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**Public Health Collaborating
Centre**

**Systematic review of the effectiveness of universal
interventions which aim to promote emotional and social
wellbeing in secondary schools**

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**Systematic review of the effectiveness of universal interventions which aim to promote
emotional and social wellbeing in secondary schools**

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EXECUTIVE SUMMARY

Objectives

This review was undertaken to support the development of NICE guidance on promoting emotional and social wellbeing in secondary schools. It provides a systematic review of the published literature on the effectiveness of school based interventions, which aim to promote emotional and social wellbeing among young people in secondary education, which take a universal (non-targeted) approach.

This review was preceded by a mapping review to describe the available literature in the full range of interventions which aim to promote emotional and social wellbeing in secondary schools. The aim of the mapping review was to identify key areas within the literature on which to focus this effectiveness review. The mapping review identified four key groups of studies according to the focus of interventions as follows:

- interventions that aimed to promote prosocial skills and behaviours,
- interventions to reduce bullying and disruptive behaviours.
- interventions to improve mental wellbeing , and
- interventions designed to meet objectives related to healthy schools and school safety policy.

The first two groups of studies directly addressed the scope questions, and were included in the critical appraisal. Interventions with specific mental wellbeing objectives was excluded as there was a strong focus on targeted interventions. Studies of healthy schools/school safety were excluded as the literature was strongly focused on theory and policy implications.

Background

There are many ways to define wellbeing. The review was based on the definition of social and emotional wellbeing as stated in the scope. This definition encompasses three domains:

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- 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 others and to problem solve)
- Social wellbeing (good relationships with others, and the opposite of conduct disorder, delinquency, interpersonal violence and bullying).

In order to focus on universal approaches (in line with the scope) this review focuses on a subset of the literature on emotional and social wellbeing in secondary schools by focusing on interventions which aim to promote prosocial skills and behaviour or to prevent bullying and disruptive behaviours. This reflects the differentiation between promotion (of prosocial behaviour) and prevention (of problematic behaviour) which is prominent in the literature. Studies were categorised in terms of their overall primary aim and focus, although several studies had outcome measures which represented change in several types of behaviours.

Interventions to prevent further bullying and disruptive behaviours addressed levels of: bullying, violence, aggression, victimisation, and delinquency, where these were related to wellbeing outcomes. Interventions to promote prosocial behaviours and skills included interventions to promote: positive behaviour change, conflict resolution, social competency, resilience, peer support, coping with change, and successful school transit. Although this is not an exhaustive list, these terms were largely selected through an analysis of terms used by the papers identified through the mapping review which preceded this effectiveness review and were augmented following advice from topic specialists. For the purpose of this review, papers were initially categorised according to the stated focus of the intervention (ie defined by author) and the outcomes measures used. They were then categorised in terms of their methodological quality, results obtained and relevance to the UK context.

Methods

The challenges in searching for evidence to inform public health guidance are widely recognised (Spring 2008 and Pawson 2005). In order to address these challenges, the review team built upon the existing search methods (CPHE Methods Manual) to allow for a process in which the scope of relevance was explored and informed by the search process. A targeted approach to the identification of evidence was taken. Instead of aiming to identify the relevant literature for a specific question using one search, we adopted an iterative (i.e. a number of different searches) and emergent approach (i.e. the understanding of the scope of relevance develops throughout the process), to attempt to identify evidence to inform understanding of the problem area. This evidence was then explored in order to inform further retrieval by the identification of useful search terms and keywords/index terms.

The quality of studies was assessed according to the criteria set out by NICE in the CPHE Methods Manual and graded as [+] or [-] (no studies were graded as [++] as is discussed below). Studies were also categorised in terms of their study design, effectiveness and applicability. These categorisations were taken from the previous NICE commissioned reviews into wellbeing in primary schools in order to allow the results of this report to be comparable. The categories were defined as follows:

- Study design: random controlled trial (RCT), controlled before and after study (CBA), interrupted time series (ITS), other study designs (other).

- Impact:
 - A. Positive impact - all or most measures provided significantly positive in favour of intervention
 - B. Possible positive impact - less than half of the measures provided significantly positive in favour of the intervention
 - C. Impact unlikely - no statistically significant findings in favour of the intervention

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D. Negative impact - the intervention was harmful compared to the control

- Applicability (to the UK context):
 - a. Intervention has been delivered in UK settings
 - b. Intervention has been delivered in similar populations but might need adaptation
 - c. Intervention has been delivered in specific cultural groups represented in the UK population but might need adaptation
 - d. Intervention has been delivered in an entirely different population to that of the UK

Results

The searches identified 40 studies which met the inclusion criteria. The majority of these focused on tackling bullying and disruptive behaviours (30 studies) with significantly fewer papers focusing on promoting prosocial behaviours and skills (ten studies). The majority of the evidence comes from the USA (twenty two studies) with three studies from the UK and additional evidence from Canada, Australia (four), Germany, Italy, Netherlands, Norway, Finland, and Japan. In terms of study design, there were 19 RCTs, nine controlled before and after (CBA), nine interrupted time series (ITS) and three of other designs. Based on the NICE quality criteria, most of the RCT studies scored [+] (15 of 19 studies), along with most of the CBA studies (eight of nine studies), and around half of the ITS studies (five of nine studies). The three studies of other design all scored [-]. Due to limitations in study design in these settings, no included studies scored [++] for quality.

Evidence statements

Whole school approaches.

What key features of a whole school approach are most effective? What curriculum approaches (scope, context, frequency, length, mode of delivery) are most effective?

Evidence statement 1a.

We identified strong evidence from six good quality papers (five RCT and one CBA study) of effective interventions to support curriculum approaches to whole school interventions, which aim to promote prosocial behaviours and skills: Stevahn et al (1996) RCT+; Stevahn et al (2002) RCT+; Smith et al (2002) CBA+; Shoclet et al (2001) RCT+; Barrett et al (2006) RCT+; Quayle et al (2001) RCT+. The interventions included here were conducted in the USA/Canada/Australia in populations with some similarity to the UK, and therefore can be considered to be potentially applicable in English schools.

This evidence suggests that conflict resolution training is successful in promoting prosocial behaviours in the short term and that the use of peer mediators may be effective for longer term outcomes. Also, curriculum interventions to promote prosocial behaviours and skills can have a positive effect on preventing symptoms of anxiety and depression.

Two studies of by the same author (Stevahn et al 1996/2002) both looked at conflict resolution training programmes in the USA/Canada. Stevahn's first conflict resolution study (Stevahn et al 1996) was conducted in a Canadian private school and involved 111 children in 7th and 8th grade classes for six hours over six weeks. Students took part in the conflict resolution training programme as part of two curricula described as co-operative (where children were encouraged to work together to achieve group aims) and individualistic (where children were encouraged to work independently to achieve group aims). The presence of the conflict resolution training was shown to increase negotiation skills and "academic performance". Children in the co-operative learning environment improved more on these measures. However the measure of improvement in "academic performance" was in fact a measure of retention of the conflict resolution programme taught, not improvement in

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over all academic standards. In their second study (Stevahn et al 2002) a second conflict resolution programme was run over 5 weeks (17.5 hours) with 92, 9th grade students in a Californian High School, as part of the school social studies curriculum, and again showed improvement in ability to negotiate and academic achievement (in relation to the training programme). However, no longer term outcomes were considered for either of these studies, therefore these studies can only show improvement in negotiation skills in the short term. Positive outcomes may not be sustained over a longer period.

A third study, also of a conflict resolution intervention trained peer mediators to deliver the intervention over the longer term. Smith et al 2002 conducted their programme of 5 conflict resolution lessons in 3 middle schools (780-1110 students per school) and also trained 25 to 30 peer mediators per school. Here the peer mediators scored highly on the conflict resolution scores and the number of disciplinary incidents in the school was shown to decline (over 4 years). However, no significant changes school wide in pupil or teacher attitudes to conflict were seen. The impact of this study was measured over a much longer time scale and suggests that training peer mediators may be an effective way of improving conflict resolution at the whole school level, but a lack of visibility of the project to the whole school may result in little attitude change towards conflict.

Three studies were curriculum interventions to reduce depression and anxiety. Shochet et al (2001) conducted a three armed trial in which 260 students were randomised to receive RAP (Resourceful Adolescents Programme), a 11 session school based resilience building programme, with (RAP-F) or without (RAP-A) a 3 session parental programme, or the control (no intervention). From pre-intervention to 10 month follow up those in the RAP-F showed significant reduction on both the Becks Hopelessness Scale ($t=2.30$ $p<0.05$) and Child Depression Inventory ($t=-2.75$ $p<0.01$) as did RAP-A for BHS ($t=-2.37$ $p<0.05$) and CDI ($t=-2.59$ $p<0.05$). No improvement in depression scores was seen in the control group.

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Quayle et al (2001) conducted an Optimism and Lifeskills programme for preventing depression in pre-adolescents. This consisted of eight, 80 minute sessions and focused on links between thoughts and feelings, evaluating and challenging negative thoughts, and making more optimistic and realistic interpretations of everyday problems. A CDI score of 13 or more showed risk of depression. .At pre-test, 4 intervention students (M=15, SD=2.5) and 3 controls (M=15, SD=1.7) were above this. At 6 months only 1 in the intervention group scored above 13, (score 15) but 4 in the controls (M=25, SD=6.28). Thus the intervention reduced the numbers at risk while those in the control increased.

Barrett et al (2006) delivered the FRIENDS programme to 669 sixth and ninth grade students. The programme consisted of a brief cognitive behavioural intervention on coping with and managing anxiety through learned coping and problem solving skills. The programme was delivered by teachers assisted by psychologists. It included a one day teacher training workshop and four evening sessions for parents. Grade 6 students reported significantly lower rating of anxiety at long term FU: SCAS intervention (M=9.53 SE 0.88) compared to control (M=17.07 SE = 2.61). Girls in the intervention group reported significantly lower anxiety at 12(p<0.001) and 24 (p<0.05) months but not 36 months in comparison to the control group. The same results were not seen for boys.

Evidence statement 1b.

We identified mixed evidence from a total of seven RCT studies regarding curriculum approaches to whole school interventions, which aim to prevent bullying and disruptive behaviours: Five good quality RCT papers discussed interventions which were effective, particularly in association with a community based project: Evers et al (2007) RCT+; O'Donnell et al (1999) RCT+; Flay et al (2004) RCT+; Komro et al (2004) RCT+; Baldry and Farrington (2004) RCT+. The majority of these studies were conducted in the USA; three in populations similar to the UK (majority white): (Evers et al 2007; O'Donnell et al 1999; Komro et al 2004). These studies, along with a fourth conducted in Italy (Baldry and Farrington 2004) are potentially applicable in the UK. A further two papers were conducted in the USA in populations which were predominantly African American Flay et al (2004) Flay et al (2004) so they may be less applicable in a typical English school.

However, there were also two good quality papers which showed that curriculum based interventions were not effective in preventing bullying and disruptive behaviours (again with some community element to the intervention): Orpinas et al 2000 RCT+; Stevens et al 2000 RCT+. These studies were conducted in the USA and Netherlands respectively and therefore may have limited applicability in the UK context.

This evidence therefore is mixed and unclear whether curriculum based interventions for tackling bullying and disruptive behaviour are effective. However, on balance the evidence suggests that certain interventions can be effective. It is possible that including community elements in these type of interventions may be beneficial.

Evers et al (2007) delivered a computer based anti-bullying curriculum of three half hour sessions in twelve middle and thirteen high schools (483 children aged 11 to 17) in the USA. The school population had higher than

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average (for the USA) percentage of Hispanic students (but the percentage was not stated). In a self reported questionnaire completed immediately after the intervention, those who had completed the programme were four times less likely to state they would participate in bullying than those in the control group. This suggest that the intervention was responsible for a decline in bullying (or intention to bully) over the short term but as this was not followed up after the intervention the longer term effects are not known.

The study by O'Donnell et al (1999) to reduce violent behaviour was conducted in the USA and involved 7th and 8th grade students in two large urban middle schools (972 children in 23 intervention and 28 control classes). The intervention implemented the "Reach for Health" programme which consisted of 35 lessons on violence prevention with or without an additional community youth programme (3 hours per week) which half the students participated in. The intervention was run over 6 months in total as part of the "general health curriculum" of the school. A decline in violent episodes was seen for 8th graders only (with and without the community element). There may therefore be questions regarding the applicability of specific interventions to different year groups.

Flay et al (2004) introduced a three year (21 lessons per year) social development curriculum (the Aban Aya youth project) with/without an additional parent and community based programme, to African American children of low socio-economic status in 12 inner city schools (grades 5 to 8). The social development curriculum was designed to teach cognitive behavioural skills, build self esteem and empathy, manage stress and anxiety, develop interpersonal relationships, resist peer pressure, and develop decision making, problem solving, conflict resolution and goal setting skills. The parent programme reinforced skills and promoted child-parent communication. The community programme forged linked among parents, schools and local businesses. This was implemented as part of the "general health programme" within the school - the general programme received by the control groups focused on promoting healthy behaviours through nutritional, physical activity and general health care. The arm of their study which

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included the parental and community programme showed a greater effect on violence levels, but this effect was only seen for boys. It is suggested that target behaviours may be harder to reduce in girls as they are already occurring at a much lower level.

Komro conducted a similar programme to reduce bullying in American 7th graders in 24 schools defined as urban, suburban and rural. The school population was "mostly white" and of lower than average socioeconomic status. The DARE programme aimed to reduce bullying and victimisation as well as drug misuse and was taught by police officers in ten sessions within the school. A second arm of the study also included parental and community involvement. Positive changes in self reported violence were seen here but they very small (effect size ~0.1), no changes in self reported victimisation was seen.

In the study by Farrell and Meyer (1997) "specialists" delivered 18, 45 minute violence prevention sessions to African American students (n=978) of low socioeconomic status in six middle schools (USA). The intervention consisted of eighteen, forty five minute sessions and follow up at the end of the school year showed a reduction in violent behaviour for boys only over one school year.

Baldry and Farrington (2004) used video sessions and an information booklet to increase the understanding of the negative consequences of violent behaviour in 10 to 16 year olds in an Italian school, and saw some positive changes in self reported bullying and victimisation. This demonstrates the potential use of multi-media sessions in reducing bullying and violent behaviour.

A further two papers of good quality discussed curriculum approaches which were not shown to be effective (Orpinas et al 2000; Stevens et al 2000). Orpinas et al 2000) conducted a violence prevention programme with 8th grade students of low socioeconomic status in eight middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each

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had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this. (Stevens et al (2000) conducted a bullying/victimisation intervention involving 10 to 16 year olds in 18 primary and secondary schools in the Netherlands (n=1104). The two intervention arms of this study involved input into the school policy and curriculum and included support for both bullies and victims. The intervention included three modules consisting of video, information sessions, role play and class activities. They also included a large element of teacher training (25 hours). In one arm of the trial teachers received continued support from the research team during the one year delivery of the intervention, in the other no further support was received. However, the intervention showed improvements in bullying, victimisation and positive interaction for primary school children only.

The role of teachers

What are the roles of teachers, other school based practitioners, and specialists (such as an education psychologist, therapist or school nurse) and other professionals (such as youth workers)?

Evidence statement 2

We identified mixed evidence from a total of eight studies regarding the role of teachers in interventions to prevent bullying and disruptive behaviours.

Five studies of varying methodological quality support teacher involvement: Botvin et al (2006) RCT-; Van Schoiack-Edstrom et al 2002 CBA+; Farrell et al 2003 ITS+; Warren et al 2006 ITS+ Barrett et al 2006 RCT+. Four of these studies were conducted in the USA in populations which were majority African American. This may limit applicability to a typical English school.

Three further studies (including two good quality RCTs) were identified which involved teachers in interventions were not effective in preventing bullying and disruptive behaviours: Orpinas et al 2000 RCT+: Stevens et al (2000) RCT+: Peterson and Rigby 1999 ITS+.

This evidence is unclear on the beneficial role of teacher involvement and training in universal interventions to prevent bullying and disruptive behaviour. It is important to acknowledge that it is likely that many other interventions did rely heavily on teacher involvement and training without explicitly stating so, this evidence should be treated with caution.

The involvement of teachers in these interventions was as follows: Botvin et al (2006) conducted an RCT study of an aggression/violence reduction intervention which consisted of 15 life skills training sessions which were taught by teachers who were responsible for planning and delivering the

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lessons. Teachers were provided with detailed lesson plans and student guides although it is not clear if they received any formal training to administer these lessons (which were based on decision making, managing stress, communicating effectively, healthy relationships, anger management, and conflict resolution taught via modelling, role play and homework assignments). The intervention was conducted in 41 New York High Schools (n=2484) in populations high in African Americans and with low socioeconomic status. Reductions in violence and delinquency were seen in the intervention groups over 3 months.

Van Schoiack-Edstrom et al 2002 implemented the "Second Step" Curriculum in the 6th, 7th and 8th grades of five schools in the USA (with two intervention and two control classes in each school). Second Step is similar to the well known PATHS curriculum and focuses on empathy, perspective taking, problem solving and anger management. Sixteen educators received training (one day) to deliver the commercially available programme which consists of 31 lessons with full scripts which the teachers follow. The results of this intervention varied (follow up was immediately after the intervention) with 6th and 7th graders showing decreased endorsement of social exclusion and 7th graders also showing less tolerance of physical and verbal aggression.

In the study by Farrell et al (2003) in the USA (mixed ethnicities, 4 intervention and 4 control middle schools) each school was assigned a member of staff as a "prevention facilitator" who received a total of 11 days training, they were also provided with a "detailed training manual). The "Responding in Peaceful and Positive Ways" curriculum (which was based on problem solving and skills building) was then delivered by the "homeroom" teachers (presumably with support from the facilitator). Over two years significant differences in frequency of aggression were seen.

The intervention administered by Warren et al (2006) to reduce aggression and violence in an inner city American middle school (n=737, grades 6 to 8, large proportion African American), included two sessions of 2.5 hours

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teacher training plus an additional two days involving administrators, teachers and parents. The intervention reinforced a new code of conduct with lessons to highlight individual issues. Over one year the school saw a significant reduction in disciplinary outcomes and subjective reports to indicate improvements in the school climate. However these gains were not sustained at 1 year follow up suggesting that the code of conduct needs to be continually reinforced to be effective.

Barrett et al (2006) delivered the FRIENDS programme to 669 sixth and ninth grade students. The programme consisted of a brief cognitive behavioural intervention on coping with and managing anxiety through learned coping and problem solving skills. The programme was delivered by teachers assisted by psychologists. It included a one day teacher training workshop and four evening sessions for parents. Significantly lower rating of anxiety at long term FU were seen for some groups.

Three studies showed interventions that involved /trained teachers were not effective. Orpinas et al (2000) conducted a violence prevention programme with 8th grade students of low socioeconomic status in 8 middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

Stevens et al (2000) conducted a bullying/victimisation intervention involving 10 to 16 year olds in 18 primary and secondary schools in the Netherlands (n=1104). The two intervention arms of this study involved input into the school policy and curriculum and included support for both bullies and victims. The intervention included 3 modules consisting of video, information sessions, role play and class activities. They also included a large element of teacher training (25 hours). In one arm of the trial teachers received continued support from the research team during the 1 year delivery of the intervention, in the other no further support was received. However, the intervention showed

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improvements in bullying, victimisation and positive interaction for primary school children only.

Peterson and Rigby (1999) develop a range of anti-bullying school policies in a large Australian senior school (which was compared with one control school). They trained peer mediators (50 students from year 7 to 11) who were supported by staff trained in the method of "shared concern" to whom they could go to report incidents or discuss concerns. No details of "share concern" training are given. Their two year programme which also included an anti bullying commission, public speaking group, posters and dance sessions showed no overall reduction in reported victimisation.

The role of young people

What is the role of young people?

What are the most effective ways of involving young people in decision-making processes (including their involvement in planning, delivery and assessment of approaches)?

Evidence statement 3a.

We identified three papers of varying quality and study design to support the role of young people as peer educators/mediators in interventions to promote prosocial behaviours and skills: Stevahn et al (2002) RCT+; Smith et al (2002) CBA +; Dillon and Swinbourne (2007) ITS -. The first two of these studies were conducted in the USA, the third in Australia, they may therefore have some applicability in English schools.

This evidence suggests that peer mediation is an effective way of promoting prosocial and behavioural skills in the long term.

Stevahn et al (2002) was a conflict resolution programme which involved young people in five weeks (17.5 hours) of conflict resolution and peer mediation training in social studies classes (92, 9th grade students in a Californian High School). Improvements were demonstrated in ability to

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negotiate and academic achievement (in relation to the training programme). The young people were passive recipients of the programme and were not involved in its planning or delivery.

Smith et al 2002 conducted their programme of 5 conflict resolution lessons in 3 middle schools (780-1110 students per school) and also trained 25 to 30 peer mediators per school. Here the peer mediators scored highly on the conflict resolution scores and the number of disciplinary incidents in the school was shown to decline (over 4 years). However, no significant changes school wide in pupil or teacher attitudes to conflict were seen.

Dillon and Swinbourne (2007) delivered the "Helping Friends peer support programme in 22 Australian secondary schools (no demographic details given). Students rated themselves on elements of the "social provision scale" and showed improvements in worth, attachment and nurture over 4 years of the programme.

Evidence statement 3b.

We identified mixed evidence of varying quality regarding the role of young people as peer educators/mediators, in interventions to prevent bullying and disruptive behaviours,

Four studies (including 2 RCTs) supported the role of peer mediators in preventing bullying and disruptive behaviour: Orpinas et al (1995) RCT+; Menesini et al (2003) RCT-; Salmivalli (2007) ITS -; Madhavi and Smith (2002) Other - . The study by Madhavi and Smith (2002) was conducted in the UK so will be applicable in English schools (although the study quality was poor). The other studies conducted in the USA, Italy and Finland may have some applicability in this context.

However a further two studies described peer mediation interventions which were not effective in reducing bullying and disruptive behaviours: Orpinas et al (2000) RCT+; Peterson and Rigby (1999) ITS+. These studies were conducted in the USA and Australia respectively although the USA study had a high majority of African Americans which may limit its applicability.

This evidence shows that although peer mediation can be effective in reducing bullying and disruptive behaviour it is not always successful. There are no clear patterns to define interventions which were effective or those which were not.

Orpinas et al (1995) trained peer leaders in the Second Step curriculum consisting of fifteen, 50 minute sessions (one per week) and saw a reduction in violent behaviour as well as increased knowledge about violence and attitude change at three month follow up. The intervention was conducted with the 6th grade of four American high schools whose populations had varied ethnicity.

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Menesini et al (2003) delivered a year intervention to reduce bullying to 2 middle schools (11 to 14 year olds, 9 classes, 203 children) in Italy. A curriculum of peer support awareness activities supported the nomination and subsequent training of peer supporters (no details given). The effects of this intervention are difficult to judge as no effect on bullying and pro-bullying behaviours was seen in the intervention group, however, levels in the control group increase suggesting that the intervention may be of beneficial effect.

Salmivalli (2007) trained 8 peer counsellors as part of a one week peer led intervention to reduce bullying (in 12 classes in a Finnish high school) which also included a school campaign of discussion, posters and new broadcasts. At five week follow up some reduction in self and peer reported bullying was seen for girls only.

Madhavi and Smith (2002) introduced a bully court run by year 12 peer mentors in a large UK secondary school. The court included 28 bullies, 4 witnesses and 3 counsellors. There was high support for the bullying court from both teachers and students, and no recurrence of bullying from those who appeared in the court. This study is a qualitative case study.

Orpinas 2000 conducted a violence prevention programme with 8th grade students of low socioeconomic status in 8 middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

Peterson and Rigby (1999) develop a range of anti-bullying school policies in a large Australian senior school (which was compared with one control school). They trained peer mediators (50 students from year 7 to 11) as part of a two year programme which also included an anti bullying commission,

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public speaking group, posters and dance sessions. Their results showed no overall reduction in reported victimisation.

The role of external agencies

What mechanisms are required for effective links with external agencies (including youth services)?

What is the role of voluntary and community agencies? What are effective methods for evaluation of the impact of approaches?

Evidence statement 4a

We identified mixed evidence of varying quality in relation to the role of external agencies.

Two studies supported the effectiveness of involving psychologist in the delivery of interventions to reduce anxiety and depression through promoting prosocial behaviours and skills. Shochet et al 2001 RCT+; Qualye et al 2001 RCT+

Both these studies were conducted in mixed Australian population so will be reasonably applicable in the UK context.

This evidence suggest that it is beneficial to involved psychologist in the delivery of interventions to prevent anxiety and depression

Evidence statement 4b

We identified mixed evidence of varying quality in relation to the role of external agencies.

studies supported the effectiveness of involving professionals in the delivery of interventions to prevent bullying and disruptive behaviours. Farrell and Meyer (1997) RCT+; De Anda (1999) ITS-. Both these studies (USA) had high African American and/or Latino populations which may limit their applicability in English schools.

However a further two studies which did not support this were also identified: Ando et al (2007) RCT+: Palumbo and Ferguson (1995) ITS - (conducted in Japan and the USA respectively).

This evidence suggest that it is more beneficial to involve agencies whose primary role is to address disruptive behaviours (e.g. youth and family violence centre staff) rather than generic agencies such as the police.

The role of external agencies was discussed only in interventions which were delivered by specialists. The delivery agents in studies of effective interventions were youth and family violence centre staff (De Anda 1999) in 10 sessions(1 American high school, 157 students) , and "specialists" (Farrell and Meyer 1997) in 18, 45 minute lectures (6 American middle schools, 978 students).

Studies of interventions delivered by a clinical psychologist (Ando et al 2007; Shochet et al 2001: Quayle et al 2001) were effective for prosocial behaviours and skills only. An intervention delivered by police officers (Palumbo and Ferguson 1995), was not shown to be effective.

The role of parents

What is the role of parents?

Evidence statement 5a

We identified strong evidence of good quality, to support parent training/education in the implementation of interventions to promote prosocial behaviours; Shochet et al 2001 RCT+; Barrett et al 2001 RCT+.

From this evidence it is difficult to judge the effectiveness of parental involvement as none of these studies placed any emphasis on adult related outcomes or perceptions of the programme. However some positive outcomes for the children were seen, suggesting that parental involvement can be beneficial.

Shochet et al (2001) conducted a three armed trial in which 260 students were randomized to receive RAP (Resourceful Adolescents Programme), a 11 session school based resilience building programme, with (RAP-F) or without (RAP-A) a 3 session parental programme. Improvements in anxiety and depression were similar with and without the parental component. No improvement in depression scores was seen in the control group.

Barrett et al (2006) delivered the FRIENDS programme to 669 sixth and ninth grade students. The programme consisted of a brief cognitive behavioural intervention on coping with and managing anxiety through learned coping and problem solving skills. The programme was delivered by teachers assisted by psychologists. It included a one day teacher training workshop and four evening sessions for parents. Significantly lower rating of anxiety at long term FU were seen for some groups.

Evidence statement 5b

We identified strong evidence of good quality, the majority of which (three papers including two RCTs) supports parent training/education in the implementation of interventions to reduce bullying and disruptive behaviours; Evers et al 2007 RCT+; Flay et al 2004 RCT+; Warren et al 2006 ITS+. Again high the proportion of African Americans included in the studies in the USA may limit their applicability in English schools.

One additional RCT study did not support parent training/education, in the implementation of interventions to reduce bullying and disruptive behaviours, Orpinas et al 2000 RCT+ and was also conducted in the USA.

From this evidence it is difficult to judge the effectiveness of parental involvement as none of these studies placed any emphasis on adult related outcomes or perceptions of the programme. However some positive outcomes for the children were seen, suggesting that parental involvement can be beneficial.

Flay et al (2004) included a parent/community programme in the effective arm of their trial. The three year (21 lessons per year) social development curriculum (the Aban Aya youth project) was conducted with/without an additional parent and community based programme, and delivered to African American children of low socio-economic status in 12 inner city schools (grades 5 to 8). The parent programme reinforced skills and promoted child-parent communication. The arm of their study which included the parental programme showed a greater effect on violence levels, but this effect was only seen for boys. It is suggested that target behaviours may be harder to reduce in girls as they are already occurring at a much lower level.

Evers et al (2007) delivered a computer based anti-bullying curriculum of three half hour sessions in twelve middle and thirteen high schools (483 children aged 11 to 17) in the USA. Evers et al (2007) mailed a "family guide"

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to parents. In a self reported questionnaire completed immediately after the intervention, those who had completed the programme were 4 times less likely to state they would participate in bullying than those in the control group however, the impact of the parental involvement was not independently assessed.

Warren et al 2006 included two full days of parent training in their intervention to reduce aggression and violence in an inner city American middle school (n=737, grades 6 to 8, large proportion African American) The intervention included two sessions of 2.5 hours teacher training plus an additional two days involving administrators, teachers and parents. Over one year the school saw a significant reduction in disciplinary outcomes and subjective reports to indicate improvements in the school climate (but these gains were not sustained at 1 year follow).

In an additional study Orpinas et al (2000) involved a parental education component in an intervention to reduce problem behaviour to reduce violence (with 8th grade students of low socioeconomic status in 8 middle schools in the USA). Parents received a monthly newsletter with descriptions of how both parents and children avoided or prevented violence. The news letters encouraged parents to use positive conflict resolution "tactics" and reduce their own modelling and praise of aggressive behaviour. However, the parental component was not analysed separately and overall the intervention was not effective. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

Research questions for which no evidence was identified

There were several research questions for which this review did not identify any papers. These include the questions relating to:

- key transitional stages.
- the role of governors.
- engaging parents coping with circumstances of disadvantage.
- the role of voluntary and community agencies.

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- ensuring universal programmes are sensitive to issues relating to diversity (including specific cultural, religious and ethnic needs)

Although several studies were conducted in populations described as having low socio-economic status and/or within locations where the majority of children were from particular population subgroups, none of these studies made particular reference to these demographic variables in their results. In this context the studies focus on particular sub populations in areas where they are the majority, rather than mixed populations. This may reflect the make up of individual schools, particularly in the USA.

Implications of the review findings

The literature to support whole school interventions in general is not well developed, especially in terms of good quality effectiveness studies (and particularly those conducted in the UK). The literature has a substantial bias towards interventions conducted in the USA and the number of studies conducted in populations with high numbers of African Americans (and other ethnic groups not frequently represented in the UK) will have further implications for applicability in English schools. Although the evidence relating to prosocial behaviours and skills in particular was sparse, it does suggest that conflict resolution training is successful in promoting prosocial behaviours in the short term, and that the use of peer mediators may be effective for longer term outcomes. The evidence relating to preventing bullying and disruptive behaviour at the level of universal interventions is more varied with evidence of mixed effectiveness being identified for the roles of the community, teachers, young people, external agencies and parents. However this may reflect that fact that a greater volume of evidence relating to bullying and disruptive behaviour was identified.

In terms of the UK policy context it is interesting to note that the vast majority of the interventions we identified in the review are based in the classroom and take a curriculum approach. The approach of Secondary SEAL however is not primarily curriculum based. This reflects its strong grounding in the theoretical

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literature and the paucity of empirical evidence to address the effectiveness of similar programmes. The current evaluation of SEAL should provide a more robust empirical evidence base for the future.

The trials included in this review

Prosocial behaviours and skills papers:

Barrett PM et al. (2006). Long term outcomes of an Australian Universal Prevention Trial of Anxiety and Depression Symptoms in Children and Youth: an evaluation of the Friends program. *Journal of Clinical and Adolescent Psychology* 35(3) 403-411

Dillon J and Swinbourne A (2007). Helping Friends: A Peer Support Program for Senior Secondary Schools. *Australian e-Journal for the Advancement of Mental Health* 6(1).

Goldsworthy et al (2007). Evaluation of a collaborative multimedia conflict resolution curriculum. *Educational Technology Research and Development* 55(6) 597-625.

Quayle D et al. (2001). The effects of an Optimism and Lifeskills program on depressive symptoms in preadolescence. *Behaviour Change* 18(4) 194-203

Metzler CW et al (2001). Evaluation of a Comprehensive Behaviour Management Program to Improve School-Wide Positive Behaviour Support. *Education and Treatment of Children* 24(4): 448-479.

Shochet IM et al. (2001). The efficacy of a universal school-based program to prevent adolescent depression. *Journal of Clinical Child Psychology* 30(3) 303-315

Skroban SB et al (1999). A School-Based Social Competency Promotion Demonstration. *Evaluation Review* 23(1): 3-27.

Smith et al (2002). Conflict resolution and peer mediation in middle schools: Extending the process and outcome knowledge base. *Journal of Social Psychology* 142(5): 567-586.

Stevahn L et al (1996). The Impact of a Cooperative or Individualistic Context on the Effectiveness of Conflict Resolution Training. *American Educational Research Journal* 33(4): 801-823.

Stevahn L, et al (2002). Effects of conflict resolution training integrated into a high school social studies curriculum. *Journal of Social Psychology* 142(3): 305-331.

Bullying and disruptive behaviours papers

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Ando M et al (2007). A psychoeducational program to prevent aggressive behaviour among Japanese early adolescents. *Health Education & Behavior* 34(5):765-776.

Baldry A and Farrington D (2004). Evaluation of an intervention programme for the reduction of bullying. *Aggressive behaviour* 30: 1-5.

Bauer N et al (2007). The effectiveness of the Olweus bullying prevention program in public middle schools. Anonymous. Anonymous. *Journal of Adolescent Health* 40:266-274.

Bosworth et al (1996). Using multimedia to teach conflict resolution skills to young adolescents. *American Journal of Preventative Medicine*. 12(5) 65-74.

Boulton M and Flemington I (1996). The effects of a short video intervention on secondary school pupils' involvement in definitions of and attitudes towards bullying. *School Psychology International* 17:331-345.

Botvin et al (2006). Preventing youth violence and delinquency through a universal school-based prevention approach. *Prevention Science* 7(4): 403-408.

Cowie H et al (2008). The impact of peer support schemes on pupils' perceptions of bullying aggression and safety at school. *Emotional & Behavioural Difficulties* 13(1):63-71.

De Anda D (1999). Project peace: the evaluation of a skill-based violence prevention program for high school adolescents. *Social Work in Education*. 137-149.

Du Rant R et al (1996). Comparison of two violence prevention curricula for middle school adolescents. *Journal of Adolescent health* 19:111-117.

Evers KE et al (2007). Transtheoretical-based bullying prevention effectiveness trials in middle schools and high schools. *Educational Research* 49(4):397-414.

Farrell A and Meyer A (1997). The effectiveness of a school-based curriculum for reducing violence among urban sixth grade students. *American Journal of Public Health* 87(6):979-984.

Farrell A et al (2003). Impact of the RIPP violence prevention program on rural middle school students. *The Journal of Primary Prevention* 24(2):143-167.

Flay B, et al (2004). Effects of 2 prevention programs on high risk behaviours among African American youth. Anonymous. Anonymous. *Archives of Paediatric and Adolescent Medicine* 158:377-384.

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Gollwitzer M (2006). Evaluation of aggression-reducing effects of the "Viennese Social Competence Training". *Swiss Journal of Psychology* 65 (2):125-135.

Gollwitzer M (2007). R. Banse, K. Eisenbach, and A. Naumann. Effectiveness of the Vienna Social Competence Training on explicit and implicit aggression - Evidence from an aggressiveness-IAT. *European Journal of Psychological Assessment* 23 (3):150-156.

Kenney DJ and Steuart Watson T (1996). Reducing Fear in the Schools: Managing Conflict through Student Problem Solving. *Education and Urban Society* 28(4): 436-455.

Komro KA et al (2004). Violence-related outcomes of the DARE plus project. *Health Education & Behavior* 31(3):335-354.

Mahdavi J and Smith PK (2002). The operation of a bully court and perceptions of its success - A case study. *School Psychology International* 23 (3):327-341.

Menesini E et al (2003). Enhancing children's responsibility to take action against bullying: Evaluation of a befriending intervention in Italian middle schools. *Aggressive Behaviour* 29 1-14.

Midhassel UV et al (2008). Is the sustainability of reduction in bullying related to follow up procedures? *Educational Psychology* 28(1) 83-95.

Meyer G et al (2004). Assessing the get real about violence curriculum: process and outcome evaluation results and implications. *Health Communication* 16(4) 451-474.

O'Donnell L et al (1999). Violence prevention and young adolescents participation in community youth service. *Journal of Adolescent Health* 24:28-37.

Orpinas P et al (1995). Violence prevention in middle schools: a pilot evaluation. *Journal of Adolescent health* 17:360-371.

Orpinas P et al (2000). Outcome evaluation of a multi-component violence-prevention program for middle schools: the Students for Peace project. *Health Education Research* 15 (1):45-58.

Palumbo D and Ferguson J (1995). Evaluating gang resistance education and training (GREAT). *Evaluation Review* 19(6):597-619.

Peterson L and Rigby K (1999). Countering bullying at an Australian secondary school with students as helpers. *Journal of Adolescence*: 481-492.

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Salmivalli C (2007). Peer led intervention campaign against school bullying: who considered it useful, who benefited? *Educational Research* 43(3): 263-278.

Stevens V et al (2000). Bullying in Flemish schools: An evaluation of anti-bullying intervention in primary and secondary schools. *British Journal of Educational Research* 70 (Pt 2):195-210.

Van Schoiack-Edstrom L et al (2002). Changing Adolescents' Attitudes about Relational and Physical Aggression: An Early Evaluation of a School-Based Intervention. *School Psychology Review*; v31 n2 p201-16.

Warren JS et al (2006). School-Wide Positive Behavior Support: Addressing Behavior Problems that Impede Student Learning. *Educational Psychology Review*; v18 n2 p187-198.

1. INTRODUCTION

1.1. Aims and objectives

This review was undertaken to support the development of NICE guidance on promoting emotional and social wellbeing in secondary schools. It provides a systematic review of the published literature on the effectiveness of school based interventions, which aim to promote emotional and social wellbeing among young people in secondary education, which take a universal (non-targeted) approach.

This review was preceded by a mapping review to describe the available literature in the full range of interventions which aim to promote emotional and social wellbeing in secondary schools. The aim of the mapping review was to identify key areas within the literature on which to focus this effectiveness review. The mapping review identified four key groups of studies according to the focus of interventions as follows:

- interventions that aimed to promote prosocial skills and behaviours,
- interventions to reduce bullying and disruptive behaviours.
- interventions to improve mental wellbeing , and
- interventions designed to meet objectives related to healthy schools and school safety policy.

The first two groups of studies directly addressed the scope questions, and were included in the critical appraisal. Interventions with specific mental wellbeing objectives was excluded as there was a strong focus on targeted interventions. Studies of healthy schools/school safety were excluded as the literature was strongly focused on theory and policy implications.

1.2 Research questions

The primary research question is:

"What aspect of 'whole school' approaches and activities are particularly effective and cost effective in promoting young people's emotional, social and

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psychological wellbeing through interventions aiming to modify behaviour in secondary schools?

Subsidiary research questions are:

- What key features of a whole school approach are most effective? What curriculum approaches (scope, context, frequency, length, mode of delivery) are most effective? What are the most effective strategies in addressing vulnerabilities during key transitional stages?
- What approaches are effective in ensuring universal programmes are sensitive to issues relating to diversity (including specific cultural, religious and ethnic needs)?
- What are the roles of teachers, other school based practitioners, and specialists (such as an education psychologist, therapist or school nurse) and other professionals (such as youth workers)?
- What is the role of young people?
- What are the most effective ways of involving young people in decision-making processes (including their involvement in planning, delivery and assessment of approaches)?
- What mechanisms are required for effective links with external agencies (including youth services)?
- What is the role of governors and parents?
- What are the most effective ways of engaging parents coping with circumstances of disadvantage?
- What is the role of voluntary and community agencies? What are effective methods for evaluation of the impact of approaches?
- What are the barriers to, and facilitators of, effective implementation?
- Does the approach lead to any adverse or unexpected outcomes?

2. BACKGROUND

2.1 Definitions and terminology

2.1.1 Social and emotional wellbeing

Mental health is recognised as something other than the absence of mental illness (Huppert 2004), but there is continued debate about the nature of "positive mental health" or alternatively "wellbeing"; and some have suggested that the construct of mental wellbeing is entirely independent of that of mental illness. This is supported by the observation that people with a diagnosed mental illness may have varying levels of wellbeing, and that large proportions of the population who do not have mental illness lack wellbeing (Keyes 2005, Hu 2007).

The determinants of wellbeing (as well as mental illness) are complex and include both risk and protective factors which operate at the levels of individual, family and community (Adi et al 2007). The concept of risk and protective factors is important for exploring the relationships between determinants of wellbeing, and interventions and outcomes. Interventions may be evaluated in terms of the extent to which they control risk factors and foster protective factors. Evidence suggests that the more risks in a child's life are reduced (e.g. by improving family management and parenting skills, increasing support for learning and treating mental disorders effectively), the less vulnerable that child will be to subsequent poor mental health as well as and social and emotional problems (Adi et al 2007). In this sense a child's social and emotional wellbeing is strongly linked to their mental health, independent of any questions over definitions.

There are therefore many ways to define wellbeing in children. Young people's social and emotional wellbeing in the school context can be defined as:

"positive emotional health and wellbeing to help pupils understand and express their feelings, and build their confidence and emotional resilience and therefore their capacity to learn" (DfES/DoH 2005).

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A child's emotional and social wellbeing has an important effect on their development and educational attainment as well as helping to prevent mental disorders and behavioural problems during adolescence and later in life (Kuh et al 1997; Graham and Power 2003). Social and emotional wellbeing can affect physical health as well as development of healthy lifestyle and how well a child does at school (NICE 2008). A child's social and emotional wellbeing is influenced by a number of factors, from their individual make up and family background to the community within which they live and society at large. As a result, school based activities to develop and protect social and emotional wellbeing are only one element (NICE 2008). However, owing to the large amount of time children spend in the school environment this is a vital element.

A variety of strategies, policies and programmes have been implemented by schools in response to the problem of aggression, bullying or violent behaviour. Prevention programmes can be broadly classified as being targeted (only for pupils at high risk) or universal (intervening with classes or whole schools). This review focuses on universal programmes. Universal programmes may have the purpose of either reducing negative behaviours or alternatively increasing protective or positive behaviours. They may encompass specific activities to teach knowledge, attitudes and skills to children, or be designed to modify the school climate so that undesirable behaviour becomes unacceptable and positive behaviour is rewarded. Interventions may focus on remedying specific negative problems such as bullying or violence, or use interventions such as conflict resolution to promote communication and problem-solving rather than blame among those involved in undesirable behaviour (Smith et al. 2005).

Whole school approaches are based on the premise that undesirable behaviours spring from a complex process of social interactions (Vreeman & Carroll, 2007), necessitating a systematic solution involving the whole school community. It has also been argued that pro-social behavioural competence may be an important factor in prevention of mental health problems (Weissberg et al 1991). The Olweus Bullying Prevention Programme (Olweus,

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1993) has been influential in driving this approach, being the first comprehensive whole school intervention that was implemented on a large scale and systematically evaluated. Authors have emphasised that schools are a key socialising context (Weissberg et al 1991), thus interventions need to address the social context of behaviour. They highlight the important role that schools have in creating an atmosphere where pro-social values are encouraged and where there are sanctions against negative behaviours. (Naylor and Cowie, 1999).

The literature relating to wellbeing in children suggests subtle distinctions from the concept as related to adults (Adi et al 2007). The Mental Health Foundation (2000) suggests that children's wellbeing is related to the ability to:

- Develop psychologically, emotionally, creatively, intellectually and spiritually
- Initiate, develop and sustain mutually satisfying interpersonal relationships
- Use and enjoy solitude
- Become aware of others and empathise with them
- Play and learn
- Develop a sense of right and wrong
- Resolve (face) problems and setbacks and learn from them

There is a focus on positive relationships and the concept of emotional intelligence (or emotional literacy) (Weare 2000); the capacity for emotional awareness, emotional regulation, the use of emotional insight in interpersonal negotiations, and empathy (Sarni 1997). The policy literature relating to children uses terms such as "emotional and social development", "emotional and social wellbeing" and "emotional and social competence" in this context (DfEE 1998; DoH 2004a,b)

For the purpose of this review a definition of social and emotional wellbeing is adopted which encompasses three domains. These are:

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- 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 others and to problem solve)
- Social wellbeing (good relationships with others, and the opposite of conduct disorder, delinquency, interpersonal violence and bullying).

This definition originates from a survey of population wellbeing commissioned by NHS Scotland (NHS Scotland 2006) and was also used in the NICE reviews of wellbeing in primary schools (Adi et al 2007).

2.1.2 Behaviour modification

Interventions were categorised as to whether their explicit stated aim was to reduce bullying and disruptive behaviours or to encourage prosocial behaviours and skills. This is to reflect the differentiation between promotion (of prosocial behaviours and skills) and prevention (of problematic behaviour) which is prominent in the literature. Studies were categorised in terms of their overall primary aim and focus, although several studies had outcome measures which represented change in both prosocial behaviours and skills, and bullying and disruptive behaviours.

Interventions to prevent further bullying and disruptive behaviours addressed levels of: bullying, violence, aggression, victimisation, and delinquency, where these were related to wellbeing outcomes. Interventions to promote prosocial behaviours and skills included interventions to promote: positive behaviour change, conflict resolution, social competency, resilience, peer support, coping with change, and successful school transit. Although this is not an exhaustive list, these terms were largely selected through an analysis of terms used by the papers identified through the mapping review which preceded this effectiveness review and were augmented following advice from topic specialists. For the purpose of this review, papers were initially categorised according to the stated focus of the intervention (ie defined by author) and the

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outcomes measures used. They were then categorised in terms of their methodological quality, results obtained and relevance to the UK context.

2.1.3 Whole school approach

Whole school or universal interventions can be defined as those which target the whole population, none of which have been identified or selected on the basis of individual risk factors. Studies using this approach could involve interventions which target the whole school or a specific age group over a number of years. Some of the potential benefits of universal programmes are said to be relatively high participation rates and the possibility of impacting on "at risk" groups in an inclusive way (Sutton et al 2005).

2.2 Outcome measures

Whilst there are standard generic instruments for measuring mental health, particularly for adults, there are no widely used or extensively validated standard methods for measuring levels of emotional and social wellbeing in young people. Most evaluations depend on measures which rely on self reported wellbeing (or adults reporting young people's wellbeing) using scales developed and validated for the particular study which can create problems of validity and comparing results.

2.3 English government policy on wellbeing in secondary schools

Existing national initiatives to promote social and emotional wellbeing in secondary education include the Social and Emotional Aspects of Learning (SEAL) programme and the Healthy Schools Programme (Department for Education and Skills 2005, Department for Children, Schools and Families 2007).

Secondary SEAL is a "comprehensive approach to promoting the social and emotional skills that underpin effective learning, positive behaviour, regular attendance, staff effectiveness and the emotional health and wellbeing of all who learn and work in schools" (DfES 2007). The SEAL approach to emotional and social wellbeing is defined as:

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- Using a whole school approach to create the climate and conditions that implicitly promote the skills and allow those to be practice and consolidated.
- Direct and focused learning opportunities for whole classes (during tutor time, across the curriculum and outside formal lessons) and as part of focus group work.
- Using learning and teaching approaches that support pupils to learn social and emotional skills and consolidate those already learnt.
- Professional development for the whole staff of a school.

The National Healthy School Programme is defined as a whole school approach to physical and emotional wellbeing focused on four key themes: personal, social and health education; healthy eating; physical activity; emotional health and wellbeing. Secondary SEAL can help to meet the criteria for delivering the emotional health and wellbeing strand of Healthy Schools which include: support for vulnerable children; clear leadership; curriculum activities; support and advice for crisis; combating stigma and discrimination; bullying policy; pastoral training for all staff; confidence and self esteem activities; confidentiality policy.

2.4 The need for guidance

One in five students report 'less than good' health, one in 10 say they are not happy and one in three report feeling low each week (Morgan et al. 2006). Over a third (35%) of pupils in mainstream secondary schools fear being bullied, while just under a quarter (23%) report having been bullied (MORI 2004).

The prevalence of mental illness among young people increased between 1974 and 1999 (Collishaw et al. 2004). However, this upward trend was halted between 1999 and 2004 (Office for National Statistics 2004). In 2004, 12% of children aged 11–16 years had a clinically diagnosable mental disorder (Office for National Statistics 2004). Conduct disorders (almost 7%) and emotional disorders (5%) are the most common among this age group.

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Boys are generally more likely to suffer a mental disorder than girls. A third of children (33%) with conduct disorders had been excluded from school at some point and nearly a quarter (22%) had been excluded more than once.

Establishing mental wellbeing in childhood has important consequences for the child's social development and educational attainment, as well as helping to prevent mental disorders in adolescence. Mental wellbeing can also help to avoid behavioural problems later in life (Kuh et al. 1997; Graham and Power 2003).

2.5 Review evidence

Several review papers which considered a number of interventions were identified during the search strategies which are worthy of mention. Catalano et al (2002) conducted a synthesis of positive youth development approaches and identified a range of programmes and identified key themes for success as: methods to strengthen social, emotional, behavioural, cognitive and moral competencies, building self efficacy, shape messages from family and community, increase healthy bonding with adult peers expand recognition for positive behaviour, provide structure and consistency in programme delivery and intervene for at least 9 months or more. Durlack et al (2007) conducted a review of efforts at social system change and suggested that attempts to change social systems affecting children and adolescents can be successful. Marvin et al (2000) looked at "character education" interventions, designed to foster ethical, responsible and caring young people through emphasis on universal shared values, and demonstrated programme effectiveness in ability to instil core ethical values such as honesty, fairness, responsibility, and respect for others. A publication by Young London Matters (2007) reported on their priority to improve the emotional wellbeing and mental health of children and young people and identified the importance of understanding definitions of mental health and wellbeing, and the differences between young people and professionals in this respect.

In contrast, two reviews questioned the importance of specific programme selection: Wilson et al (2007) suggested that the particular programme

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selected to address disruptive behaviour was unimportant and that schools seeking prevention programmes may choose from a range of effective programmes with some confidence that what ever they pick will be effective. Garrard and Lipsey (2000) conducted a meta-analysis of conflict resolution programmes and showed that improvements were similar for different conflict resolution approaches. In addition, two further reviews suggested it was the quality of the implementation rather than the programme itself which was important (Wilson and Lipsey 2006, Wilson et al 2003). All four of these publications come from the same group of authors.

3. METHODS

3.1 Search model

The challenges in searching for evidence to inform public health guidance are widely recognised (Spring 2008 and Pawson 2005). These challenges include the volume of literature in the subject area, the variation in the language used (and therefore indexing within databases) and gaps within the evidence base. It can therefore be difficult, and ineffective to develop a single, definitive search strategy from the study protocol. Challenges in developing a search strategy in this manner include encapsulating all the relevant complexity and inconsistency in language without retrieving an unmanageable number of redundant records. Protocol driven search strategies have been shown to yield a limited number of useful references (Spring 2008, Greenhalgh 2005, Ogilvie 2005). This may be because within public health the definition of relevance is often complex and described using non-standardised terminology (Alpi 2005, Curran 2007). There are specific challenges in relation to the terminology used in relation to emotional and social wellbeing and interventions delivered in schools.

Therefore, in order to address these challenges, the review team built upon the existing search methods (CPHE Methods Manual) to allow for a process in which the scope of relevance was explored and informed by the search process. A targeted approach to the identification of evidence was taken. Instead of aiming to identify the relevant literature for a specific question using one search, we adopted an iterative (i.e. a number of different searches) and

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emergent approach (i.e. the understanding of the scope of relevance develops throughout the process), to attempt to identify evidence to inform understanding of the problem area. This evidence was then explored in order to inform further retrieval by the identification of useful search terms and keywords/index terms. The process was iterated until no new useful evidence is identified.

3.1.2 Searching for the review

The aim of the review was to first map out the potential interventions to be considered in the reviews and then to gather evidence of effectiveness and cost effectiveness of these interventions. In addition to the search model described in Section 3.1, preliminary searches were based on the search strategy for the NICE Mental Wellbeing of Children in Primary Education undertaken by the Centre for Reviews and Dissemination (CRD).

In addition to free text and keyword/index term searching of databases, the following approaches were taken to inform the reviews:

- Searching for key authors
- Citation searching
- Searching using index terms of key papers
- Liaison with experts
- Identification of unpublished evidence through liaison with the topic expert and their contacts (this evidence is likely to include data required for the modelling aspects of the review)
- Utilising existing reviews and publications to identify primary studies

3.1.3 Iterations

A number of iterations were undertaken to search for evidence for the review. A thorough audit trail of this process was maintained, with all searches, number of hits and number of relevant references identified recorded, in order that searches are transparent, systematic and replicable. Details of the searches undertaken can be found in Appendix 1 and the iterations are

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outlined below. These iterations deal solely with searching for studies for the review of effectiveness. Information relating to the cost-effectiveness and modelling searches will be presented within a separate report.

Iteration One –In order to map out the potential interventions to be considered in the review, a decision was taken to use a modified version of the search strategy developed by CRD for the Mental Wellbeing in Primary Schools NICE review, rather than develop a new search strategy due to time restrictions. Papers excluded from the Mental Wellbeing in Primary Schools review because they related to secondary schools were imported into Reference Manager for consideration,

Iteration Two – Following the decision to focus on interventions to address prosocial behaviour and skills, and bullying and disruptive behaviours, searches were undertaken to retrieve systematic reviews on these interventions.

Iteration Three - Using evidence retrieved from Iterations One and Two, a list of programmes, authors and key citations was developed. Each of the programmes and authors were searched for on Medline and Web of Knowledge. Searching for programme name and acronyms in title or abstract was undertaken using phrase searching. In the case of both programme and author searches, where large numbers of references were retrieved, terms relating to the adolescent population or the behaviour the intervention was aimed at were combined with the programme terms. In addition, citation searching of included systematic reviews and useful papers was undertaken.

Iteration Four - Additional sifting of the evidence was completed by the team at NICE to identify universal programmes to prevent adolescent depression.

3.2 Inclusion and exclusion criteria

All of the retrieved literature was screened at title and abstract level for relevance, and those that were relevant were taken through to full paper

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appraisal. The application of pre-specified inclusion / exclusion criteria was undertaken as per the established methods (NICE, 2006).

Studies were eligible for inclusion if they:

- included young people aged 11-19 (e.g. US middle and high school grades 6-12, UK secondary school). Young people with disabilities including those with learning disabilities and other special needs will be covered.
- were conducted in education settings (including state, independent and special education environments). This includes young people in special school settings and pupil referral units with respect to generic activities concerned with promotion of emotional and social wellbeing.
- were published from 1990 onwards
- were generic/whole school interventions. 'This includes policies, systems and structures in relation to social climate and school ethos and the school's physical environment, curriculum based programmes and other activities.
- investigated the school's links with parents and the community (including the remit of extended schools). The development and support of teachers and other staff in schools, including their competencies in promoting emotional and social wellbeing and also including activities to promote their own emotional wellbeing.

Studies were excluded if they:

- focused on young people not in full time education
- were targeted interventions i.e. interventions that focus on specific groups/types of risk, conditions or behaviours (for example, interventions aimed at young people who are already showing signs of depression, anxiety or disruptive or violent behaviour)
- looked at wider community based activities
- were strategies with the primary aim of preventing self harm and suicide
- were outside of the 11 to 19 year age range

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- were published in a language other than English
- were undertaken in developing countries

3.3 Data extraction strategy

Data relating to study design, outcomes, and quality were extracted by one reviewer and independently checked for accuracy by other reviewer. Disagreements were resolved by consensus and consulting a third reviewer where necessary. The data extraction tables are presented in the appendix.

3.4 Quality assessment criteria

The quality of studies was assessed taking note of the criteria set out by NICE in the CPHE Methods Manual. Studies were graded in reference to their study design, type of intervention applicability and effectiveness. The CPHE quality criteria for assessing studies includes 12 points. These are:

1. The study addresses an appropriate and clearly focused question
2. The assignment of participants to intervention and control groups is reported as randomised (if RCT)
3. An adequate allocation concealment method is used (if appropriate)
4. Investigators are kept blind about intervention allocation
5. The intervention and control groups are similar at the start of the trial
6. The only difference between groups is the intervention under investigation
7. All relevant outcomes are reported using valid or tested scores
8. Percentage of participants or clusters recruited into each arm of the study dropped out before the study was complete- those with drop out rates higher than 30% were downgraded.
9. The use of intention to treat (ITT) analysis - if applicable
10. If the study was carried out at more than one site, are results comparable across sites.
11. Reporting the power of trials to detect a difference
12. Appropriate cluster analysis and subgroups pre-specified.

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Owing to the complexity and diversity of study designs encountered in the public health literature, many of these points were not adequate in themselves for grading the type of studies identified. Therefore, an alternative method of scoring the CPHE criteria and therefore grading the studies was used in order to more objectively categorise the studies. Only the CPHE criteria appropriate to the particular study design in each case were considered. The studies were placed in one of three grades as follows:

Table 1. CPHE and additional criteria used for study grading.

Code	CPHE quality criteria	Alternative criteria
++	All or most of the criteria have been fulfilled. Where they have not been fulfilled the conclusions of the study or review are thought very unlikely to alter	At least 7 of the CPHE criteria are well covered- if this is appropriate for the study design Attrition rate less than 30%
+	Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are through unlikely to affect conclusions	At least 5 of the CPHE criteria are well covered- if this is appropriate for the study design Attrition rate less than 50%
-	Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter	Less than 5 of the CPHE criteria are well covered Attrition rate more than 50%

3.5 Assessing applicability

Applicability to the UK setting was considered using the coding developed by the Primary School review team (Adi et al 2007). Applicability was considered for each study by examining the populations and the interventions that were implemented as well as the relevant political and environmental contexts. The extent to which each of these factors was transferable to the UK context was then considered and graded according to the CPHE methods manual as follows;

- a Intervention has been delivered in UK settings
- b Intervention has been delivered in similar populations but might need adaptation

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- c Intervention has been delivered in specific cultural groups represented in the UK population but might need adaptation
- d Intervention has been delivered in an entirely different population to that of the UK

3.6 Classifications of the content of interventions

Studies were grouped as to the content of the intervention and the mode of delivery and intended outcome measure. These were grouped as follows:

Curriculum - interventions that were delivered in a classroom environment

Ethos/environment - interventions which focus on changing the whole environment of the school without a basis on classroom intervention

Curriculum/Environment - interventions which combine environment changes with a classroom based approach.

The impact of the interventions were coded for effectiveness in terms of their outcome measures:

- A. Positive impact - all or most measures provided significantly positive in favour of intervention
- B. Possible positive impact - less than half of the measures provided significantly positive in favour of the intervention
- C. Impact unlikely - no statistically significant findings in favour of the intervention
- D. Negative impact - the intervention was harmful compared to the control

Interventions were also categorised as to whether their explicit stated aim was to reduce bullying and disruptive behaviours or to encourage prosocial behaviours and skills. This is to reflect the differentiation between promotion (of prosocial behaviours and skills) and prevention (of problematic behaviour).

Interventions to reduced bullying and disruptive behaviours included interventions to address levels of: bullying, violence, aggression, victimisation, delinquency, where these were related to wellbeing outcomes. It was noted

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that authors of papers of interventions to reduce bullying and disruptive behaviours often referred to outcomes of programmes relating to violent or aggressive behaviour (encompassing any act of aggression or violence towards another person) OR outcomes of interventions relating directly to bullying and victimisation (of peers). Although there may be debate regarding the semantic distinction of these two outcome categories, as there was clear separation between them in the outcome measures of the included bullying and disruptive behaviours papers they have been defined as two distinct categories for the purpose of classification throughout this report. This distinction is particularly relevant in the context of this review as, although there is an overall bias towards studies published in the US (see below), there is a particularly high proportion of US based studies targeting generic violent/aggressive behaviour. It is therefore beneficial to group these papers separately to those focusing on initiatives to reduce peer bullying/victimisation in order to facilitate discussion of applicability in the UK context.

Interventions to encourage prosocial behaviours and skills included interventions to promote: prosocial behaviours and skills change, conflict resolution, social competency, resilience, peer support, health rights, coping with change, and successful school transit.

3.7 Summary of study identification

All search results were downloaded to Reference Manager. Potentially relevant papers were identified through the initial round of searching (iteration one) and full papers were obtained. From these initial searches a list of key authors and programmes was devised to facilitate further searching. Citation searching of key papers as well as scrutinising reference lists was also carried out. Occasional papers were also suggested by experts. As well as the 29 papers identified through the database searches, an additional 11 papers were identified through scrutinising reference lists and liaison with experts. As a result of these processes 40 studies were identified for inclusion in the systematic review (table 2).

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Table 2. Summary of study identification.

Iteration	Number of hits	Papers included from this iteration
1	107	10 (5 from Primary Review searches, 5 from Primary Review excluded papers)
2	672	3 (from searches)
3	488	13 (9 from citation searching, 2 from programme searching and 2 from author searching)
4	672	3

4. RESULTS OF EFFECTIVENESS REVIEW

4.1. Quantity of the evidence available

The searches identified 40 studies which met the inclusion criteria. The majority of these focused on tackling bullying and disruptive behaviours (30) with significantly fewer studies focusing on promoting prosocial behaviours and skills (10). The majority of the evidence comes from the USA (22) with three studies from the UK and additional evidence from Canada, Australia (5), Germany, Italy, Netherlands, Norway, Finland, and Japan.

In terms of study design, there were 19 RCTs (14 bullying and disruptive behaviours and five prosocial behaviours and skills), nine controlled before and after (CBA) studies (seven bullying and disruptive behaviours and two prosocial behaviours and skills), nine interrupted time series (ITS) (seven bullying and disruptive behaviours and two prosocial behaviours and skills) and three of other designs (two bullying and disruptive behaviours and one prosocial behaviours and skills) (Table 3).

Table 3. Papers by country of origin.

Country	Bullying and disruptive behaviours papers	Prosocial behaviours and skills papers	Total
USA	17	5	22
UK	3		3
Canada	1*	1	2
Australia	1	4	5

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Germany	2		2
Italy	2		2
Netherlands	1		1
Norway	1		1
Japan	1		1
Finland	1		1
Total	30	10	40

*This paper also included participants from the USA.

4.2 Populations and settings

This review was restricted to interventions which were universal in nature; included every child in the study class or school. All studies involved children and young people of senior school age (11-16). Where studies also included children from outside the stated age range they were included in the review if the average age was above 11 or if more than half were of secondary school age (Stevens et al 2000; Midthassel et al 2008). These criteria were used to ensure consistency with the previous NICE reviews on promoting emotional and social wellbeing in primary school children.

The majority of the included studies were conducted in state run, mainstream schools, only one was conducted in a private school (Stevahn 1996), and none in special education or extended school settings. Several studies were conducted in populations described as having low socio-economic status (O'Donnell 1999, Orpinas et al 2000, Flay et al 2004, Komro et al 2004, Farrell and Meyer 1997, Orpinas et al 1995), and/or within locations where the majority of children were from a particular population subgroups such as African American (Flay et al 2004, Farrell and Meyer 1997 Meyer et al 2004, Durant et al, 1996, Warren et al 2006), Latino (De Anda 1999), and "minority youth" (Orpinas et al 2000).

4.3 Quality of the evidence available

Details of the study quality assessments are shown in table 4. below. Criteria 3 (an adequate allocation concealment method is used) and 4 (investigators are kept blind about the intervention), and 9 (the use of ITT analysis), have been shaded out as they were not addressed in any of the included studies. Blinding is not usually practical for the types of interventions considered here

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(as is discussed in more detail below), and use of “whole school” (or whole class) interventions mean that intervention is not allocated at an individual level.

For the prosocial behaviours and skills papers, the five RCT studies all received a score of [+] because they did not give information regarding drop out rates and did not provide a power calculation. Ten of the RCT studies looking at bullying and disruptive behaviours scored [+] and again could not be upgraded to [++] due to lack of power calculation information. Four of the RCTs considering bullying and disruptive behaviours received a score of [-]. In each case this was due to lack of information on the random allocation of participants (or participant classes or schools in cluster designs) to intervention or control.

Overall, the vast majority of papers which used a controlled before and after style of study design scored [+] and papers with study designs of poorer quality scored either [+] or [-].

Table 4. Quality rating of included papers.

** Well covered. * Adequately covered. 0 Poorly covered/not addressed/not stated. n/a not applicable to study design.

Trial	1	2	3	4	5	6	7	8	9	10	11	12	Quality rating
Prosocial behaviours and skills papers													
Shochet et al 2001	*	*			**	**	**	0		*	0	*	+
Barrett et al. 2006	*	*			**	**	**	0		*	0	*	+
Quayle et al. 2001	*	*			**	**	**	0		*	0	*	+
Stevahn et al 1996	*	*			**	**	**	0		n/a	0	*	+
Stevahn et al 2002	*	*			**	**	*	0		*	0	*	+
Smith et al 2002	*	n/a			**	**	*	0		0	0	*	+
Skroban et al 1999	*	n/a			0	0	*	*		0	0	0	-
Goldsworthy	*	n/a			**	*	*	**		*	0	*	+

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et al 2007													
Dillon and Swinbourne 2007	*	n/a			0	0	**	0		0	0	*	-
Metzler et al 2001	*	n/a			n/a	n/a	*	0		n/a	0	n/a	-
Bullying and disruptive behaviours papers													
Bosworth et al 1996	*	0			*	**	*	0		n/a	0	*	+
Stevens et al 2000	**	*			**	**	**	0		**	0	*	+
O'Donnell et al 1999	**	*			**	**	*	0		*	0	*	+
Menesini et al 2003	*	*			0	0	*	0		0	0	*	-
Botvin et al 2006	*	*			0	0	*	0		*	0	*	-
Kenney and Watson 1996	*	*			0	0	*	0		0	0	*	-
Orpinas et al 2000	*	**			**	**	*	0		**	0	*	+
Midhassel et al 2008	*	*			0	0	*	0		0	0	*	-
Flay et al 2004	*	*			**	**	*	0		**	0	*	+
Evers et al 2007	*	*			**	**	*	0		**	0	*	+
Ando et al 2007	*	*			**	**	*	0		**	0	*	+
Komro et al 2004	*	*			**	**	*	**		**	0	*	+
Farrell and Meyer 1997	*	*			**	**	*	*		*	0	*	+
Baldry and Farrington 2004	*	*			**	**	*	0		*	0	*	+
Gollwitzer et al 2006	*	n/a			**	**	*	*		**	0	*	+
Van Schoiack-Edstrom et al 2002	*	n/a			**	**	*	*		0	0	*	+
Orpinas et al 1995	*	n/a			**	**	*	0		**	0	*	+
Boulton and Flemington 1996	*	n/a			**	**	*	0		*	0	*	+

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Gollwitzer et al 2007	*	n/a			**	**	*	0		0	0	*	+
Meyer et al 2004	*	n/a			**	**	**	0		**	0	*	+
Bauer et al 2007	*	n/a			**	**	**	0		0	0	*	+
Peterson and Rigby 1999	*	n/a			**	**	*	0		**	0	*	+
De Anda 1999	*	n/a			0	0	*	0		0	0	*	-
Palumbo and Ferguson 1995	*	n/a			0	0	**	*		0	0	*	-
Farrell et al 2003	*	n/a			**	**	*	0		**	0	*	+
Durant et al 1996	*	n/a			**	**	*	0		**	0	*	+
Warren et al 2006	*	n/a			**	**	*	0		**	0	*	+
Salmivalli 2007	*	n/a			0	0	*	0		n/a	0	*	-
Mahdavi and Smith 2002	*	n/a			n/a	n/a	*	0		n/a	0	n/a	-
Cowie et al 2008	*	n/a			n/a	n/a	*	0		n/a	0	n/a	-

4.3.1 Limitations of study quality

The main limitations of study quality at RCT level were:

1. Blinding: For studies of health promotion interventions it is impossible to blind the participants and there are many practical challenges to blinding the assessors. None of these studies discussed blinding in their study design.
2. Randomisation/Analysis: In the vast majority of RCTs included randomisation was done at the level of classroom or school (cluster RCT), but the consideration given to cluster design in the analysis of these studies was generally poor. In contrast, one study (Orpinas et al 2000) used matched pairs of students between schools to ensure

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random allocation to intervention and control, but then analysed their results at the school level.

3. Control groups: Most studies used "no intervention" as their control category. One prosocial behaviours and skills study used comparison between the absence or presence of a conflict resolution training programme in two different curriculum environments (Stevahn et al 1996). Two bullying and disruptive behaviours studies used delayed intervention (Ando et al 2007, Farrell and Meyer 1997).

Other types of studies are fundamentally limited in their design but several also had issues with small samples and short follow up as is discussed in more detail below.

4.4 Outcome measures

Table 5 shows the type of outcome measure used by the included studies. The majority of outcomes assessing changes in behaviour were obtained using self reported measures, and this was particularly true of the bullying and disruptive behaviours papers. Most of these were children's self reported behaviour scales designed specifically for the individual intervention. There were also examples of self reported peer behaviour as well as pupil behaviour reported by parents and teachers although this was shown to be unreliable. Again these used newly devised instruments. In terms of self rated behaviour and attitude change, only three named and previously validated scales were used, these were:

- Social provision scale (Dillon and Swinbourne 2007)
- Theory of reasoned action (Meyer et al 2004)
- Olweus bullying scales - two papers (Stevens et al 2007; Bauer et al 2007).

In addition the three Australian papers on preventing depression through prosocial behaviours (Shochet et al. 2001, Barrett et al. 2006, Quayle et al. 2001) all used combinations of the same depression and anxiety scales. These included:

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- Child Depression Inventory (Kovacs)
- Adolescent Depression Scale (Reynold)
- Hopelessness Scale (Beck)
- Child Anxiety Scale (Spence)
- Revised Children's Manifest Anxiety Scale.
- Child's attribution style questionnaire.

Academic achievement was an outcome measure in two of the prosocial behaviours and skills papers by the same author (Stevahn et al 1996; Stevahn et al 2002). However this related only to retention of information learned during the intervention and not to an improvement in academic achievement over all. Other routine data such as number of violent incidents (e.g. Bosworth et al 1996; Durant et al 1996), and disciplinary outcomes (Warren et al 2006) were outcome measures in a total of six bullying and disruptive behaviours papers. Additional outcome measures related to satisfaction with and/or adherence to the programme or intervention. These were self rated (two papers) or researcher observed (two papers) outcomes.

Table 5. Outcome measures of included studies.

Outcome type	Prosocial behaviours and skills papers	Bullying and disruptive behaviours papers
Self reported attitude/behaviour	3	25
Teacher behaviour/attitude rating	0	2
Parent behaviour/attitude rating	1	0
Academic achievement	2	0
Routine data*	0	6
Effectiveness of programme	1	2
School wide changes (observed)	2	0
Anxiety/depression scales	3	0

* Routine data; data routinely collected by the school, e.g. attendance, academic achievement.

4.5 Interventions

Interventions were coded in terms of their typology, impact, applicability and quality score as discussed in the methods and appendix (table 6). For the ten prosocial behaviours and skills papers: the majority were curriculum based interventions (9/10) with impact A (7/10) and applicability b (10/10). Their quality was divided between [+] (7/10) and [-] (3/10). The bullying and disruptive behaviours papers were also mostly curriculum interventions (27/30) with an impact score of either A (8/30) or B (12/30) and applicability b (17/30). The majority of these studies were assigned a quality score of [+] (20/30) including 11 of 14 RCT studies.

Table 6. Typology, impact, applicability and quality score of included papers.

*Typology: Curriculum (C), Environment/Ethos (EE), Community/Parent (P)

*Impact: A (Positive impact); B (Possible positive impact) C (Impact unlikely) D: (Negative impact).

*Applicability: a (UK setting); b (similar population); c (specific cultural groups); d (different population).

Study design (n)	Paper (1 st author, date)	Typology C, EE, P*	Impact ABCD*	Applicability Abcd*	Quality
Prosocial behaviours and skills papers					
RCT (5)	Stevahn 1996	C	A	b	+
	Stevahn 2002	C	A	b	+
	Shochet 2001	C	A	b	+
	Quayle 2001	C	A	b	+
	Barrett 2006	C	B	b	+
CBA (2)	Skroban 1999	C/EE	D	b	-
	Smith 2002	C	B	b	+
ITS (2)	Dillon 2007	C	A	b	-
	Goldsworthy 2007	C	A	b	+
Other (1)	Metzer 2001	EE	A	b	-
Bullying and disruptive behaviours papers					
RCT (14)	Bosworth 1996	C	C	b	+
	Stevens 2000	C	C	a	+
	O'Donnell 1999	C/P	C	b	+
	Menesini 2003	C	A	b	-
	Botvin 2006	C	A	c	-

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	Kenney 1996 Orpinas 2000 Mithassel 2008 Flay 2004 Evers 2007 Ando 2007 Komro 2004 Farrell 1997 Baldry 2004	C/EE C C C/P C C C/P C C	A C A B A C B B B	b c b c b b b c b	- + - + + + + + +
		C=14 EE=1 P=3	A=5 B=4 C=5 D=0	a=1 b=9 c=4 d=0	+=10 -=4
CBA (7)	Gollwitzer 2006 Van Schoiack- Edstrom 2002 Orpinas 1995 Boulton 1996 Gollwitzer 2007 Meyer 2004 Bauer 2007	C C C C C C C	B A B C A B C	b b b a b c c	+ + + + + + +
		C=7	A= 2 B=3 C=2 D=0	a=1 b=4 c=2 d=0	+=7 -=0
ITS (7)	Peterson 1999 De Anda 1999 Palumbo 1995 Farrell 2003 Durant 1996 Warren 2006 Salmivalli 2007	C/EE C/EE C C C C/EE C	C C B B A B B	b b c b b c b	+ - - + + + -
		C=7 EE=3	A=1 B=4 C=2 D=0	a=0 b=5 c=2 d=0	+=4 -=3
Other (2)	Mahdavi 2002 Cowie 2008	EE EE	B D	a a	- -

4.5.1 Curriculum interventions

Eight prosocial behaviours and skills and twenty one bullying and disruptive behaviours studies focused solely on curriculum based interventions in the

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classroom setting. Four of the classroom based prosocial behaviours and skills interventions delivered conflict resolution programmes (Stevahn et al 1996; Stevahn et al 2002; Smith et al 2002, Goldsworthy et al 2007). Three papers reported on classroom based interventions to prevent anxiety and depression (Shochet et al 2001; Barrett et al. 2006; Quayle et al. 2001). The final paper reported a peer support programme called "Helping Friends" which was assessed via a social provision scale (Dillon and Swinbourne 2007).

Of the curriculum based bullying and disruptive behaviours studies, fourteen focused on reducing generic aggressive and violent behaviour (one on addressing gang culture specifically), and seven on bullying and victimisation of peers (for a discussion of the distinction between these categories see section 3.7). Of the bullying and disruptive behaviours studies with violence/aggression outcomes, fourteen were from the US with only two from Germany and one from Japan. It is this particular area of the literature where the US bias is seen most clearly and therefore where there is the greatest concern regarding applicability in English schools.

4.5.2 Curriculum approaches combined with other approaches

One prosocial behaviours and skills and seven bullying and disruptive behaviours papers used curriculum approaches combined with other approaches. The prosocial behaviours and skills paper was a social competency training programme which used a combination of school wide changes in "instruction, tutoring, mentors and curriculum" (Skroban et al 1999).

The first bullying and disruptive behaviours paper was a RCT design which combined classroom discussion and problem solving groups to empower students as change agents to improve the school environment by reducing crime, delinquency and disorder (Kenny and Watson 1996). Two other bullying and disruptive behaviours papers focused on violence prevention and combined curriculum changes with observation of school environmental changes (De Anda 1999; Warren et al 2006). The fourth paper, which measured bullying (Peterson and Rigby 1999), involved school policy

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development including curriculum activities and measured the effect on the school ethos.

Komro et al (2004) and O'Donnell et al (1999) included components of community involvement in one arm of their trials and found that it was the inclusion of this community component along with the curriculum intervention which lead to a change in outcomes, the curriculum component alone was not effective. Flay et al (2004) also added a community and parent component to their social development curriculum, in this case the curriculum alone was effective but the community element enhanced this.

4.5.3 Whole school approaches targeting ethos/environment

One prosocial behaviours and skills and two bullying and disruptive behaviours studies targeted changes to the school ethos or environment without any direct changes to the curriculum. The prosocial behaviours and skills paper was a case study of a behavioural management programme which focused on the positive re-enforcement of appropriate social behaviour throughout the school (Metzler et al 2001). The bullying and disruptive behaviours papers included a qualitative case study of a bullying court (Mahdavi and Smith 2002) and the other focused on school climate changes to encourage reporting of bullying incidents (Cowie et al 2008). This intervention was evaluated by questionnaires administered during PSHE lessons but did not involve any additional curriculum changes.

4.5.4 Programmes focussing on or including teacher or parental components

We found no papers matching the inclusion criteria which focused directly on parents or teachers, but several had some element of parent/ teacher involvement. For the prosocial behaviours and skills papers, Smith et al (2002) in their study of a conflict resolution and peer mediation programme included measures of teacher attitude towards change in school climate and parental satisfaction with the programme (97% positive experience for themselves and their children).

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Several bullying and disruptive behaviours papers included parent and/or teacher elements. Teacher related outcomes were included in only two studies. Kenney and Watson (1996) considered the project effect on students and teachers and found that perceptions of fear were reduced in the children but not the teachers. Mahdavi and Smith (2002), in their evaluation of a "bullying court" intervention considered teacher satisfaction with the programme and showed strong support for the programme. In addition, Flay et al (2004) included parent (and community involvement) in one arm of their study and found this to improve effectiveness of the programme.

A further six studies commented directly on teacher and parent involvement in the programme but did not consider outcome measures related to them. In a study of a violence prevention programme by Botvin et al (2006) teachers deliver the programme (plan lessons and guides) but the outcomes were all in terms of pupil outcomes. Shochet et al (2001) included a 3 session parental programme in one arm of their anxiety prevention trial. Stevens et al (2000) included 25 hours of teacher training in their intervention to reduce bullying and victimisation but did not include any outcome measures related to them. Similarly Peterson and Rigby (1999) and Farrell and Meyer (2003) conducted bullying reduction programmes which were administered by teachers but again, no teacher related outcomes were included. The lack of teacher related outcomes may have implications for issues such as teacher acceptance of the programme which will affect student related outcomes and the success of the intervention.

Four studies included both teacher and parent related components. Orpinas et al (2000) involved teachers in peer mediator training to prevent violence which also involved a parental education component. Barrett et al (2006) included four evening sessions for parents as part of their FRIENDS depression prevention intervention which was delivered by teachers. In an intervention to reduce problem behaviour (to reduce violence) Warren et al (2006) included two full days of teacher and parent training. None of these studies placed any emphasis on adult related outcomes or perceptions of the

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programme. In a curriculum based study to reduce bullying/victimisation Evers et al (2007) mailed a "family guide" to parents, and also provided a staff guide for teachers and a website to access classroom activities.

4.5.5 Delivery of the intervention

In many cases the authors did not state the mode of delivery of the intervention. As the majority of the interventions were classroom based it seems likely that they were either delivered by teachers or had teacher involvement in some way, but this was often not discussed directly. Most of the teacher delivered programmes where teacher involvement was explicitly specified included an element of teacher training to deliver the interventions (Stevens et al 2000; Botvin et al 2006; Van Schoiack-Edstrom et al 2006; Farrell et al 2003; Warren et al 2006; Barrett et al 2006). Some studies did state that they were delivered by specialists. These were all programmes to reduce aggression and violence and were delivered in the USA (3) and Japan (1). The delivery agents include a clinical psychologist (Ando et al 2007; police officers (Palumbo and Ferguson 1995), youth and family violence centre staff (De Anda 1999) and "specialists" (Farrell and Meyer 1997).

4.6 Intervention impact

The heterogeneity of the interventions aim, design and outcome measures used preclude a meta-analysis of their results. We have therefore completed a qualitative synthesis of the data, primarily in terms of study impact, design, and type of intervention. This synthesis has been designed to be comparable to the previous NICE review of interventions in primary schools wherever possible.

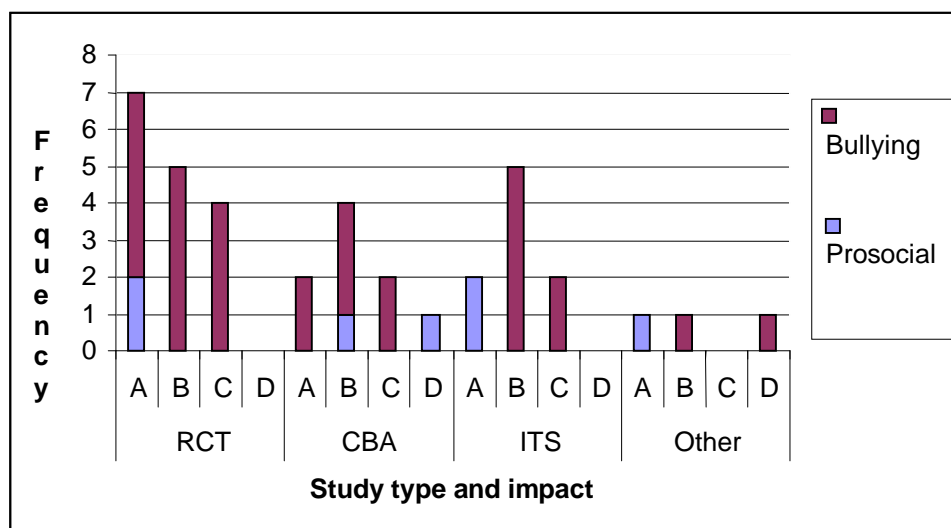
4.6.1 Intervention impact by type of study

The frequency of each study type per impact rating is shown in figure 1. below. The majority of studies with greatest impact (category A) were RCT designs. Studies of lower quality design to some extent had lower impact scores. This correlation between higher quality of study design and better intervention impact allows us to focus on this subgroup of studies to some extent when making recommendations (see evidence statements). As it may

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be assumed that studies without an appropriate control group are more likely to demonstrate an impact even when the intervention is not effective, this is unexpected and suggests at least that publication bias applies equally to all study types.

Figure 1. Frequency of each study type per impact rating.



Impact: A (Positive impact); B (Possible positive impact) C (Impact unlikely) D: (Negative impact).

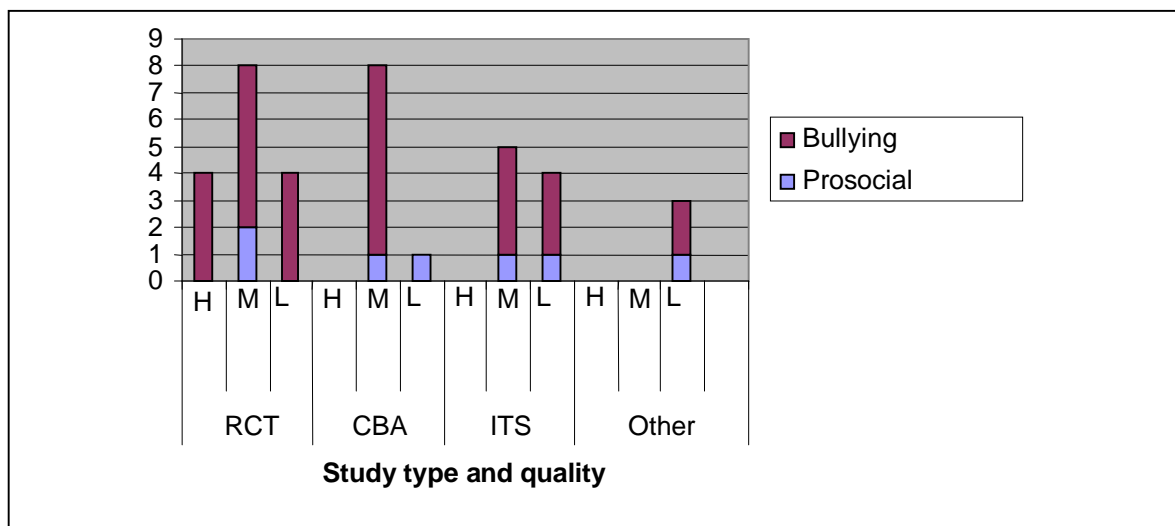
4.6.2 Intervention impact and quality of study

There was some difficulty in grading studies of the of interventions identified here as the highest quality due to lack of certain NICE criteria being met by any of the studies. No included studies had a power calculation and as discussed above blinding was impossible or highly challenging for both participants and researchers. However, generally speaking the impact was greater for higher quality studies, and combining high and medium measures may give a clearer picture of this as only RCT studies could be nominally placed in the high impact category (by ignoring the absence of a power calculation). For the better quality RCT and CBA studies, the majority scored high/medium, for ITS there was an even spread, and the lower quality studies categorise as "other" were of low impact (figure 2).

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These observations are true for both prosocial behaviours and skills and bullying and disruptive behaviours studies when considered separately at least to some extent, although it is hard to comment for prosocial behaviours and skills studies independently as so few of them met the inclusion criteria, and therefore difficult to generate guidance in relation to these behaviours.

Figure 2. Intervention type and quality of study.



Study quality: H: high (++ all/most criteria fulfilled); M: medium (+ some criteria fulfilled); L: low (- few/ no criteria fulfilled).

4.6.3 Intervention impact and sample size

There are no obvious patterns of associations here; bigger studies did not lead to better outcomes or vice-versa. However, the largest studies were typically of RCT design (and therefore typically of higher impact) with 5 studies with participants numbering in the thousands. Only one non-RCT study had a population of over 1000 (Palumbo and Ferguson 1995). The largest study (n= 12695) was RCT of A impact (bullying and disruptive behaviours study), the smallest study (n=70) was in the other category of study design (Mahdavi and Smith 2002). and scored B for impact (bullying and disruptive behaviours study). Five studies did not clearly state their population size (Skroban et al 1999, Dillon and Swinbourne 2007, Flay et al 2004, Komro et al 2004, Bauer et al 2007).

4.6.4 Intervention impact and type of intervention

It is difficult to comment on the relationship between impact and type of intervention as most of interventions were curriculum based, and therefore there are too few of other types to allow meaningful comparison or recommendation.

4.6.5 Intervention impact and intervention length

There are also no clear associations between impact and intervention length with interventions of weeks, months and years duration represented in each impact score.

4.6.6 Intervention impact and mode of delivery

As previously stated, many authors didn't clearly state who was responsible for delivery of the intervention. However, of those which were delivered by an expert, two scored B and two scored C for impact, suggesting very little if any impact from using experts to deliver programmes. Those programmes who explicitly stated they involve an element of teacher training scored A (Van Schoiack-Endstrom et al 2002, Botvin et al 2006), B (Farrell and Meyer 2003, Warren et al 2006, Barrett et al 2006) or C (Stevens et al 2000) suggesting that there may be some benefit in training teachers to deliver interventions. However it is difficult to draw any real conclusions regarding association between impact and mode of delivery as in so many cases mode of delivery was not described.

4.6.7 Intervention impact and demographic factors

Several studies were conducted in populations described as having low socio-economic status (O'Donnell 1999 (RCT+), Orpinas et al 2000 (RCT+), Flay et al 2004 (RCT+), Komro et al 2004 (RCT+), Farrell and Meyer 1997 (RCT+), Orpinas et al 1995 (CBA+)), and/or within locations where the majority of children were from a particular population subgroups such as African American (Flay et al 2004 (RCT+), Farrell and Meyer 1997 (RCT+), Meyer et al 2004 (CBA+), Durant et al 1996 (ITS+) , Warren et al 2006 (ITS+)), Latino (De Anda 1999 (ITS-)), and "minority youth" (Orpinas et al 2000 (RCT+)).

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None of these studies made particular reference to these demographic variables in their results.

In one study of a social competency training programme in the USA (Skroban et al 1999 (CBA-)) the school population was reported to have shifted from mixed to mostly black during course of the 5 year study. The authors suggested that this unstable population dynamic may be a possible reason for the negative outcome of the study (score D).

Five studies of USA aggression/violence prevention studies in the USA showed a reduction in these behaviours for boys but no impact (or significantly less impact) on girls (Farrell and Meyer 1997 (RCT+): Flay et al 2004 (RCT+): Orpinas et al 1995 (CBA+): Komro et al 2004 (RCT+): Bosworth et al 1996 (RCT+)). In contrast, Salmivalli (2007 ITS-) in a Finnish study of bullying reported a reduction in self and peer reported bullying in girls, but this was not significant in boys.

4.6.8 Good quality studies of effective interventions

The broad heterogeneity and variable quality of the interventions included in this review and lack of detail in descriptions of interventions (and information on fidelity in implementation) make it challenging to draw firm conclusions from the data available on the effectiveness of the interventions evaluated in these studies. We can however, consider those studies which were of reasonable quality and which have reported positive results in order to make some comment about their impact.

There were five good quality RCT studies which score [+] for study quality following the CPHE 12 point quality assessment criteria, and also scored A for impact. Two of these studies were of prosocial behaviours and skills interventions and were by the same author (Stevahn et al 1996/2002). These both looked at conflict resolution training programmes in the USA/Canada and found that conflict resolution training led to improvement in attitude as well as academic achievement. However, increased academic achievement was only measured in relation to learned procedures relating to the conflict resolution

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training programme, and compared to the control group who did not receive the training. Stevahn's first conflict resolution study (Stevahn et al 1996) was conducted in a Canadian private school and involved 111 children in 7th and 8th grade classes for six hours over six weeks. Students took part in the conflict resolution training programme as part of two curricula described as co-operative and individualistic. The presence of the conflict resolution training was shown to increase negotiation skills and academic performance and children in the co-operative learning environment improved more. In their second study (Stevahn et al 2002) a second conflict resolution programme of 5 lessons was run with 92, 9th grade students in a Californian High School, as part of the school social studies curriculum and again showed improvement in ability to negotiate and academic achievement (in relation to the training programme). However, no longer term outcomes were considered for either of these studies.

The third paper, a bullying and disruptive behaviours paper looked at an intervention to reduce bullying, again in the USA (Evers et al 2007). In this study participants who completed the bullying prevention programme were significantly less likely to participate in bullying at 3 months follow up. Evers et al (2007) delivered a computer based anti-bullying curriculum of 3 half hour sessions in a range of middle and high schools in the USA. In a self reported questionnaire immediately after the intervention, those who had completed the programme were 4 times less likely to state they would participate in bullying than those in the control group. This was not followed up after the intervention.

The final two studies were curriculum interventions to reduce depression and anxiety. Shochet et al (2001) conducted a three armed trial in which 260 students were randomised to receive RAP (Resourceful Adolescents Programme), a 11 session school based resilience building programme, with (RAP-F) or without (RAP-A) a 3 session parental programme, or the control (no intervention). From pre-intervention to 10 month follow up those in the RAP-F showed significant reduction on both the Becks Hopelessness Scale ($t=2.30$ $p<0.05$) and Child Depression Inventory ($t=-2.75$ $p<0.01$) as did RAP-

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A for BHS ($t=-2.37$ $p<0.05$) and CDI ($t=-2.59$ $p<0.05$). No improvement in depression scores was seen in the control group. Quayle et al (2001) conducted an Optimism and Lifeskills programme for preventing depression in pre-adolescents. This consisted of eight, 80 minute sessions and focused on links between thoughts and feelings, evaluating and challenging negative thoughts, and making more optimistic and realistic interpretations of everyday problems. A CDI score of 13 or more showed risk of depression. At pre-test, 4 intervention students ($M=15$, $SD=2.5$) and 3 controls ($M=15$, $SD=1.7$) were above this. At 6 months only 1 in the intervention group scored above 13, (score 15) but 4 in the controls ($M=25$, $SD=6.28$). Thus the intervention reduced the numbers at risk while those in the control increased.

Several additional RCT studies also scored B and [+] providing further evidence of good quality studies of intervention which may be effective. This included two prosocial behaviours and skills papers: a conflict resolution programme (Smith et al 2002) and a depression prevention programme (Barrett et al 2006), and four bullying and disruptive behaviours papers, three looking at aggression and violence prevention (Flay et al 2004; Komro et al 2004; Farrell and Meyer 1997) conducted in the USA and one focusing on bullying and victimisation (Baldry and Farrington 2004) from Italy.

Smith et al 2002 conducted their programme of 5 conflict resolution lessons in 3 middle schools (780-1110 students per school) and also trained 25 to 30 peer mediators per school. Here the peer mediators scored highly on the conflict resolution scores and the number of disciplinary incidents in the school was shown to decline (over 4 years). However, no significant changes school wide in pupil or teacher attitudes to conflict were seen. The impact of this study was measured over a much longer time scale and suggests that training peer mediators may be an effective way of improving conflict resolution at the whole school level.

Barrett et al (2006) delivered the FRIENDS programme to 669 sixth and ninth grade students. The programme consisted of a brief cognitive behavioural intervention on coping with and managing anxiety through learned coping and

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problem solving skills. The programme was delivered by teachers assisted by psychologists. It included a one day teacher training workshop and four evening sessions for parents. Grade 6 students reported significantly lower rating of anxiety at long term FU: SCAS intervention (M=9.53 SE 0.88) compared to control (M=17.07 SE = 2.61). Girls in the intervention group reported significantly lower anxiety at 12(p<0.001) and 24 (p<0.05) months but not 36 months in comparison to the control group. The same results were not seen for boys.

Flay et al (2004) introduced a three year (21 lessons per year) social development curriculum with/without a parent and community based programme, to African American children of low socio-economic status in 12 inner city schools (grades 5 to 8). The arm of their study which included the parental and community programme showed a greater effect on violence levels. Komro conducted a similar programme to reduce violence in American 7th graders. This programme was taught by police officers within the school and one arm of the study also included parental and community involvement, although the changes in self reported victimisation seen here were very small. In the study by Farrell and Meyer (1997) "specialists" delivered 18, 45 minute violence prevention sessions to African American students of low socioeconomic status in 6 middle schools (USA) and showed a reduction in violent behaviour for boys only over one school year. Therefore combining curriculum interventions with either community interventions (outside school) or professionals/specialists within the school environment can improve outcomes for interventions to address violent and aggressive behaviour.

Baldry and Farrington (2004) used video sessions and an information booklet to increase the understanding of the negative consequences of violent behaviour in 10 to 16 year olds in an Italian school, and saw some positive changes in self reported bullying and victimisation. This demonstrates the potential use of multi-media sessions in reducing bullying and violent behaviour.

4.7 Applicability

Most studies scored "b" for applicability as they were conducted in general populations of countries relatively similar to the UK (Table 7). This suggests that most of the interventions described here would be applicable in the UK context but may require some adaptation in order to be suitable. Only three studies were conducted in the UK and therefore score "a" for applicability. Studies which scored "c" for applicability were generally conducted in minority ethnic groups in other countries which are to some degree represented within the UK population, although this may have implications regard applicability in a "typical" English school.

Table 7. Applicability score by study type.

Study type	Applicability score			
	a	b	c	d
RCT	0	15	4	0
CBA	1	6	2	0
ITS	0	7	2	0
Other	2	1	0	0
Total	3	26	8	0

4.8 Effect size in studies

Effect size for impact of the interventions was calculated in 5 of the studies; three RCT and two CBA studies. Flay et al (2004) in their RCT study of an aggression violence intervention showed that programme 2 (including parental and community programme) was more effective than programme 1 (social development curriculum); effect sizes 0.41 and 0.31 respectively. Evers et al (2007) in their RCT study of an "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). Komro et al (2004) in their RCT study of a violence prevention curriculum showed very small difference in violence scale ratings (Effect size 0.1). Van Schoiack-Edstrom et al 2002 in 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. Gollwitzer et

al (2006) measured self reported aggression and found an effect size of 0.02 in a CBA study of a behavioural management programme to reduce aggression and violence. The effect sizes demonstrated are therefore highly variable which is unsurprising given the heterogeneity of included interventions and outcome measures.

5. DISCUSSION

5.1.1. Whole school approaches.

Eight prosocial behaviours and skills and twenty two bullying and disruptive behaviours studies focused solely on curriculum based interventions in the classroom setting. Four of the classroom based prosocial behaviours and skills interventions delivered conflict resolution programmes, three delivered interventions to prevent anxiety and depression, and one reported a peer support programme. Of the curriculum based bullying and disruptive behaviours studies, seventeen focused on reducing generic aggressive and violent behaviour (one on addressing gang culture), and seven on bullying and victimisation of peers. It is difficult to comment on their relative merit (in terms of scope, context, frequency, length, mode of delivery) due to the lack of consistency, and broad scope of their outcomes. Of the eleven studies of reasonable quality identified, eight supported a curriculum approach and three did not.

The highest scoring, effective prosocial behaviours and skills studies with a curriculum approach included two studies by Stevahn et al (1996: RCT+ and 2002 RCT+). These included two very similar conflict resolution programmes delivered as part of a classroom curriculum. In the first study (Stevahn et al 1996) the 6 week "Peacemaker" conflict resolution was compared in learning environments which were described as individual or co-operative. Both the Peacemaker programme and the co-operative environment were shown to improve academic performance and negotiation skills. In the second study (Stevahn et al 2002), a similar conflict resolution programme run over 5 weeks showed similar results in terms of attitude and academic achievement. In addition two studies were curriculum interventions to reduce depression and

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anxiety. Shochet et al (2001) conducted RAP (Resourceful Adolescents Programme), a 11 session school based resilience building programme, with (RAP-F) or without (RAP-A) a 3 session parental programme, and Quayle et al (2001) conducted an Optimism and Lifeskills programme for preventing depression in pre-adolescents. This consisted of eight, 80 minute sessions and focused on links between thoughts and feelings, evaluating and challenging negative thoughts, and making more optimistic and realistic interpretations of everyday problems.

Two effective bullying and disruptive behavioural curriculum based interventions scored highly (O'Donnell et al 1999 RCT+; Komro et al 2004 RCT+). These are both interventions to reduce aggressive or violent behaviour which include some element of community and/or parental involvement. A further two papers of good quality discussed curriculum approaches which were not shown to be effective (Orpinas et al 2000 RCT+ Cc; Stevens et al 2000 RCT+). These were an intervention to reduce aggressive or violent behaviour which included an element of community and parental involvement (Orpinas et al 2000) and a bullying/victimisation intervention involving a large element of teacher training (Stevens et al 2000).

5.1.2 The role of teachers

We found no papers matching the inclusion criteria which focused directly on teachers or other professionals, but several had some element of teacher involvement. Teacher involvement was generally in terms of programme delivery (Botvin et al 2006; Stevens et al 2000; Peterson and Rigby 1999; and Farrell and Meyer 2003; Orpinas et al 2000; Warren et al 2006; Van Schoiack-Edstrom et al 2002, Barrett et al 2006) which may or may not involve an element of teacher training; this was often unclear. It is difficult to make judgements on this subset of papers as it is likely that many other programmes were delivered by teachers, but this was not made clear in the descriptions of the interventions. The role of teachers in delivering the programmes reflects the bias towards curriculum based interventions but the lack of focus on their training and preparation may result in poorer outcomes than could otherwise be achieved. There is a similar level of evidence which

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supports the involvement of teachers and which does not show effectiveness with regards to teacher involvement.

The most effective study was of a bullying and disruptive behaviours intervention to address aggression and violence (Botvin et al 2006: 1-Ac). 15 life skills training sessions were taught by teachers who were responsible for planning and delivering the lessons but the paper was of poor quality.

5.1.3 The role of young people

A high proportion of the studies identified here despite focusing on young people involved them only as passive recipients of interventions. Exceptions to this were where young people were involved as peer educators or mediators. These included three prosocial behaviours and skills interventions which were effective (Stevahn et al 2002; Smith et al 2002; Dillon and Swinbourne 2007); and six bullying and disruptive behaviours interventions of which four interventions were effective (Menesini et al 2003; Orpinas et al 1995; Salmivalli 2007; Madhavi and Smith 2002;). Madhavi and Smith (2002) also implemented a "bullying court" and showed no recurrence of bullying accusations relating to those who appeared before the court.

The highest scoring effective prosocial behaviours and skills study identified (Stevahn et al 2002; 1+Ab) was a conflict resolution programme which involved young people in five weeks of conflict resolution and peer mediation training in social studies classes. The young people were passive recipients of the programme and were not involved in its planning or delivery. The highest scoring effective bullying and disruptive behaviours paper (Orpinas et al (1995) RCT ++ Bb) trained peer leaders in 15, 50 minute sessions and saw a reduction in violent behaviour as well as increased knowledge about violence and attitude change.

5.1.4 The role of external agencies

The role of external agencies was discussed only in interventions which were delivered by specialists. These were all programmes to reduce aggression and violence (bullying and disruptive behaviours). The delivery agents in

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studies of effective interventions were youth and family violence centre staff (De Anda 1999) and "specialists" (Farrell and Meyer 1997). Studies of interventions delivered by clinical psychologists (Ando et al 2007; Shochet et al 2001. Quayle et al 2001) were of mixed effectiveness and a study delivered by police officers (Palumbo and Ferguson 1995), was not shown to be effective. Overall, these interventions scored quite poorly, but the highest scoring interventions were depression prevention interventions delivered by psychologists through the Resourceful Adolescent Programme (Shochet et al 2001 Ab++) and the Optimism and Lifeskills Programme (Quayle et al 2001).

5.1.5 The role of parents

One prosocial behaviours paper included parent related components.

Shochet et al (2001) included a 3 session parent programme in one arm of their Resourceful Adolescent programme to prevent anxiety and depression, but the effects were similar with or without the parental component.

Four bullying and disruptive behaviours studies included parent related components. Two RCT studies demonstrated effectiveness in terms of parent involvement: Flay et al (2004) included a parent/community programme in the effective arm of their trial, and Evers et al (2007) mailed out programme information parents. Warren et al 2006 included two full days of parent training, this intervention had a positive impact (2+Bc) but the paper was of poor quality. None of these studies placed any emphasis on adult related outcomes or perceptions of the programme.

In an additional study Orpinas et al (2000) involved a parental education component in an intervention to reduce problem behaviour (to reduce violence) but this was not effective.

5.2 Research questions for which no evidence was identified

There were several research questions for which this review did not identify any papers. These include the questions relating to:

- key transitional stages.

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- the role of governors.
- engaging parents coping with circumstances of disadvantage.
- the role of voluntary and community agencies.
- ensuring universal programmes are sensitive to issues relating to diversity (including specific cultural, religious and ethnic needs)

Although several studies were conducted in populations described as having low socio-economic status (7) and/or within locations where the majority of children were from particular population subgroups (7), none of these studies made particular reference to these demographic variables in their results. In this context the studies focus on particular sub populations in areas where they are the majority, rather than mixed populations. This may reflect the make up of individual schools, particularly in the USA.

5.3 The barriers to - and facilitators of effective implementation

Issues of implementation may be significant in regard to evaluation of programme effectiveness, and variation in outcomes reported. Many studies described the challenges inherent to implementing programmes in schools, highlighting the importance of commitment from head teachers and all teaching staff. Orpinas et al. (2000) for example report some resentment from teachers regarding the perceived extra burden from teaching the new curriculum, and conflict with their own teaching styles. The authors suggest that these factors were important in reducing implementation efficacy in their study. Farrell et al. (2003) similarly highlighted that the positive impact that they reported relied on highly skilled, committed and well-trained staff to implement the programme. They emphasised that for their model to work over time, the entire staff needed to put energy and resources into the programme. Botvin et al. (2006) highlighted the need for interventions to be delivered with fidelity, warning that implementation of programmes could vary considerably when delivered by practitioners in the “real world”, thereby reducing effectiveness. Some studies in this review adopted information technology approaches to delivering the curriculum, such as Bosworth et al.

(1996) and Evers et al. (2007), in an attempt to address concerns regarding standardisation and convenient delivery of the programmes.

5.4 Evaluating the impact of different approaches

Finding an effective methodology for the evaluation of school based interventions can be challenging and will have led to some of the problematic features of the papers and limitations of the literature. Many of the interventions used self reported measures which have significant issues with regards to their validity, especially in relation to children. However self reported measures are often the best available measure due to the lack of other appropriate, validated well-being measures.

In most cases there was a lack of detailed information on exactly what the interventions involved (beyond their length, number of sessions etc), who delivered them, and what training they received. A lack of process evaluations or measurement of "intervention fidelity" (did they actual deliver what they were supposed to?) along with limited follow up makes it difficult to recommend specific intervention types or components.

5.5 Adverse or unexpected outcomes

Only two studies led to any adverse or unexpected outcomes. The first, a CBA study of a curriculum/environmental social competency training intervention (Skroban et al 1999 Db-) looked at school wide changes in tutoring, mentors and curriculum before and after the intervention and found that all but one measure favoured the control school. During the course of this study, which was conducted over five years, the school population shifted from ethnically mixed to majority black and therefore may have become less comparable with the control school. This may potentially have contributed to the negative outcomes seen.

Secondly in a bullying and disruptive behaviours study of the school environment which aimed to reduce the incidence of bullying and victimisation by encouraging peer support and measuring levels of perceived safety, (Cowie et al 2008 Da-); children in the control group felt safer. However, the

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existence of the peer support element of the intervention was not well publicised and up to a third of the children were not aware that the scheme was in place. This will have had negative consequences on its success.

Additionally although Baldry et al (2004) in their video based intervention to reduce bullying/aggression showed some positive outcomes in older pupils (decreased bullying/victimisation), for middle school pupils an overall increase in reported bullying was seen in comparison to the control group.

5.6 Applicability in the UK context

Care must be taken when considering the potential applicability of the majority of these studies to the UK context. The majority of studies (29/40) score "b" for applicability as they were conducted in general populations of countries relatively similar to the UK - that is in terms of their socio-demographic make up. However, differences in terms of school based culture, policy and context may be much more varied between countries and therefore caution is required when applying international evidence to the UK.

The literature in almost all the aspects considered by this review is dominated by studies conducted in the USA (22/40), therefore particular care should be taken when considering the applicability of violence/aggression prevention studies to the UK. The USA school environment is still very different to that of the UK in general. Only three studies, all of bullying and disruptive behavioural interventions were conducted within the UK and these were of relatively poor quality (CBA+; Other-; Other-).

5.7 Implications of the review findings

The literature to support whole school interventions in general is not well developed, especially in terms of good quality effectiveness studies (and particularly those conducted in the UK). The literature has a substantial bias towards interventions conducted in the USA and the number of studies conducted in populations with high numbers of African Americans (and other ethnic groups not frequently represented in the UK) will have further implications for applicability in English schools. Although the evidence relating

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to prosocial behaviours and skills in particular was sparse, it does suggest that conflict resolution training is successful in promoting prosocial behaviours in the short term, and that the use of peer mediators may be effective for longer term outcomes. The evidence relating to preventing bullying and disruptive behaviour at the level of universal interventions is more varied with evidence of mixed effectiveness being identified for the roles of the community, teachers, young people, external agencies and parents. However this may reflect that fact that a greater volume of evidence relating to bullying and disruptive behaviour was identified.

In terms of the UK policy context it is interesting to note that the vast majority of the interventions we identified in the review are based in the classroom and take a curriculum approach. The approach of Secondary SEAL however is not primarily curriculum based. This reflects its strong grounding in the theoretical literature and the paucity of empirical evidence to address the effectiveness of similar programmes. The current evaluation of SEAL should provide a more robust empirical evidence base for the future.

Evidence statements

Whole school approaches.

What key features of a whole school approach are most effective? What curriculum approaches (scope, context, frequency, length, mode of delivery) are most effective?

Evidence statement 1a.

We identified strong evidence from six good quality papers (five RCT and one CBA study) of effective interventions to support curriculum approaches to whole school interventions, which aim to promote prosocial behaviours and skills: Stevahn et al (1996) RCT+; Stevahn et al (2002) RCT+; Smith et al (2002) CBA+; Shoclet et al (2001) RCT+; Barrett et al (2006) RCT+; Quayle et al (2001) RCT+. The interventions included here were conducted in the USA/Canada/Australia in populations with some similarity to the UK, and therefore can be considered to be potentially applicable in English schools.

This evidence suggests that conflict resolution training is successful in promoting prosocial behaviours in the short term and that the use of peer mediators may be effective for longer term outcomes. Also, curriculum interventions to promote prosocial behaviours and skills can have a positive effect on preventing symptoms of anxiety and depression.

Two studies of by the same author (Stevahn et al 1996/2002) both looked at conflict resolution training programmes in the USA/Canada. Stevahn's first conflict resolution study (Stevahn et al 1996) was conducted in a Canadian private school and involved 111 children in 7th and 8th grade classes for six hours over six weeks. Students took part in the conflict resolution training programme as part of two curricula described as co-operative (where children were encouraged to work together to achieve group aims) and individualistic (where children were encouraged to work independently to achieve group aims). The presence of the conflict resolution training was shown to increase

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negotiation skills and "academic performance". Children in the co-operative learning environment improved more on these measures. However the measure of improvement in "academic performance" was in fact a measure of retention of the conflict resolution programme taught, not improvement in overall academic standards. In their second study (Stevahn et al 2002) a second conflict resolution programme was run over 5 weeks (17.5 hours) with 92, 9th grade students in a Californian High School, as part of the school social studies curriculum, and again showed improvement in ability to negotiate and academic achievement (in relation to the training programme). However, no longer term outcomes were considered for either of these studies, therefore these studies can only show improvement in negotiation skills in the short term. Positive outcomes may not be sustained over a longer period.

A third study, also of a conflict resolution intervention trained peer mediators to deliver the intervention over the longer term. Smith et al 2002 conducted their programme of 5 conflict resolution lessons in 3 middle schools (780-1110 students per school) and also trained 25 to 30 peer mediators per school. Here the peer mediators scored highly on the conflict resolution scores and the number of disciplinary incidents in the school was shown to decline (over 4 years). However, no significant changes school wide in pupil or teacher attitudes to conflict were seen. The impact of this study was measured over a much longer time scale and suggests that training peer mediators may be an effective way of improving conflict resolution at the whole school level, but a lack of visibility of the project to the whole school may result in little attitude change towards conflict.

Three studies were curriculum interventions to reduce depression and anxiety. Shochet et al (2001) conducted a three armed trial in which 260 students were randomised to receive RAP (Resourceful Adolescents Programme), a 11 session school based resilience building programme, with (RAP-F) or without (RAP-A) a 3 session parental programme, or the control (no intervention). From pre-intervention to 10 month follow up those in the RAP-F showed significant reduction on both the Becks Hopelessness Scale ($t=2.30$

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$p < 0.05$) and Child Depression Inventory ($t = -2.75$ $p < 0.01$) as did RAP-A for BHS ($t = -2.37$ $p < 0.05$) and CDI ($t = -2.59$ $p < 0.05$). No improvement in depression scores was seen in the control group.

Quayle et al (2001) conducted an Optimism and Lifeskills programme for preventing depression in pre-adolescents. This consisted of eight, 80 minute sessions and focused on links between thoughts and feelings, evaluating and challenging negative thoughts, and making more optimistic and realistic interpretations of everyday problems. A CDI score of 13 or more showed risk of depression. At pre-test, 4 intervention students ($M = 15$, $SD = 2.5$) and 3 controls ($M = 15$, $SD = 1.7$) were above this. At 6 months only 1 in the intervention group scored above 13, (score 15) but 4 in the controls ($M = 25$, $SD = 6.28$). Thus the intervention reduced the numbers at risk while those in the control increased.

Barrett et al (2006) delivered the FRIENDS programme to 669 sixth and ninth grade students. The programme consisted of a brief cognitive behavioural intervention on coping with and managing anxiety through learned coping and problem solving skills. The programme was delivered by teachers assisted by psychologists. It included a one day teacher training workshop and four evening sessions for parents. Grade 6 students reported significantly lower rating of anxiety at long term FU: SCAS intervention ($M = 9.53$ $SE = 0.88$) compared to control ($M = 17.07$ $SE = 2.61$). Girls in the intervention group reported significantly lower anxiety at 12 ($p < 0.001$) and 24 ($p < 0.05$) months but not 36 months in comparison to the control group. The same results were not seen for boys.

Evidence statement 1b.

We identified mixed evidence from a total of seven RCT studies regarding curriculum approaches to whole school interventions, which aim to prevent bullying and disruptive behaviours: Five good quality RCT papers discussed interventions which were effective, particularly in association with a community based project: Evers et al (2007) RCT+; O'Donnell et al (1999) RCT+; Flay et al (2004) RCT+; Komro et al (2004) RCT+; Baldry and Farrington (2004) RCT+. The majority of these studies were conducted in the USA; three in populations similar to the UK (majority white): (Evers et al 2007; O'Donnell et al 1999; Komro et al 2004). These studies, along with a fourth conducted in Italy (Baldry and Farrington 2004) are potentially applicable in the UK. A further two papers were conducted in the USA in populations which were predominantly African American Flay et al (2004) Flay et al (2004) so they may be less applicable in a typical English school.

However, there were also two good quality papers which showed that curriculum based interventions were not effective in preventing bullying and disruptive behaviours (again with some community element to the intervention): Orpinas et al 2000 RCT+; Stevens et al 2000 RCT+. These studies were conducted in the USA and Netherlands respectively and therefore may have limited applicability in the UK context.

This evidence therefore is mixed and unclear whether curriculum based interventions for tackling bullying and disruptive behaviour are effective. However, on balance the evidence suggests that certain interventions can be effective. It is possible that including community elements in these type of interventions may be beneficial.

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Evers et al (2007) delivered a computer based anti-bullying curriculum of three half hour sessions in twelve middle and thirteen high schools (483 children aged 11 to 17) in the USA. The school population had higher than average (for the USA) percentage of Hispanic students (but the percentage was not stated). In a self reported questionnaire completed immediately after the intervention, those who had completed the programme were four times less likely to state they would participate in bullying than those in the control group. This suggest that the intervention was responsible for a decline in bullying (or intention to bully) over the short term but as this was not followed up after the intervention the longer term effects are not known.

The study by O'Donnell et al (1999) to reduce violent behaviour was conducted in the USA and involved 7th and 8th grade students in two large urban middle schools (972 children in 23 intervention and 28 control classes). The intervention implemented the "Reach for Health" programme which consisted of 35 lessons on violence prevention with or without an additional community youth programme (3 hours per week) which half the students participated in. The intervention was run over 6 months in total as part of the "general health curriculum" of the school. A decline in violent episodes was seen for 8th graders only (with and without the community element). There may therefore be questions regarding the applicability of specific interventions to different year groups.

Flay et al (2004) introduced a three year (21 lessons per year) social development curriculum (the Aban Aya youth project) with/without an additional parent and community based programme, to African American children of low socio-economic status in 12 inner city schools (grades 5 to 8). The social development curriculum was designed to teach cognitive behavioural skills, build self esteem and empathy, manage stress and anxiety, develop interpersonal relationships, resist peer pressure, and develop decision making, problem solving, conflict resolution and goal setting skills. The parent programme reinforced skills and promoted child-parent communication. The community programme forged linked among parents,

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schools and local businesses. This was implemented as part of the "general health programme" within the school - the general programme received by the control groups focused on promoting healthy behaviours through nutritional, physical activity and general health care. The arm of their study which included the parental and community programme showed a greater effect on violence levels, but this effect was only seen for boys. It is suggested that target behaviours may be harder to reduce in girls as they are already occurring at a much lower level.

Komro conducted a similar programme to reduce bullying in American 7th graders in 24 schools defined as urban, suburban and rural. The school population was "mostly white" and of lower than average socioeconomic status. The DARE programme aimed to reduce bullying and victimisation as well as drug misuse and was taught by police officers in ten sessions within the school. A second arm of the study also included parental and community involvement. Positive changes in self reported violence were seen here but they very small (effect size ~0.1), no changes in self reported victimisation was seen.

In the study by Farrell and Meyer (1997) "specialists" delivered 18, 45 minute violence prevention sessions to African American students (n=978) of low socioeconomic status in six middle schools (USA). The intervention consisted of eighteen, forty five minute sessions and follow up at the end of the school year showed a reduction in violent behaviour for boys only over one school year.

Baldry and Farrington (2004) used video sessions and an information booklet to increase the understanding of the negative consequences of violent behaviour in 10 to 16 year olds in an Italian school, and saw some positive changes in self reported bullying and victimisation. This demonstrates the potential use of multi-media sessions in reducing bullying and violent behaviour.

A further two papers of good quality discussed curriculum approaches which were not shown to be effective (Orpinas et al 2000; Stevens et al 2000).

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Orpinas et al (2000) conducted a violence prevention programme with 8th grade students of low socioeconomic status in eight middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this. (Stevens et al (2000) conducted a bullying/victimisation intervention involving 10 to 16 year olds in 18 primary and secondary schools in the Netherlands (n=1104). The two intervention arms of this study involved input into the school policy and curriculum and included support for both bullies and victims. The intervention included three modules consisting of video, information sessions, role play and class activities. They also included a large element of teacher training (25 hours). In one arm of the trial teachers received continued support from the research team during the one year delivery of the intervention, in the other no further support was received. However, the intervention showed improvements in bullying, victimisation and positive interaction for primary school children only.

The role of teachers

What are the roles of teachers, other school based practitioners, and specialists (such as an education psychologist, therapist or school nurse) and other professionals (such as youth workers)?

Evidence statement 2

We identified mixed evidence from a total of eight studies regarding the role of teachers in interventions to prevent bullying and disruptive behaviours.

Five studies of varying methodological quality support teacher involvement: Botvin et al (2006) RCT-; Van Schoiack-Edstrom et al 2002 CBA+; Farrell et al 2003 ITS+; Warren et al 2006 ITS+ Barrett et al 2006 RCT+. Four of these studies were conducted in the USA in populations which were majority African American. This may limit applicability to a typical English school.

Three further studies (including two good quality RCTs) were identified which involved teachers in interventions were not effective in preventing bullying and disruptive behaviours: Orpinas et al 2000 RCT+: Stevens et al (2000) RCT+: Peterson and Rigby 1999 ITS+.

This evidence is unclear on the beneficial role of teacher involvement and training in universal interventions to prevent bullying and disruptive behaviour. It is important to acknowledge that it is likely that many other interventions did rely heavily on teacher involvement and training without explicitly stating so, this evidence should be treated with caution.

The involvement of teachers in these interventions was as follows: Botvin et al (2006) conducted an RCT study of an aggression/violence reduction intervention which consisted of 15 life skills training sessions which were taught by teachers who were responsible for planning and delivering the

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lessons. Teachers were provided with detailed lesson plans and student guides although it is not clear if they received any formal training to administer these lessons (which were based on decision making, managing stress, communicating effectively, healthy relationships, anger management, and conflict resolution taught via modelling, role play and homework assignments). The intervention was conducted in 41 New York High Schools (n=2484) in populations high in African Americans and with low socioeconomic status. Reductions in violence and delinquency were seen in the intervention groups over 3 months.

Van Schoiack-Edstrom et al 2002 implemented the "Second Step" Curriculum in the 6th, 7th and 8th grades of five schools in the USA (with two intervention and two control classes in each school). Second Step is similar to the well known PATHS curriculum and focuses on empathy, perspective taking, problem solving and anger management. Sixteen educators received training (one day) to deliver the commercially available programme which consists of 31 lessons with full scripts which the teachers follow. The results of this intervention varied (follow up was immediately after the intervention) with 6th and 7th graders showing decreased endorsement of social exclusion and 7th graders also showing less tolerance of physical and verbal aggression.

In the study by Farrell et al (2003) in the USA (mixed ethnicities, 4 intervention and 4 control middle schools) each school was assigned a member of staff as a "prevention facilitator" who received a total of 11 days training, they were also provided with a "detailed training manual). The "Responding in Peaceful and Positive Ways" curriculum (which was based on problem solving and skills building) was then delivered by the "homeroom" teachers (presumably with support from the facilitator). Over two years significant differences in frequency of aggression were seen.

The intervention administered by Warren et al (2006) to reduce aggression and violence in an inner city American middle school (n=737, grades 6 to 8, large proportion African American), included two sessions of 2.5 hours

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teacher training plus an additional two days involving administrators, teachers and parents. The intervention reinforced a new code of conduct with lessons to highlight individual issues. Over one year the school saw a significant reduction in disciplinary outcomes and subjective reports to indicate improvements in the school climate. However these gains were not sustained at 1 year follow up suggesting that the code of conduct needs to be continually reinforced to be effective.

Barrett et al (2006) delivered the FRIENDS programme to 669 sixth and ninth grade students. The programme consisted of a brief cognitive behavioural intervention on coping with and managing anxiety through learned coping and problem solving skills. The programme was delivered by teachers assisted by psychologists. It included a one day teacher training workshop and four evening sessions for parents. Significantly lower rating of anxiety at long term FU were seen for some groups.

Three studies showed interventions that involved /trained teachers were not effective. Orpinas et al (2000) conducted a violence prevention programme with 8th grade students of low socioeconomic status in 8 middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

Stevens et al (2000) conducted a bullying/victimisation intervention involving 10 to 16 year olds in 18 primary and secondary schools in the Netherlands (n=1104). The two intervention arms of this study involved input into the school policy and curriculum and included support for both bullies and victims. The intervention included 3 modules consisting of video, information sessions, role play and class activities. They also included a large element of teacher training (25 hours). In one arm of the trial teachers received continued support from the research team during the 1 year delivery of the intervention, in the other no further support was received. However, the intervention showed

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improvements in bullying, victimisation and positive interaction for primary school children only.

Peterson and Rigby (1999) develop a range of anti-bullying school policies in a large Australian senior school (which was compared with one control school). They trained peer mediators (50 students from year 7 to 11) who were supported by staff trained in the method of "shared concern" to whom they could go to report incidents or discuss concerns. No details of "share concern" training are given. Their two year programme which also included an anti bullying commission, public speaking group, posters and dance sessions showed no overall reduction in reported victimisation.

The role of young people

What is the role of young people?

What are the most effective ways of involving young people in decision-making processes (including their involvement in planning, delivery and assessment of approaches)?

Evidence statement 3a.

We identified three papers of varying quality and study design to support the role of young people as peer educators/mediators in interventions to promote prosocial behaviours and skills: Stevahn et al (2002) RCT+; Smith et al (2002) CBA +; Dillon and Swinbourne (2007) ITS -. The first two of these studies were conducted in the USA, the third in Australia, they may therefore have some applicability in English schools.

This evidence suggests that peer mediation is an effective way of promoting prosocial and behavioural skills in the long term.

Stevahn et al (2002) was a conflict resolution programme which involved young people in five weeks (17.5 hours) of conflict resolution and peer mediation training in social studies classes (92, 9th grade students in a Californian High School). Improvements were demonstrated in ability to

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negotiate and academic achievement (in relation to the training programme). The young people were passive recipients of the programme and were not involved in its planning or delivery.

Smith et al 2002 conducted their programme of 5 conflict resolution lessons in 3 middle schools (780-1110 students per school) and also trained 25 to 30 peer mediators per school. Here the peer mediators scored highly on the conflict resolution scores and the number of disciplinary incidents in the school was shown to decline (over 4 years). However, no significant changes school wide in pupil or teacher attitudes to conflict were seen.

Dillon and Swinbourne (2007) delivered the "Helping Friends peer support programme in 22 Australian secondary schools (no demographic details given). Students rated themselves on elements of the "social provision scale" and showed improvements in worth, attachment and nurture over 4 years of the programme.

Evidence statement 3b.

We identified mixed evidence of varying quality regarding the role of young people as peer educators/mediators, in interventions to prevent bullying and disruptive behaviours,

Four studies (including 2 RCTs) supported the role of peer mediators in preventing bullying and disruptive behaviour: Orpinas et al (1995) RCT+; Menesini et al (2003) RCT-; Salmivalli (2007) ITS -; Madhavi and Smith (2002) Other - . The study by Madhavi and Smith (2002) was conducted in the UK so will be applicable in English schools (although the study quality was poor). The other studies conducted in the USA, Italy and Finland may have some applicability in this context.

However a further two studies described peer mediation interventions which were not effective in reducing bullying and disruptive behaviours: Orpinas et al (2000) RCT+; Peterson and Rigby (1999) ITS+. These studies were conducted in the USA and Australia respectively although the USA study had a high majority of African Americans which may limit its applicability.

This evidence shows that although peer mediation can be effective in reducing bullying and disruptive behaviour it is not always successful. There are no clear patterns to define interventions which were effective or those which were not.

Orpinas et al (1995) trained peer leaders in the Second Step curriculum consisting of fifteen, 50 minute sessions (one per week) and saw a reduction in violent behaviour as well as increased knowledge about violence and attitude change at three month follow up. The intervention was conducted with the 6th grade of four American high schools whose populations had varied ethnicity.

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Menesini et al (2003) delivered a year intervention to reduce bullying to 2 middle schools (11 to 14 year olds, 9 classes, 203 children) in Italy. A curriculum of peer support awareness activities supported the nomination and subsequent training of peer supporters (no details given). The effects of this intervention are difficult to judge as no effect on bullying and pro-bullying behaviours was seen in the intervention group, however, levels in the control group increase suggesting that the intervention may be of beneficial effect.

Salmivalli (2007) trained 8 peer counsellors as part of a one week peer led intervention to reduce bullying (in 12 classes in a Finnish high school) which also included a school campaign of discussion, posters and new broadcasts. At five week follow up some reduction in self and peer reported bullying was seen for girls only.

Madhavi and Smith (2002) introduced a bully court run by year 12 peer mentors in a large UK secondary school. The court included 28 bullies, 4 witnesses and 3 counsellors. There was high support for the bullying court from both teachers and students, and no recurrence of bullying from those who appeared in the court. This study is a qualitative case study.

Orpinas 2000 conducted a violence prevention programme with 8th grade students of low socioeconomic status in 8 middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

Peterson and Rigby (1999) develop a range of anti-bullying school policies in a large Australian senior school (which was compared with one control school). They trained peer mediators (50 students from year 7 to 11) as part of a two year programme which also included an anti bullying commission,

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public speaking group, posters and dance sessions. Their results showed no overall reduction in reported victimisation.

The role of external agencies

What mechanisms are required for effective links with external agencies (including youth services)?

What is the role of voluntary and community agencies? What are effective methods for evaluation of the impact of approaches?

Evidence statement 4a

We identified mixed evidence of varying quality in relation to the role of external agencies.

Two studies supported the effectiveness of involving psychologist in the delivery of interventions to reduce anxiety and depression through promoting prosocial behaviours and skills. Shochet et al 2001 RCT+; Quayle et al 2001 RCT+

Both these studies were conducted in mixed Australian population so will be reasonably applicable in the UK context.

This evidence suggest that it is beneficial to involved psychologist in the delivery of interventions to prevent anxiety and depression

Evidence statement 4b

We identified mixed evidence of varying quality in relation to the role of external agencies.

studies supported the effectiveness of involving professionals in the delivery of interventions to prevent bullying and disruptive behaviours. Farrell and Meyer (1997) RCT+; De Anda (1999) ITS-. Both these studies (USA) had high African American and/or Latino populations which may limit their applicability in English schools.

However a further two studies which did not support this were also identified: Ando et al (2007) RCT+: Palumbo and Ferguson (1995) ITS - (conducted in Japan and the USA respectively).

This evidence suggest that it is more beneficial to involve agencies whose primary role is to address disruptive behaviours (e.g. youth and family violence centre staff) rather than generic agencies such as the police.

The role of external agencies was discussed only in interventions which were delivered by specialists. The delivery agents in studies of effective interventions were youth and family violence centre staff (De Anda 1999) in 10 sessions(1 American high school, 157 students) , and "specialists" (Farrell and Meyer 1997) in 18, 45 minute lectures (6 American middle schools, 978 students).

Studies of interventions delivered by a clinical psychologist (Ando et al 2007; Shochet et al 2001: Quayle et al 2001) were effective for prosocial behaviours and skills only. An intervention delivered by police officers (Palumbo and Ferguson 1995), was not shown to be effective.

The role of parents

What is the role of parents?

Evidence statement 5a

We identified strong evidence of good quality, to support parent training/education in the implementation of interventions to promote prosocial behaviours; Shochet et al 2001 RCT+; Barrett et al 2001 RCT+.

From this evidence it is difficult to judge the effectiveness of parental involvement as none of these studies placed any emphasis on adult related outcomes or perceptions of the programme. However some positive outcomes for the children were seen, suggesting that parental involvement can be beneficial.

Shochet et al (2001) conducted a three armed trial in which 260 students were randomised to receive RAP (Resourceful Adolescents Programme), a 11 session school based resilience building programme, with (RAP-F) or without (RAP-A) a 3 session parental programme. Improvements in anxiety and depression were similar with and without the parental component. No improvement in depression scores was seen in the control group.

Barrett et al (2006) delivered the FRIENDS programme to 669 sixth and ninth grade students. The programme consisted of a brief cognitive behavioural intervention on coping with and managing anxiety through learned coping and problem solving skills. The programme was delivered by teachers assisted by psychologists. It included a one day teacher training workshop and four evening sessions for parents. Significantly lower rating of anxiety at long term FU were seen for some groups.

Evidence statement 5b

We identified strong evidence of good quality, the majority of which (three papers including two RCTs) supports parent training/education in the implementation of interventions to reduce bullying and disruptive behaviours; Evers et al 2007 RCT+; Flay et al 2004 RCT+; Warren et al 2006 ITS+. Again high the proportion of African Americans included in the studies in the USA may limit their applicability in English schools.

One additional RCT study did not support parent training/education, in the implementation of interventions to reduce bullying and disruptive behaviours, Orpinas et al 2000 RCT+ and was also conducted in the USA.

From this evidence it is difficult to judge the effectiveness of parental involvement as none of these studies placed any emphasis on adult related outcomes or perceptions of the programme. However some positive outcomes for the children were seen, suggesting that parental involvement can be beneficial.

Flay et al (2004) included a parent/community programme in the effective arm of their trial. The three year (21 lessons per year) social development curriculum (the Aban Aya youth project) was conducted with/without an additional parent and community based programme, and delivered to African American children of low socio-economic status in 12 inner city schools (grades 5 to 8). The parent programme reinforced skills and promoted child-parent communication. The arm of their study which included the parental programme showed a greater effect on violence levels, but this effect was only seen for boys. It is suggested that target behaviours may be harder to reduce in girls as they are already occurring at a much lower level.

Evers et al (2007) delivered a computer based anti-bullying curriculum of three half hour sessions in twelve middle and thirteen high schools (483 children aged 11 to 17) in the USA. Evers et al (2007) mailed a "family guide"

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to parents. In a self reported questionnaire completed immediately after the intervention, those who had completed the programme were 4 times less likely to state they would participate in bullying than those in the control group however, the impact of the parental involvement was not independently assessed.

Warren et al 2006 included two full days of parent training in their intervention to reduce aggression and violence in an inner city American middle school (n=737, grades 6 to 8, large proportion African American) The intervention included two sessions of 2.5 hours teacher training plus an additional two days involving administrators, teachers and parents. Over one year the school saw a significant reduction in disciplinary outcomes and subjective reports to indicate improvements in the school climate (but these gains were not sustained at 1 year follow).

In an additional study Orpinas et al (2000) involved a parental education component in an intervention to reduce problem behaviour to reduce violence (with 8th grade students of low socioeconomic status in 8 middle schools in the USA). Parents received a monthly newsletter with descriptions of how both parents and children avoided or prevented violence. The news letters encouraged parents to use positive conflict resolution "tactics" and reduce their own modelling and praise of aggressive behaviour. However, the parental component was not analysed separately and overall the intervention was not effective. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

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7. APPENDICES

7.1 Appendix 1: Evidence table for included studies

Study details	Study type	Population	Intervention	Follow up	Comparator	Outcome measures Main findings	Methodology Possible confounders	Classification: Quality grading Intervention type Impact/ Applicability
Prosocial behaviours and skills papers								
Barrett et al. 2006 Australia Depression	Cluster RCT	N=669 Grade 6 and 9. Middle SES 6 co-ed schools Majority Aus born.	FRIENDS: 10 sessions of 70 min. Brief cognitive behavioural intervention: coping with and managing anxiety through learned coping and problem solving skills. Teachers assisted by psychologists. 1 day training workshop. Four evening sessions for parents.	12 months, 24-36 months.	3 control schools.	Reducing anxiety and depression: Spence Child Anxiety Scale Revised Children's Manifest Anxiety Scale Children's Depression Inventory Grade 6 students reported significantly lower rating of anxiety at long term FU: SCAS intervention (M=9.53 SE 0.88) compared to control (M=17.07 SE = 2.61). Girls in the intervention group reported significantly lower anxiety at 12(p<0.001) and 24 (p<0.05) months but not 36 months in comparison to the control group.	Questionnaire assessments.	++ Curriculum Bb Prosocial behaviour and skills
Dillon and Swinbourne 2007: Australia	ITS	22 secondary schools in Northern Queens	Helping friends peer support programme 3-4 years Curriculum based	None	None	Social provision scale: Guidance, worth, social integration, attachment, nurture, reliable alliance	Closed item questionnaire - before/after intervention	2- Curriculum Ab Prosocial

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Peer support		land N=? No other details				Significant improvement in worth, attachment and nurture		behaviour and skills
Goldsworthy et al 2007: USA Conflict resolution	ITS	5 th and 6 th graders n=87 "mixed race" (parents of differing ethnic origin 4 classrooms in 4 schools, rural + suburban schools	Interactive video scenarios, web site and teacher materials 12 days intervention 40 mins per day	Immediate retest	None	Increase conflict resolution skills, emotional intelligence Qualitative – record of discussions, interviews, online discussions. Social problem solving measure, conflict resolution self efficacy questionnaire Significant difference in post intervention self efficacy scale High student satisfaction and perceived usefulness	Thematic analysis T test	2+ Curriculum Ab
Quayle et al 2001 Australia Depression	RCT	47 grade 7 girls (age 11-12)	Optimism and Lifeskills programme for preventing depression in pre-adolescents. 8, 80 minute sessions. Links between thoughts and feelings, evaluate and challenge negative thoughts, make more optimistic and realistic	6 months	N=23 wait list control group	Children's depression inventory Children's attributional style questionnaire Self worth CDI: Score of 13 showed at risk. At pre-test, 4 intervention students (M=15, SD=2.5) and 3 controls (M=15, SD=1.7) were above this. At 6 months. There was only 1 in the intervention	Self reported questionnaires Attrition rate 10%	Prosocial behaviour and skills

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			interpretations of everyday problems. Postgrad clinic psychology students.			group (score 15) but 4 in the controls (M=25, SD=6.28). Thus the intervention reduced the numbers at risk while those in the control increased.		
Metzer et al 2001: USA Behaviour management programme	Other (Case study)	1 school in Oregon Grades 6-8 N=617	Community builders programme - effective behavioural support 2 or more years Environment/ethos	None	1 similar comparator school	School behavioural management practices Student behaviour School climate Increased positive re-enforcement of appropriate social behaviour. Decreased aggressive behaviour Discipline referrals significantly reduced	Consultation Student surveys Schools behaviour management practices Records of rewards Student survey	3- Environment/ethos Ab Prosocial behaviour and skills
Shochet et al. 2001 Australia Depression	Cluster RCT	260 Year 9 students. Age 12-15. (Mean 13.5 SD 0.54) 46.5% boys, 53.5% girls	3 groups: Rap-A: Resourceful adolescents program (11 session school based resilience building curriculum) Rap-F: the same programme but with a 3 session parent programme AW: Adolescent watch - a comparison group in which adolescent completed the measures without intervention. Facilitators(psychologists) attended 25 hours of training.	10 months	Adolescent watch - a comparison group in which adolescent completed the measures without intervention. Cohort from previous year to avoid contamination.	Reducing anxiety and depression: Child Depression Inventory (Kovacs) Reynolds Adolescent Depression scale. Becks Hopelessness scale. Adolescents in both RAP programmes reported significantly lower levels of depressive symptoms and hopelessness post intervention. From pre-intervention to FU: RAP-F showed significant reduction on both the BHS (t=2.30 p<0.05) and CDI (t=-2.75 p<0.01) as did RAP-A for BHS (t=-2.37 p<0.05) and CDI (t=-2.59 p<0.05). No improvement in depression scores for the AW group	88% recruitment 5.8% attrition.	++ Curriculum Ab Prosocial behaviour and skills

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Skroban et al 1999: USA Social competency	CBA	1 middle school (no population details) N=?	Multi component programme to improve behaviour and social competency: increase social bonding, social competence and school success (pupil attainment)	5 years	1 comparator school	Reduced problem behaviour School wide changes in instruction, tutoring , mentors and curriculum changes Intervention has negative effect: favours comparison school.	Surveys and routine data Failed to reduced problem behaviour, or predictors of. School population shifted from mixed towards majority Black.	2- Curric/Environ Db Prosocial behaviour and skills
Smith et al 2002: USA Conflict resolution	CBA	3 middle schools with student populations 780-1140. 25 to 30 peer mediators per school N = 85 33M, 52F No other population data.	5 lessons across each school. Understanding conflict, effective communication, understanding anger, handling anger, peer mediation. Plus 25-30 students per school received peer mediation training (2 day workshop)	4 years	Randomly selected students who did not receive training	Use of and satisfaction with the training (self reported - students) School climate survey Peer mediator and parent questionnaire No significant school wide change in student attitude towards conflict and communication or teacher attitude to school climate. Number of disciplinary incidents declined including social conflict incidents. Significant difference between peer mediators and others on conflict resolution measure. 87% peer mediators reported use of skills. 97% of parents reported +ve experience of their involvement.	Survey of teachers and students Tracked disciplinary incidents	2+ Curriculum Bb Prosocial behaviour and skills
Stevahn et al 1996: Canada	Cluster RCT	One rural, private school two 7 th and	Peacemakers conflict resolution programme 4 conditions:	Immediate	Comparison between conditions	Impact on levels of conflict Academic achievement Students in co-operative condition s	2X2 ANOVA	1+ Curriculum Ab

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Conflict resolution		8 th grade classes N=111 No other population data	1. Peacemakers conflict resolution training co-operative curriculum (individuals work together to achieve personal goals) 2. Peacemakers conflict resolution training individual curriculum (individuals work independently to achieve personal goals). 3/4 above conditions without peacemakers programme 6 hours over 6 weeks In each of two classes only some students received peacemaker training			developed better negotiation skills (not defined) F(1,106)=15.40 p<0.0002 Students in (intervention) conditions 1 and 2 developed better negotiation skills F(1,106)=45.68 p<0.0001 Academic performance better in: Co-operative conditions (with and without conflict resolution programme) F(1,106)=13.63 p<0.0004 (Intervention conditions) 1 and 2: F(1,106)=26.75 p<0.0001 Presence of training and co-operative learning are both beneficial		Prosocial behaviour and skills
Stevahn et al 2002: USA Conflict resolution	Cluster RCT	Californian high school students 92 9 th grade students No other population data 4 classes (2 intervention, 2 control)	5 weeks of conflict resolution and peer mediation training in social studies classes Training in 3 parts. 105 minute classes every other day for 5 weeks (17.5 hours) What constitutes conflict, how to negotiate agreement, how to mediate conflict.	Follow up at 7 months	Similar classes (random allocation)	Effectiveness of training: learned procedures, applied procedures, had more positive attitude than control. Impact on academic achievement Promoted higher achievement, long term retention of learning and transfer of academic learning in social studies: After training 92% of trained students recalled all/nearly all 16 negotiation steps. In control, 97% recalled 0 steps (but did not undertake programme).	Student recall of 16 step negotiation process (measured by 2 scores) Recorded by paper assessment	1+ Curriculum Ab Prosocial behaviour and skills
Bullying and disruptive behaviours papers								
Ando et al. 2007: Japan Aggression / violence	Cluster RCT	12 year olds Tokyo public high school n=104 4 7 th grade classes	Social skills curriculum Based on US going places programme Social skills programme 4 lessons taught by clinical psychologist with	4 weeks follow up immediate post test	Delayed treatment (T2 to T3)	Aggressive behaviour, school adjustment, self assertive efficacy, self control 1 st treatment group changed (T1 to T2) but not second (T2 to T3) in peer relationships. No effect on	ANCOVA ANOVA t test Confounding factors affecting outcomes	1+ Curriculum Cb Bullying, disruptive behaviour

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		No other population data	teacher and school counsellor support			aggression (group effect) but, aggression reduced in both groups over the whole intervention period		
Baldry, A & Farrington, D 2004: Italy Bullying/victimisation	Cluster RCT	10-16 year olds Rome middle/high school 2 middle schools + 1 high school 10 classes n = 239 (but 2 excluded) 131 expt group 52.4% M Age 13.2 106 control group 46.2% M Age 13.5	Videos + information booklet Increase understanding of negative consequences of aggressive behaviour 3 hours a week for 3 weeks intervention	Four months retest follow up	106 control group 46.2% M Age 13.5 No intervention	Bully/victim questionnaire - self reported Programme worked best for older students - decreased victimisation Younger – overall increased of reported bullying related to controls Older – decreased bullying/victimisation in intervention relative to control	Chi squared, ANOVA	1+ Curriculum Bb/d Bullying, disruptive behaviour
Bauer et al. 2007: USA Bullying/victimisation	CBA	Intervention 7 middle schools grade 6-8 3 schools control No other population data	Olweus programme – no details given Decrease victimisation Improve school experience Increase negative attitudes towards bullying 1 academic year programme	Follow up “next spring term	3 schools No programme “less formal bullying activities	Olweus school climate survey Bully/victim questionnaire Primary outcome: victimisation Secondary outcome: attitudes, perceptions and school experience No difference in victimisation White students less likely to report bullying in intervention schools No difference in attitude or school experience	Programme not as effective as hoped Race an important factor?	2+ Curriculum Cc Bullying, disruptive behaviour

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Bosworth et al 1996: USA	RCT	1 middle school 6,7,8 grades diverse metropolitan population 84% Caucasian n=558 Intervention n= 345	Multimedia computer based 16 weeks one class period Administered by project staff 1 semester intervention,	immediate retest, then follow up one semester later (16 weeks)	n= 213 No programme	Reduce intensity and number of violent incidents Anger impulsivity depression, affected by violence, getting into trouble, caring, fighting No difference intervention-control p>0.005	ANOVA Chi squared survey pre-post Questions on different outputs by gender Need to intervene at all levels, efficacy of social skills training.	1+ Curriculum Cb Bullying, disruptive behaviour
Botvin et al 2006: USA	Cluster RCT	4,854 sixth grade students 20 experimental school n= 2375 21 control schools n= 2484 41 schools New York. High proportion African Americans and low socioeconomic	Life skills training prevention programme 15 sessions taught by teachers. General life skills - problem-solving and decision-making skills, managing stress and anxiety, communicating effectively, assertion, healthy relationships. + specific anti drugs, anger management and conflict resolution skills. Taught via group discussion, modelling, role play, homework assignments. Teacher	Intervention 3 months immediate follow up	21 control schools n= 2484 Standard health curriculum	Questionnaires for verbal aggression, physical aggression, fighting, delinquency Observation - programme fidelity Reduction in violence and delinquency in intervention groups. (OR 0.684, 0.742, 0.643) Stronger effects for those receiving at least half the intervention (OR 0.501, 0.525, 0.537)	T test , Generalised Estimating Equivalence GEE approach	1- Curriculum Ac

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		mic status	plans/lesson guides.					
Boulton & Flemington 1996: UK Bullying/victimisation	CBA	Semi rural secondary school N = 170 Year 7-10 (age 11-14) 8 classes 4 Intervention 4 control	Change bullying behaviour and attitudes Video + discussion of video Retest after 2 weeks - self reported Q Shown video midway between tests so FU actually 1 week	Shown video midway between tests so follow up actually 1 week	4 classes No video	Bullying questionnaire – tendency to bully others, perceived def of bullying, emotion Video had little effect on reported tendency to bully others or attitudes Did not report less bullying	ANOVA	2+ Curriculum Ca Bullying, disruptive behaviour
Cowie et al 2008: UK Bullying/victimisation	Other: Cross-sectional	11-15 years (mean 12.8) 49.5% male 4 secondary schools in rural town 2 control 2 intervention n=931	Intervention = Environment Questionnaire administered during PSHE by teachers Established peer support scheme	None	2 intervention schools Schools with no established peer support programme	Perception of safety Awareness of peer support programme Willingness to tell of bullying incident 25-33% didn't know scheme in place Control grp children felt safer (older children only) BUT, subgroup who knew of intervention felt safer in intervention group. Intervention children more likely to tell if being bullied	School climate checklist, paired chi squared Peer support needs to be widely disseminated to ensure all children know about it	3- Environmental Da Bullying, disruptive behaviour
De Anda, 1999: USA Aggression / violence	ITS	1 high school Los Angeles 157 students 87% 9 th	Behaviour management: Information presentation, skills teaching, alternative strategies to violence, group activities, group presentation		None	Reduce aggressive and violent behaviour by expanding cognitive and behavioural strategies 5 measures – school climate, attitude towards violence, personal anger scale, skills and	Paired t test	2- Environment Curriculum Bc Bullying, disruptive

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		grade, others 10, 11, 12 grade. Mode age 14 years. 61% Latino, 35% African American 52.2% Male	Administered by S California Youth and Family Violence Centre. 10 sessions			knowledge measure, monthly behaviour report. Perception of safety (school climate) sig increase Sign. improvement in attitude towards violence No change anger control Increase in skills and knowledge measure		behaviour
Durant et al 1996: USA Aggression / violence	ITS	89% African Americans, 10% white, 1% native Americans public housing (40%) Av age 12.9 48% M N=225, n = 209 at FU 2 Middle schools grades 6-8	Longitudinal (2 types of intervention) Quasi experimental design Violence prevention curriculum Conflict resolution curriculum 10 x 50 min sessions (each programme) 1. Violence prevention 2. Conflict resolution Info, role play, skills building	2 class periods per week over 5 weeks Immediate follow up	None	Youth risk questionnaire+ scenarios Avoidance of violence Scale Reported violence previous 30 days	ANOVA, Kruskal Wallis Chi squared Both curricula decrease violence in scenarios Frequency of self reported violence decreased p<0.001	2+ Curriculum Bb Bullying, disruptive behaviour
Evers et al 2007: USA Bullying/ victimisation	Cluster RCT	age 11-14+, 14-17, higher number of Hispanic than USA generally	Transtheoretical-based bullying: Curriculum Internet based: Build respect stop bullying computer programme Cluster RCT - 2 Tx groups plus control	Intervention: 3 months follow up immediate post test	No programme. N = 483 middle school and 309 high school	Self reported bullying + intention to stop via computer questionnaire Intervention groups 4 x more likely not to participate in bullying. Effect size 0.42. Int grps more non bullies than controls	% h statistic random effects logistic model Internet delivered programmes can be successful	1+ Curriculum Ab Bullying, disruptive behaviour

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		(middle school only) 12 middle, 13 high schools 3-15 classes per school n=1237 middle school age 11-14 n = 1215 high school age 14-17 55% F	Tx1. 3 x 0.5 hour computer sessions in 3 months, 10 page manual for staff and parents Tx2. as above plus pre-test before intervention (replicates and controls for pre-test)				Some gender and ethnic differences in groups at baseline.	
Farrell et al 2003: USA Aggression / violence	ITS	mean 11.4 yrs (10.2 - 12.4) 65% Caucasian, 22% Hispanic, 11% A. American 9 rural middle schools 5 intervention (n=752), 4 control (n=735) 1 int school later excluded	Responding in Peaceful and Positive ways curriculum 25 X 50 mins, 12x50 mins 12 x 50 mins Problem-solving and skills building, trained facilitator Administrated by homeroom teachers Students completed evaluation booklets Over 2 years	Measured at 5 time points up to 2 years	None	Battery of measures inc test of knowledge, problem situation inventory, attitudes, etc Frequency of aggression, drug use and delinquent behaviour. Number of disciplinary code violations Increase knowledge in int groups, increase +ve attitude to non violence, lower rates aggressive behave, increased life satisfaction In some measures positive effect (0.001-0.52) but small magnitude. Sig diff in frequency of aggression seen at final FU d=0.17	Intention to treat approach Gen Lin Model, regression analysis, generalised estimating equations	2+ Curriculum Bc Bullying, disruptive behaviour

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		4 int and 4 control schools for analysis.						
Farrell & Meyer 1997: USA Aggression / violence	Cluster RCT	African American low SES 6 middle schools n=978 only data for 348/350/221	Reduce frequency of violent behaviour 18 sessions (45 mins) violence prevention lectures delivered by specialists	1 semester intervention follow up end of school year	Delayed programme	Violence behaviour scales Gender differences – no effect girls Boys lower frequency of violent behaviours + problem behaviours	ANCOVA Chi squared survey pre-post	1+ Curriculum Bc Bullying, disruptive behaviour
Flay et al 2004: USA Aggression / violence	Cluster RCT	African American low ses inner city, suburban Grades 5-8 12 schools Also involved parents and teachers	2 interventions: 1. Social developmental curriculum Aban Aya youth project 16-21 lessons per year over 3 years inc interpersonal skills teaching. 2. +School/community intervention + parent and community programme Over 3 years	3 years	General health programme	Self reported violent behaviour scales No effect for girls. Boys less increase in delinquency than controls. Programme 2 more effective than 1 effect sizes 0.31 and 0.41	Regression coefficients	1+ Curriculum Parental/Community Bd Bullying, disruptive behaviour
Gollwitzer et al. 2007: Germany Aggression /	CBA	3 secondary schools – 7 classes (incl 4 controls) N=283	Social skills training “multi modal programme” 1.5 hours per week led by trainers	13 week programme, immediate retest + 4 month follow up	4 control classes. No programme	Reduce aggression Self reported: Aggression situations measure, aggressiveness in IAT measure, observer ratings- classmates + teacher	Correlation, multi level models use of measure other than self report need to be explore	2+ Curriculum Ab Bullying, disruptive behaviour

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violence		No other population data				Pre to post test, no difference in intervention/control Increase in aggression seen from post test to FU in control. Effects only emerged at 4 month follow up 0.07 effect size		
Gollwitzer et al. 2006: Germany Aggression / violence	CBA	2 schools 4 classes intervention (n=109), 3 classes control (n=75) Grade 6 and 8 No other population data	Behaviour management Conflict handling training, training in social processes, individual + whole class levels 13 lessons – stories role play discussion Class projects 1.5 hours over a week for 13 weeks Olweus based 13 week programme,	immediate retest + 4 month follow up (1 school only)	Normal class lessons	Self rating aggression, peer rating of aggression, teacher rating of aggression (not used as not reliable!), response to vignette Most measure not sig. Self report bullying/aggression effect 0.02 effect size, Diff in perceived aggression by peers 0.08 but not sig at 4 month	Mann Witney U MANOVA	2+ Curriculum Bb Bullying, disruptive behaviour
Komro et al 2004: USA Aggression / violence	Cluster RCT	slightly lower ses than average USA Sample mostly white 7 th grade students 24 schools Urban suburban	Drug and violence prevention curriculum (DARE) Reduce bullying/victimisation + drug use 1. Condition 1 -10 session taught by police officers in schools 2. Condition 2 + classroom programme + parent and community involvement	1 semester intervention, immediate retest, then follow up 1 semester later and again another year later	Usual drug and violence prevention activities	Self reported Q Physical violence scale, verbal violence scale, victimisation scale Small differences in violence scale (ES 0.1) + perceptions of violence in condition 1 grp. No diffs any grps victimisation scale, or between condition 2 and controls. Less impact on girls	ANCOVA	1+ Curriculum Environment/Community Bb Bullying, disruptive behaviour

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		and rural schools,	3. Control - delayed programme - usual drug and violence programme in school continued.	93.5% at 2 nd follow up				
Mahdavi & Smith 2002: UK Bullying / victimisation	Other: Qualitative case study	Year 7 1 school n=70 Large secondary school 35 pupils, 28 bullies, 4 witnesses 3 counsellors No other population data	Bully court introduced as school policy year 12 peer mentors Evaluation of ongoing intervention	None	None	Student/teacher satisfaction Strong support for court. No recurrence of bullying in those appeared in court	% 70Q interventions + obs of bully courts	3- Environment Ba
Menesini, E et al 2003 Italy Bullying/ victimisation	Cluster RCT	11-14 years middle school 2 schools 9 classes n= 293 No other population data	Reduce bullying episodes through increased awareness Change children's capacity to offer support Enhance involvement of bystanders Improve interpersonal relationships Analyse age and gender differences. Class peer support awareness activities, nomination of peer	1 school year implementation, immediate follow up	No intervention	Questionnaire on bully/victim roles Questionnaire on attitudes towards bullying Levels of bullying and pro-bullying behaviours remained stable in intervention group and increased in control group	MANOVA	1- Curriculum Ab

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			supporters, training of peer supporters, ongoing activities and meetings					
Meyer et al 2004: USA Aggression / violence	CBA	7th grade n=293 Int =168 Control =125 12-14 years old 55/45 M to F ratio. Majority African American 70-80% 2 junior high schools 1 Int 1 Control (10 classes Int) moderate-sized Midwestern city	Reduce verbal and physical aggression 12 lessons using video, role play, discussion, worksheets	1 month post test then five months follow up	1 comparator school No formal violence prevention programme	Questionnaire based on Theory of Reasoned Action. 4 areas – verbal aggression, watching a fight, telling friends about a fight, and fighting. Self reported behaviour, behavioural intention, attitudes, beliefs and opinions. No change one month. 5 months both groups digressed more than improved but Intervention group improved on more items (9) and digressed on fewer items (9) than control (improved 1, digressed 13)	T tests, ANOVA Longer term measures needed	2+ Curriculum BC Bullying, disruptive behaviour
Midthassel et al. 2008: Norway Bullying/	Cluster RCT	72 schools grades 2-10 N=12695 22 school	8 Lesson plans + some schools telephone calls from researcher 16 months intervention	2 years follow up	No further intervention since ending of programme	Self-reported bullying and victimisation No change in victimisation scores, significant decrease in bullying (p>0.001)	ANCOVA (used transformed scores as too skewed)	1- Curriculum Ab Bullying, disruptive

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victimisation		Int1 22 schools Int2 28 schools no further intervention No other population data				Reductions seen as a result of the programme were sustained 2 years later + some further reduction in bullying		behaviour
O'Donnell et al 1999: USA Aggression / violence	Cluster RCT	Urban low socioeconomic status minority youth 7 +8 grade 2 schools - large urban middle schools. (23 classes intervention , 28 classrooms control) n=972	Reducing violent behaviour: Curriculum, teacher training, community placement 1. Reach for health,35 lessons on violence prevention 2. + community youth programme for 3 hours per week (half students) 6 months intervention	Follow up immediate post test	28 classes General health curriculum	Self reported q'aire + violence indices, social desirability measure Violence behaviour outcomes No effect on 7 th graders or for curriculum only. Less violence reported for 8 th grade (p <0.04) and also for curric + community Curriculum +/- CYS both significant differences in violence reduction (p<0.03)	Regression analysis	1+ Curriculum Parental/Community Cb Bullying, disruptive behaviour
Orpinas et al 1995: USA Aggression / violence	CBA	6 th Grade 11-12 years (90%) n=223 at FU (103M, 118F) 64% Hispanic, 17% A American,	Second step curriculum Violence prevention curriculum Trained peer leaders 15 x 50 minute lessons + trained peer leaders	Intervention 15 weeks immediate reassessment + 3 months follow up	4 control classes No curriculum or other programme	Reduce violent behaviours Increase knowledge about violence, skills and attitudes Self reported aggressive behaviours Knowledge about violence, conflict Res skills, self efficacy, attitudes	Covariance Need to follow up later. Can change knowledge but not behaviour?	2+ Curr Bb Bullying, disruptive behaviour

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		18% white. 50% free school meals 4 schools 10 classes 6 intervention 4 control				Only 2 of the 6 intervention classes reduced aggressive behaviours (in boys only) Overall, increased knowledge & skills, and more –ve attitude to violence – these changes not maintained at FU		
Orpinas et al 2000; USA Aggression / violence	Cluster RCT	8 th grade (11-14 years) low ses urban minority schools 8 middle schools n=2246 (matched pairs) 2/3 Hispanic	Information, empathy and conflict resolution, anger management training, Peer mediator/helper training with teacher sponsors. Parent education	Yearly follow up over 3 years	No programme	Reduce aggressive behaviours Students for peace. Violence prevention curriculum, peer programme, parent newsletter 3 measure aggression, 2 measures safety - self reported (student) No intervention effect (95% CI) 36% dropout by 3 years. Those lost sig diff.	Nested cohort and nested x sectional analysis Programmes need to start early, have commitment from schools and influence parents	1+ Curriculum Cc Bullying, disruptive behaviour
Palumbo & Ferguson 1995: USA Aggression / violence	ITS	Not specified, more Hispanic at post test, even male female. Majority 7 th grade N = 2029 pre-test. N = 1723 post test	Police officers providing info sessions GREAT programme (no other details) Duration not specified,	post test end school year	None	Increase resistance skills to joining a gang Reduce getting into trouble Feelings thermometer, attitudes to school, gangs, drugs. Self esteem Scale No impact on reported gang membership no sig diff ability to resist gangs	ANOVA, Chi squared, t test Focus groups	2- Curriculum Cb Bullying, disruptive behaviour

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		(860F, 863M)						
Peterson & Rigby 1999:Australia Bullying/victimisation	ITS	1 school n=1200 Large co-ed school. Ethnic mix 12 year olds (12-17) 80% "Australian" 20% "immigrant"	School policy developed including student-based activities Students involved in development/implementation: antibullying commission, peer help group, public speaking group, posters/dance 2 year programme	2 year programme Immediate Follow up	None	ANOVA Peer relationships questionnaire, frequency of bullying questionnaire No overall reduction in reported victimisation, (year 7 decrease, but year 9 increase) Activities directed by students received most peer approval.	Pupil direct – interview, advice peer support Some teacher training, some new lessons Wide range of activities, difficult to attribute causation?	2+ Environment Curriculum Cb Bullying, disruptive behaviour
Salmivalli 2007: Finland Bullying/victimisation	ITS	Ethnic mix 7+8 grades 12 classes 1 school n=196 Upper level comprehensive school age 13-15	Peer led intervention "school campaign" discussion, posters, news broadcast, 8 peer counsellors One week intervention	5 weeks follow up	None	Nomination of bullies/victims + attitudes Some change in girls (reduce self and peer report bullying) not sig in boys decline in self reported bullying + peer reported, improved attitudes	T test	2- Curriculum Bb
Stevens et al 2000: Netherlands Bullying/victimisation	Cluster RCT	10-16 year olds 18 primary and secondary schools n = 1104 No other population data	Cluster RCT 2 intervention conditions Tx plus support (n= 284 2ndry school) Tx minus support (n = 277 2ndry school) Control (n = 151 2ndry school) Based on Scandinavian programme. 3 areas – school policy, curriculum, bullies and	Follow up 1 year	No programme	Bully scale (Olweus), victim scale, positive interaction scale No difference intervention and control in secondary schools Better outcomes for Tx plus support than Tx minus support.	ANOVA Self reported Q pre/post (students) Admin provided by teachers Programme effective in primary schools not secondary. Programme attrition 26%. External support	1+ Curriculum Ca Bullying, disruptive behaviour

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			victims 3 modules – video, info session, role play, class activities. 25 hours teacher training, + back up from research team or not				made little/no diff	
Van Schoiack-Edstrom et al 2002 USA/Canada Aggression / violence	CBA	Ethnic + gender + SES range 6,7,8 grade pupils (1 st - 2 nd yr secondary school) 51% Female Sixteen educators (11 female) 15 teachers and one principle 5 schools N=714 2 classes Int 2 control	Curriculum - Second step programme (commercial programme) Improve social skills Reduce impulsive/aggressive behaviours Published programme, with teacher training sessions and lesson scripts 31 lessons	Immediate Follow up	2 control classes: no intervention	Endorsement of Aggression Scale Perceived Social Difficulty Scale Year 6 intervention grp - decreased endorsement of social exclusion only Year 7 intervention grp – less tolerant of physical & verbal aggression + social exclusion. ES 0.50-0.73	ANOVA, T tests, Factor analysis	2+ Curriculum Ab Bullying, disruptive behaviour
Warren et al. 2006 USA Aggression / violence	ITS	Grades 6-8 One inner city middle school n=737 Large	Curriculum + environment – prosocial behaviours and skills support programme 4 months researcher contact before	One year intervention Immediate retest then 1 year	None	Disciplinary outcomes – office referrals, time outs, suspensions, out of school placements between year 1 and 2. Significant reduction in disciplinary outcomes (5%-23%)	Frequency + %	2+ Curriculum + environment Bc Bullying, disruptive

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		proportion African Americans and low SES	intervention for rapport building. 2 x 2.5 hour teacher training. + 2x 1 day training for key staff (administrators, teachers, parents) Development of lesson plans. 2.5 hour training to all staff. One key code of conduct chosen each week, reinforced by lessons and school environment. Ongoing advice from research team to individual teachers re managing problem behav.	follow up		Subjective reports of change in school climate At 1 year follow up gains were not sustained.		behaviour
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7.2 Appendix 2: Included studies

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Reference	Reason for exclusion
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<p>physical fighting and social skills. Evaluation of a social competency program.</p> <p>Tingstrom et al 2006. Behaviour Modification 30(2) 225-253. The good behaviour game: 1969-2002.</p>	
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<p>Beelmann & Lossell. 2006. Child social skills training in developmental crime prevention. Effects on antisocial behaviour and social competence. Psicothermia</p>	<p>Review paper - references checked.</p>

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<p>behaviour game to reduce disruptive classroom behaviour. <i>Journal of applied behaviour analysis</i>. 3 405-417.</p>	
<p>Adams, et al. 2004. I am the hate that dare not speak its name: dealing with homophobia in secondary schools. 2004. <i>Educational Psychology in Practice</i>. 20 (3) 259-269.</p> <p>del Barrio et al. 2007. Bullying and social exclusion in Spanish secondary schools. <i>National Trends from 1999 to 2006</i>.</p> <p>Cheurprakobkit & Bartsch. 2005. Security measures on high school crime in Texas middle and high schools. <i>Educational Research</i>. 47 (2) 235-250.</p> <p>Crothers et al. 2006. Middle school students' preferences for anti-bullying interventions. <i>School psychology International</i>. 27 475-487.</p> <p>Drosopoulos, J. 2008. Minimizing bullying behaviour in middle school students through behavioural intervention and instruction.</p> <p>Ervin RA et al 2007. Primary and Secondary prevention of behaviour difficulties: developing a date informed problem solving model to guide decision making at school wide level. <i>Psychology in the schools</i> 44(1) 7-18.</p> <p>Hutchinson, W. 1996. Monitoring school bullying: a review of one school's program for assessing and monitoring the problem. Report: ED401588.</p> <p>Gottfredson & Gottfredson. 2002. Quality of school-based prevention programs: results from a national survey. <i>Journal of Research in Crime and Delinquency</i>. 39 3-35.</p> <p>Mooij, T. 2005. National campaign effects on secondary pupils' bullying and violence. <i>British Journal of Educational Psychology</i>. 75. 489-511.</p> <p>Naylor & Cowie 1999. The effectiveness of peer support systems in challenging school bullying: the perspectives and experiences of teachers and pupils. <i>Journal of Adolescence</i>. 22 467-479.</p> <p>Sharp, S. 1996. Self-esteem, response style and victimization. <i>School Psychology International</i>. 347-357</p> <p>Smith et al. 2008. A content analysis of school anti-bullying policies: progress and limitations. <i>Educational Psychology in practice</i>. 24 (1) 1-12.</p>	<p>Papers not relating to programme outcome e.g. surveys of implementation, prevalence.</p>

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<p>Smith & Samara. 2003. Evaluation of the DfES Anti-bullying pack. Research Brief. DfES.</p> <p>Smith, P. et al. 2007. Use of the support group method to tackle bullying, and evaluation from schools and local authorities in England. Pastoral Care in Education. 425 (2) 4-13.</p> <p>Smith et al. 2005. Antibullying interventions in schools: ingredients of effective programs. Canadian Journal of Education. 28 (4) 739-762.</p> <p>Reis et al. 2007. Individual and school predictors of middle school aggression. Youth and society. 38 (3) 322-347.</p> <p>Stevens et al. 2001. Implementation process of the Flemish antibullying intervention and relation with programme effectiveness. Journal of School Psychology. 39 (4) 303-317.</p> <p>Vernberg, & Gamm. 2003. Resistance to violence prevention interventions in schools: barriers and solutions. Journal of Applied Psychoanalytic Studies 5 (2) 125-138.</p>	
<p>Powell et al. 1996. A Review of Selected School-Based Conflict Resolution and Peer Mediation Projects. Peer facilitator quarterly 13(3) 1-38.</p> <p>O'Connor. 2001. After-School Programs for Early Adolescents: A Path for Building Resiliency. School Aged Review 3 :14-18</p> <p>Beyczkurk et al. 2007. Journal of educational research. Peer relations and friendship in childhood 7(26): 13-26.</p>	Unobtainable

7.4 Appendix 4: Search strategies

Mapping review of policy and practice	Sources Searched	Other comments
Healthy Schools SEAL and schools Emotional wellbeing and schools School and secondary and program(me) Whole school approach School initiatives Schools and evaluation	Google Goggle Scholar CASEL (Collaborative for Academic, Social and Emotional Learning) Department for Children, Schools and Families Department of Health www.dh.gov.uk	

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School and transitional stages School and environments School and intervention School and ethos	Healthy Schools Initiatives HDA reports via NICE website Institute for Education (Thomas Coram Research Institute) IPPR Joseph Rowntree Trust NFER OFSTED SEAL Search Institute SEED Teachernet	
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Mapping review of effectiveness	Sources Searched	Other comments
(School\$ OR School-based OR Classroom-based OR Child\$) AND (Approaches OR Whole-school approaches OR Curriculum-based approaches OR Curriculum-based interventions OR Targeted approaches OR policy OR policies OR interventions OR programmes OR universal OR indicated) AND (Anti-bullying OR School ethos OR School culture OR School environment OR Health-promoting schools OR Healthy schools OR School management OR Teacher quality OR School leadership OR Parenting programmes)	ASSIA British Education Index CINAHL Cochrane Database of Systematic Reviews Cochrane Clinical Trials (CENTRAL) DARE (Cochrane) EconLit EMBASE EPPI-Centre database ERIC Health Management Information Consortium. Medline Medline in Process NHS EED Proquest Education Journals PsycINFO Social Care Online Sociological Abstracts Science citation index Social Sciences citation index	At this stage, papers that were included in the appendix of the Evaluation of mental wellbeing in primary schools because they were papers relating to secondary schools were imported into the Reference Manager Library

Interventions	Sources Searched	Other comments
Positive Behaviour Search Strategy example – Cochrane #1 MeSH descriptor Adolescent explode all trees	Assia Cochrane Databases of Systematic Reviews	Population terms (1-10) were combined intervention terms (12-18)

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<p>#2 (adolescent* OR adolescence):ti,ab,kw #3 (juvenile*):ti,ab,kw #4 (teen*):ti,ab,kw #5 (teenager*):ti,ab,kw #6 (youth*):ti,ab,kw #7 (middle school*):ti,ab,kw #8 (senior school*):ti,ab,kw #9 (secondary school*):ti,ab,kw #10 (high school*):ti,ab,kw #11 (#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10) #12 (approach OR approaches):ti,ab,kw #13 MeSH descriptor Intervention Studies explode all trees #14 (intervention*):ti,ab,kw #15 MeSH descriptor Public Policy explode all trees #16 (policy OR policies):ti,ab,kw #17 (program OR programs OR programme OR programmes):ti,ab,kw #18 (universal):ti,ab,kw #19 (#12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18) #20 (#11 AND #19) #21 (conflict resolution*):ti,ab,kw #22 (peer support*):ti,ab,kw #23 (resilien*):ti,ab,kw #24 (health right*):ti,ab,kw #25 (positive behavior*):ti,ab,kw #26 (positive behaviour*):ti,ab,kw #27 (#21 OR #22 OR #23 OR #24 OR #25 OR #26) #28 (#20 AND #27)</p> <p>Negative Behaviour Search Strategy example – Cochrane #1 MeSH descriptor Adolescent explode all trees #2 (adolescent* OR adolescence):ti,ab,kw #3 (juvenile*):ti,ab,kw #4 (teen*):ti,ab,kw #5 (teenager*):ti,ab,kw #6 (youth*):ti,ab,kw #7 (middle school*):ti,ab,kw #8 (senior school*):ti,ab,kw #9 (secondary school*):ti,ab,kw #10 (high school*):ti,ab,kw</p>	<p>Cochrane Clinical Trials CINAHL DARE (Cochrane) Embase ERIC Medline Medline in Process PsycInfo Science Citation Index Social Sciences Citation Index EconLit NHS EED</p>	<p>and then terms to describe these interventions. The searches were combined with search filters designed to retrieve systematic reviews.</p>
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<p>#11 (#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10) #12 (approach OR approaches):ti,ab,kw #13 MeSH descriptor Intervention Studies explode all trees #14 (intervention*):ti,ab,kw #15 MeSH descriptor Public Policy explode all trees #16 (policy OR policies):ti,ab,kw #17 (program OR programs OR programme OR programmes):ti,ab,kw #18 (universal):ti,ab,kw #19 (#12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18) #20 (bullying):ti,ab,kw #21 MeSH descriptor Violence explode all trees #22 MeSH descriptor Violence, this term only #23 (violence):ti,ab,kw #24 (violent behavior*):ti,ab,kw #25 (violent behaviour*):ti,ab,kw #26 (aggression):ti,ab,kw #27 (aggressive behavior*):ti,ab,kw #28 (aggressive behaviour*):ti,ab,kw #29 (victimisation OR victimization):ti,ab,kw #30 (delinquency OR delinquent*):ti,ab,kw #31 (truancy OR truant*):ti,ab,kw #32 (antisocial behavior*):ti,ab,kw #33 (antisocial behaviour*):ti,ab,kw #34 (anti-social behavior*):ti,ab,kw #35 (antisocial behaviour*):ti,ab,kw #36 (#20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35) #37 (#11 AND #19 AND #36)</p>		
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Programme Searches	Sources Searched	Other comments
<ol style="list-style-type: none"> 1. Social Emotional and Behavioural Skills (SEBS) 2. Social and Emotional Aspects of Learning (SEAL) 3. Peacemaker (conflict resolution) 4. School wide positive behavioural 	<p>Medline Web of Knowledge</p>	<p>In addition, citation searching of 25 papers identified through</p>

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<p>support</p> <ol style="list-style-type: none"> 5. Positive behaviour interventions and supports 6. Good behaviour game (GBG) 7. Working it out 8. Fighting fair 9. Peacebuilders 10. Students for peace 11. Belly Busters (bully prevention) 12. Bully Proofing 13. Target Bullying 14. Life Skills Training (LST) 15. Promoting Alternative Thinking Strategies (PATHS) 16. Responding in peaceful and positive ways (RIPP) 17. The Bergen Anti-Bullying Intervention/Program (also known as The Norwegian Anti-bullying intervention) 18. Guiding responsibility and expectation for adolescents today and tomorrow (GREAT) student program 19. Safer Schools-Safer Cities Program 20. Toronto Anti-bullying intervention program 		<p>iterations two, three and four was undertaken</p>
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Author Searches	Sources Searched	Other comments
<p>Orpinas, P. Olweus, D. Smith, P. K. Ortega, R. Roland, E. Hanewinkel, R.</p>	<p>Medline Web of Knowledge</p>	