessions, which can help to overcome the problem that the impact of most programmes otherwise tends to be short lived (Diekstra, 2008a). Interventions on bullying and violence are better targeted at older children (Farrington and Ttofi, 2009). Shorter interventions aimed at their specific problems, such as mild conduct disorder, can sometimes be effective (Adi et al, 2007b). However on the whole longer interventions, of at least nine months to a year are more effective, to teach generic skills and/or in response to more severe problems (Shucksmith *et al,* 2007). More intense interventions, with more sessions per week, generally work better than more diluted ones (Farrington and Ttofi, 2009).

The evidence based interventions identified in Europe were well balanced across the age ranges, however evidence points to the need for more continuity between interventions to improve mental health across the age ranges. .

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6.6 Skills

Nineteen of the evidence-based interventions identified within Europe were focused on developing skills, usually within the taught curriculum for all students. The centrality of skills, and, in particular, work using CBT approaches to any effective mental health intervention, was consensually endorsed by the reviews in this study, which concluded that teaching skills and developing competence is a central part of any comprehensive and effective intervention (Berkowitz, 2007). The acquisition of social and emotional skills and competences impacts on depression and anxiety (Blank *et al*, 2009), conduct disorders (Waddell *et al,* 2007), violence prevention (Mytton 2002) and conflict resolution (Garrard and Lipsey (2007). The impact is greater when mental health issues are integrated into the general classroom curriculum and teachers reinforce the classroom curriculum in all interactions with children (Rones and Hoagwood 2002). CBT is a particularly effective approach (Shucksmith *et al*, 2007). It was pleasing therefore to note that all of the evidence based mental health in schools interventions in Europe included work on skills, a feature which needs to continue. Such work needs to be integrated into the mainstream curriculum.

6.7 Active methodologies

Several reviews commented on the need for a positive and holistic approach. Efforts to change students through information only were ineffective (Merry *et al,* 2004), as were behavioural strategies on their own (Greenberg *et al,* 2001). Reviews concluded that interventions need to impact on attitudes, values, feelings and behaviour, address positive states and the needs of the whole child. More effective interventions used a variety of active rather than didactic teaching methods (Browne *et al,* 2004; Durlak and Weissberg, 2007).

In terms of the theories that underpin skills acquisition, European theory tends to be holistic, emphasizing not just behaviour change and knowledge acquisition but also changes in attitudes, beliefs and values, while European health education has long pioneered active classroom methodologies, involving experiential learning, classroom interaction, games, simulations, and groupwork of various kinds (Weare, 2000). Most of the European interventions identified in this review took such a holistic, multi-level, active approach, a style which needs to be endorsed and continue.

6.8 Use a range of leaders

A wide range of leaders need to be involved. Interventions are often best delivered by specialist staff in the early stages (Shucksmith *et al,* 2007) but then by teachers for ongoing sustainability (Diekstra, 2008b). Several reviews found that selective use of peers can be an effective and significant part of effective mental health interventions. The interventions identified in Europe used a range of leaders: this range and flexibility in the use of leaders needs to be endorsed and continue.

6.9 Work with parents, families and the community

Clear evidence emerged that the involvement of parents, families and communities increased the effectiveness of interventions. The involvement of parents and communities was nominated repeatedly as a key component of effective multi-component interventions (Catalano *et al* 2003; Adi *et al*, 2007). Involved and educated parents and supportive adults in the community can support and reinforce at home the messages children are learning at school. The effect is two way: there

have been some statistically significant positive changes in families and communities as a result of school-based programmes (Durlak *et al*, 2007). European school based mental health interventions need to do more to include parents, families and communities; only a few of the European evidence based interventions identified did this

6.10 Multi-modal/ whole school

The review showed that skills work alone is not enough, and that for optimal impact, skills work needs to be embedded within a whole school, multi-modal approach, involving a wide range of people, agencies, methods, and levels of intervention, and mobilising the whole school as an organization (Catalano *et al,* 2002). Several reviews commented on the importance of a positive school ethos and culture which shapes the underlying values and attitudes that the school represents, particularly in relation to the way staff and students treat one another (Adi *et al*, 2007; Farrington and Ttofi, 2009), and increased opportunities and recognition for youth participation in positive social activities (Catalano *et al,* 2002). Six examples of evidence based whole school interventions in Europe were identified, which is gratifying, but the majority of the evidence based interventions were skills based only, a balance which needs redressing with and there is a need for more European whole school programmes and more rigorous implementation and evaluation of those that exist.

6.11 High quality implementation

Many recent reviews concluded that well designed interventions can still fail if they are not well implemented (e.g. Durlak *et al,* 2011). Interventions were not effective if they were only based on loose guidelines and broad principles as, however sound the principles, effective interventions need high quality implementation. High quality implementation included having a sound theoretical base, well defined goals, strong focus and explicit guidelines, thorough training and quality control, feedback on intervention effects,and consistent staffing.

6.12 Problems with the whole school approach

Taking a whole school approach is in line with European policy and practice. Within Europe, as in other parts of the world such as Australia, programme development by agencies such as the WHO, EC and various national governments has been highly

influenced by the settings approach of the WHO, with its focus on creating healthy environments. This has given rise within Europe to large-scale, agency-led, whole school programmes such as Health Promoting Schools (Schools for Health in Europe, 2010), Healthy Schools (2011), Social and Emotional Aspects of Learning (DES, 2010), and the Good and Healthy School (Paulus, 2009). Australia has the state-led Mindmatters (2009) programme and the government-led Kidsmatters (2009) framework.

All of these programmes are popular, widespread, and well thought of by practitioners and policy makers. However it is notable the evidence generated by them has been weak in terms of hard outcomes and has not resulted in evaluations that are robust enough to feature in systematic reviews. It is of concern that none of these high-profile programmes were therefore able to meet the evaluation requirements of this review and be included here as examples of evidence-based interventions.

It is, however, clearly possible for whole school approaches to result in hard outcomes and appear in a systematic review. This review identified six in Europe. So something is going wrong either with the evaluation of many agency-led European and Australian whole school approaches, or with the approaches themselves, resulting in failure to produce outcomes which lead to their inclusion in a systematic review. A set of findings from this study may cast light on this problem.

Some recent reviews identified here suggest that some whole school approaches, including in the US, are failing to show impact (Wilson and Lipsey, 2007; Durlak *et al*, 2011). Authors attribute this to a lack of consistent, rigorous and faithful implementation which is causing these approaches to become too diluted and thereby to lack impact. The European and Australian style and the type of whole school approaches it generates tend to promote ‘bottom up’ principles such as empowerment, autonomy, democracy, and local adaptability and ownership (WHO, 1997). All the agency-led whole school programmes named above have produced a wealth of well-planned materials, guidelines and advice, but are also deliberately non-prescriptive and principles based. This flexible and non-prescriptive style is echoed in wider approaches to mental health across Europe and Australia, which

emphasise the need for end-user involvement and the lay voice. This approach contrasts with the US style of more top-down, manualised approaches, with scripts, prescriptive training, and a strict requirement for programme fidelity.

There are strong reasons to retain the democratic European and Australian approach for large scale programmes for mental health. It is generally seen as providing essential supportive structures, positive climates, empowered communities and end-user involvement, which leads to well-rooted and long-lasting changes of attitudes and policies that are necessary to support sustainable changes in mental health. However it is clear that, on its own this style of approach also makes it challenging to achieve hard outcomes and measurable changes. There may need to be a balancing of this style with some more focused, and more prescriptive elements, as has been achieved already in some of the more demonstrably effective whole school programmes. Those involved in approaches to mental health in schools right across the globe, including in Europe, should consider having the conviction to build on what is now known, consolidate and formalise their guidance and procedures, and provide a greater level of clarity and direction for future developments to ensure consistent implementation of clear, evidence based, interventions. Unless mental health interventions are delivered with clarity and fidelity, approaches which would work well if implemented consistently, are likely to continue to be too diluted and vague to show real impact.

6.13 Strengths and limitations of the evidence

This review of fifty-two reviews of mental health in schools is the largest so far undertaken. It includes thirty-two studies not included in a set of four substantial and good quality reviews of the field conducted for NICE in 2007 and 2009 (National Institute of Clinical Excellence, UK) (Adi et al, 2007a, 2007b; Shucksmith *et al,* 2007; Blank *et al*, 2009). Seventeen of the additional reviews were published more recently and fifteen were newly included, probably due to the wider search terms used in this review. This suggests that the conclusions of this review are based on the most recent and the broadest evidence trawl to date.

Systematic reviews, although often criticised as providing only a partial view of what matters in evidence creation, are widely acknowledged as powerful tools in the

evaluation of evidence of effectiveness, valued by policy-makers who perceive them as providing quantitative estimates of the average impact of interventions and reducing bias through their exhaustive strategies. Reviews of reviews take this further and, with a large number of studies to analyse, as in this case, here, can produce some robust and reliable evidence.

However, it is important to note what this design can miss (Nind and Weare, 2009). The work represented here is only a part of the wide range of interventions that are occurring across Europe to promote mental health in schools. As a review of reviews this review could not, by definition, identify new studies of primary approaches that may be promising. It is also restricted to work that passes the quality criteria of systematic review. This means that this review only includes what has been evaluated through controlled trials and which may miss promising interventions which have been evaluated in other ways, through before and after studies or qualitative approaches, for example.

Nearly all authors of the reviews commented on the lack of methodological rigor in many of the studies they analysed that made coming to firm conclusions difficult. However the methodological weaknesses may not greatly affect the validity and reliability of the conclusions. Wilson and Lipsey (2006a), reviewing universal school-based social information processing interventions on aggressive behaviour, found that studies with higher quality methods (e.g. those with random assignment or low attrition) did not produce better (or worse) outcomes than studies using less rigorous methods. The same authors also found that there were no significant differences in terms of outcome between experimental and quasi-experimental studies (Wilson and Lipsey, 2006b). The lack of difference made by methodological rigor lends support to the idea that the findings of this review may be applicable across a broad range of work, including that which falls outside the strict parameters of this review.

6.14 Summary and conclusions

A systematic search process identified fifty-two reviews of mental health in schools. Taken together the weight of evidence shows that interventions can be effective if well designed and implemented, can have beneficial effects on individual children

and young people, on classrooms, families and communities, and that there are few adverse effects.

Several different foci have been shown to be effective including:

- universal approaches to promote positive mental health;
- social and emotional learning interventions;
- targeted approaches to mental health problems, including internalising problems (depression and anxiety);
- approaches that focus on externalising behaviour, such as conflict, violence, aggression and bullying;

Such interventions impact on a wide range of mental health, and educational, outcomes, including:

- positive social behaviours and skills;
- reduced negative behaviours e.g. conduct, violence;
- reduction in emotional problems e.g. depression and anxiety;
- self confidence and self esteem;
- bonding with school;
- improved academic achievement, test scores, grades attendance.

More effective interventions tend to:

- be implemented intensively and consistently, with clear aims and guidelines, sound theoretical base, structured curricula, external training, consultancy and support for staff, and be sequenced, active, focused and explicit ('SAFE');
- have specific and explicit aims;
- address goals directly and explicitly (e.g. self-concept, self-esteem, and self efficacy) not as an adjunct to other outcomes;
- focus on positive mental health, not just on problems;
- focus on the whole child and young person, using approaches which develop attitudes, values, skills and beliefs, as well as behaviour and knowledge;
- use an overall universal approach directed at everyone;
- include targeted work for high risk students, with whom the strongest effects are likely to be seen, including one-to-one work;

- provide practical work to strengthen social, emotional, cognitive and/or behavioural competencies and skills with opportunities to practice in range of contexts;
- teach in varied and interactive rather than didactic ways;
- use a multi-componentl/ whole school approach;
- create a supportive whole school climate and ethos, with values, attitudes and behaviours relating to the way both staff and students treat each other and encourage attachment and bonding;
- use of a range of staff to deliver the intervention perhaps with different leaders for initiation and sustainability;
- make judicious use of peers education and support;
- ensure parental involvement and offer parenting education;
- ensure community involvement – including using adults as support and mentors;
- operate continuously for a lengthy period of time, at least nine months to a year;
- start early, with the youngest children;
- continue with a spiral approach or booster sessions;
- be routinised into the whole school practice and culture.

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+++ = programme to be found in Europe

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8 APPENDICES

CONTENTS, CRITICAL APPRAISAL AND RESULTS OF INCLUDED REVIEWS

Table 1: Contents of reviews

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Adi et al (2007a)	Effectiveness of school based interventions that take a universal approach to promoting mental wellbeing among children in primary education but not primarily focused on violence or bullying	Diverse range of interventions including the following alone and in various combinations: changes in school ethos, policies and environment; classroom-based intervention; teacher training, parent involvement including support for parenting; wider community component	Teachers, psychologists, peers	Duration range commonly between 8 to 60 sessions.. Most commonly weekly. Some long term programmes, following students through school	School aged children , and sometimes their parents/families	4– 11 years
Adi et al (2007b)	Effectiveness of school based interventions that take a universal approach to promoting mental wellbeing among children in primary education, primarily focussed on violence and bullying.	Diverse range of interventions including the following alone and in various combinations: changes in school ethos, policies and environment, teacher training in behaviour management, classroom-based intervention, parent component, wider community component	Teachers, psychologists, graduate students, counsellors.peers	Duration range commonly between 10 to 30 sessions. Most commonly weekly. Some long term programmes following students through school	School aged children and sometimes their parents/families	4-11 years
Bayer et al (2009)	Preventive interventions for mental health – what would work in Australian contexts?	Behavioural and emotional problems in young children.	Teachers for the school based programmes	Between 1 and 2 years for the school based programmes	Children under 9. Mostly in family contexts, but some school based projects.	0-8
Beelman et al (1994)	Effects of training social competence in children	To assess training in social competence	Teachers, Psychologists, Research staff	Generally short interventions, up to 10 weeks	School aged children in a range of educational and clinical settings	3-15 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Beelman and Losel (2006)	Effectiveness of social skills training in preventing anti-social behaviour and promoting social competence	To assess social skills training programmes for the prevention of anti-social behaviour in adolescents. (all studies with additional components were excluded).	Teachers, psycho-social professionals, study authors, research staff and supervised students	Generally very short interventions of limited intensity. Over 40% were no more than 10 sessions, and half lasted no more than 2 months	School aged children and young people in a range of educational and clinical settings, universal, selected and indicated	0-18 years
Berkowitz and Bier (2007)	Effects of educational interventions in character education and the most common shared practices of those programs.	Character education aims to influence the psychological characteristics that motivate and enable one to function as a moral agent. The aims are varied, and include social and emotional learning, moral education, violence prevention, drug and alcohol prevention and service learning.	Not stated, but likely to be a wide range of professionals, including teachers, psychologists, health workers.	Not stated	School aged children and young people in a range of educational settings, mostly universal interventions	0- 18 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Blank et al (2009)	Effectiveness of school based which aim to promote emotional and social wellbeing by modifying behaviour among children in secondary education, which take a universal (non-targeted) approach.	Interventions to prevent –ve behaviours e.g. to address levels of: bullying, violence, aggression, victimisation, delinquency. Interventions to promote +ve behaviours included interventions to promote: positive behaviour change, conflict resolution, social competency, resilience, peer support, health rights, coping with change, and successful school transit.	Teachers, psychologists, peers, youth and family workers	Very wide range, commonly between from 5 sessions and 60. Most commonly weekly, with some more intensive. Some long term programmes, up to 5 years.	School aged children and young people, and sometimes their parents and families	11-19 years
Browne et al (2004)	A review of reviews of effective and efficient mental health non clinical programmes for school aged children	To find and evaluate effective and efficient mental health non clinical programmes for school aged children through a synthesis of existing reviews. To assess findings and determine common elements of effective children's services, including in schools.	Not stated, - but notes that delivery of original interventions , where reported, was by a very wide range of personnel, including school and outside staff.	Not stated	School aged children and young people in school and community settings	Not explicitly stated, but implicitly 0118 years
Catalano et al (2002)	Evaluations of positive youth development programmes in school, family and community settings, separately or combined	Positive youth development programmes, defined as those which foster and promote: bonding social, emotional, cognitive, behavioral, and moral competence self-determination spirituality self-efficacy clear and positive identity belief in the future recognition for positive behavior opportunities for prosocial involvement	Not stated.	Duration range very wide, 10 sessions to 60+ over several years. 20 (80%) of effective, well-evaluated programs were delivered over 9 nine months or more.	Children and young people in school, community and family settings, universal and selected (at risk) but not indicated (but not with defined problems)	6-20 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Clayton et al (2001)	Promising and effective antiviolence, conflict resolution, and peace programmes for elementary school children.	Programmes attempted to prevent or reduce youth violence by enhancing children's social relationships, instilling in them self-confidence and a peaceful outlook on life, giving them skills for peaceful conflict resolution, and providing an environment that is supportive of these new skills and characteristics.	Teachers. School counsellors Undergraduate students	Duration range very wide, from 5-60 sessions over weeks, months or years.	Children in school settings	5-11 years
Diekstra (2008a)	A review of reviews of interventions that take a universal approach social and emotional learning (SEL) and skills for life programmes (SFL)	Enhancement of social and emotional skills, self concept, self esteem, stress reduction, Preventing distruptive behaviour, drug use, mental ill health and mental disorders.	Not stated, - but notes that delivery of original interventions , where stated, was by a very wide range of personnel, including school and outside staff.	Not stated, but notes that frequency and duration of original interventions , where stated, covered a very wide range, from 8 sessions to several years	School aged children	4-19 years
Diekstra (2008b)	A review of social and emotional learning (SEL) and skills for life (SFL) programmes Aim: to assemble evidence on the effectiveness of recent programmes, including comparative evidence on the effectiveness of non-American versus American SEL and SFL interventions.	Enhancement of social and emotional skills, self concept, self esteem, stress reduction, Preventing distruptive behaviour, drug use, mental ill health and mental disorders.	Teachers and other professionals	Programme duration, minimum 1 day, maximum 5 years, mean 1 year Number of sessions: minimum 1, maximum 155, mean 27 Length of session, minimum 20 mins, maximum 2 hours, mean, 48 minutes	School aged children	4-19 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Durlak and Wells, 1997	Primary prevention programs designed to prevent behavioral and social problems in children and adolescents	The review notes that neither the intervention procedures nor the goals of many programs were specifically articulated. Only 36% had specific goals such as the prevention of aggression or performance anxiety in a school setting; many program goals could only be categorized in broad or vague ways such as improving personal adjustment or preventing school problems.	Several different types of change agents were used including mental health professionals (29.9%),graduate (13%) and undergraduate students (9%), and teachers or parents (20.9%)	Not stated	School aged children without defined problems and disorders. School (129) General hospital or dental clinic (26) Combination or other (14) Home (4) Not stated (4)	5-18 years Mean age 9.3 years
Durlak et al (2007)	Effects of positive youth development programmes on school, family and community systems	Interventions had wide range of positive youth development aims. This review is looking at their effect on systems – school, family, community or a combination	Not stated	Not stated	School aged children and young people without defined problems and disorders	5-18 years
Durlak and Weissberg (2007)	The impact of after school programmes that promote personal and social skills	To promote personal and social skills aims, categorised in this review as Feelings and attitudes - child self-perceptions e.g. self esteem, self concept, self efficacy) and bonding to school (e.g. positive feelings about school and teachers) Behavioral adjustment - positive social behaviours (e.g. expression of feelings, positive interactions, assertiveness), problem behaviors (e.g. aggression and rebelliousness) and drug use, legal and illegal.	Not stated	One or more years. Actual attendance however very variable.	School aged children and young people	5-18 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Durlak et al (2010)	The impact of universal social and emotional learning programmes for school children	To promote social and emotional learning – aims of categorised in this review as: Social-emotional skills; Attitudes toward self and others Positive social behaviors, Reducing conduct problems, Reducing emotional distress Improving academic performance	Regular school staff, including teachers (found in 54% of interventions) Non- school personnel (e.g., university researchers, outside consultants). Analysed data to assess the impacts of both groups .	Only studies of interventions with 8 or more sessions were included- maximum not stated	School aged children and young people without any identified adjustment or learning problems	5-18 years
Ekeland et al (2004)	The effects of exercise on self esteem in children	The effects of exercise on a wide range of physiological and psycho-social attributes - attitudes and behaviours. All interventions included measures of self esteem.	Not stated	Between 4 and 20 weeks	Children and young people without severe mental health problems.	3-20 years
Farrington and Ttofi (2009)	To assess the effectiveness of school based interventions to reduce bullying and victimisation	To reduce bullying and victimisation.			Children and young people in school settings	3-19 years
Gansle (2005)	The effects of school based programmes that focused on anger or included anger as a dependent variable	Various efforts to improve child behaviour, sometimes including families. Aims that were measured were: -Externalizing and anger e.g. deviant disruptive and aggressive behavior, -Internalizing and anger e.g. depression, shyness, anxiety -Social Skills e.g. peer relations, social competence, self-control, assertiveness. -Beliefs and attitudes e.g. self-efficacy,self-esteem, locus of control, intent to use non-violent behaviours. -Academic e.g. grades, academic engagement, and school attendance.	School psychologist or other school consultant or professional (55%, n =11). University faculty and graduate students 30% (n =6), Teachers 10% (n =2).	Between 6 hours and 50 hours. Mean 14 hours .(Excluding one extremely lengthy intervention of 228 hours)	School aged children and young people, the majority of them boys, in school settings	5-18 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Garrard and Lipsey (2007)	The effects of conflict resolution education on anti-social behaviour	To facilitate constructive resolution of interpersonal conflicts. Target anti-social behaviour, from low level opposition, provocation and disputes, high risk aggression, bullying, dominance and violence. Also promote cooperation, empathy and respect. Sometimes have secondary goals of emotional and social growth and wellbeing, critical thinking, and improving school climate	Not stated	Less than 1 month: 4 studies 1-2 months: 11 studies 3-4 months: 14 studies More than 4 months: 8 studies 3-45 hours, mode 15 hours	School aged children and young people in school settings	5-18 years, Mean age 12 5-9 years: 6 Studies 10-13 years: 9 studies 14-17 years: 11 studies
Green et al (2005)	A review of reviews of the effects of interventions to improve the social and emotional well-being of primary school-aged children.	Majority of original primary studies classroom based, and covered a range of cognitive, affective, behavioural and skill-training approaches targeting: □ problem-solving skills □ alternative thinking strategies and the promotion of self-esteem □ reduction of aggressive behaviour □ bullying and violence prevention □ teaching children to cope with stressful experiences and with educational transitions.	In earlier reviews, mental health professionals and graduate students. In later reviews teachers more likely to deliver.	Not stated	Children in school settings	5-11 years
Greenberg et al (2001)	The effects of prevention programmes in preventing mental health disorders in school aged children	Universal programmes. Targeting a range of issues including violence prevention, social/cognitive skills, school ecology. Externalising disorders including anger, aggression, conduct disorder. Internalising disorders including depression, anxiety, suicide, stress.	School staff, mental health professionals, graduate students, researchers	Not stated	Children and young people in school, community, family and clinical settings	5-18 years
Hahn et al (2007)	The effects of universal school based programmes to prevent violent and aggressive behaviour	Reducing: -aggressive or violent behaviour- fighting, bullying, crimes against persons -disruptive behaviour – conduct disorder - problem behaviour, internalising and externalising	School staff – teachers, counsellors, administrators, psychologists, graduate students, researchers, peers	Not clear.	Children and young people in school settings	5-18 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Haney and Durlak (1998)	The effects of interventions to promote self-esteem and self-concept in school children	To promote self esteem and positive self concept, either directly or indirectly	Not stated	Average length of intervention 20.43 weeks. Average number of sessions 16.33.	55% school based, rest in community or clinical settings, usually to groups	5-18 years Years, studies: 3-5 : 5 6-10 : 80 11-12: 61 13-18 : 39
Harden et al (2001)	Barriers and facilitators to good mental health in young people.	Mental health, with specific focus on prevention of suicide and self-harm, and associated depression, and the promotion of self-esteem and coping strategies.	Not stated	Not stated – likely to be very various	Young people in wide range of settings, including schools (72% of studies school based)	11-21 years
Hoagwood and Erwin (1997)	Effectiveness of school based mental health services for children	Social skills CBT Teacher consultation	Not stated	Not stated	School aged children in school settings	Not specified
Horowitz and Garber (2006)	Prevention of depressive symptoms in children and adolescents: A randomized trial of cognitive-behavioral and interpersonal prevention programs.	Prevention of depressive symptoms in children and adolescents	Not stated	3 to 16 sessions; mean 10.5; median _ 11	Children and adolescents in range of setting, including schools	0-20 years
Kraag et al (2006)	Effect of school programs targeting stress management or coping skills in school children.	Developing stress management and coping skills in children	Teachers Graduate students Undergraduate students Psychologists School social workers Social workers Researchers	Very variable From one 10 minute session a week x 5 weeks to 1 hour week x 30 weeks	Younger school aged children in school settings	4-14 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Maxwell et al (2008)	Supporting the emotional wellbeing and mental health of children and young people in England. Aim: Inform the development of policies by bringing together a range of research evidence including the less robust but more local, - to enhance applicability in an English context.	Promoting emotional wellbeing and mental health	Teachers, nurses, psychologists	Not stated	Children and young people in range school, community and adolescent mental health (CAMHS) settings.	3-18 years
McCarthy and Carr (2002)	Effect of school programmes to prevent bullying	To prevent bullying in schools	Not stated, but would appear to be teachers, with and without outside consultancy	Not stated	Children and young people in school settings.	7-16 years
Merry et al (2004)	Universal interventions (both skills based and knowledge based) which reduce the risk of or prevent depression in the young.	Wide range of interventions with range of aims e.g. Social and emotional learning Resilience Stress Problem solving	Clinicians Graduate students Nurses Teachers Counsellors Trained facilitators	5-180 sessions of various lengths	Children and adolescents who did not meet the criteria for a clinical diagnosis of depression in school, community and clinical settings	5-19 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Mytton et al (2002)	The effects of school based violence prevention programmes for children identified as at risk for aggressive behavior.	Anger management Stress inoculation Social skills Self control Problem solving/ decision making Conflict management Relaxation and coping skills Empathy training Cognitive restructuring/ attribution training Thinking skills Assertion	Not stated	From 1 session a week for 8 weeks, to 1 session a week for 20 months	School aged children at risk of violent behaviour, most of them boys, in school settings	5-18 years
Neil and Christensen (2007)	The nature and efficacy of Australian school-based prevention and early intervention programs for anxiety and depression.	Programmes were included if they addressed symptoms of anxiety or depression in a school context, or increased student resilience through the development of positive coping skills.	Not stated	Not stated	School aged children, universal and targeted, in school settings	5-18 years
O'Mara and Marsh (2006)	The effectiveness of interventions to enhance various aspects of self concept	Programmes were included if they addressed self concept directly or indirectly and contained a measure of self-concept or another related self-concept construct (e.g., self-esteem, self-efficacy),which could be either a global measure (e.g., self-esteem) or a specific domain (e.g., academic self-concept).	Teachers School counsellors Mental health professionals Researchers	Not stated	Children and young people in a wide range of school and community settings	0-18 years
Park-Higgerson et al (2008)	The characteristics of successful school-based violence prevention programs.	Violence prevention	Counsellors Peers Graduate students Psycho-therapists Teachers Trained clinicians	8-46 sessions	School aged children in school settings	5-16 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Payton et al (2008) (Indicated Review only- Two other studies included already summarised above – Durlak et al 2007; Durlak and Weissberg 2007	The impact of school based indicated social and emotional learning (SEL)programmes, i.e. that identify and work with students displaying early signs of behavioural or emotional problems	To improve social and emotional learning, defined as SEL skills, attitudes towards self and others, conduct problems, and emotional distress.	School personnel Non school personnel Peer leader	Less than 3 mths: 51% 3-6 mths: 23% 6 mths- 1 year: 10% 1-2 years: 11% More than 2 years: 2%	Children who showed signs of social, emotional, or behavioural problems, but had not been diagnosed with a mental disorder or need for special education, in school settings	5-10 yrs: 69% 11-14 yrs: 31%
Reddy et al (2009)	The effectiveness of school-based prevention and intervention programmes for children and adolescents at-risk for and with emotional disturbance	To prevent and intervene in emotional disturbance, and associated issues such as conduct disorder, depression and anxiety, and social skills development.	Not stated	Not stated	School aged children 71% of them boys, in school settings	5-18 years
Rones and Hoagwood (2000)	School based mental health services	To address mental health issues including positive mental health, and problems such as emotional and behavioural problems, depression, conduct problems, stress management, substance abuse	Not stated	Not stated	School aged children in school settings	5-18 years
Schachter et al (2008)	Effects of school based interventions on mental health stigmatisation	To address mental health stigma	Mostly 'brought in from outside the school'	15 brief, one off interventions 4 over weeks or months 1 over a year	School aged children in school settings,	5-19 years Most interventions targeted students 11 years or older

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Scheckner et al (2002)	The effectiveness of school violence prevention programmes	To prevent school violence. More specifically pro-social behaviour and skills, conflict resolution, anger management and resolution, reducing aggression,	Not stated	Short (a few weeks), Medium (a few months) Long (a year) All three equally represented	School children, mostly in school settings, with a few in homes or in the community	5-18 years, but mostly with under 11s.
Shucksmith et Al (2007)	The evidence for the effectiveness of targeted/ indicated activities aimed at promoting the mental wellbeing of children in primary education	Emotional, psychological and social wellbeing	Almost all delivered by psychologists.	Not stated. Only studies of over a month included.	School aged children, either at risk (targeted) or identified as having problems (indicated) in school settings.	4-11 years
Sklad et al (2010)	The evidence for the effectiveness of universal socio-emotional programmes	Various aims, but all included at least one measure of socio-emotional learning.	Not stated	Considerable variability - ranging from a single one-day workshop via interventions that consisted of 15 sessions spread over 3 years up to a program of 155 sessions lasting up to 6 years. Most common length of the intervention was 1 school year.	School children 5-18. More secondary (62.%) than primary.	5-18 years Average age 10.5.

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Stage and Quiroz (1999)	The effectiveness of studies to decrease disruptive behaviour in classrooms	Disruptive behaviour e.g. conduct disorder, externalising behaviour	Teachers, clinicians	Not stated	School aged children in school settings	5-18 years
Tennant et al (2007)	A review of published systematic reviews evaluating interventions to promote mental health and prevent mental illness in children.	Mental health promotion or mental illness prevention interventions	Not stated	Not stated	Children and young people in a range of school and community settings	0-19 years
Tilford et al (1997)	Effectiveness of mental health promotion interventions (looking at sections on children and youth only)	Mental health promotion or mental illness prevention interventions	Not stated	Not stated	Children and young people in a range of school, home and community settings	5-18 years
Vreeman and Carroll (2007)	A systematic review of school-based interventions to decrease bullying.	Preventing bullying including victimization, aggressive behaviour, and school responses to violence. Included work on social problem solving, cooperative group work, and empathy.	Not stated	Between 3 and 15 weeks.	School aged children in school settings	5-18 years
Waddell et al (2007)	The effectiveness of programmes intended to prevent mental health problems,	Preventing conduct disorder, anxiety and depression in children and young people	15 interventions delivered by: Teachers (8) Clinicians (9) Trained leaders (1) Parents (1)	Between 6 weeks and 2 years	15 studies of , children and young people in - Preschool and school settings (13 Home (1) Clinical (1) settings	0-18 years

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Wells et al (2004)	Universal approaches to mental health promotion in schools	Promoting mental health, using range of whole school and classroom based approaches. Negative aspects of mental health - aggression, conduct problems or antisocial behaviour (5), depression or suicidal tendencies (4). Personal and interpersonal behaviours that underpin mental health - problem-solving (4) conflict resolution (1) emotional awareness (1) . Positive mental health - self-concept or self-esteem (4)	Mostly teachers Some project staff Parents School counsellors Professional Educators	Between 7 weeks and 3 years	School aged children in school settings	5-18 years, mostly 11 or under.
Wilson et al (2003)	The effects of school-based Intervention programmes on aggressive behaviour	Review included school-based programme which measured aggressive behaviour as an outcome variable. Included violence or aggression prevention, social skills, psychological adjustment, academic performance etc.	Most commonly teachers and researchers	Most less than 20 weeks, 20% less than 7 weeks, but some lasted more than a year	School aged children in school settings, mostly boys.	5-18 years
Wilson and Lipsey (2006a)	The effects of universal school based social information processing interventions on aggressive behaviour	Improve students' social information processing skills e.g. changing hostile attributions. Most common foci of the programs were social problem solving, perspective taking, and anger management. Behaviouralsocial skills training was included in 32% of the programmes.	Most commonly teachers, with some researchers	Usually short term, 2.3 less than 17 weeks.	School aged children in school settings during regular school hours.	4-16

Author (Year)	Focus of the review	Aim(s) of the intervention(s)	Who delivers the intervention(s)	Intervention(s) frequency and duration	Population and setting	Timing
Wilson and Lipsey (2006b)	The effects of targeted and indicated school based social information processing interventions on aggressive and disruptive behaviour of children judged to be at risk for such behaviour (selected) or already engaged in such behaviour (indicated).	Address students' social information processing difficulties, i.e. encoding and interpreting situational and internal cues, and selecting goal and responses, and cognitive skills/ thinking processes.	Researchers School staff Graduate students	Mostly once or twice a week, most 8 weeks or less, significant number up to 16 weeks, a few longer	School aged children in school settings during regular school hours	4-16
Wilson and Lipsey (2007)	The effects of school-based Intervention programmes on aggressive behaviour (update of Wilson et al, 2003, analysed above)	The review included studies of any school-based programme for which aggressive behaviour was measured as an outcome variable. Included violence or aggression prevention programmes and also programmes on social skills, psychological adjustment, academic performance etc. Aim of the study is to update Wilson et al (2003) by adding recent research and further investigate which programme and student characteristics are associated with the most effective treatments.	Most commonly teachers and researchers	Most less than 20 weeks, 20% less than 7 weeks, but some lasted more than a year	School aged children in school settings, mostly boys.	5-18 years

Table 2: Critical Appraisal

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehens -ive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Adi et al (2007a)	Yes	Primary studies - RCTs and CCTs - since 1990. Reviews included as background.	Yes	Yes	Systematic review	Effect sizes and confidence intervals where possible (4 out of 31 studies).	Yes in separate exercise
Adi et al (2007b)	Yes	Primary studies - RCTs and CCTs - since 1990. Reviews included as background.	Yes	Yes	Systematic review	Effect sizes and confidence intervals where possible (2 out of 17 studies)	Yes in separate exercise
Bayer et al (2009)	No	RCTs	Yes	Yes	Systematic review	Narrative review	No
Beelman et al (1994)	Yes	Primary studies - RCTs, including stratified modes of randomisation, where pre and post intervention data available, between 1981 and 1990	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals where possible, computed where not stated in original study.	No
Beelman (2006)	Yes	Primary studies - RCTs, including stratified modes of randomisation, where pre and post intervention data available, between 1971 and 2000.	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals where possible	No
Berkowitz (2007)	Given the very broad and inclusive framework of character education, yes	Primary studies. To be included studies had to have a control group, a comparison group, or a pre- and post design. Post 1970, but in practice most were post 1990.	Yes	Yes	Systematic review, plus expert panel and contact with programme developers	Outcome variables categorised and recorded as either significantly positive, non-significant, or iatrogenic (negatively significant). $p < .05$ for all statistical tests reported. Effect sizes not utilized due to insufficient evidence .	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Blank et al (2009)	Yes	16 RCTs, 9 controlled before and after studies, 9 interrupted time series and 3 other designs Reviews included as background.	Yes	Yes	Systematic review, plus iterative and emergent search.	Effect size and confidence intervals where possible (5 out of 37 studies)	Yes in separate exercise
Browne et al (2004)	Yes	Reviews. To be included a review had to: address a focussed question; have effective, appropriate selection methods for relevant articles; appraise study validity; give sufficient methodology to reproduce assessments; provide consistent, complete and precise results; and consider results in terms of importance, applicability, benefits and limitations.	Yes	Yes	Meta-analysis/ synthesis	Effect sizes and confidence intervals possible for only 1 study of the 23. Otherwise reported according to: whether they stated review search strategy; comprehensiveness of search; relevance criteria; quality of primary studies assessments; comprehensive quality assessment findings integrated; adequate data to support conclusion; overall strength of the review; topic/author; whether included goals; program orientation; intervention strategies.	No, and commented that not often done by original reviews
Catalano et al, (2002)	Yes	Primary studies . RCTs (16 – 64%) and CCTs	Yes	Yes	Systematic review	Effect sizes and confidence intervals where possible, but mostly used %s.	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Clayton et al (2001)	No	''Effective' programmes defined as -Using valid and reliable instruments, -Pre-post comparisons and control group designs. -Long term evaluation showing long term effects. 'Promising' defined as those which result in decreased violence but do not meet all the criteria above.	Yes	Yes but low quality programmes included as 'promising'	Systematic review	Qualitative review.	No
Diekstra (2008a)	Yes	Reviews in English, 1997-2007, of reviews of interventions that aimed at of interventions that take a universal approach social and emotional learning that reported statistically calculated effect sizes on experimental or quasi-experimental effect studies	Yes	Yes	Meta-analysis	According to author, year, target for interventions, number of studies, number of participants, general outcome,	No
Diekstra (2008b)	Yes	RCTs and CCTs or comparison group - universal, not just targeted - allowed calculation of effect sizes - in English, 1997-2007	Yes	Yes	Meta-analysis	Effects sizes and confidence intervals where possible	No
Durlak and Wells (1997)	Yes	RCTs and CCTs. Primary prevention;, by the end of 1991; directed primarily at children's and adolescents' behavioral and social functioning.	Yes	Yes	Meta-analysis which coded the studies in terms of 7 different categories	Effect sizes and confidence intervals where possible	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Durlak et al (2007)	Yes	RCTs and CCTs Universal programmes In English by end 2005, Include at least one outcome measure that assessed youths'behaviors	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals where possible	No
Durlak and Weissberg (2007)	Yes	RCTs and CCTs. After-school programs that attempted to promote personal and social skills - problem-solving, conflict resolution, self-control, leadership, responsible decision-making, and enhancement of self-efficacy and self-esteem. Part of the school year and occurred outside of normal school hours. Present sufficient information for analysis and appear by end 2005.	Yes	Yes	Meta-analysis	Effects sizes and ±.05 confidence intervals .	No
Durlak et al (2010)	Yes	RCTs and CCTs -In English, by end 2007, Universal Allowed calculation of effect sizes at post and/or 6 months follow up.	Yes	Yes	Meta-analysis	Effects sizes and ±.05 confidence intervals	No
Ekeland et al (2004)	Yes	RCTS children and young people 3 to 20 years, in which one intervention arm was gross motor activity for more than four weeks and the outcome measure was self-esteem.	Yes	Yes	Meta-analysis	Effects size and confidence intervals	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Farrington and Ttofi (2009)	Yes	Four types of research design were included: a) randomized experiments, b) experimental-control comparisons with before and after measures of bullying, c) other experimental control comparisons and d) quasi-experimental age-cohort designs, where students of age X after the intervention were compared with students of the same age X in the same school before the intervention.	Yes	Yes	Systematic review and meta-analysis	Effects sizes and confidence intervals where possible -44 of the 53 studies	Np
Gansle (2005)	Yes	RCTs and CCTs. In English in school setting, published in peer-reviewed journals. Evaluated the effect on child behaviour. Data had to allow for calculation of an effect size and include either means and standard deviations of control and experimental groups, or a published effect size for the dependent variables of the study that was calculated using means and standard deviations	Yes	Yes	Meta-analysis	Effects size and confidence intervals	No
Garrard and Lipsey (2007)	No clearly focused question explicitly stated at the outset – findings emerged from the data	RCTs and CCTs Conflict resolution, not mixed in with other aims. 1960- 2000. If control group not random then, info available to compare CRE and control group at baseline At least one quantitative post-test measure that allowed calculation of effects size.	Yes	Yes	Meta-analysis	Effects size and confidence intervals	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Green et al (2005)	No	Reviews and meta-analyses of interventions in a primary school setting focusing on mental health promotion or primary prevention of mental health problems, demonstrating a change in mental health status. In English by end 1991.	Yes	Yes, but no requirement that the primary research used controls or comparison groups	Review of reviews using specified criteria	Descriptively - by authors, focus, target group, criteria of primary prevention intervention type, number of studies	No
Greenberg et al (2001)	Yes	RCTs and CCTs. Studies of universal, selective or indicated prevention programmes that improved specific psychological symptomology or known risk factors, Both pre and post-findings, and preferably follow-up data. Written manual that specifies the model and procedures to be used in the intervention. Specified sample with behavioural and social characteristics.	Yes	Yes	Narrative review	Descriptively by features of the programmes. Basic categories: universal/externalising/internalising Universal – by aims – violence prevention/ skills/ school ecology/ multi-domain -Externalising -by child focused/adult focused/ multi-component Internalising – by depression, anxiety, suicide	No
Hahn et al (2007)	No	Various designs. Studies of evaluated universal school programmes with the reduction of violent or aggressive behaviour as an objective of the program, through classroom interventions, modification of the school or community environment or parental involvement	Yes	Yes, graded good, fair or limited -only 'good' or 'fair' studies used	Narrative review	Effects sizes where possible, but often not as many weaker studies included. Mostly % given.	Reported some primary studies had noted costs, but only one noted benefits

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Haney and Durlak (1998)	Yes	RCT and CCTs Studies of indicated significant improvement in children's and adolescents' self-esteem and self-concept, and significant concomitant changes in behavioral, personality, and academic functioning. Published before 1992, at least one outcome measure of self-esteem or self-concept, and contain a control group drawn from the same population as the intervention group.	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals where possible	No
Harden et al (2001)	Yes	Studies in English of mental health promotion and problem prevention, Outcome evaluations, systematic reviews and process evaluations,. Quantitative and qualitative studies.	Yes	Yes	Three stages: -Mapping and screening of 345 studies -Systematic review of 7 high quality studies -In depth review of outcome evaluations of 30 studies	Systematic review and in depth review – effect sizes and confidence intervals where possible. Mapping and quality screening – presented descriptively	No
Hoagwood and Erwin (1997)	No	RCTs and CCTs. Use standardized outcome measures. 1985-1995.	Yes	Yes	Systematic review	No effects sizes given Results described as 'significant' or programmes as 'effective' – no further details given	No
Horowitz and Garber (2006)		RCTs and CCTs. .	Yes	Yes. Unpublished dissertations included.	Meta-analysis.	Narrative review, no effect sizes given. Results described as effective, mixed or not effective.	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehens-ive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Kraag et al (2006)	Yes	RCTs and CCTs.	Yes	Yes	Systematic review and meta-analysis	Effects sizes and confidence intervals where possible. If no baseline measurement available, SMDs were calculated between final measures of the groups. The overall pooled effect size was calculated by random effects meta-analysis. Dependence of the results on study characteristics (i.e. methodological quality and type of intervention) was evaluated using meta-regression analysis.	No
Maxwell et al (2008)	No	Reviews and evaluation studies In English between 2000 and 2007; Systematic literature reviews, meta-analysis, other literature reviews, evaluation studies, randomised controlled trials, pilot studies, interventions;	Yes	Yes, wide range of studies included some of medium methodological quality but high local applicability	Systematic review supplemented by grey literature. paper.	Thematically and descriptively.	No
McCarthy and Carr (2002)	Yes	Studies that included repeated measures over control and intervention periods or that included a control group, included more than 4 schools and included reliable and valid outcomes.	No - limited keywords (bullying + prevention) and only (Psychclit	In practice only one included a control group and that not randomly assigned.	Narrative review	Effects sizes for 1 of the 4 studies, otherwise %s.	No
Merry et al (2004)	Yes	RCTs	Yes	Yes	Meta-analysis	Effects size and confidence intervals	No
Mytton et al (2002)	Yes	RCTs	Yes	Yes	Systematic review and meta-analysis	Effects size and confidence intervals	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Neil and Christensen (2007)	Yes	Efficacy or effectiveness trials of programmes developed and /or trialled in Australia.	Yes- of studies from Australia only	Yes, against randomisation, double-blinding, and withdrawals//dropouts	Systematic review	Descriptive/ narrative review	No
O'Mara and Marsh (2006)	Yes	CCTs and RCTs	Yes	Yes	Construct validation and meta-analysis	Effects size and confidence intervals	No
Park-Higgerson et al (2008)	Yes	RCTs and CTTs	Yes	Yes	Meta-analysis	Effects size and confidence intervals	
Payton et al (2008) (indicated)	Yes	RCTs and CCTs	Yes		Meta- analysis	Effects size and confidence intervals	No
Reddy et al (2009)	Yes	Various research designs, of the 29 analysed, 6 had controls and 5 had comparison groups	Yes	Yes	Meta-analysis	Effects size and confidence intervals where possible	No
Rones and Hoagwood (2000)	Yes	36 RCTs, 9 quasi-experimental designs, and 2 multiple baseline designs.	Yes	Yes	Synthetic review	Descriptive/ narrative review	No
Schachter et al (2008)	Yes	40 studies – 5 RCTs, 13 Quasi-experimental, 22 pre-post test or post test only.	Yes	Yes, although most studies classified as poor	Narrative review	'Qualitative evidence synthesis' was all that was possible given the low methodological quality of the studies	No
Scheckner et al (2002)	Yes	RCTs and CCTs, 1990-1999	Yes	Yes	Meta-analysis	Effects sizes and confidence intervals	No
Shucksmith et al (2007)	Yes	RCTs and CCTs, primary, peer reviewed, post 1900, in developed countries	Yes	Yes	Systematic review	Effects sizes and confidence intervals	Yes, in a separate exercise
Sklad et al, (2010)	Yes	RCTs and CCTs reported to Allow for the calculation of effect sizes, published in English between 1995 and 2008)	Yes	Yes	Meta-analysis	Effect sizes and confidence intervals	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Stage and Quiroz (1997)	Yes	Due to the predominance of single-S studies, the authors used the Interrupted Time Series utocorrelation program which yielded a t statistic that was transformed into an effect size.	Yes	Yes	Meta-analysis	Effects sizes and confidence intervals	No
Tennant et al (2007)	Yes	Systematic reviews	Yes	Yes	Systematic review of reviews, narrative summary	Effects sizes and confidence intervals where possible- in practice for one study only	No
Tilford et al (1997)	No	Range of designs	Yes	No	Systematic review	Narrative review	No
Vreeman and Carroll (2007)	Yes	RCTs and CCTs	Yes	Yes	Systematic review	%s	No
Waddell et al (2007)	Yes	RCTs	Yes	Yes	Systematic review	Effects sizes and confidence intervals where possible – for one intervention only (Fast Track)	No
Wells et al (2004)	Yes	RCTs and CCTs involving more than 100 pupils in four or more classes or schools.	Yes	Yes	Systematic review	Narrative synthesis	No
Wilson et al (2003)		Either : (a) An experimental or quasi-experimental design that compared subject groups receiving one or more identifiable interventions with one or more control conditions and that presented both pretest and posttest measures on at least one qualifying outcome variable. (b) A pre–posttest design in which measures of at least one outcome variable were taken before and after intervention on the same subjects, including one-group designs and multiple-group designs involving different interventions.	Yes	Yes	Meta-analysis	Effects sizes and confidence intervals	No

Author (Year)	Does the review address a clearly focused question?	Type of studies included	Was a comprehensive search undertaken?	Was the quality of included studies assessed?	Method	Results presented	Economic analysis
Wilson and Lipsey (2006a)	Yes	RCTs (6) and CCTs (67)	Yes	Yes	Systematic review	Effects sizes and confidence intervals	No
Wilson and Lipsey (2006b)	Yes	RCTs and CCTs of programmes which focus on social information processing i.e. focus on encoding and interpreting situational and internal cues, and selecting goal and responses, emphasize cognitive skills/ thinking processes teach generic thinking skills, and use structured tasks and activities. .	Yes	Yes	Systematic review	Effects sizes and confidence intervals	No
Wilson and Lipsey (2007)	Yes	RCTs and CCTs, with 1) Students or classrooms randomly assigned to conditions; or (2) students in the intervention and comparison conditions matched, and the matching variables included a pretest for at least one qualifying outcome variable or a close proxy; or (3) the study reported both pretest and post-test values on at least one qualifying outcome variable or sufficient demographic information to describe the initial equivalence of the intervention and comparison groups.	Yes	Yes	Meta-analysis	Effects sizes and confidence intervals	No

Table 3: Results of reviews

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Adi et al (2007a)	31 studies, 15 RCTs and 16 CCTs describing 30 interventions that take a universal approach to promoting mental wellbeing but not primarily focused on violence or bullying	Broad range, including: emotional wellbeing (including happiness and confidence, and the opposite of depression/anxiety); psychological wellbeing (including resilience, mastery, confidence, autonomy, attentiveness/involvement and the capacity to manage conflict and problem solve) social wellbeing (good relationships with others, and the opposite of conduct disorder, delinquency, interpersonal violence and bullying)	Overall effect sizes were calculated for only 4 of the 31 studies, one good quality RCT:- 0.15 and 0.30; two moderate quality RCTs:- 0.37 and 0.25 ; and one moderate quality CCT:- 0.27 and 0.18, All suggesting small to medium effects of interventions on mental health. Good evidence to support multi-component programmes, covering classroom curricula and the school environment, which include significant teacher training and development and support and training for parenting. Typically long term involving children for between 1 and 3 years. Some evidence that short term stress and coping programmes delivered by psychologists are effective in the short term. Effectiveness may be enhanced by addition of a programme for parents. More evidence is needed on sustainability and effectiveness of psychologists versus teachers in providing such interventions. Reasonable quality evidence that short term conflict resolution programmes delivered by teachers and involving peer mediation are effective in the short term. Reasonable quality evidence that long term programmes covering social problem solving, social awareness and emotional literacy, in which teachers reinforce the classroom curriculum in all interactions with children are effective in the long term even when delivered alone. Some evidence to support further trials of programmes in which retired volunteers are recruited to help in schools Insufficient evidence to make recommendations relating to the optimum balance of universal and targeted approaches, but there was some evidence that the combination may be effective. There are no trials identified in this systematic review to show differential effects according to age, gender, ethnic or social groups.	Clear positive impact of multi-component/ whole school approaches Need more research on the content and process of delivery of interventions (including the content and approach to teacher training and parenting support, barriers and facilitators to implementation) and the most effective combination of targeted and universal approaches, Need more research on promising programmes to develop coping skills and reduce stress and anxiety and other short term class-based programmes, e.g. conflict resolution, to assess long term effectiveness, and cross cultural adaptability. Good quality CCTs of programmes adopting a health promoting school approach to mental health promotion should be undertaken using a range of robust outcome measures, positive as well as negative, and measuring long term impact Secondary research is needed to update reviews of measures of child mental health and primary research to develop measures which fill gaps in availability

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Adi et al (2007b)	17 studies reported in 23 papers– 11 RCTs and 6 CCTs that take a universal approach to promoting mental wellbeing primarily focused on violence or bullying	Focused only on measures of violence and proxy measures of aggression e.g. antisocial behaviour or social skills, in interventions. Most common outcomes measured- teacher, peer or self-reported measures of behaviour problems or social competence. Some trials used observations of children's behaviour, by teachers and/or independent observers. Some trials used child reports of self victimisation or victimisation of peers, or children's knowledge of bullying. A few studies reported event based data such as exclusions or expulsions from school due to violence, or visits to the school nurse for injury. Two studies with long term follow up reported on arrests and court appearances for delinquency.	6/17 trials showed a clearly positive impact, and 8/17 trials showed a possibly positive impact. The most common violence related outcomes measured were teacher-, peer- or self-reported measures of behaviour – either behaviour problems or social competence. Only 2 of the 17 contained effects sizes. One showed a standardised mean difference of 0.41 with effects maintained in seven studies reporting twelve months follow up, the other effect sizes were found of the order of 0.1 for universal interventions and 0.3 for targeted or indicated populations There is evidence from three out of four "moderate" quality RCTs, and two out of two good quality CCTs of the effectiveness of multicomponent programmes, which typically combine social skills development curriculum, teacher training in management of behaviour and parenting education. Moderate to good evidence that a multi-component programme which aims to change school ethos (PeaceBuilders) was effective, including at 2 year follow up in improving outcomes related to violence and mental health, measured by teacher reports of social competence and aggression. The evidence relating to curriculum only programmes (e.g. Second Step) suggests short, but not longer term effectiveness. There is some evidence that the Good Behaviour Game was effective in the short term, not evident at 2 and 6 years follow up for all children but some evidence it reduced violence in the most aggressive boys. . This programme may be useful in combination with others. There was some evidence of short term effectiveness of the Olweus Anti Bullying programme after a year, but not evident at 2 year follow up. Widespread evidence that programmes have more effect on boys than girls, white than black children, high than low risk children.	Clear positive impact of multi-component/ whole school approaches. Promising evidence for approaches which attempt to change the school culture and ethos, changing values, attitudes and behaviours relating to the way both staff and students treat each other. Such whole school programmes could have enduring impact on the school culture, so the 'intervention' would not normally have an end point. Long-term evaluation would need to track these children through into secondary schools. Whole school interventions that do not change school ethos and values are unlikely to show sustainable changes. Higher impact on high risk children may be the 'ceiling effect'. Main impact is on boys. Need to develop programme which take the violent behaviour demonstrated by girls into account.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Bayer et al (2009)	50 RCTS from which 6 programmes were identified that showed effectiveness and could be translated into an Australian context.	Emotional and behavioural problems.	Most programmes targeted children's behavioural problems, and a few targeted emotional problems. At school age, the Good Behaviour Game class programme showed evidence of effectiveness. Interventions exist primarily for behaviour and, to a lesser extent, emotional problems, and could be disseminated from research to mainstream in Australia, ensuring fidelity to original programmes.	Future research should develop programmes targeting emotional problems, and replicate effective programmes for behaviour problems in quality population translation trials. Randomized trial methods in staged roll-outs can determine population cost benefits for children's mental health without delaying dissemination.
Beelman et al (1994)	49 studies of interventions that teach social competence to children	Measures of social competence e.g. social-cognitive skills and social adjustment	Social competence training showed moderate effect sizes. . However, effect sizes were lower than in previous studies. Two main problems were identified: First, significant effect sizes were found only when direct goal criteria (e.g., social-cognitive skills) were evaluated, whereas there were few effects on broader constructs (e.g., social adjustment). Second, long-term effects were weak.	Further primary studies are needed on the generalization and maintenance of change.
Beelman (2006)	84 research reports with 127 treatment-control comparisons on social skills training to prevent anti-social behaviour and promote social competence.	Measures of 1.Anti-social behaviour e.g. aggression, delinquency, disruption and/or 2.Social competence e.g. social interaction skills, pro-social behaviour, self control or social problem solving. Broad range of data used e.g. reports, observations, official records, but had to be reported in sufficient detail to permit reliable effect size computation.	A small but significant overall positive effect of d= .39 at post intervention and d = .28 at 3 months follow up. Effect sizes where somewhat greater for outcome measures of social competence than for measures of anti-social behaviour, particularly when delinquency was assessed. Slight tendency for more intensive treatments to be more effective e.g. at follow up most intensive treatments were the only ones to impact on anti-social behaviour (d= .30) Cognitive –behavioural programmes were the only ones that impacted significantly on anti-social behaviour (d= .50) and generally had the best results in terms of generalisation over time and on outcome criteria, compared with cognitive or behavioural only. Authors, trainers and supervised students had more effect than teachers (d= .47 v. d= .33) Indicated approaches had higher effect sizes than universal approaches.	A small but significant overall positive effect of from interventions. Because most studies dealt with small sample sizes, non official outcome data and measurements after less than one year the results should be treated with caution. Further high quality studies with long term outcomes are needed, particularly outside the US.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Berkowitz (2007)	33 effective programs were identified reported by 64 empirical studies, plus 5 meta-analyses and literature reviews Examined to identify the most common effects and the most common shared practices of character education programs.	Sociomoral cognition Sexual behaviour Prosocial behaviors and attitudes Problem-solving skills, Knowledge about risk Drug use Relationships, Violence/aggression , School behavior Knowledge/attitudes about risk , Emotional competency , Academic achievement Attachment to school , General misbehavior Personal morality Character knowledge Communicative completency Attitudes towards teachers	The most commonly reported effects of character education were socio-moral cognition, pro-social behaviors and attitudes, problem-solving skills, reduced drug use, reduced violence/aggression, school behaviour, knowledge and attitudes about risk, emotional competency, academic achievement, attachment to school, and decreased general misbehaviour. The percentage of tests of that variable that were significantly positive were, in order, sexual behaviour (91%), character knowledge (87%) socio- moral cognition (74%), problem-solving skills (64%), emotional competency (64%) relationships (62%),attachment to school (61%), academic achievement (59%)and communicative competency (50%). For those 10 programs that assessed fidelity, there was a clear trend for complete and accurate implementation to result in more outcome effectiveness than incomplete or inaccurate implementation.	Character education can work when implemented with fidelity and broadly, and has a very robust impact. Effective character education tends to include: professional development; student interactive pedagogical strategies; an explicit focus on character/ethics; direct training of social and emotional competencies; modeling of character; aligned classroom/behavior management strategies; and community service and/ or service learning.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Blank et al (2009)	37 studies which aim to promote emotional and social wellbeing by modifying behaviour among children in secondary education (aged 11 - 18), taking a universal approach. 30 on negative and 7 on positive behaviour.	Self reported attitude/behaviour: (28 of which 3 +ve, 25-ve) Teacher behaviour/attitude rating (2 –ve) Parent behaviour/ attitude rating (1+ve) Academic achievement (2ve) Routine data (6 –ve) Effectiveness of programme (1 +ve, 2 –ve) Observed school wide changes (2 +ve)	5 studies calculated effect sizes. An RCT study of an aggression violence intervention showed that a programme with which included parental and community involvement was more effective than a programme of social development curriculum, with effect sizes 0.41 and 0.31 respectively. An RCT study of a "trans-theoretical based bullying curriculum" delivered by the internet showed that the intervention group were 4 times more likely not to participate in bullying (effect size 0.42). An RCT study of a violence prevention curriculum showed very small difference in violence scale ratings (effect size 0.1). A CBA study of a programme to reduce aggression and violence showed effect sizes of 0.5-0.73 in measures of endorsement of social exclusion and tolerance of physical and verbal aggression. A CBA study of a behavioural management programme to reduce aggression and violence which measured self reported aggression and found an effect size of 0.02. The effect sizes demonstrated are therefore highly variable which is unsurprising given the heterogeneity of included interventions and outcome measures. On balance, - in 8 out of 11 well conducted studies – there was evidence of the effectiveness of good quality universal interventions to support curriculum approaches to whole school interventions, which aim to promote positive behaviours, however 3 well conducted studies did not support this. The evidence on the effectiveness of the role of teachers, and external agencies in delivering interventions, and on involving parents, was equivocal. On balance there was reasonable evidence to support involving young people as peer educators/mediators in interventions.	The lack of well conducted studies for this age group in the school setting make it hard to draw firm conclusions. The results of this review broadly support the theoretical literature on wellbeing in secondary schools including the differentiation between interventions which aim to promote positive behaviour and interventions which aim to prevent negative behaviour. The literature to support whole school/ multi-component interventions in general is not well developed, especially in terms of good quality effectiveness studies. The vast majority of interventions identified in the review are based in the classroom and take a curriculum approach. More research is needed on whole school/ multi- component approaches at secondary level

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Browne et al (2004)	23 reviews of effective and efficient mental health (focusing on mental health problems) non clinical programmes for school aged children	Reviews discussed efforts to reduce deficiencies related to depression, anxiety, externalizing/internalizing or other psychological/social problems, reductions in risky behaviours, increase competence and resilience through various protective strategies	1 study calculated effects sizes. At post-test from 0.41 to 1.70 (small to large) At follow-up from 0.60 to 1.69 (medium to large) Otherwise commented on the characteristics of more effective programmes : universal rather than targeted; multi-modal, i.e. multiple, integrated elements involving family, school and community; for younger children (but programs for older children also effective); specific aim rather than broad and unfocussed; theoretically based ; interactive rather than information only/ didactic, involved families; positive rather than fear based; long term with follow up rather than short term/ intensive; adults as supports and mentors; peer mentoring. Effect sizes decreased over time for knowledge and skills acquisition and behaviour reduction suggesting the need for periodic follow-up and reinforcement.	Best practices include: early, long term intervention including reinforcement,; follow-up and an ecological focus with family and community sector involvement; consistent adult staffing; and interactive, non-didactic programming adapted to gender, age and cultural needs. Need to encourage interagency cooperation, ensure services reach appropriate segments of the population; replicate of best practices; and publicise information about benefits and cost savings .

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Catalano et al (2002)	25 effective and robustly evaluated programmes to promote positive youth development were identified	Not explicitly stated, but programmes selected for match with goals of positive youth development i.e. Bonding Social, emotional, cognitive, behavioral, and moral competence Self-determination Spirituality Self-efficacy Clear and positive identity Belief in the future Recognition for positive behaviour Opportunities for prosocial involvement Prosocial norms (healthy standards for behaviour).	19 of the effective programs showed positive changes in youth behaviour, including significant improvements in interpersonal skills, quality of peer and adult relationships, self control, problem solving, cognitive competencies, self-efficacy, commitment to schooling and academic achievement. 24 of the effective programs showed significant improvements in problem behaviours, including drug and alcohol use, school misbehaviour, aggressive behaviour, violence, truancy, high risk sexual behaviour, and smoking. Although one third of the effective programs operated in only a single setting, for the other two thirds, combining the resources of the family, the community, and the community's schools were the other ingredients of success. Effective programs shared common themes and principles. All sought to strengthen social, emotional, cognitive and/or behavioural competencies, self-efficacy, and family and community standards for healthy social and personal behavior. 75% also targeted healthy bonds between youth and adults, increased opportunities and recognition for youth participation in positive social activities. 96% used training manuals or other forms of structured curricula. 80% lasted nine months or more.	Although a broad range of strategies produced these results, the themes common to success involved methods to: strengthen social, emotional, behavioural, cognitive, and moral competencies; build self-efficacy; shape messages from family and community about standards for positive youth behaviour; increase healthy bonding with adults, peers and younger children; expand opportunities and recognition for youth who engage in positive behaviour and activities; provide structure and consistency in program delivery; and intervene with youth for at least nine months or more.
Clayton et al (2001)	30 ‘promising and effective’ antiviolence, conflict resolution, and peace programmes for elementary school children	Very wide range -Pro-social behaviour e.g. aggression, violence -Improved skills e.g. social decision making, resilience -Pro-social attitudes e.g. friendliness, empathy -Positive self concept	Qualitative analysis. Concluded there are many effective programmes aimed at anti-violence, conflict resolution and peace which is encouraging. However all used different methods and tools of evaluation.	Need more RCTs and long term evaluations using multiple data sources. Violence prevention should be founded on sound theory e.g. child development, should teach skills as well as social norms, find ways to work effectively with children without acute problems, be tailored to specific populations, include adequate teacher training, and strengthen self worth.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Diekstra (2008a)	19 reviews of reviews of interventions that take a universal approach social and emotional learning	Wide range of outcomes, reflecting the broad nature of the field. Changes in social and emotional skills, Attitudes to self and others, Externalising and behavioural problems and disorders, Antisocial/criminal behaviour, Drug use/abuse, Internalising or emotional problems and disorders – stress, anxiety, depression, suicidal tendencies, Attitudes towards school including truancy and absence, School test scores and grades	Very strong and significant impact of many programmes on social and emotional skills and attitudes to self and others. Strong and widespread impact on externalising problems, less so on internalising problems, but still a significant impact (e.g. 10% reduction in depression). Strong impact on attitudes to school and test scores and grades. Few studies had follow up evaluations – those that do showed good stability over time Much variability in effects, probably due to differences in implementation. Short term programmes much less effective than long term Programmes showed most dramatic impact on high risk children, but impacted on all children, on all ages, and both genders. Teachers as effective as other professionals in delivering programmes, although need training. Only when school staff conduct the intervention does student academic performance improve significantly – possibly because school staff are involved in both aspects of school, and SEL/SFL impacts on wider school culture where school staff involved in delivery.	SEL/SFL programmes work and meet a wide variety of goals. Strong support for universal approach across all age ranges The most effective programmes are theoretically consistent, highly interactive, use a variety of didactic forms, are implemented in small groups, cover both specific and general life skills, and are cast within supporting communities and environmental strategies. To be effective programmes have to run for at least 3/6 months with at least weekly sessions, ideally with boosters later More research needed on what the people who deliver programmes need to be successful, e.g. characteristics, training, support .
Diekstra (2008b)	76 studies of universal school based programmes published 1997-2007. 17 of these conducted outside of the US	Social skills Anti-social behaviour Substance abuse Positive self image Academic achievement Mental disorders/health Pro-social behaviour	Universal school based SEL/SFL programmes generally have positive effects on a number of desirable outcomes. In the short term the largest effects are on social-emotional skills, attitudes towards self, pro-social behaviour, academic achievement and reduction of anti-social behaviour. These effects decrease in the long term but remain significant. Some effects increase, e.g. the reduction of mental disorders. Overall effect size of US and non US studies similar for the only outcome on which comparison possible, social – emotional skills.	SEL/SLF works and is beneficial to children around the globe.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Durlak and Wells, 1997	177 primary prevention programmes designed to prevent behavioural and social problems in children and adolescents	60 outcome measures used, summarised as: Problems/symptoms Externalizing Internalizing Academic achievement Sociometric status Cognitive processes Physiological measures	Most categories of programs produced outcomes similar to or higher in magnitude than those obtained by many other established preventive and treatment interventions in the social sciences and medicine. Programs modifying the school environment, individually focused mental health promotion efforts, and attempts to help children negotiate stressful transitions yield significant mean effects ranging from 0.24 to 0.93. In practical terms, the average participant in a primary prevention program surpasses the performance of between 59% to 82% of those in a control group, and outcomes reflect an 8% to 46% difference in success rates favoring prevention groups. Most categories of programs had the dual benefit of significantly reducing problems and significantly increasing competencies.	Priorities for future research include clearer specification of intervention procedures and program goals, assessment of program implementation, more follow-up studies, and determining how characteristics of the intervention and participants relate to different outcomes.
Durlak et al (2007)	526 universal competence-promotion outcome studies of positive youth development programmes were reviewed to explore their effects on schools, families and communities	Effects of interventions on schools, families, and communities, or a combination.	64% of the positive youth development interventions attempted some type of microsystemic or mesosystemic change involving schools, families, or community-based organizations in an attempt to foster developmental competencies in children and adolescents. Only 24% of the reports provided quantitative data on the change that occurred in targeted systems. However 6 of the 7 post mean effect sizes were statistically significant and ranged in magnitude from 0.34 (for family environment) to 0.78 (for classroom level change), ranging from modest to large in magnitude. The only nonsignificant (and negative) post mean effect of -0.26 (youths' bonding to community adults), was based on only two interventions.	Attempts to change social systems – schools, families and communities affecting children and adolescents can be successful. Future work should measure more thoroughly the extent to which the systemic changes that are targeted through intervention are achieved, and investigate how such changes contribute to the development and sustainability of desirable outcomes

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Durlak and Weissberg (2007)	73 after-school programs that attempted to promote personal and social skills	Feelings and attitudes - child self-perceptions e.g. self esteem, self concept, self efficacy) and bonding to school (e.g. positive feelings about school and teachers) Behavioral adjustment - positive social behaviours (e.g. expression of feelings, positive interactions, assertiveness), problem behaviors (e.g. aggression and rebelliousness) and drug use, legal and illegal. School performance - on achievement tests, grades and school attendance.	Youth who participate in after-school programs improve significantly in feelings and attitudes, indicators of behavioural adjustment, and school performance. Overall average effect size was 0.22. After-school programs succeeded in improving youths' feelings of self-confidence and self-esteem (0.34), school bonding (positive feelings and attitudes toward school, 0.14), positive social behaviours (0.19), reduction in problem behaviours such as aggression, non-compliance and conduct problems (0.18) achievement test scores (0.18), school grades (0.11) and school attendance (0.10). Programs that used evidence based skill training approaches, and were sequenced, active, focused and explicit were consistently successful in producing multiple benefits for youth (mean effect sizes ranged from 0.24 to 0.35) while those that did not use such procedures were not successful in any outcome area	After school programmes can produce multiple benefits that pertain to youths' personal, social and academic life. To be effective they need to use evidence- approaches - be sequenced, active, focused and explicit.
Durlak et al (2010)	207 studies of universal social and emotional learning programmes that involved 288,221 students	Social-emotional skills; Attitudes toward self and others Positive social behaviors, Conduct problems, Emotional distress Academic performance.	11% improvement in achievement tests; 25% improvement in social and emotional skills; 10% decrease in classroom misbehaviour, anxiety and depression. These effects held during follow-up periods of at least six months School staff can effectively deliver social and emotional learning The grand study-level mean for all 207 interventions was 0.28 (CI = 0.25 to 0.29) Effect sizes: SEL skills 0.60, Academic performance 0.28, emotional distress 0.25, positive social behaviours 0.24, attitudes 0.23, conduct problems 0.20 Effective for all grades and ages. Programmes that were sequenced, active, focused explicit (SAFE)and well implemented were consistently successful, those that did not were not. No clear evidence that multi-component better than single – possibly because they were less often SAFE and well implemented.	Current findings offer strong support for the value of classroom and school-based SEL interventions when SAFE and well implemented. More research needed on key features of implementation.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Ekeland et al (2004)	23 trials with a total of 1821 children and young people of exercise programmes that measured the impact on self esteem	Self esteem, variously measured	Generally, the trials were small, and only one was assessed to have a low risk of bias. 13 trials compared exercise alone with no intervention. 8 were included in the meta-analysis, and overall the results were heteregeneous. One study with a low risk of bias showed a standardised mean difference (SMD) of 1.33 (95% CI 0.43 to 2.23), while the SMD's for the three studies with a moderate risk of bias and the four studies with a high risk of bias was 0.21 (95% CI -0.17 to 0.59) and 0.57 (95% CI 0.11 to 1.04), respectively. 12 trials compared exercise as part of a comprehensive programme with no intervention. Only 4 provided data sufficient to calculate overall effects, and the results indicate a moderate short-term difference in self-esteem in favour of the intervention [SMD 0.51 (95% CI 0.15 to 0.88)].	The results indicate that exercise has positive short-term effects on self-esteem in children and young people. Since there are no known negative effects of exercise and many positive effects on physical health, exercise may be an important measure in improving children's self-esteem. These conclusions are based on several small low-quality trials.
Farrington and Ttolfi (2009)	89 reports describing 53 different program evaluations	Bullying or victimization had to be included as outcome measures. Bullying and victimization could be measured using self-report questionnaires, peer ratings, teacher ratings, or observational data.	School-based anti-bullying programs are effective in reducing bullying and victimization (being bullied). On average, bullying decreased by 20% – 23% and victimization decreased by 17% – 20%. The effects were generally highest in the age-cohort designs and lowest in the randomized experiments. Firmer disciplinary methods, parent training/meetings,video, cooperative group work and longer and more intense programmes were significantly associated with a decrease in victimization. Work with peers was associated with an increase in victimization.	Results obtained so far in evaluations of anti-bullying programs are encouraging. New anti-bullying programs should be designed and tested based on the key programme elements and evaluation components that found to be most effective.
Gansle (2005)	26 studies of school based programmes that focused on anger or included anger as a dependent variable	Externalizing behaviour and anger Internalizing and anger e.g. depression, shyness, anxiety Social Skills e.g. peer relations, social competence, self-control Beliefs and attitudes e.g. self-efficacy, self-esteem, locus of control, intent to use non-violent behaviours. Academic e.g. measured achievement, grades, academic engagement, and attendance.	Across outcomes, the weighted mean effect size of the interventions post treatment was .31, which is modest but significant and similar to other behavioural approaches in related fields. The largest effects were found for anger and externalizing behaviours, internalizing, and social skills, with mean effect sizes of .54, .43, and .34 respectively. Longer interventions, focused on behavioural activities more effective. Socially focused interventions (e.g.generating responses, making eye contact) worked better than self-focused interventions (e.g. recognizing and labeling emotions), No differences for group comparisons by school setting, special education status, entrance criteria, or treatment agents.	Anger management is compares well with other social and emotional education interventions. Interventions that are more methodologically rigorous, are longer, are more socially focused, and include more behavioural components are more likely to benefit students.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Garrard and Lipsey (2007)	36 studies that involved 4,971 children and young people of conflict resolution education (CRE)	General construct of CRE used and studies selected that fell within it. Targets anti-social behaviour promotes cooperation, empathy and respect. Sometimes has secondary goals of emotional and social growth and wellbeing, critical thinking, and improving school climate	Small amount of research and of uneven coverage. Mean effect size of .25 for the 36 studies was statistically significant and represents improvements in problem behaviours that is of practical significance. Positive effect observed for different types of intervention e.g.. explicit direct skills instruction, or embedded in curriculum, or peer mediation Relatively small effect on younger students, 9 and under, and greater effect on older. Majority of beneficial effects shown for shorter programmes, 2 hours a week for 15 hours on average.	CRE should be taken seriously as a tool for treating school based anti-social behaviour. Particularly indicated for older school students 9+ and especially in adolescence Shorter programmes can be effective Need to focus on what aspects of implementation make programmes more effective
Green et al (2005)	8 reviews of interventions to improve the social and emotional well-being of primary school-aged children. covering 322 primary studies	Problem-solving skills Alternative thinking strategies and the promotion of self-esteem Reduction of aggressive behaviour Bullying and violence prevention Teaching children to cope with stressful experiences and with educational transitions.	Intervention characteristics associated with more effective outcomes: promoting positive mental health rather than the prevention of mental illness; continuous and long term; whole school approach, focusing on school climate and environment rather than on individual change; opportunities for practice in range of contexts, addressed self-concept, self-esteem and coping skills; combining universal and targeted programmes.	Schools have a role in mental health promotion. Conclusions limited by short duration of studies, lack of detail of interventions, identified outcomes and socio-demographic data, and the relationship between processes and outcomes.
Greenberg et al (2001)	34 studies of prevention programmes preventing mental health disorders in school aged children	Universal: violence prevention, social/cognitive skillbuilding programs, changing the school ecology, multi-component Externalising behaviour: anger, aggression, conduct disorder. Internalising: depression, anxiety, suicide, stress.	Important and meaningful progress has been made in prevention research with children, families and schools during the last two decades. There have been advances in the theory, design, and evaluation of programs, and there are a growing number of programs with documented efficacy of beneficial impact on the reduction on psychiatric symptomology. Multi-year programs more likely to foster enduring benefits. More effective programmes start in the preschool and early elementary years. Preventive interventions are best directed at risk and protective factors rather than at problem behaviours. Feasible and cost-effective to target multiple negative outcomes. Interventions should be aimed at multiple domains, changing institutions and environments as well as individuals. Prevention programs that focus independently on the child's behaviour are not as effective as those that also "educate" the child and focus on teacher and family, home and school, and the needs of schools and neighbourhood.	There is no single programme component that can prevent multiple high-risk behaviours. A package of coordinated, collaborative strategies and programs is required in each community. School ecology should be a central focus of intervention. In order to link to other community care systems and create sustainability, prevention programs will need to be integrated with systems of treatment.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Hahn et al (2007)	53 studies of the effects of universal school based programmes to prevent violent and aggressive behaviour	Reported or observed aggression or violence Conduct disorder Measures of externalizing behavior (e.g. rule-breaking, physical and verbal aggression, defiance, lying) Acting out (aggressive, impulsive, or disruptive class behaviors) Measures of delinquency, which may include violent School records of suspensions or disciplinary referrals.	For all grades combined, the median effect was a 15.0% relative reduction in violent behavior among students who received the programme. Effects found at all school levels, Effects diminished slightly over time at the end of the intervention. All school program intervention strategies (e.g., informational, cognitive/affective and social skills building) and programme foci (e.g., disruptive or antisocial behavior, bullying, dating violence) similarly were associated with reduced violent behaviour. No clear association for frequency or duration of programme	The number of studies in this systematic review overall and the number of studies at each grade level, of adequate quality, consistency of effect, and effect size, provide strong evidence that universal school-based programs are associated with decreases in violence-related outcomes. Beneficial results were found at all school levels examined, from pre-kindergarten through high school.
Haney and Durlak (1998)	102 studies covering 120 programmes, which indicated significant improvement in children's and adolescents' self-esteem and self-concept, and behavioral, personality, and academic functioning.	Self esteem and self concept – wide range of methods and inventories used, categorised under: -internalising problems -externalising problems -mixed problems - none (i.e. aimed at another outcome but included measures of self esteem and self con cept) Using measures of overt behaviour (using behavioral observations or rating scales), personality functioning (e.g. self-reports of anxiety or depression	The weighted mean ES for all 120 interventions was 0.27, suggesting a modest overall impact. Interventions specifically focused on changing self-esteem and self-concept were significantly more effective (mean effect size = 0.57) than programs focused on another target, such as behaviour or social skills (0.10). Treatment programs were also more effective (0.47) than primary prevention programs (0.09) in changing self-esteem. Four variables emerged as significant predictors of self-esteem outcomes: 2 methodological features (type of design and control group), the use of a theoretical or empirical rationale, and the type of program (treatment or prevention).	Programmes can influence self esteem and self concept. Need to focus on self esteem and self concept specifically, and not hope other focused interventions will impact indirectly.. Future research needs to examine the causal connection between changes occurring in self-esteem and other areas of adjustment, assess intervention success for different ethnic groups and for children of different ages and sex, and determine the long-term impact of interventions.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Harden et al (2001)	345 studies concerned with mental health and young people screened and mapped: 7 rigorous ones subjected to systematic review 30 fairly rigorous ones subjected to in-depth review	Very varied. Mental health, with specific focus on prevention of suicide and self-harm, and associated depression, and the promotion of self-esteem and coping strategies.	Mapping exercise: Most (72%) studies in schools, vast majority in US. About half on prevention: most common focus prevention of suicide, self-harm or behaviour problems. About half on promoting positive mental health e.g. self-esteem, self-concept or coping skills. Half universal, rest focused on 'at risk'. Barriers - major focus on psychological/ individual rather than social/ environmental factor. Quality of the studies was very variable: half judged 'potentially sound'. 7 systematic reviews and 30 in depth studies had mixed positive/negative on the evidence of mental health promotion. Interventions to promote positive self-esteem limited effect, but more effective if self-esteem is the main focus. Evidence on prevention of suicide and self harm limited, some evidence that discussing suicide may be harmful. 12 studies of young people's views: YP do not relate to the term 'mental health', have sophisticated understandings of coping strategies, a wide range of social and environmental concerns and find traditional health promotion irrelevant. .	Proceed with caution as the evidence for mental health promotion is mixed. Involve and listen to young people. If trying to develop self esteem, then focus on it specifically. Avoid universal suicide prevention education.
Hoagwood and Erwin (1997)	16 studies of effectiveness of school based mental health services for children	Depression Locus of control Peer acceptance Aggression Behavioural problems	Three types of interventions found to have empirical support for their effectiveness. Cognitive-behavioral therapy especially for depression, has strong evidence. Social skills training has reasonable evidence. Teacher consultation (i.e. educating teachers and examining the effects on pre-referral practices and problem behaviours) has promising evidence based on one intervention.	Need to: investigate effectiveness of with wider range of psychiatric disorders; broaden the range of outcomes; examine the combined effectiveness of these interventions; link with home-based interventions.
Horowitz and Garber (2006)	30 studies of programmes aimed at preventing depression in children and adolescents	Measures of depression and anxiety	Wide range in degree of success of programmes. Weighted overall mean effect size post intervention was 0.16, and at follow up was 0.11.i.e. small but significant. Mean effect size for selective prevention programs was 0.30, greater than effect size of universal prevention programs (mean effect size 0.12). Probably because baseline depression in universal approach not high. Effects of indicated and selective programs were not significantly different. No clear effect of gender or age. Studies were in practice treatment (i.e. improvement in symptoms of the intervention group) rather than prevention (increase in symptoms in control group but not in intervention.)- possibly due to most not having long follow ups.	Need long term evaluations. Premature to abandon universal programmes, but should focus on selected and targeted.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Kraag et al (2006)	19 studies of school programmes targeting stress management or coping skills in school children.	Various measures of stress and mental health outcomes. Categorized into four groups: Symptoms of stress Social behavior, Coping/ social skills Self-efficacy/ self esteem	Overall effect size for the programs was −1.51 [95% confidence interval (CI) −2.29, −0.73], indicating a positive effect. However, heterogeneity was significant (pb.001). Sensitivity analyses showed that study quality and type of intervention were sources of heterogeneity influencing the overall result (p valuesb.001). The heterogeneity in quality may be associated with methodological diversity and differences in outcome assessments, rather than variety in treatment effect. Effect was calculated per intervention type, and positive effects were found for stress symptoms with a pooled effect size of −0.865 (95% CI: −1.229, −0.502) and for coping with a pooled effect size of −3.493 (95% CI: −6.711, −0.275).	It is tentatively concluded that school programs targeting stress management or coping skills are effective in reducing stress symptoms and enhancing coping skills. Future research should use clear quality criteria and strive for less diversity in methodology and outcome assessment.
Maxwell et al (2008)	20 studies	Not stated. Primary studies covered wide range of outcomes involving mental health and emotional wellbeing,	In schools, sustained broad-based mental health promotion programmes combined with more targeted behavioural and cognitive-behavioural therapy (CBT) for those children with identifiable emotional well-being and mental health needs, offer evidence of a demonstrably effective approach. There is a reasonably strong evidence base to support targeted work with both parents and children.	While systematic reviews are often seen as offering the only reliable basis on which programmatic decisions should be made, the case has been made here that broadening the evidence base may be beneficial in providing evidence of practically based promising studies integrating evaluation findings from recent local programmes, rather than relying too extensively on research conducted in other contexts.
McCarthy and Carr (2002)	4 studies of bullying in schools.	Pupils self report using Olweus bully-victim questionnaire. It measures bully/victim problems such as, exposure to various physical, verbal, indirect, racial, or sexual forms of bullying/ harassment, various forms of bullying other students, where the bullying occurs, pro-bully and pro-victim attitudes, and the extent to which the social environment (teachers, peers, parents) is informed about and reacts to the bullying.	4 studies, between 1989 and 1997, two from Norway, one UK, one Canada. All were whole school. 2 programmes were effective, 2 not. Programmes that were implemented completely, consistently in accordance with the guidelines and with external training, consultancy and support were effective. Those that were not, were not.	Whole school bullying prevention programmes can effectively reduce both reports of bulling and reports of being bullied both in the short and longer term. Their effectiveness is determined by the degree to which programme integrity is maintained and support, training and consultancy provided.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Merry et al (2004)	21 studies eligible for inclusion, 13 of which of sufficient quality for meta-analysis, of programmes that aim to prevent depression in the young.	Primary outcomes Prevention of depression indicated by reduction of depressive symptoms on pre-post assessment (early intervention) or reduction in onset of depressive symptoms or disorder measured by depression scores on a rating scales Secondary outcomes 1. General adjustment 2. Academic/work function 3. Social adjustment 4. Cognitive style 5. Suicidal ideation/attempts	Psychological interventions (skills based) were effective compared with non intervention immediately after the programmes were delivered with a significant reduction in scores on depression rating scales for targeted (standardised mean difference (SMD) of -0.26 and a 95% confidence interval (CI) of -0.40 to -0.13). Some studies showed a decrease in depressive illness over a year. Small but statistically significant changes in depression scores following psychologically-based interventions such as stress-management or problem-solving skills (d=-0.26, 95% CI -0.40 to -0.13). The results also showed slightly better levels of effectiveness for targeted (RD=-0.26, CI-0.40 to -0.13) than for universal programmes (d=-0.21, While small effect sizes were reported, these were nevertheless associated with a significant reduction in depressive episodes. There was only one knowledge based intervention and no evidence for its effectiveness. Reports of effectiveness for boys and girls were contradictory. The quality of many studies was poor, and only two studies made allocation concealment explicit.	The results from skills based interventions are promising. Knowledge based approaches do not appear to work. It is likely that girls and boys will respond differently to interventions and a more definitive delineation of gender specific responses to interventions would be helpful.
Mytton et al (2002)	44 studies of school based violence prevention programmes for children identified as at risk for aggressive behaviour.	Violent injuries, observed or reported aggressive or violent behaviours, and school or agency responses to aggressive behaviours.	For the 28 trials that assessed aggressive behaviours, the pooled difference between study groups was −0.36 (95% confidence interval, −0.54 to −0.19) in favour of a reduction in aggression with intervention. For the 9 trials that reported data on school or agency responses to aggression, the pooled difference was −0.59 (95% confidence interval, −1.18 to 0.01). Subgroup analyses suggested greater effectiveness in older students and when administered to mixed-sex groups rather than to boys alone.	Programmes modestly reduced both aggressive behaviours and school or agency actions in response. Effects were similar regardless of whether the programs focused on training in skills of non response (eg, conflict resolution or anger control) or on training in social skills or social context changes. School-based violence prevention programs may produce reductions in aggressive and violent behaviours in children who already exhibit such behaviour. These results, however, need to be confirmed in large, high-quality trials.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Neil and Christensen (2007)	24 trials of 9 Australian school-based prevention and early intervention programs for anxiety and depression.	Programmes were included if they addressed symptoms of anxiety or depression in a school context, or increased student resilience through the development of positive coping skills.	Most programmes were based on cognitive behaviour therapy, interpersonal therapy or psycho-education. Six were universal interventions, two were indicated programs and one was a treatment program. Most were associated with short-term improvements or symptom reduction at follow-up.	A number of schools programs produce positive outcomes. However, even well established programs require further evaluation
O'Mara and Marsh (2006)	145 studies of the effectiveness of interventions to enhance various aspects of self concept	Programmes were included if they contained a measure of self-concept or another related self-concept construct (e.g., self-esteem, self-efficacy), which could be either a global measure (e.g., self-esteem) or a specific domain (e.g., academic self-concept).	Overall, interventions on various aspects of self concept were significantly effective (d = .51, 460 effect sizes). These effects do not systematically diminish over time. The largest mean effect size of all the moderator categories was for interventions aimed at enhancing a specific self-concept facet and that also measured that specific self-concept domain(d = 1.16). Intervention effects were substantially larger for facets of self-concept that were logically related to the intervention than for unrelated facets of self-concept.	Self concept is not uni-imensional, it is multi-dimensional. Interventions are more effective than previously thought if we use a multi-dimensional model of self concept.
Park-Higgerson (2008)	26 studies of violence prevention in schools	Externalizing, aggressive, or violent behaviour (ie, scores of aggression, use of violence/violent or externalizing behaviour), empathy, impulse control, anger management	Overall, the intervention groups did not have significant effects in reducing aggression and violence as compared to the control groups (ES =−0.09, 95% CI =−0.23 to 0.05, with heterogeneity p < .00001). Comparing programmes with different features, there was no significant difference between interventions, although programmes that used non–theory-based interventions, focused on at-risk and older children, and employed intervention specialists had slightly stronger effects in reducing aggression and violence. Interventions using a single approach had a mild positive effect on decreasing aggressive and violent behavior (effect size =−0.15, 95% CI =−0.29 to −0.02, p = .03).	This meta-analysis did not find any differential effects for 4 of the 5 program characteristics. This was contrary to expectation, exemplifying the complexity of identifying effective program strategies. Small effect sizes, missing pretests, differences in outcome focus, small sample sizes, and heterogeneity among the included studies may have contributed to the lack of significant findings for several of the program characteristics.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Payton et al (2008) (Indicated review c Two other studies included already reviewed above)	80 studies of indicated social and emotional learning (SEL) programmes, i.e. that identify and work with students displaying early signs of behavioural or emotional problems	SEL skills Attitudes towards self and others, Positive social behaviour Conduct problems, Emotional distress Academic performance	Significant mean effect sizes ranging from 0.38 for improved attitudes toward self, school, and others to 0.77 for improved social and emotional skills were achieved in all six outcome categories studied. Participants in these indicated SEL programs received significantly greater benefi ts across outcome categories than did participants in the control groups. Although the magnitude of these effects was generally lower at follow-up, they were still significant in five out of the six categories (all except academic performance) .	SEL intervention programs for students exhibiting adjustment or learning problems worked for a wide range of presenting problems, were effective when delivered by either school or non-school personnel, and had significant outcomes whether they included only one or multiple programme components. Such programmes should be recommended as potentially successful options for promoting youth well-being and adjustment both during and after school hours.
Reddy et al (2009)	29 studies of school-based prevention and intervention programmes for children and adolescents at-risk of and with emotional disturbance (ED)	Externalizing behaviour problems in the home or school Internalizing behaviour problems in the home or school Social skills in the home or school Adaptive functioning at school Active engagement with task	The prevention and intervention programmes produced mean weighted ESs of 1.00 at post-test (unweighted ES of 1.49) and 1.35 at follow-up (unweighted ES of 2.25). The intervention programs were most effective in improving externalizing behaviour problems in the home (weighted ES of 2.46) and at school (weighted ES of 1.27), social skills at school (weighted ES of 2.39), general academic skills (weighted ES of 1.78), and internalizing behaviour problems in the home (weighted ES of 1.59).	Results offer initial support for the idea that prevention and intervention programmes implemented in schools are generally effective in alleviating the early onset of emotional and behavioural symptoms and reducing persistent symptoms found among children and adolescents with ED.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Rones and Hoagwood (2000)	47 studies of school based mental health programmes	Emotional and behavioural problems Depression Conduct problems Stress management Substance use	There are a robust group of school based mental health programs with evidence of an impact across a variety of emotional and behavioural problems in children. Key features of successful programme implementation include (i) consistent implementation; (ii) inclusion of parents, teachers, or peers; (iii) use of multiple modalities (e.g., the combination of informational presentations with cognitive and behavioural skill training); (iv) integration of programme content into general classroom curriculum; and (v) developmentally appropriate program components. Strategies that facilitated implementation included the communication of program goals, rationale, and components to school staff; the provision of feedback on program effects; the development of plans to overcome barriers to implementation; and the specification of individual responsibilities; and multi component programs that targeted the ecology of the child. Successful interventions included teacher training in classroom management techniques, parent training in child management, and child cognitive–social skills training .	There are a strong set of universal programmes, but we need more targeted approaches, and more programmes for older students. We know something about the factors that make for successful implementation, but need to know more. Need more work on school based outcomes e.g. attendance, and school-related behaviour (as measured by disciplinary referrals, suspensions, and retention).
Schachter et al (2008)	43 relevant reports on 40 evaluation studies of the effects of school based interventions on mental health stigma.	Mental health stigma, mainly around depression and schizophrenia	Five limitations within the evidence base constituted barriers to drawing conclusive inferences about the effectiveness and harms of school-based interventions: poor reporting quality, a dearth of randomized controlled trial evidence, poor methods quality for all research designs, considerable clinical heterogeneity, and inconsistent or null results.	There exists enough suggestive evidence to inform a future research direction, which takes behavioural change as its primary outcome. Gold standard research designs and methods are required.
Scheckner et al (2002)	16 studies	Pro-social behaviour and skills, conflict resolution, anger management and resolution, reducing aggression	4 studies had strong effects sizes: Peacebuilders (1.49), SMART (students managing anger resolution together) (.96), a bibiotherapy programme in Israel based on reading and media (.84) and First Step to Success (85). 4 others had moderate effect sizes, a further bibliotherapy programme (.69), a CBT programme with aggressive boys (.53), 2 programmes focusing on violence free relationships (.45), and a social cognitive group intervention (.39)	Programme impact significantly affected by the use of cognitive-behavioral strategies, multi-setting atmosphere (2 of the 4 strong effect programmes), primary (elementary school) prevention, a qualified programme leader and longer length of programme.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Shucksmith et al (2007)	32 studies of targeted/ indicated activities aimed at promoting the mental wellbeing of children in primary education	Emotional wellbeing (including happiness and confidence, and the opposite of depression) Psychological wellbeing (including autonomy, problem solving, resilience, attentiveness/ involvement) Social wellbeing (good relationships with others, and the opposite of conduct disorder, delinquency, interpersonal violence and bullying).	CBT-based programmes for anxiety transferred successfully between countries. Brief targeted interventions for anxiety successful in groups. Parent training + child group CBT adds benefits. Children of divorce and anxious school refusers benefitted from CBT-based skills training. Depressive symptoms can be prevented by CBT plus social problem-solving. Peer mentoring of aggressive with non-aggressive children helps develop prosocial skills and social standing. Gains from multicomponent programmes are modest, given their cost. Social problem solving and the development of positive peer relations have strongest programme effects. Two studies showed improved academic achievement as significant outcomes of multi-component interventions. Complex longitudinal multicomponent studies support the case for early intervention with aggressive disruptive children and for providing booster interventions. Recruitment and retention of parents is a major challenge, Parents may prefer targeted children to be treated at school rather than home.	Shifts in quality and focus across the time period. 1990s saw proliferation of small-scale studies. Longer and larger studies and evaluations are more recent and long term evidence thus still lacking. The majority of the included studies were US based. This may limit the applicability of to other settings. Early studies used experimental designs and clinical staff to deliver small-scale interventions to small samples of children. Their applicability to real life classroom settings is therefore suspect. Later studies (almost exclusively in the US) show massive sums of money in large multi component longitudinal trials. The results are very useful and are showing the way towards the design of more effective interventions, yet there must be serious doubts as to the availability of such resources within normal education budgets.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Sklad et al (2010)	75 studies of universal interventions with school children that included elements of socio-emotional learning.	Social-emotional skills and attitudes (direct outcomes): 1. Social-emotional skills (e.g., social competence, conflict resolution skills) 2. Positive self-image (e.g., self-efficacy, self-esteem) Behavioral adjustment (second order effects): 3. Anti-social behavior (e.g., aggressive behavior, disruptive behavior) 4. Pro-social behavior (e.g., altruistic behavior, helping others) 5. Substance abuse (e.g., tobacco, alcohol and marijuana use) 6. Mental health disorders (e.g., internalizing symptoms, anxiety, depression or suicidality) 7. Academic achievement on core subjects, such as reading and math	Programmes had significant beneficial short term effects academic achievement: 0.50, antisocial behavior – 0.48, mental disorder – 0.16, positive self image 0.69, prosocial behavior 0.59, social skills 0.74, substance abuse -0.11. Weak, but statistically significant immediate effects on mental disorders and substance abuse. Long term effects were significant for most outcomes, with the exception of positive self-perception. Academic achievement: 0.25 Antisocial behavior – 0.17, mental disorder – 0.37, positive self image 0.08, prosocial behavior 0.13, social skills 0.50 substance abuse -0.20. The long term largest beneficial effect was found for mental disorders, for which the effect was moderate in size and larger than the immediate effect size - a “sleeper effect”: All other long-term effect sizes, with the exception of the effect size for positive self-image, were also statistically significant, yet their sizes were small. Positive self-image was the only outcome parameter that showed no statistically significant effect of programs at the follow-up. Effect sizes at the follow-up were statistically significantly heterogeneous for all outcome categories except academic achievement, pro-social behavior and social skills. The heterogeneity of effect sizes for the remaining four categories (antisocial behavior, mental disorders, positive self-image, and substance abuse) was high: 76-93%.	Universal school-based SEL programs generally have positive effects on reduction or prevention of mental problems and disorders, and a number of other desirable outcomes. These outcomes include enhancement of social and emotional skills; positive attitudes towards self and others, promotion of academic achievement and prevention of antisocial behavior. The heterogeneity of the effect sizes suggests that there are important factors or moderators that affect the effectiveness of programs on analyzed outcome categories. Earlier research shows that programs show stronger effects on direct outcomes than on incidental or indirect outcomes Therefore, to establish an unbiased general estimate of the effectiveness of SEL programs on any particular outcome, more studies should be carried out on multipurpose programs. In addition, authors reporting the results of targeted SEL programs should be encouraged to measure and report a wide spectrum of outcomes rather than focusing on a few target outcomes.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Stage and Quiroz (1997)	99 studies that used interventions to decrease disruptive classroom behaviour in public education settings	Conduct disorder Externalising behaviours	A total of 223 effect sizes yielded a mean effect size of –0.78. Studies using teacher rating scales were less likely to evidence reductions in disruptive classroom behaviours compared to studies using behavioural observation methodologies. Students treated in self-contained classrooms were more likely to evidence a reduction in disruptive classroom behaviour. With the exclusion of studies using teacher rating scales, comparison of treatment interventions showed no statistically reliable differences due to the large variability in the relative effectiveness for students treated.	Results indicate that interventions to reduce disruptive classroom behaviour yield comparable results to other meta-analytic studies investigating the effectiveness of psychotherapy for children and adolescents.
Tennant et al (2002)	20 interventions to promote mental health and prevent mental illness in children which included schools (plus 7 on parenting).	Parenting skills Anxiety and depression prevention Self esteem Violence and aggression prevention	Included studies targeted a range of risk and protective factors, and a range of populations (including both parents and children). While, many lacked methodological rigour, overall, the evidence is strongly suggestive of the effectiveness of a range of interventions in promoting positive mental well-being, and reducing key risk factors for mental illness in children.	A variety of programmes have been shown to be effective in promoting children's mental health, albeit with modest effect sizes. Based on this evidence, arguments are advanced for the preferential provision of early preventive programmes.
Tilford et al (1997)	Not stated	Not stated	There is evidence for the effectiveness of classroom programmes on self esteem, self concept and coping skills of children and adolescents, and for children coping with divorce. Children who have particular difficulties may benefit from targeted interventions. Separate self-concept activities may have a value with minority groups rather than more general lifeskills approaches	All children need access to a health education curriculum. Try structured programmes on self concept and coping skills for children and young people Identify the needs of children experiencing stressful life events: their needs should be met through the co-ordinated activities of education, health and social care professionals.. More evaluation and dissemination of findings outside the US More research on multi-component approaches. More long term projects and more follow up needed.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Vreeman and Carroll (2007)	26 studies of school-based interventions to decrease bullying.	Bullying (bullying, victimization, aggressive behaviour, and school responses to violence). Outcomes indirectly related to bullying (school achievement, perceived school safety, self-esteem, and knowledge or attitudes toward bullying).	The types of interventions could be categorized as curriculum (10 studies), multidisciplinary or "whole-school" interventions (10 studies), social skills groups (4 studies), mentoring (1 study), and social worker support (1 study). Only 4 of the 10 curriculum studies showed decreased bullying, but 3 of those 4 also showed no improvement in some populations. Of the 10 studies evaluating the whole-school approach, 7 revealed decreased bullying, with younger children having fewer positive effects. Three of the social skills training studies showed no clear bullying reduction. The mentoring study found decreased bullying for mentored children. The study of increased school social workers found decreased bullying, truancy, theft, and drug use.	Many school-based interventions directly reduce bullying, with better results for interventions that involve multiple disciplines/ whole school interventions. Curricular changes less often affect bullying behaviours. Outcomes indirectly related to bullying are not consistently improved by these interventions.
Waddell et al (2007)	15 RCTs on programmes to prevent conduct disorder, anxiety and depression	Preventing conduct disorder (9 studies of 8 programmes) Preventing depression (4 studies) Anxiety (1 study) All three (1 study)	Ten RCTs demonstrated significant reductions in child symptom and/or diagnostic measures at follow-up. The most noteworthy programs, for conduct disorder targeted at-risk children in the early years using parent training or child social skills training for anxiety, employed universal CBT training in school-age children; and for depression, targeted at-risk school-age children, also using CBT. Effect sizes for noteworthy programmes were modest but consequential. Few Canadian studies and few that evaluated costs	Prevention programmes are promising but replication RCTs are needed to determine effectiveness and cost-effectiveness in Canadian settings. 4 programme types should be priorities for replication: targeted parent training and child social skills training for preventing conduct disorder in children's early years; and universal and targeted CBT for preventing anxiety and depression in children's school-age years. Conducting RCTs through research-policy partnerships would enable implementation in realistic settings while ensuring rigorous evaluation.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Wells et al (2003)	17 studies of 16 interventions to promote mental health in schools	9 measured negative aspects of mental health - aggression, conduct problems or antisocial behaviour (5), depression or suicidal tendencies (4). 6 measured personal and interpersonal behaviours that underpin mental health - problem-solving (4) conflict resolution (1) emotional awareness (1) . 4 measured aspects of positive mental health and these all focused on self-concept or self-esteem.	Most of the included studies were relatively small for investigations of school health promotion interventions, involving less than 500 children in between one and six schools. Even amongst the most robust studies methodological flaws were common. Only three studies took account of cluster design methodology in the analysis. The most positive evidence of effectiveness was obtained for programmes that adopted a whole-school approach, were implemented continuously for more than a year, and were aimed at the promotion of mental health as opposed to the prevention of mental illness. Those that aimed to improve children's behaviour and were limited to the classroom were less likely to be effective. The results of some studies were, however, at variance with these generalisations, suggesting that other unidentified factors may also be important in determining success.	Universal school mental health promotion programmes can be effective and long-term interventions that aim to promote the positive mental health of all pupils and involve changes to the school climate likely to be more successful than brief class-based mental illness prevention programmes. Optimum approach might be a combination of universal and targeted approaches. Methodological flaws in some of the studies indicate the need for further research and there is also a need for robust studies of these programmes outside the US.
Wilson et al (2003)	172 studies of experimental and quasi-experimental studies of school-based programmes with outcomes representing aggressive and/or disruptive behaviour	The review included studies of any school-based programme for which aggressive behaviour was measured as an outcome variable.	Effect sizes were 0.1 for universal interventions and 0.3 for targeted or indicated populations. Most studies were conducted on demonstration programs; the few studies of routine practice programs showed much smaller effects. Programme effects did not vary greatly with the age, gender, or ethnic mix of the research samples. Interventions were generally more effective when they were implemented well and relatively intense, used one-on-one formats, and were administered by teachers. Behavioral approaches and counselling showed the largest effects, followed by academic programs and separate schools/classroom, social competence training with and without cognitive–behavioural components followed close behind, and multimodal and peer mediation programs showed the smallest effects. Higher risk youth showed greater reductions in aggressive behaviour, and poorly implemented programs produced smaller effects, and different types of programmes were generally similar in their effectiveness, other things equal.	Though not representative of routine practice, the demonstration programs yielded encouraging evidence about what practice programs might achieve under favourable circumstances. A range of strategies work, so long as they are well implemented. Programmes are most effective in contexts where the base rates of aggressive behaviour are high enough for meaningful reduction to be possible.

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Wilson and Lipsey (2006a)	73 research studies described in 89 reports of universal school based social information processing interventions on aggressive behaviour	Violence, aggression, fighting, person crimes, disruptive behaviour problems, acting out,conduct disorder, externalizing problems	Students who participated in social information processing showed less aggressive and disruptive behaviour after treatment then students who did not receive the program. The overall weighted mean effect size was .21 which was statistically significant, though not large. Nearly 80% of the effect size values were positive. Children from low socioeconomic status families or from schools with a large proportion of low income students achieved greater benefit than students from higher socioeconomic status communities. Studies with higher quality methods (e.g., those with random assignment or low attrition) did not produce better (or worse) outcomes than studies using less rigorous methods. More intensely delivered programmes more effective. Research and demonstration programmes and those that had no obvious implementation difficulties produced the largest effects. Programs delivered under routine circumstances were the least effective, independent of implementation quality, maybe because they tended to be less intense.	The overall mean effect size of .21 indicates that universal social information processing programs are effective for reducing aggressive and disruptive behaviour.
Wilson and Lipsey (2006b)	68 reports of 47 studies of universal school based social information processing interventions on aggressive behaviour	Aggressive behaviour, i.e. violence, aggression, fighting, person crimes, disruptive behaviour, acting out, conduct disorder, externalizing problems.	Clear positive programme effect. At-risk and behaviour problem students who participated in social information processing programs showed less aggressive and disruptive behaviour after treatment than students who did not receive a programme. The overall weighted mean effect size was .26, which was statistically significant. Over 60% of the effect size values were positive. Studies with greater amounts of attrition tended to show smaller program impact than those with little attrition. There were no significant differences between experimental and quasi-experimental studies, Generally greater reductions in aggressive behaviour were found for higher risk students. However programmes for special education students were significantly less effective than those for regular education students- they may have had problems that were too serious to respond to relatively short interventions,	The overall mean effect size of .26 indicates that targeted and indicated social information processing programs are effective for reducing aggressive and disruptive behaviour in at risk and problem students

Author (Year)	Number and focus of included studies	Mental health outcomes measured	Results	Conclusions
Wilson and Lipsey (2007)	249 experimental and quasi-experimental studies of school-based programmes with outcomes representing aggressive and/or disruptive behaviours.(77 more than for Wilson et al, 2003).	The review included studies of any school-based programme for which aggressive or disruptive behaviour was measured as an outcome variable.	The programmes were effective. Positive overall intervention effects were found on aggressive and disruptive behaviour and other relevant outcomes (0.20-0.35). The most common and most effective approaches were universal programmes (0.21) and targeted programs (0,29) for selected/indicated children. Multi-component/ comprehensive programs did not show significant effects (0.05, not statistically significant) This is surprising and counter-intuitive. It may be that their broad scope is associated with some dilution of the intensity and focus of the programmes so that students have less engagement with them than with the programs in the universal and selected/indicated categories, and that as proportionately fewer of the programmes in this category involved the cognitively oriented treatment modalities that were the most widely represented ones among the universal and selected/indicated programs. Effects for special schools or classrooms were modest but statistically significant (0.11) – not clear whether relatively low impact is because all is being done already that can be, or that problems are so severe that these programmes cannot reach them. Routine programmes delivered by teachers did not have significantly worse effect sizes to those delivered by professionals. Different treatment modalities (e.g., behavioural, cognitive, social skills) produced largely similar effects. Effects were larger for programmes that reported few implementation problems (0.32), with more frequent sessions (0.40 over a longer period of time (0.34), and those involving students at higher risk for aggressive behaviour 0.21). For the universal programs, the greatest benefits appeared for younger students (027) and students from economically disadvantaged backgrounds (0.21). For the selected/ indicated programmes, it was students already exhibiting problematic behaviour who showed the largest effects (0.21)	The mean effect sizes for these types of programmes represent a decrease in aggressive/disruptive behaviour that is likely to be of practical significance to schools. Schools seeking prevention programmes may choose from a range of effective programs with some confidence that whatever they pick will be effective. Without the researcher involvement that characterizes the great majority of programmes in this meta-analysis, schools might be well-advised to give priority to those that will be easiest to implement well in their settings.

Table 4: Programmes and interventions current, successful and in Europe

Includes

- Included in a well conducted systematic review or meta-analysis, or eligible to be so if too recent to have been included in main ones (post2008)
- Robust evaluation – RCT or CCT or CASEL select programme
- Positive results in at least the short term
- Current or recent presence in Europe- checked through correspondence with programme leader.

Name of intervention Where originated Where now in Europe Contact details	Which review(s) suggest(s) it is effective	Brief description of intervention	References for evaluation studies and summary of evaluation
Be-Prox Programme Bernese programme against bullying Originated and now in Switzerland, Professor Dr Francoise Alsaker francoise.alsaker@psy.unibe.ch	Farrington and Ttofi (2007) Vreeman and Carroll (2007)	**Teacher education universal programme**. Emphasis on group discussions, mutual support and co-operation between consultants and teachers and between teachers and parents. The program engaged teachers in an intensive focused training about bullying and their role in supervision for approximately four months. Teachers implemented specific preventive elements in the classroom and then met and discussed their experiences of the implementation.	Alsaker (2004) No changes in teacher or child reports of bullying behavior; decreased victimization on teacher and child reports; on peer reports, the intervention group had a 15% reduction in the proportion of children nominated as victims by peers in contrast with a 55% increase in children in the control group nominated as victims; teacher reports showed reduction in physical bullying and indirect bullying through isolation, but an increase in verbal bullying.
Bulli and Pupe - anti-bullying programme Originated in and now in Rome Anna C. Baldry, Researcher a.c.baldry@uvt.nl	Blank et al (2009) Farrington and Ttofi (2009) Vreeman and Carroll (2007)	**Skills/ curriculum based universal programme for ages 10-16.** An intervention programme on the reduction of bullying and victimization in schools. Consists of 3 videos and a booklet that help students to develop the social cognitive competence skills to understand the negative consequences of aggressive behaviour.	Baldry and Farringdon (2004) Sample of 239 students aged 10–16 years old in Rome. Program worked best for older students, perhaps because they were mature enough to have the cognitive skills needed, but not for younger ones who in some cases reported an increased level of victimization after the intervention. However apparent adverse effect may be because children were more sensitised.

Name of intervention Where originated Where now in Europe Contact details	Which review(s) suggest(s) it is effective	Brief description of intervention	References for evaluation studies and summary of evaluation
Caring school community (Previously called the Child Develop-ment Project) Originated in the US Now in Switzerland and Greece http://www.devstu.org/caring-school-community	Adi et al (2007a) CASEL select programme (CASEL 2005) Greenberg et al (2001) Berkowitz and Bier (2007) Catalano et al (2002) Clayton et al (2001) Durlak et al (2007) Hanh et al (2007) Kraag et al (2006) Payton et al (2008) Rones and Hoagwood (2000) Wells et al (2004)	**Whole school approach, universal programme for ages 5-11.** A multi-component programme over 3 year period, involving curriculum plus changes to the school ethos and environment and parental involvement. 5 inter-related dimensions. 1 Building stable, warm relationships 2 Simultaneous attention to social, ethical and intellectual learning, 3 Teaching for understanding, 4 Meaningful, challenging, learner centred curriculum, 5 Fostering intrinsic motivation. Provided materials and activities for -class meetings/ tutorial time -cross age buddies programme - pairs whole classes of older and younger students for academic and recreational activities; family activities -school-wide activities.	Battistich (1996) Evaluated for delinquent behavior.CDP was associated with modest but reliable reductions in drug-use and some evidence of reduction in delinquent behaviours . Reductions greater in high implementation schools. Schaps et al (2004) Schools which implemented the programme fully and faithfully showed statistically significant ($p<.05$) social and emotional effects including sense of school as community, democratic values, outgroup acceptance, conflict resolution skills, intrinsic prosocial motivation, and concern for others. The academic variables showing statistically significant ($p<.05$) effects included liking for school, intrinsic academic motivation, task orientation, frequency of reading self-chosen books outside school, and frequency of reading self-chosen books in school. Two schools showed large positive within-year differences from their comparison schools on state-administered performance assessment. Students in one or both of these schools scored higher than those in their comparison school counterparts on reading, math, social studies, and science performance in one, two, or all three years of assessment.

Name of intervention Where originated Where now in Europe Contact details	Which review(s) suggest(s) it is effective	Brief description of intervention	References for evaluation studies and summary of evaluation
Communities that Care. Previous names: Raising Healthy Children; SOAR and Seattle Social Develop-ment Project Originated in US Now in Netherlands and UK http://www.raineronline.org/gen/Rainer_CtC_in_action.aspx	Adi, et al, (2007) Bayer et al (2009) CASEL select programme (CASEL 2005) Catalano et al (2002) Durlak and Wells (1997) Durlak et al (2007) Greenberg et al (2001) Hanh et al (2007) Payton et al (2008) Rones and Hoagwood (2000) Scheckner et al (2002)	**Whole school approach, universal programme for ages 5-11, with training in skills for students, teachers and parents** Intervention comprised 3 components: 1. Teacher-training in pro-active classroom management, interactive teaching, cooperative learning, cognitive and training social skills 2. Child social and emotional skill development, including recognising and resisting problematic social influences 3. Parent-training- child behaviour management skills, supporting child's academic development, tackling problem behaviour, drug and alcohol use.	Hawkins et al (2005) Significant effects on 8/8 measures of social functioning, on 5/8 measures of emotional and mental health and on 4/8 measures of eventual crime in group which had intervention when aged 1-6 yrs. 4 /24 results positive in late intervention only group.

Name of intervention Where originated Where now in Europe Contact details	Which review(s) suggest(s) it is effective	Brief description of intervention	References for evaluation studies and summary of evaluation
Fast track (originated in PATHS) Originated in US Now in Manchester, England (called 'On track') Ireland Scotland http://fds.duke.edu/db/Sanford/ccfp/research/ahrens	Adi, et al, (2007) Bayer et al (2009) Beelman and Losel (2006) CASEL select prog-ramme (CASEL 2005) Catalano et al (2002) Durlak et al (2007) Gansle (2005) Greenberg et al (2001) Hanh et al (2007) Park-Higgerson et al (2008) Rones and Hoagwood (2000) Shucksmith et al, (2007) Waddell et al (2007)	**Skills/ curriculum for targeted children ages 6-11 and their parents**. Programme aimed at seriously troubled children and young people and in top 15% for poor behavior. Tackled peer relations, social and emotional skills and parenting for children's 6-11 years. In school model (CPPG 1999) 57 lessons of Fast Track Promoting Alternative Thinking Strategies (PATHS) curriculum that include social competence intervention on self control, emotional awareness, peer relations and problem solving. Teachers encouraged to generalize approaches across school day. Parents sent updates and suggestions for ways to promote social competence. 2.5 day training workshop and received weekly consultation Home based model (CPPG 2007). Children attend social skill training groups, academic tutoring and receive mentoring as well, as participating in PATHS, a curriculum designed to improved social and emotional health. These activities are delivered at home, and families also receive home visits by teachers, in order to improve parents' problem-solving skills, self-confidence and capacity to manage family life more effectively.	Conduct Problems Prevention Research Group (1999) Significant effects of intervention for 1st graders as assessed by both peers and observers. Observer ratings peer aggression, peer hyperactivity and peer social status; plus quality of classroom atmosphere favoured intervention group on all measures and 4/10 ratings significantly different. The analysis used the classroom rather than the student as a unit of analysis. Conduct Problems Prevention Research Group (2007) The intervention had a statistically significant impact by preventing the development of clinically-defined behavioral problems such as conduct disorder and anti-social behavior. These effects were observable right through to grade 9. Conduct disorder cases were down by 75%, ADHD by 53% and all externalizing psychiatric disorders by 43%.

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Flemish school based anti-bullying intervention Originated and now in Belgium. Prof. Dr. Paulette Van Oost lanociar@r3.roburnet.sk	Blank et al (2009) Vreeman and Carroll (2007)	**Skills/ curriculum based universal programme for ages 10-16.** Focused on the social system, teachers, non-teaching staff members, parents and the peer group, as well as on students directly involved in bully/victim problems. A manual with video described the intervention objectives and strategies for each module. Three modules. -One on interventions in the school environment (policies, awareness raising. -One on curriculum, taking social cognitive approach to changing though patterns, class rules, problems solving strategies and social skills training. Active teaching methods e.g. modelling and role-play are used -One on restorative justice, with bully repairing matters with the victim and strategies for the victims e.g. emotional help and social skills of the victim. Participating schools received 25 hours of specific training sessions to develop skills. .	Stevens (2000). 18 primary and secondary school, n -= 1104. Proved to be slightly effective for primary but not secondary pupils.
Friends Also known as “Coping +’ (e.g. Koala, Kangaroo) Originated in Australia. Now in UK Ireland Germany Finland Netherlands Portugal : http://www.friendsinfo.net	Adi et al, (2007a) Horowitz and Garber (2006) Merry et al (2004) O’Mara and Marsh (2006) Neil and Christensen (2007) Shucksmith et al (2007) Waddell et al (2007)	**Skills/ curriculum based multi-component universal programme for ages 10-13 plus teacher and parent education.** Includes significant teacher training and development and support for parenting. Cognitive behavioural approach combined with a stress management and relaxation component. Delivered by psychologist and/or teacher. Group sessions for parents about the programme and parenting skills.	Barrett and Turner (2001) Significant decrease in anxiety compared to the standard curriculum in both psychologist led and teacher led intervention . But significant deterioration in measures of depression in teacher led compared to control and psychologist led, so potential negative effect in this case. Lowry-Webster (2001; 2003) 594 children aged 10-13. Diagnostic interviews: (85%) of children in intervention who scored above the clinical cut off point for anxiety and depression were diagnosis free in the intervention at 12 months compared with (31.2%) in the control p<.01. Positive acceptability of children, parents and teachers although parental attendance at group sessions low. Risk status significantly reduced at 12 months compared with control.

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Good Behaviour Game Originated in US. Now in The Netherlands http://www.evidencebasedprograms.org	Adi et al, (2007a) Bayer et al (2009) Clayton et al (2001) Durlak et al (2007) Greenberg et al (2001) Hanh et al (2007) Payton et al (2008) Rones and Hoagwood (2000) Wells et al (2004)	**Skills/ curriculum based universal approach for ages 6-8.** Based on behaviour modification theory. Aim to prevent the development of serious behaviour problems in school, including ADHD, oppositional defiant disorder and conduct disorder. Involves all children in the class, not just the "problem" children. Teams of children that include both those with problem behaviours and those who do not have behaviour problems work together to decide what is acceptable behaviour and what is not. Each of these behaviours is posted in a prominent place in the classroom. Children are encouraged to work together to reinforce each other's good behaviour and are rewarded by the teacher if they maintain a record of good behaviour. The focus is on reinforcing good behaviour rather than punishing bad behaviour. Forty hours of teacher education to support the programme	van Lier et al (2004) Looked at the GBG with 666 first and second grader (6-8)y of 31 schools in Rotterdam and Amsterdam. Intervention had positive impact on development of all disruptive behaviour problems in children with intermediate levels of these problems at baseline. No impact on depression. Reid et al (1999) used a modified version of GBG as part of the Linking the Interests of Families and teachers (LIFT) prevention programme for oppositional defiant disorder (ODD) and conduct disorder(CD). It also involved classroom skills programmes and parenting support with 671 children. The whole intervention (not just GBG) was effective in improving children's observed and teacher report behaviour The most difficult children changed most. Changes in parenting only in most aversive mothers.
Greek anti-bullying programme Originated and now in Greece Eleni Andreou elandr@uth.gr	Farrington and Ttofi (2009)	**Skills/ curriculum based universal programme for ages 9-11 plus teacher education.** A four-week intervention program that aimed to minimize both bullying and victimization. Based on a) awareness-raising; b) self-reflection; and c) commitment to new behaviour, and based on the theory that changing an individual's behavior (e.g. the bully's behavior) entails motivating not only the particular person but also the rest of the group members (participant roles approach).The program was embedded within the wider curriculum of the fourth-, fifth- and sixth-grade classrooms and consisted of eight instructional hours, each hour corresponding to one curricular activity. The teacher training consisted of five 4-hour meetings and aimed to increase awareness of the bullying problem and its seriousness as well as to raise teachers' self-efficacy in implementing the programme.	Andreou *et al* (2007) The present study reports the short- and long-term effects of this anti-bullying intervention program. An experimental pre-test/post-test design with a control group was used. The sample consisted of 454 pupils (206 control: 123 boys and 83 girls; and 248 experimental: 126 boys and 122 girls) drawn from the fourth- to sixth-grade classrooms of 10 primary schools in central Greece (mean age = 10.23, *SD* = .84). Data were collected using self-report measures, before the intervention (December 2003), immediately after the intervention, at the end of the same school year (May 2004), and six months afterwards (November 2004). The results indicated that the program contributed to a positive reduction in outsider behaviour (children remaining uninvolved and thus silently allowing bullying to continue) and enhanced students' self-efficacy beliefs for both assertion and intervening in bully/victim incidents. However, the long-term effectiveness of the program was limited.

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Incredible years Originated in the US Now in Wales, England, Ireland, Norway http://www.incredibleyears.com/	Bayer et al (2009) Gansle (2005) Waddell et al (2007)	**Skills/ curriculum based universal programme for ages 3- 7, teachers and parents** The Dinosaur Social Skills and Problem Solving curriculum is a child training curriculum that strengthens children's social, emotional and academic competencies such as understanding and communicating feelings, using effective problem solving strategies, managing anger, practicing friendship and conversational skills, as well as appropriate classroom behaviors. The teacher training intervention is focused on strengthening teacher positive classroom management strategies, promoting children's prosocial behavior and school readiness (reading skills), and reducing classroom aggression and noncooperation with peers and teachers. Focuses on ways teachers can effectively collaborate with parents to support their school involvement and promote consistency from home to school.	Webster-Stratton et al (2007) Two randomized control group evaluations of the teacher training series by the program developer and colleagues at the University of Washington reported • Increases in teacher use of praise and encouragement and reduced use of criticism and harsh discipline. • Increases in children's positive affect and cooperation with teachers, positive interactions with peers, school readiness and engagement with school activities. • Reductions in peer aggression in the classroom. .
Kiva anti-bullying programme Originated in and now in Finland http://www.kivakoulu.fi/content/view/56/171/	Blank et al (2009) Farrington and Ttofi (2009)	**Skills/ curriculum based universal programme for ages 13-15.** A peer-led intervention against school bullying. Eight peer counselors for 7th and 8th grades in upper-level comprehensive school . Core was one-week period during which a series of events and activities were organized at the school and in each individual class. Peer counselors emphasized each individual's responsibility and involvement.	Salmivalli (2007): 12 classes, total number of participants 196 (89 girls and 107 boys) aged 13-`15. Especially effective among girls, slight evidence of adverse effects in boys. Most students who reported being bullied before the intervention were satisfied with the campaign and thought it was helpful.

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Lion's Quest Originated in US now across Europe http://www.lions-quest.org/	CASEL select program (CASEL 2005)	**Skills/ curriculum based universal programme for ages 11-17.** Series of curricula focuses on character education, service-learning, and violence and substance abuse prevention. Lions-Quest programs are designed to help students develop the behaviors and skills needed to become healthy and capable adults. With 64-103 lessons per year, this series includes Skills for Growing (10 years)Skills for Adolescence (11- 13 years), and Skills for Action (14 – 17 years).The series provides broad coverage of substance abuse prevention, violence prevention, and citizenship.	Lions Quest (2009) Skills for growing students had significant improvement, pre- to post-test, in feeling able to make decisions apart from peer-influenced ones, improved life and conflict management skills and positive perceptions of classroom environment compared to control groups for grades Skills for Adolescence students had higher expectations for success in school than comparison students and were more willing to take responsibility for their own behavior in school. Students in grade seven had significant improvements on the nationally normed California Achievement Test in both reading and mathematics while comparison students' scores remained near their pretest levels.
Norwegian anti-bullying programme – Zero programme Originated and now in Norway Professor David Galloway d.m.galloway@durham.ac.uk	Farrington and Ttiofi (2009)	**Whole school approach** Aims at creating a school context that prevents aggression and provides principles for stopping bullying . Principles include: adults are responsible, all staff members are expected to be authoritative at all times, define and monitor clear standards of positive social behaviour, correct deviance in a respectful way, demonstrate zero tolerance for bullying, expect empathetic behaviour, expect pupils to concentrate on schoolwork and treat all materials and school buildings with respect. Includes timetabled 15 min per week directly on bullying. Provides schools with a clear procedure for intervention when bullying is identified, involving the bullies and their parents and the bullies, and all staff are expected to follow this but only personnel who possess authority towards those pupils involved should handle the intervention.	Roland et al (2010) The anti-bullying programme 'Zero' was implemented at 146 Norwegian primary schools. The outcome among pupils was evaluated after 12 months of the total 16-month period using an age-equivalent design. The present study shows that bullying was reduced among pupils in the schools participating in the Zero programme. Moreover, National surveys in spring 2001 and spring 2004 showed a reduction in pupils being victimised in Norway over 3 years.

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Olweus bullying prevention programme Originated in Norway. Now in Norway, Iceland, Sweden, Lithuania Dr Reidar Thyholt reidar@thyholt.no http://www.clemson.edu/olweus/	Clayton et al (2001) Farrington and Ttofi (2009) Hanh et al (2007) Payton et al (2008) Vreeman and Carroll (2007) Wilson et al (2003)	**Whole school approach, multi-component programme for ages 5-18.** A multi-level programme aimed at targeting individual, school, classroom, family and community level. At school level it consists of initial conference, video, manuals, information, and materials to assess state of the school beforehand Classroom activities include setting groundrules and role playing and meetings with the parents of the class. Individual level includes talks with bullies and their parents and enforcement of non-hostile, nonphysical sanctions, talks with victims, talks with bystanders, providing support and providing assertiveness skills training how to successfully deal with bullying. Includes talks with the parents of victim. Includes cooperation among experts and teachers (e.g. psychologists) who worked with children involved in bullying. The program demands significant commitment from the school during the "introductory period" which covers a period of about 18 months. Later the methodology acquired by the staff and the routines decided by the school may be maintained using less resources, but the program continues to offer a point-by point description of what the school should do to continue its work against bullying.	Olweus, (2005) Decreased level of bully-victim problems, peer reports of bullying, and general antisocial behavior; for outcomes of bullying others, boys averaged a 16% reduction and girls averaged a 30% reduction after 8 months; after 20 months, reductions averaged 35% for boys and 74% for girls; reductions in victimization averaged 48% for boys after 8 months and 58% for girls; reductions increased to 52% for boys and 62% for girls after 20 months. Reports of better social climate and satisfaction with the school.

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PATHS (Promoting Alternative Thinking Strategies) Originated in the US. Now in UK, Netherlands Germany, , Switizerland Zurich Croatia, Northern Ireland. (Greenberg) http://www.channing-bete.com/prevention-programs/paths/paths.html	Adi, et al, (2007a) Beelman and Losel (2006) Berkowitz and Bier (2007) CASEL select programme (CASEL 2005) Catalano et al (2002) Durlak et al (2007) Greenberg et al (2001) Hanh et al (2007) Payton et al (2008) Rones and Hoagwood (2000) Shucksmith (2007) Wells et al (2004)	**Skills/ curriculum based universal programme for ages 6-11.** Based on the ABCD (Affective-Behavioural-Cognitive-Dynamic) model of development places primary importance on the developmental integration of affect (and emotion language), behaviour, and cognitive understanding as they relate to social and emotional competence. Basic premise is that a child's coping, as reflected in their behaviour and internal regulation, is a function of emotional awareness, affective-cognitive control, and social cognitive understanding. 30-45 lessons per year designed to promote social and emotional competence, prevent violence, aggression, and other behavior problems, improve critical thinking skills, and enhance the classroom climate. There is broad coverage of violence prevention and citizenship. Covers: • feelings and relationships • self control • understanding emotions • problem solving Delivered by specially trained teachers who attend 3 – days training workshop and received weekly consultation and observation from project staff.	Greenberg et al (1995) 30 classrooms with 286 children in 4 schools over 2 terms. 60 lessons of PATH curriculum module given as 3 times a week. Each lesson lasts 20-30 minutes Intervention group significantly better than control on 8 out of 18 measures of social and emotional competence. Results more positive in high risk children.
Peer support intervention in middle schools Originated and now in Italy Dr Ersilia Menesini menesini@psico.unifi.it	Blank (2007)? Durlak et al (2007) Farrington and Ttofi (2009) Payton et al (2008) Vreeman and Carroll (2007)	**Peer support approach for ages 9-13.** “Befriending” intervention. Training and implementation of peer supporters within schools .	Menesini *et al*, (2003) Two hundred and ninety three students in two middle schools. Five classes in control, 9 in intervention group. Pretest, posttest,control group design. Bullying remained stable for the intervention group (although it increased for the control group); no change in victim or defendant scales; levels of bullying or pro-bullying behaviors in the intervention group remained stable, whereas probullying scales increased in the control group (*P*_.05). No decrease in provictim attitudes as seen in the control group

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Penn Resilience Originated in US Now in England as the UK Resilience Program http://www.ppc.sas.upenn.edu/prpsum.htm	Adi et al (2007a) Horowitz and Garber (2006) Merry et al (2004) Shucksmith et al (2007) Waddell et al (2007)	**Skills/ curriculum based universal programme for ages 10-12.** A manualised, classroom curriculum based intervention comprised of 90-minute group sessions, for 10 -12 weeks. Teaches cognitive-behavioural and social problem-solving skills. Students are encouraged to identify and challenge negative beliefs, use evidence to make more accurate appraisals of situations and events, and to use effective coping mechanisms when faced with adversity. Students also learn techniques for assertiveness, negotiation, decision-making, and relaxation.	Gillham and Reivich (1999) 118 children aged 10-12. Significant differences in favour of the intervention in explanatory style for negative events were reported in both short and long-term follow up. Depressive symptoms decreased significantly from pre-intervention to post-intervention in the intervention group relative to the control group.
Qigong for children Originated and in Germany Professor Claudia Witt claudia.witt@charite.de	Adi, et al, (2007a)	**Skills/ curriculum universal programme for ages 7-8 and 13-14.** 20 minutes of Qi Gong practice twice weekly for 6 months. A supervisor instructed the class for one term and after that the teacher took over.	Witt et al (2005) 90 children aged 7-8 and 13-14. Behaviour improved significantly in intervention arm compared to control assessed. No significant differences for children's assessments of quality of life on overall score, but significant difference favouring intervention on psychological wellbeing score. No statistical difference on parent report scales for well being score Frequency of reporting nightmares increased in some children in intervention arm in first few weeks of programme Whilst only 3 out of 15 scales positive, those which were are the most relevant to mental health in schools.

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Resolving conflict creatively program (RCCP) Originated in US Now in Spain. http://www.innerresilience-tidescenter.org/	Adi et al (2007b) Berkowitz and Bier (2007) CASEL select program (CASEL 2005) Durlak et al (2007) Garrard and Lipsey (2007) Hanh et al (2007) Payton et al (2008) Rones and Hoagwood (2000) Wells et al (2004)	**Whole school for all students 5-11 years** 28-51 lessons per year, RCCP's model includes a series of classroom-based SEL curricula, an extensive staff development component, parent workshops and a peer mediation program. A primary aim of RCCP is to help students develop the social and emotional skills needed to reduce violence and prejudice, form caring relationships, and build healthy lives. Another is to provide schools with a comprehensive strategy for preventing violence and other risk behaviors, and creating caring and peaceable communities of learning. RCCP also provides broad coverage of citizenship.	Aber et al (1988) Evaluated the short-term impact of RCCP on developmental processes thought to place children at risk for future aggression and violence and examined the influence of classroom and neighborhood contexts on the effectiveness of the violence prevention initiative. Two waves of developmental data (fall and spring) were analyzed from the 1st year of the evaluation of the RCCP which included 5053 children from grades two to six from 11 elementary schools in New York City. Developmental processes that place children at risk were found to increase over the course of the school year. Children whose teachers had a moderate amount of training and coaching from RCCP and who taught many lessons showed significantly slower growth in aggression-related processes, and less of a decrease in competence-related processes, compared to children whose teachers taught few or no lessons.

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Respect programme (previous name 'Connect') Originated and now in Norway http://saf.uis.no/programmes/respect/article5175-2778.html	Farrington and Ttofi (2009)	**Whole school/ school ethos in both primary and secondary schools focusing particularly on teacher education** Programme aims to prevent and reduce problem behaviour at individual, class- and school level through improving skills, including those of adults, especially teachers. Respect requires the involvement and commitment of everyone in the school, including pupils, school staff and parents. Respect emphasizes that adults should be unambiguous, predictable and considerate. The programme focuses on how to prevent and stop bullying, violence and disobedience, and how to improve pupils` on task orientation and learning outcomes. Works on the system level by including all school personnel, pupils and parents in an attempt 'to improve the quality of the school at the individual, at the class and at the school levels. It involves creating a warm and caring environment, involving all persons in the school and intervening at all levels (individual, classroom and school level) in a long term consistent way. Consists of seminars, staff training, a project group responsible for implementing the program, and a supportive network.	Ertesvag & Vaaland (2007) The study included three primary schools and one secondary school piloting the programme. The program period of the pilot version was one year. A cohort longitudinal design was used in evaluating the longer term effects of the programme. Pupils in the four schools reported a decrease in reports of being victim of bullying, being an offender of bullying, off-task behaviour and disobedience. This decrease was sustained or continued after the intervention period for some types of behaviour, even though the results differed between grade levels. In terms of effect size, the results were small to moderate for most grade levels. Based on the fact that school development programs, nationally as well as internationally, have revealed meagre results in secondary schools it is especially interesting that the study shows reduction in disobedience and off-task behaviour in secondary school (grade 8-10, age 14-16). However, there was no reduction in report of being a victim of bullying or being a bully.

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Responding in peaceful and positive ways Originated in US Now in the Netherlands http://www.promisingpractices.net/program.asp?programid=238	Berkowitz and Bier (2007) Blank et al (2009) Catalano et al (2002) Durlak et al (2007) Greenberg et al (2001) Hanh et al (2007) Park-Higgerson et al (2008) Payton et al (2008) Scheckner et al (2002)	**Skills/ curriculum based universal programme for ages 11-13.** Universal approach which aims to reduce the incidence of youth violence Includes separate curricula for 6th, 7th and 8th graders. Uses a valued adult role model to teach knowledge, attitudes, and skills that promote schoolwide norms for non-violence and positive risk-taking. Guided by theoretical and empirical research on social cognition, aggression, school norms, and adolescent development. Participants are instructed in the use of a social-cognitive problem-solving model and specific skills for violence prevention through experiential and didactic activities. Repeated use of this problem-solving model and the non-violent options it includes teaches students how to choose strategies most likely to be successful in a given situation. Early sessions focus on team building and knowledge transmission, and later sessions focus on skill-building and critical analysis.	Farrell et al, (2001a; 2001b and 2003a), reported two RCTs in 3 urban middle schools with 6th and 7the graders. Participants had significantly fewer disciplinary violations for violent offenses, fewer in-school suspensions, and reported more frequent use of a peer mediation program and fewer fight-related injuries at posttest and reduced drug use compared to the control group. Students who benefited from the intervention tended to be those who reported high pretest rates of violent behavior. Farrell et al (2003b). Programme was carried out with 6th graders in 4 rural schools serving an ethnically diverse student population and evaluated. Several significant intervention effects were found on self-report measures of aggression, victimization, life satisfaction and mediating variables including knowledge and attitudes.
SAVE anti-bullying programme Originated and now in Seville, Spain Prof. Rosario Ortega HYPERLINK "mailto:ortegaruiz@uco.es"	Farrington and Ttofi (2009)	**Whole school ethos** Took an ecological approach to analyzing bullying and violence. Aimed to encourage coexistence which meant good relationships, cooperation, mutual understanding, empathy, and the resolution of conflict through dialogue and other non-violent ways. Shaped the social environment and the ways in which children interact, taught children social skills and involved them in decision making.and co-operative group work. Included direct intervention work with students at risk or involved in bullying, such as quality circles, conflict mediation, peer support, assertiveness and empathy training.	Ortega et al (2004) After 4 years, decreases in the number of victims (9.1% to 3.9%) those who were both bullies and victims (0.7% to 0.3%). and bullies (4.5 to 3.8). Number of pupils who disapproved of bullying increased from 6.7% to 7.9% , number who throught they would never bully increased from 43% to 52% and the number of pupils who thought that bullying was normal or reasonable sometimes decreased from 13.00% to 8.8%.

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Second Step to Violence Prevention Originated in US Now in UK, Denmark, Iceland, Germany Norway Finland, , Greenland, Iceland, Lithuania, Slovakia http://www.cfchildren.org/programs/ssp/overview/	Blank et al 2009 Greenberg et al (2001) Hanh et al (2007) Park-Higgerson et al (2008) Payton et al (2008)	**Skills/ curriculum based universal programme for ages 4-14.** 8-28 lessons per year, 4 – 14 curriculum is designed to develop students' social and emotional skills, while teaching them to change behaviors and attitudes that contribute to violence. The programme focuses on teaching empathy, anger management, and impulse control, and provides broad, multiyear coverage of violence prevention	Holsen et al (2008; 2009) Two papers describe a study of the effects of the Norwegian version of the Second Step program, *Steg for Steg,* on fifth- and sixth-grade students. The first set of findings from the study showed that the program resulted in significant increases in social competence for both boys and girls across the fifth and sixth grades. The second set of findings showed that low-socioeconomic-status (SES) students reported greater improvement in social competence, school performance, and satisfaction with life, compared to their middle- and upper-SES peers. Cooke et al (2007) Second Step was implemented in eight elementary schools in a city of 58,000 residents in the US. Training was provided to all school staff, parent workshops were provided, and teachers and schools received ongoing implementation support. Program effects were evaluated on third- and fourth-grade students (N=741). Students showed significant improvements in positive approach/coping, caring/cooperative behavior, suppression of aggression, and consideration of others. Nearly three-quarters of teachers reported that the SS program helped their students during the implementation year, and 91.7 percent said that the SS program would help their students in the future.
Skills for Life Originated and now in the Netherlands.	Diekstra (2008b)	**Skills/ curriculum based universal programme for ages 14-17.** Based on Bandura's social learning theory and Ellis rational emotive therapy, in which changing mental processes and self talk are seen as a major part of changing behavior. Consists of standard classes plus three optional modules. Teachers attend a three day training plus refreshers and boosters.	Diekstra (2008b) From 1996 to 2005 20,000 students followed SFL classes and 800 teachers were trained. The evaluations showed improvements in pupils self efficacy, ability to effectively express negative emotions, social relationships, suicidal thoughts and attempted suicide.

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Social decision making/ social problem solving Originated in US Influenced work in Greece Georgios Leioras gvlieioras@gmail.com Cissy Hatzichristou hatzichr@psych.uoa.gr and Denmark Lone Gregerson lg@cvukbh.dk	Adi, et al, (2007) Berkowitz and Bier (2007) CASEL select programme (CASEL 2005) Durlak and Wells (1997) Durlak et al (2007) Greenberg et al (2001) Hanh (2007) Kraag et al (2006) Payton et al (2008)	**Skills/ curriculum based universal programme for ages 4 – 11**. 25-40 lessons per year and is designed to help children recognize and use their emotions in effectively solving problems in a wide range of real-life situations inside and outside the classroom. Promoting social competence through • critical social decision-making • self-control • group participation • social awareness skills .	Elias et al (1991) 2 year curriculum conducted by classroom teachers, evaluated after 6 years, Overall findings suggest that students receiving 2-year social decision-making and problem-solving program in elementary school showed higher levels of positive pro-social behaviour and lower levels of antisocial, self-destructive and socially disordered behaviour on follow-up over 4-6 years in comparison to controls
Stress management and relaxation techniques Originated and now in Germany Professor Arnold. Lohaus Arnold.Lohaus@uni-bielefeld.de	Adi et al, (2007a)	**Skills/ curriculum based universal programme for ages 8-11.** Audiotape of different relaxation techniques Sensoric training, imaginative training, combined. 8 sessions of 90 mins each with 4 groups. • Knowledge oriented version with or without parents involvement, • Problem solving oriented version with or without parents, • Relaxation oriented version with or without parents • Combined	Lohaus et al (1997) 170 chldren, 8-11 years. Evaluation compared approaches. Problem solving was the most favourable of the active approaches with regard to knowledge increases followed by knowledge and relaxation orientated. -Knowledge orientated most favourable with regard to known coping strategies followed by combined and problem solving Parent (<.05) and child (<.01) assessment of stress most favourable in problem solving group Parental involvement lead to no measurable effects for any criteria either directly or after 6 months Lohaus and Klein-Hebling (2000) focusing on relaxation as a way of reducing stress in children. 826 children in primary and secondary schools. Overall differences observed but differences between groups not significant. Changes observed in subgroups.
Name of intervention **Where originated** **Where now in Europe** **Contact details**	**Which review(s) suggest(s) it is effective**	**Brief description of intervention**	**References for evaluation studies and summary of evaluation**

Viennese social competence training to reduce aggression and violence Originated and now in Vienna, Austria Mario Gollwitzer gollwitzer@staff.uni-marburg.de	Blank et al (2009)	**Skills/ curriculum programme for students at risk of being aggressive, ages 13-16 years**. Based on social information processing theory aimed at social competence training. Developed at the University of Vienna as a selected intervention, aimed at adolescents considered at risk of eventual problems but who are not yet dysfunctional. A curriculum intervention of 13 lessons divided into three phases: 1) Impulses and group dynamics 2) Reflection 3) Action. Taught in regular lesson times but by outside trainers not familiar with the students, although regular teachers can assist. Trainers are prepared to take over after the first closely structured sessions and respond to group's needs.	Gollwitzer et al. (2006; 2007) Four school classes (*N* = 109) participated in the programme, three school-classes (*N* = 75) served as controls. Qualitative and quantitative data were collected before, during, shortly after and 4 months after the training. Qualitative data indicate high quality of programme implementation and accomplishment of training principles. Quantitative data show a decrease in aggressive behavior responses among trained classes
Zippy's Friends Originated in UK. Now in …. http://www.partnershipforchildren.org.uk/zippy-s-friends.html	Too recent to appear in a review but sound evaluation	**Skills/ curriculum based universal programme for ages 6-8.** The programme is designed to promote the emotional wellbeing of children aged five to eight years of age by increasing their repertoire of coping skills and by stimulating varied and flexible ways of coping with problems of day-to-day life. The programme is based around a set of six illustrated stories about a group of children, their families, friends and an imaginary stick insect called Zippy. Comprised of six modules, the programme addresses the following themes: feelings, communication, making and breaking relationships, conflict resolution, dealing with change and loss, and general coping skills. Structured into sessions, the programme is supported by a teacher's manual and a set of teaching materials, which are designed to actively engage the children in a range of child-centered activities. Teachers participate in a structured training programme before implementing the programme in class.	Clarke and Barry (2010) Piloted in 30 designated disadvantaged (DEIS) schools in the West of Ireland. The 24 week programme implemented over two academic years, A total of 730 pupils (mean age = 7 years 3 months; gender = 47.7% female) and 42 teachers from 42 schools in Donegal, Sligo, Leitrim and Galway were randomly assigned to intervention (N = 523) and control groups (N=207).The programme had an overall significant positive effect on the children's emotional literacy skills, with significant improvements in the children's self-awareness, self-regulation, motivation, empathy and social skills when compared with the control group. The majority of teachers (over 90%) observed improvements in the children's social skills, verbal communication skills, their ability to manage their feelings and their relationships with each other. The findings from the children's participatory workshops also showed that the children in the intervention group had a more elaborate and wider range of vocabulary for articulating their feelings after completing the programme and were more able to explain how to make a difficult situation better.