Social Skills Training

Toolkit technical report

Hannah Gaffney, David P. Farrington and Howard White

June 2021

Campbell Collaboration

UNIVERSITY OF CAMBRIDGE
Institute of Criminology
Violence Research Centre

CLARE HALL
CAMBRIDGE

This report is produced in collaboration with staff from the Campbell Collaboration Secretariat. It is a derivative product, which summarises information from Campbell systematic reviews, and other reviews, to support evidence-informed decision making'.

The Campbell Collaboration thank Suchi Malhotra for the AMSTAR coding of included reviews (second coder).

Abstract/Plain Language summary

Child social skills training programmes encourage self-control, perspective-taking and the internal inhibition of antisocial behaviour using mainly cognitive-behavioural methods.

Common approaches in self-control programmes include but are not limited to: (1) “look and listen”; (2) “following rules”; and (3) “what to do when I’m angry”. Programmes may include components such as psychoeducational tasks, video tape training, or role-playing. Participants are shown video demonstrations of appropriate or inappropriate behaviours and interventions involve observations of child-centred play to evaluate skill acquisition. Relaxation and deep breathing techniques, and specific training to reinforce effective delayed gratification, are also commonly included.

Child social skills training programmes can be implemented either through universal prevention or indicated prevention. Indicated prevention programmes are implemented with children who have been identified as having conduct disorder or oppositional defiant disorder or who are exhibiting behaviours which are associated with later antisocial or violent behaviours.

The presumed causal mechanism in child skills training is that promoting the development of social and self-control skills will encourage children to think before they act, decrease their impulsiveness, increase their development of internal inhibitions against antisocial behaviour and reduce the risk of involvement in crime and violence later in life.

This technical report is mainly based on two systematic reviews: Beelman and Lösel (2020) and Piquero et al. (2016). Beelman and Lösel (2020) reviewed 113 evaluations of child social skills training programmes. Their findings are based on 130 independent randomised intervention-control comparisons including a meta-analysis with 385 effect sizes estimated

for various antisocial behaviour outcomes. The majority of evaluations (76%) were conducted in the USA, and only one evaluation of child social skills training was conducted in the United Kingdom (i.e., Little et al., 2012). Piquero et al. (2016) included 36 evaluations of self-control interventions that reported effects on delinquency. The only non-US studies were conducted in Canada, Romania or Israel.

Overall, child social skills training and self-control programmes are effective in reducing delinquency. The observed effect size of 0.27 corresponds to a decrease in delinquency of approximately 32%. The evidence rating is 4.

Programmes tended to be more effective:

- If targeted on at-risk groups (i.e., indicated prevention) rather than universally
- For boys rather than girls
- For 9-10 year-olds, rather than other age groups
- Training was implemented in individual sessions rather than group training
- When programmes incorporated a psychodynamic (e.g., understanding psychological processes) or humanistic (i.e., concerned with free will and individual agency) approach rather than a cognitive-behavioural approach.

In addition, evaluations conducted in the US have found larger effects. No variation in impact was found in relation to the duration of the intervention.

A process evaluation of PATHS at 45 schools in Greater Manchester reported that teachers (1) said that there was insufficient time to deliver the full programme; only about half of it was covered, and (2) questioned the cultural transferability from the US to the UK.

No cost analysis is available for the UK. A cost-benefit analysis of the "Stop Now And Plan" programme in Canada estimated that the consequent reduction in convictions saved between $2.05 and $3.75 per dollar spent on the programme.

Objective and approach

The objective of this technical report is to review the evidence on the effectiveness of child social skills training as an early prevention strategy for youth crime and violence.

Child social skills training programmes aim to encourage self-control, perspective-taking and the internal inhibition of antisocial behaviour using mainly cognitive-behavioural methods, including group discussions, individual instruction, role-playing exercises, feedback and homework.

Child social skills training differs from social and emotional learning in that skills training programmes are primarily concerned with skills that are particularly relevant to aggressive and anti-social behaviour. Social and emotional learning is rarely studied in the criminological literature, which focuses on behaviour (especially antisocial and criminal behaviour) rather than on emotions. Social and emotional learning is mainly concerned with to the improvement of other skills such as empathy, coping strategies, and emotion regulation or expression (see Annex 1).

The behavioural impact of child social skills training programmes on outcomes such as antisocial behaviour, aggression, violence, and crime is evaluated in this report.

This technical report is mainly based on two systematic reviews: Beelman and Lösel (2020) and Piquero et al. (2016). The former reviewed child social skills training programmes that were designed to reduce antisocial behaviour and the latter was concerned with programmes to improve self-control, thereby reducing the number of children involved in crime.

The following inclusion and exclusion criteria were used to inform the selection of systematic reviews:

Inclusion criteria

To be included in this report a systematic review must:

- Review child social skills training initiatives that have been implemented and evaluated with community/non-clinical groups of young children.
- Review evaluations of programmes using experimental or quasi-experimental methods with before and after measures. Both randomised and non-randomised designs were eligible for inclusion.
- Review programmes designed to improve child social skills, such as self-control, perspective-taking, or internal inhibition of behaviour.

- Assess the impact of included interventions on violence, crime, aggression, or antisocial behaviour outcomes.
- Report findings in the English language and in published in peer-reviewed journals or by other reputable sources (e.g., Campbell systematic reviews, Cochrane systematic reviews), within the past 5 years (i.e., since 2015).

Exclusion criteria

There are many systematic reviews on child social skills training programmes, but only two high quality, recent and relevant reviews are included in the present report.

Reviews were excluded for the following reasons:

- The review was concerned with skills training for children who have already committed an offence or other non-community samples (e.g., van der Stouwe et al., 2020). We exclude the review by van der Stouwe et al. (2020) as the participants were already involved in crime. The focus of the current technical report is prevention in community samples.
- The review was concerned solely with social and emotional learning (e.g., Durlak et al., 2011). Further clarification of why social and emotional learning interventions are excluded is provided in Annex 1.
- The review included evaluations of interventions that were only implemented with adolescents and/or adults (e.g., Brännström et al., 2016).

Outcomes

The impact of child social skills training can be assessed on a variety of outcomes. The current technical report is concerned with outcomes of antisocial behaviour, aggression, youth offending, and/or violence.

Beelman and Lösel (2020) only included programmes with specified aims to reduce antisocial behaviour and/or offending. Child social skills training programmes with other aims (e.g., prevention of internalising behaviour) were excluded, as were other programmes (e.g., parent training) that may incorporate an element of child social skills training.

Piquero et al. (2016) reported the effects of self-control programmes on self-control and delinquency outcomes separately. For the purpose of the current technical report, only evaluations that reported the effect of self-control programmes on delinquency outcomes are included.

Description of interventions

Child social skills training is a common crime prevention approach, focusing on skills that are particularly relevant to aggressive and violent behaviour, including self-control and anger management, perspective-taking, interpersonal problem-solving in conflict situations, prosocial attitudes and communication skills. These programmes include a range of different skills across various domains; for example, behavioural skills such as verbal and non-verbal communication, social-cognitive skills such as social information processing, or social-emotional skills such as emotional understanding and communication (Beelman & Lösel, 2020; Piquero et al., 2016).

Beelman and Lösel (2020) state that child social skills training programmes aim to encourage pro-social development in order to:

1. Promote social and social-cognitive competencies for healthy social development
2. Prevent externalising and internalising behaviours

Programmes may also include the broader concept of 'social competence' and Beelman and Lösel (2020) note that this is common in most modern child social skills training programmes. Social competence refers to interpersonal and communication skills related to positive social interactions, particularly in times of social conflict (Beelman & Lösel, 2020). Piquero et al. (2016) also emphasise the role of self-control in social problem-solving skills.

Piquero et al. (2016) refer specifically to self-control skills as important components of child social skills training. Low self-control is associated with involvement in crime and violence and may also be referred to as impulsivity, hyperactivity-attention deficit, or lack of impulse control. Programmes that are designed to improve self-control may also aim to improve decision-making processes and foster the consideration of long-term consequences of behaviour.

Important components of self-control programmes include but are not limited to: (1) "look and listen"; (2) "following rules"; and (3) "what to do when I'm angry" (Piquero et al., 2016).

Self-control programmes may also include components such as psychoeducational tasks, video tape training, or role-playing. Psychoeducation can be described as a structured intervention involving 'didactic knowledge transfer' between a trained therapist and a child (or parent) that incorporates educational, informative, or motivational activities and lessons on emotional skills and understanding the child's externalising and/or internalising behaviour[1]. Participants are commonly shown video demonstrations of appropriate or inappropriate behaviours and interventions involve observations of child-centred play to evaluate skill acquisition. Relaxation and deep breathing techniques are also commonly included in self-control programmes to teach participants how to better regulate their behaviour.

Clinical interventions may also include specific training to reinforce the choice of delayed gratification and highlight the long-term consequences of behaviour. Delayed gratification is explained by Conti (2019) as "the act of resisting an impulse to take an immediately available reward in the hope of obtaining a more-valued reward in the future". This is seen as an essential aspect of self-regulation and self-control. Experimental studies of delayed gratification are probably most commonly recognised by the 'marshmallow test', where a child is presented with a small immediate reward and the condition that, if they wait, they will receive a larger reward. The child must therefore demonstrate self-control and overcome the desire to obtain an immediate reward, and hence show delayed gratification (Conti, 2019; Mischel & Baker, 1975; Piquero et al., 2016).

Targeted or Universal

Child social skills training programmes can be implemented either through universal prevention or indicated prevention (Beelman & Lösel, 2020). The former refers to universal programmes implemented with a sample of children and young people that may or may not be considered at-risk for crime or violence. In contrast, the latter describes programmes that are implemented with samples known to be exhibiting challenging behaviours, specifically those behaviours known to be associated with later antisocial or violent behaviours: for example, conduct disorder or oppositional defiant disorder.

[1] https://www.sciencedirect.com/topics/neuroscience/psychoeducation

Implementing personnel

Neither review provides descriptive information about implementing personnel in included child social skills training programmes. Piquero et al. (2016) compared programmes that were implemented in schools and programmes implemented in clinical settings but did not provide any further information.

Duration and Scale

Beelman and Lösel (2020) coded the intensity of child social skills training programmes as follows: low, low-moderate, high-moderate, or intensive. The authors estimated intensity by multiplying the number of sessions by the reported duration of each session to calculate the total number of intervention hours. Low intensity programmes were those that included up to 8 hours or 10 sessions over a 2-month period of intervention. Low-moderate intensity programmes were those in which participants interacted with the intervention for 9-15 hours or in 11-20 sessions over a 2-4-month period. Interventions coded as high-moderate incorporated 16-30 hours or 21-40 sessions in a 4-8-month period. Intensive interventions were those that included more than 30 hours or more than 40 sessions in an 8-month period.

Examples of this approach

Two well-known evidence-based examples of child social skills training programmes are: (1) SNAP and (2) PATHS.

1. *Stop Now And Plan (SNAP)*
   Developed in Canada, SNAP is a multi-modal, gender-specific, evidence-based treatment programme for child externalising behavioural problems with a focus on self-control (Augimeri et al., 2018). The programme involves a number of therapeutic interventions and is grounded in a scientist-practitioner model (which refers to the approach in clinical psychology that clinical psychologists are trained as both scientists and practitioners).

   The programme is available for families with children aged 6-11 years old who are exhibiting externalising behaviour problems. During the intervention, children are

taught about their emotional responses that could trigger their aggressive behaviour. Emotional responses are discussed in relation to both cognitive and physiological awareness. Children are taught how to "improve self-control and incorporate problem-solving skills to make better choices in the moment" (Augimeri et al., 2018, p. 44).

The SNAP programme involves work with individual children, but also with their families, peers, and schools during a critical developmental stage. The intervention components include: a child cognitive-behavioural group, a parent group, counselling/mentoring for the child, family counselling, school advocacy and consultations with teachers. Augimeri et al. (2018) state that the programme components are offered on the basis of the risk and need profile of each child and family. The programme is delivered under a holistic treatment approach, and the importance of self-control in a broader context of individual risk and risk factors is highlighted.

Throughout the SNAP programme, children learn to recognise their responses and thoughts in conflict situations, and consider their ability to "make good choices in the moment" (Augimeri et al., 2018, p. 44). A step-by-step process allows the child to first "Stop", by taking calming breaths or counting to 10, followed by thinking of coping strategies (i.e., "Now And") and "Plan" a socially acceptable way to handle the problem they are faced with.

2. *Promoting Alternative Thinking Strategies (PATHS)*
PATHS® is a child social skills programme that helps all children to develop the skills, such as self-control, emotional awareness and interpersonal problem-solving, that they need to make positive choices throughout their lives[2]. The programme is implemented in school settings with primary school children and aims to improve a range of skills, including self-esteem, emotional intelligence, conflict resolution, and self-control, to improve classroom behaviour and

[2] http://www.pathseducation.co.uk

academic engagement. The programme also aims to reduce aggression, emotional distress and conduct problems.

The PATHS programme is a manualised intervention and provides a "fully scripted and resourced" curriculum with lesson plans and ideas for every year group in primary schools. Extensive training is provided for school staff to implement the curriculum, and experienced coaches provide ongoing support to schools.

There are four conceptual units in the PATHS programme for schools (UK version): emotional understanding, self-control, social problem solving, and peer relations and self-esteem. Children are taught to "Stop and Think" in response to emotional situations and are then given the skills to mediate their understanding of the self and others. Emotional understanding is integrated into cognitive and linguistic skills to help children to assess and resolve problems. A critical aspect of the programme is the development of "verbally mediated self-control" when experiencing problem behaviours.

The programme website describes how the programme includes curricula that are developmentally appropriate for all children, from children in Reception classes to Year 6 groups.

Theory of change/presumed causal mechanisms

The presumed causal mechanism in child skills training is that promoting the development of social and self-control skills will encourage children to think before they act, decrease their impulsiveness, increase their development of internal inhibitions against antisocial behaviour and reduce the risk of involvement in crime and violence later in life.

Piquero et al. (2016) note the importance of self-control in key criminological theoretical frameworks. Thus, child skills training programmes designed to improve self-control work to: *"…improve* [youth] *impulse control and strengthening* [youth] *resolve against impulsive acts"* (Piquero et al., 2016, p. 250). These interventions also target decision-making processes and

shift emphasis from immediate gratification to long-term consequences of behaviour in order to reduce offending and related behaviour.

Evidence base

Descriptive overview

Beelman and Lösel (2020) reviewed 113 evaluations of child social skills training programmes and their findings are based on 130 independent randomised intervention-control comparisons. This was an extensive meta-analysis, with 385 effect sizes estimated for various antisocial behaviour outcomes. These were then aggregated and reported separately for different follow up timeframes. The majority of evaluations reported outcomes for post-intervention (i.e., immediately following implementation, *n* = 119). Fewer evaluations reported outcomes after 3-12 months following implementation (follow-up 1; *n* = 20) or after more than one year (follow-up 2; *n* = 14). Nearly half (41.8%) of evaluations included by Beelman and Lösel (2020) were published since 2000, and the earliest evaluation was conducted in 1971. The majority of evaluations (75.5%) were conducted in the USA, and only one evaluation of child social skills training was conducted in the United Kingdom (i.e., Little et al., 2012). The mean sample size was 263 participants, but evaluations ranged from very small samples (minimum *n* = 13) to large sample sizes (maximum *n* = 6,733). We focus on the post-intervention delinquency effect sizes.

Piquero et al. (2016) included 36 evaluations of self-control interventions that reported effects on delinquency. The only non-US studies were conducted in Canada, Romania or Israel, as the sample of evaluations were predominantly from the USA (*n* = 30). Evaluations included in Piquero et al.'s review were conducted between 1981 and 2014 and the majority were published (*n* = 29). Most evaluations included samples labelled as 'high-risk, low-income' (*n* = 29) and most evaluations included predominantly White samples (*n* = 23). Most evaluations had samples with higher percentages of male participants (*n* = 24) and nearly all interventions were implemented in school settings (*n* = 32).

Assessment of the strength of evidence

We have confidence that, at the time of writing, the reviews by Piquero et al. (2016) and Beelman and Lösel (2020) represent the best available evidence on the effectiveness of child social skills training. Our decision rule for determining the evidence rating is summarised in the technical guide.

Two independent coders used a modified version of the AMSTAR2 critical appraisal tool was used to appraise the reviews by Beelman and Lösel (2020) and Piquero et al. (2016). Both were updated meta-analyses of earlier reviews (Lösel & Beelman, 2003; Piquero et al., 2010) and these previous reports were also consulted if additional information was required. According to this tool, the review by Beelman and Lösel (2020) was rated as 'medium' and the review by Piquero et al. (2016) was rated as 'low'. The results are summarised in Annex 4.

Both reviews adequately specified the research questions and the inclusion/exclusion criteria. The inclusion criteria included components relating to the population, intervention, comparison group and outcome of interest.

Neither review stated that the review protocol was registered prior to publication of the findings, but both reviews were updates of earlier published works and there was little to no variation in the methods used to conduct the updated reviews. However, the protocol for the earlier review by Piquero et al. (2010) was registered with Campbell Systematic Reviews.

Beelman and Lösel (2020) and Piquero et al. (2016) both only included RCTs. Therefore, the included evaluations should have had high internal validity.

The two reviews reported a comprehensive literature search strategy including a number of different databases, designated keywords and search strategies. Neither review restricted inclusion criteria to only peer-reviewed publications, and Piquero et al. (2016) searched for publications in English and German. Beelman and Lösel (2020) only searched for studies published in English.

Neither review reported on the process of coding studies or whether more than one individual coded eligible studies. A list of excluded studies was not included by either Beelman and Lösel (2020) or Piquero et al. (2016).

Piquero et al. (2016) did not include a measure of risk of bias beyond comparing effect sizes for published and unpublished studies. The presence of possible publication bias is discussed when interpreting the results of the meta-analysis. Beelman and Lösel (2020) also assessed the impact of publication bias on effect sizes.

Only Beelman and Lösel (2020) provide information about funding received for the project. A grant was received for open access publication of the report.

Both of the reviews conducted a meta-analysis and reported detailed information on the synthesis and estimation of weighted effect sizes and adequately reported the heterogeneity between primary effects. Each of the meta-analyses reported separate weighted effect sizes for independent outcomes and assessed multiple moderators as possible explanations for heterogeneity between primary effect sizes.

Beelman and Lösel (2020) report a direct estimate on delinquency based on 21 evaluations of social skills training programmes. There was high heterogeneity between primary effect sizes (I^2 = 89.6%), so that the evidence rating is 4. This is the review that informs the headline impact estimate.

Beelman and Lösel (2020) also provide an estimate for effects on several secondary outcomes, and the evidence rating for these outcomes is 4. However, because these are indirect estimate on outcomes of crime and violence the evidence rating is 2 for these outcomes.

Piquero et al. (2016) report a direct estimate on delinquency based on 36 evaluations of social skills training programmes. There was high heterogeneity between primary effect sizes (I^2 = 87%), so that the evidence rating is 3.

Impact

Summary impact measure

Overall, child social skills training programmes are effective in reducing delinquency (Beelman & Lösel, 2020). Self-control programmes are similarly effective in reducing delinquency (Piquero et al., 2016). Table 1 shows the effect sizes reported by reviews that inform the current technical report. Both reviews reported a weighted mean effect size (Cohen's *d*) of 0.27. This was converted into OR = 1.63 using the equation Ln(OR) = d/.5513 (Lipsey & Wilson, 2001, p. 202).

Table 1

Mean effect sizes for delinquency from included reviews

Review	ES (*d* and OR)	CI (OR)	*p*	% reduction	Evidence rating on crime and violence outcomes
Beelman & Lösel (2020); post-intervention	*d* = 0.27 OR = 1.63	1.14, 2.34	< .01	32%	4
Piquero et al. (2016)	*d* = 0.27 OR = 1.63	1.28, 2.08	< .001	32%	3

Note: ES = the weighted mean effect size; CI = 95% confidence intervals for the mean ES; *p* = the statistical significance of the mean ES; OR = odds ratio; *d* = Cohen's d reported under random effects model of meta-analysis.

If we assume equal numbers in the experimental and control conditions (e.g., N = 100 in each condition) and that the prevalence of delinquency in the control condition is 25% (i.e., 25 children are involved in delinquency out of 100), an odds ratio of 1.63 corresponds to 17 children involved in delinquency in the experimental condition, a relative decrease of approximately 32%. Annex 2 explains the transformation from an odds ratio to a percentage reduction in greater detail.

A prevalence of delinquency of 25% is a plausible assumption; for example, in the Cambridge Study in Delinquent Development, which is a prospective longitudinal survey of 411 London boys, 25% were convicted between ages 10 and 17 (Farrington, 2012). However, prevalence can vary greatly, for example depending on the time, place, sample, definition and measurement of delinquency. The impact estimate is not greatly affected by the assumed prevalence of delinquency in the control group, and this is also explained in Annex 2.

Additional outcomes

Beelman and Lösel (2020) reported the effectiveness of social skills training programmes on multiple outcome domains. The results are summarised in Table 2. The findings suggest that social skills training are effective in reducing various outcomes relating to youth violence and offending. For example, social skills training can reduce aggression by 28%, oppositional/disruptive behaviours by 32% and general antisocial behaviour by 26%.

Piquero et al. (2016) also reported the effectiveness of social skills training on self-control outcomes. The weighted mean effect size was $d = 0.316$ ($p < .001$), suggesting that social skills training has a desirable effect on self-control (i.e., an increase).

Table 2

Additional outcomes from Beelman & Lösel (2020)

Outcome	ES (*d* and OR)	% reduction	Evidence rating on review outcome	Evidence rating on crime and violence outcomes
Aggression	*d* = 0.23 OR = 1.52	28%	4	2
Oppositional/disruptive behaviour	*d* = 0.27 OR = 1.63	32%	4	2

General antisocial behaviour	*d* = 0.21 OR = 1.46	26%	4	2

Moderators and mediators

Beelman and Lösel (2020) included a number of moderator variables in their meta-analysis in order to better understand how child social skills training programmes work to prevent antisocial behaviour. Importantly, their results suggest that indicated prevention programmes (*d* = 0.49) were significantly more effective than universal prevention programmes (*d* = 0.11) suggesting that child social skills training are more effective when children have already demonstrated behavioural problems. This could be a result of the observation that the intensity of indicated prevention programmes was higher than that of selective prevention programmes.

Social skills programmes were differentially effective depending on the age of participants, although the relationship was complicated. Overall, meta-regression analyses showed that social skills training programmes were more effective with older adolescents (B = 0.19, *p* = 0.02).

However, a non-linear relationship between age and effect size was also identified. When Beelman and Lösel (2020) controlled for outliers, the largest effect sizes were observed for evaluations that were conducted with children aged 9 to 10 years old (*d* = 0.44). This was the most common age range that participated in social skills training programmes, and the review found that both indicated (*d* = 0.59) and universal (*d* = 0.52) prevention programmes were significantly effective when implemented with children aged 9 to 10 years old. The lowest effects were seen for younger children (i.e., under 9 years old) and low to medium effects were seen for adolescent groups.

Subgroup analyses also showed that programmes implemented with majority male participants were more effective. Evaluations with a sample of which 61-80% were male (*d* = 0.41) and evaluations with a sample of which 81% or higher were male (*d* = 0.41) were significantly more effective than evaluations with samples of which 41-60% were male (*d* =

0.13) and evaluations with mostly female participants (*d* = 0.17). Further research is needed however, as it is possible there is a relationship between gender and age. We know that girls and boys develop social skills at different rates and so this might be a possible explanation of this finding.

Programmes that were described as psychodynamic (i.e., focusing on the underlying psychological processes, such as cognitions and emotions that underpin behaviour) or humanistic (i.e., focusing on the whole person and emphasising well-being, reaching full potential and concepts such as agency, self-efficacy, and free will) gave larger effect sizes (*d* = 0.31) compared to programmes that used cognitive-behavioural training (*d* = 0.24). The difference between the mean effect sizes was statistically significant.

Among cognitive-behavioural programmes, interventions with a behavioural focus (e.g., verbal and non-verbal communication skills) were more effective than those with a social-cognitive focus (e.g., social information processing, or how the child interprets and processes information from the world around them, and cognitions or perceptions about the self and others).

Programmes that incorporated individual training (*d* = 0.34) were more effective in reducing delinquency than social skills programmes that were implemented through group training (*d* = 0.25). Social skills training programmes that were implemented by the study authors, programme developers, or university staff were also associated with greater effectiveness.

Interestingly, Beelman and Lösel (2020) found a significant negative correlation between attrition and effect size, meaning that, as the percentage rate of drop-out in randomised controlled trials increased, the effect size for antisocial behaviour decreased.

In a meta-regression analysis, Beelman and Lösel (2020) included three moderators: the type of prevention (i.e., universal or indicated), the categorical age of participants and the proportion of males included in the evaluation. They found that, when all three moderators were included in the model, only the type of intervention had significant effects on antisocial

behaviour. Notably, indicated prevention programmes (i.e., those implemented with 'at-risk' children) were significantly more effective than universal prevention programmes.

Piquero et al. (2016) also included a range of moderators in their meta-analysis, but the analysis may be affected by the unequal numbers of studies in the established subgroups. Not surprisingly, evaluations conducted in the USA were associated with larger effect sizes for delinquency.

An important finding is that, in both reviews, gender was found to be a significant moderator. Both Beelman and Lösel (2020) and Piquero et al. (2016) reported that evaluations that had a higher proportion of male participants were associated with greater reductions in antisocial behaviour and delinquency, respectively.

Implementation

Neither review included information about implementation fidelity or process evaluations of included interventions. UK process evaluations are reviewed in Annex 3.

Three evaluations of programmes focused on social skills training are used here: (1) Humphrey et al. (2008): Evaluation of Small Group Work in Social and Emotional Aspects of Learning (SEAL) in primary schools; (2) Humphrey et al (2010): the national evaluation of SEAL in secondary schools; and (3) Humphrey et al. (2018) an evaluation of PATHS in 45 schools in Greater Manchester.

The main themes emerging from these studies are listed below. Note that an item may be both a success factor and a challenge, sometimes even within the same study.

Success factors

Common success factors were:

- A perceived need for social and emotional learning type interventions by teachers, whilst building on previous activities in this area
- The accessibility of the material, including easy to use teaching materials
- Adaptability of materials

- Support and enthusiasm of the school leadership

Challenges

- The most common challenge was finding the time. Teachers said the there was insufficient time to deliver the full curriculum so that only about half the lessons were delivered. In the PATHS evaluation, delivery fell from 63% in year 1 to 39% in year 2.
- Teachers were sometimes not consulted about the introduction of the programme in their school, so felt that it was forced on them.
- Teachers questioned the cultural transferability of the programme from the United States, some suggesting that they did not find the content appropriate, especially for minority populations. Some teachers questioned the accuracy of the materials.
- Some teachers were resistant to the programme – partly as it was viewed as one of many other additional tasks that they were being asked to do.
- Lack of support from the local authority, which meant that SEAL was an underfunded initiative.

Cost analysis

Neither Beelman and Lösel (2020) nor Piquero et al. (2016) reported information on cost data. However, Farrington and Koegl (2015) published a cost-benefit analysis of the "Stop Now And Plan" programme in Canada. On average, the programme cost $4,641 per participant, but Farrington and Koegl (2015) estimated that the consequent reduction in convictions saved between $2.05 and $3.75 per dollar spent on the programme. The savings were even greater (between $17.33 and $31.77) when convictions were scaled up to offences (based on the ratio of self-reported offences to convictions).

Humphrey et al. (2018) present a cost analysis for PATHS in Greater Manchester. The incremental cost, compared to practice in control schools, was £30 per child. Based on the association between the improvements in children's social skills and their later academic attainment, a significant increase in quality adjusted life years (QALYs) was found, which was equivalent to a net benefit of £7.64 per child. Sensitivity analysis gave a 88% probability that the programme was cost-effective, but that figure was 99% in all costing scenarios except one.

Findings from UK/Ireland

Beelman and Lösel (2020) included one evaluation of a child social skills training programme in the United Kingdom (i.e., Little et al., 2012). Piquero et al. (2016) did not include any evaluations conducted in the UK or Ireland. There are also evaluations by Neil Humphrey of SEAL and PATHS. The three UK studies are summarized in Table 3. Two find no effect (in one of these PATHS is compared to SEAL), and one finds a modest effect, but that effect is not sustained.

Table 3 *UK evaluations of child social skills training programmes*

Study	**Programme**	**Design**	**Impact**
Little et al. (2012)	The PATHS programme is a school-wide social-emotional learning curriculum for children aged 4 to 11 years old. The intervention was implemented as part of the Birmingham Brighter Futures strategy.	A cluster-randomised controlled design including 56 schools in Birmingham, UK. Students in 29 schools implemented the curriculum and 27 acted as a waitlist control condition. 5,397 students participated and baseline data was collected in 2009. Outcomes were measured using the teacher-report SDQ and the PATHS Teacher Rating Survey to measure children's behavioural and emotional difficulties, social competence, and emotional regulation.	"at first follow-up there were modest improvements in pupils' emotional health and behavioural development in the PATHS schools compared to those in control schools. However, at the two-year follow-up, these gains had all been lost" (Little, 2012: 267).
Humphrey et al. (2018)	The PATHS curriculum for promoting social and emotional well-being among children aged 7–9 years: a cluster RCT.	"Primary schools (n = 45) [in Greater Manchester] were randomly assigned to implement PATHS or to continue with their usual provision for 2 years… Children (n = 5218) in Years 3–5 (aged 7–9 years) attending participating schools…Schools in the usual provision group delivered the Social and Emotional Aspects of Learning programme and related interventions." (p.v).	"PATHS led to marginal, non-significant improvements in children's social skills (d = 0.09) and perceptions of peer and social support (d = 0.11). A very small but statistically significant improvement in children's psychological well-being (d = 0.12) was also observed". However, there was no evidence of any maintenance of effects at 24-month post-intervention follow-up." (p.xx)

Humphrey et al. (2010)	Social and emotional aspects of learning (SEAL) programme in secondary schools: national evaluation	22 SEAL schools and a matched group of 19 comparison schools were recruited to take part in a quasi-experimental study. Pupils in Year 7 at the beginning of the academic year 2007/8 (N = 8, 630) were the target cohort.	"SEAL (as implemented by schools in our sample) failed to impact significantly upon pupils' social and emotional skills, general mental health difficulties, pro-social behaviour or behaviour problems." (p.2)

References

Augimeri, L. K., Walsh., M., Donato, A., Blackman, A., & Piquero, A. R. (2018). SNAP (Stop Now And Plan): Helping children improve their self-control and externalizing behavior problems. *Journal of Criminal Justice, 56,* 43 – 49. https://doi.org/10.1016/j.jcrimjus.2017.08.010

Beelman, A., & Lösel, F. (2020). A comprehensive meta-analysis of randomized evaluations of the effect of child social skills training on antisocial development. *Journal of Developmental and Life-Course Criminology.* https://doi.org/10.1007/s40865-020-00142-8

Brännström, L., Kaunitz, C., Andershed, A., South, S., & Smedslund, G. (2016). Aggression replacement training (ART) for reducing antisocial behavior in adolescents and adults: A systematic review. *Aggression and Violent Behavior, 27,* 30 – 41. https://doi.org/10.1016/j.avb.2016.02.006.

Conti, R. (2019). *Delay of gratification.* Encyclopedia Britannica, https://www.britannica.com/science/delay-of-gratification

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405 – 432. https://doi.org/10.1111.j.1467-8624.2010.01564.x

Farrington, D. P. (2012). Childhood risk factors for young adult offending: Onset and persistence. In F. Lösel, A. Bottoms, & D.P. Farrington (Eds.) *Young Adult Offenders: Lost in Transition?* (pp. 48-64). Abingdon: Routledge.

Farrington, D. P. and Koegl, C. J. (2015) Monetary benefits and costs of the Stop Now And Plan programme for boys aged 6-11, based on the prevention of later offending. *Journal of Quantitative Criminology,* 31, 263-287.

Humphrey N, Kalambouka A, Bolton J, Lendrum A, Wigelsworth M, Lennie C, and Farrell P (2008) Primary Social and Emotional Aspects of Learning (SEAL): Evaluation of Small Group Work. . London: Department for Children, Schools and Families,

Humphrey N, Lendrum A, and Wigelsworth M (2010) Social and emotional aspects of learning

(SEAL) programme in secondary schools: National evaluation. Research Report DFE-RR049.

Humphrey N, Hennessey A, Lendrum A, Wigelsworth M, Turner A, Panayiotou M, et al. The

PATHS curriculum for promoting social and emotional well-being among children aged 7–9 years: a cluster RCT. Public Health Res 2018;6(10)

Lipsey, M.W. & Wilson, D.B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.

Little, M., Berry, V., Morpeth, L., Blower, S., Axford, N., Taylor, R., Bywater, T., Lehtonen, M., Tobin, K. (2012). The impact of three evidence-based programmes delivered in public systems in Birmingham, UK. *International Journal of Conflict and Violence, 6*(2), 260 – 272.

Lösel, F., & Beelman, A. (2003). Effects of child skills training in preventing antisocial behavior: A systematic review of randomized evaluations. *The Annals of the American Academy of Political and Social Science, 587*(1), 84 – 109.

Mischel, W., & Baker, N. (1975). Cognitive appraisals and transformations in delay behaviour. *Journal of Personality and Social Psychology, 31,* 254 – 261.

Piquero, A. R., Jennings, W. G., & Farrington, D. P. (2010). On the malleability of self-control: Theoretical and policy implications regarding a general theory of crime. *Justice Quarterly, 27*(6), 803 – 834. https://doi.org/10.1080/07418820903379628

Piquero, A., Jennings, W.G., Farrington, D. P., Diamond, B. and Gonzalez, J.M.R. (2016). A meta-analysis update on the effectiveness of early self-control improvement programs to improve self-control and reduce delinquency. *Journal of Experimental Criminology,* 12, 249-264.

van der Stouwe, T., Gubbels, J., Castenmiller, Y. L., van der Zouwen, M., Asscher, J. J., Hoeve, M., van der Laan, P. H., & Stams, G. J. J. M. (2020). The effectiveness of social skills training (SST) for juvenile delinquents: A meta-analytical review. *Journal of Experimental Criminology.* https://doi.org/10.1007/s11292-020-09419-w

Annex 1: Social skills versus social and emotional learning

Social skills training is a set of interventions that might possibly be seen as a subset of the broader umbrella term of 'social and emotional learning'. We made the decision to produce a technical report on child social skills training programmes independently of social and emotional learning interventions, based on expert opinion and critical evaluation of the two concepts.

Social and emotional learning is rarely studied in the criminological literature, which focuses on behaviour (especially antisocial and criminal behaviour) rather than on emotions. For example, the search terms of Beelman and Lösel (2020) were social skills training and social competence training, as well as antisocial and delinquent behaviour. The programmes that were reviewed targeted social skills rather than emotions.

It is important to highlight that the label 'social and emotional learning' (SEL) is a component of a broad range of interventions, for example, anti-bullying programmes, mentoring programmes or sports-based interventions. Emotional skills can also be an important component of social skills training programmes, as some interventions will focus on the behaviour, cognitions, or emotions that are fundamental in the development of social skills.

As a lot of interventions (that target a lot of different outcomes) are conducted under the umbrella term of social and emotional learning, it was important that the present report focussed more narrowly on social skills training and its effectiveness in reducing youth antisocial behaviour, violence, delinquency and/or offending. That is not to say that a technical report on social and emotional learning would not be useful – but just that SEL is not the focus of the present report.

Annex 2: Effect size calculations

This annex shows the calculation based on the results and assumptions given in the text. We assume 200 youth, evenly divided between the treatment and comparison groups. That means there are 100 youth in the control group and 100 youth in the treatment group. Assuming that 25% of youth in the control group become involved in delinquency, the mean effect sizes for both reviews can be easily transformed to a percentage reduction in delinquency.

If the odds ratio for delinquency is 1.63 (for both reviews), then using the table below and the formula for an OR, we can estimate the value of X. The odds ratio is estimated as: A*D/B*C, where A is the number of non-delinquents in the treatment group, B is the number of delinquents in the treatment group, C is the number of non-delinquents in the control group, and D is the number of delinquents in the control group. Therefore, the value of X is 16.98 in the case of the reviews by Beelman and Lösel (2020) and Piquero et al. (2016).

	Don't become involved in delinquency	Do become involved in delinquency	Total
Treatment	100-x	x	100
Control	75	25	100

Therefore, the relative reduction in delinquency is (25 – 16.98)/25 = 32.08% for both reviews.

The prevalence of delinquency is likely to vary between studies and can be influenced greatly by the sample, the type of report (e.g., self-report or police data), the survey used, the time period of reporting, the types of behaviour measured, etc. If we were to adjust our assumption that 25% of the control group are delinquent, the relative reduction in the intervention group is not greatly affected.

For example, if we assume that 10% of the control group become involved in delinquency, the 2x2 table would be as follows and the value of X is 6.38 (for both reviews). Therefore, the relative reduction is 36.2% (i.e., (10 – 6.38)/10]*100).

	Don't become involved in delinquency	Do become involved in delinquency	Total
Treatment	100-x	x	100
Control	90	10	100

Similarly, if we assume that 40% of the control group become involved, the value of X would be 29.03 (for both reviews) and the relative reduction in delinquency would be 27.43%. Given the dramatic differences in the assumed prevalence of delinquency, the percentage reduction does not vary in a similar fashion. Table 4 summarises the results.

Table 4: *Variation in the relative reduction in delinquency depending on various assumptions.*

	Beelman & Lösel (2020) OR = 1.63	Piquero et al. (2016) OR = 1.63
Assumed prevalence	*Relative reduction in delinquency*	
10%	36.2%	36.2%
25%	32.08%	32.08%
40%	27.43%	27.43%

Annex 3: Summary of UK Process Evaluation Studies

Author & Title	Intervention	Success factors	Issues/Challenges	Young people's views
Humphrey et al 2010 Social and Emotional Aspects of Learning (SEAL)programme in secondary schools: National Evaluation	SEAL is a comprehensive, whole-school approach based on 'waves of intervention' to promote the social and emotional skills.	High level of **staff involvement** from the outset enabling a greater sense of ownership of the initiative. **Substantial and consistent support of local authority (LA) staff** in terms of training, modelling and provision of additional resources. Of the elements of LA support that were made available, *provision of training* about SEAL and related issues was deemed to the most useful. Perceived **enthusiasm and investment in SEAL by the leadership** led to conducive environment for effective implementation as it delivered a message of 'credance' and 'a stamp of approval' to other staff members. **Basic climate and quality of relationship in a school** were central for effective implementation. **Will, Skill, Experience and confidence in delivery of implementer**.	**Lack of awareness among school staff** about SEAL and initial **weak buy-in** leading to lack of staff involvement. **Reduced support at local authority level over a period of time** and as one of the school staff reported receiving 'superficial support' from LA. Leadership support waned over time in some of the schools, often as a result of competing pressures or the school's involvement in other initiatives. Inability of some schools to assimilate SEAL into existing structures and practices. Presentation of SEAL as an add-on inevitably brings the issue of **time-constraints**- one of the most consistently reported barrier in implementation.	Pupils reported during the focus groups that they felt more socially confident. Changes in interpersonal skills, particularly pupil-parent and pupil-teacher relationships were linked to improvements in behaviour. Pupils were able to cite a lesson objective that had impacted upon their interactions with a staff member: "There was one PLEATS [SEAL] lesson that said at the end of this lesson I will not be afraid to go to the teacher if I need to… then the next day I did actually go to her"

		Format and Website with relevant information proved useful to some. **Flexibility** of SEAL was also a facilitator for some.	SEAL was mostly reported as **an under resourced initiative** as most schools did not receive any grant or financial resources to aid implementation. **Resistance of staff** also posed challenge as the staff members were inflexible and not open to adopting SEAL. Some even perceived it as one of the 'multiple initiatives' to be juggled along with existing commitments. **The quality of SEAL material** was not acceptable to some teachers as some pointed factual inaccuracies while others reported inappropriateness with respect to level of development of pupil indicating the need of adaptation. The **flexibility of SEAL** was also challenging for some of the SEAL leads.	
Humphrey et al 2008 Primary Social and Emotional Aspects of Learning (SEAL):	SEAL is a comprehensive, whole-school approach based on 'waves of intervention' to promote	**<u>Success features:</u>** **Skills and experience of the facilitator**	Staff or management's **attitudes** to SEAL **Initiative overload** with serious space and time constraints.	The increased understanding of self laid the groundwork for increased personal control over impulses to act. e.g. A

Evaluation of Small Group Work	the social and emotional skills. SEAL is delivered in three waves. The present study is an evaluation of SEAL wave 2-the small group work intervention for children who require extra help in developing social and emotional skills. The interventions revolve around enhancing these skills.	**Securing availability of an appropriate physical space and allocation of sufficient time** to conduct the sessions. A **triangulated referral procedure** for pupil selection. Ensuring that the small group facilitator has a strong **rapport with group members** and is able to model social and emotional skills in an effective manner Providing **additional support** back in the classroom. Engendering a **sense of fun and enjoyment in small group activities**. Making explicit links with SEAL Wave 1 work. Delivering SEAL small group work with a high degree of fidelity to the national guidance. Ensuring that SEAL small group work has an appropriate profile within the school	**Misconceptions** about the nature and purpose of small group work intervention model with the notion that it was simply a withdrawal group for 'naughty' children, with no perceived benefit for others.	pupil mentioned during the focus group "Think before you say something" and an improved sense of being able to manage and regulate feelings in pupils as narrated by one of them as: "Since my dad died when someone calls him I get worked up and it's like the group helps me just to…it like learns me to calm down if someone calls my dad." Pupil also shared improvement in their social skills such as: "I've learnt is that if someone's been nasty to you don't be nasty to them" "It improves your listening skills" The impact of small group intervention on academic learning was observed in the following verbatims of pupils:

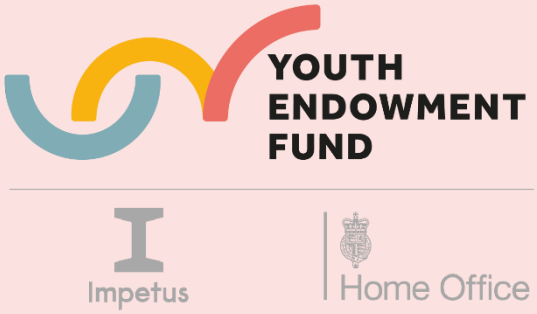
		Key aspects of effective delivery of small group interventions included **setting achievable targets** for children, providing acknowledgement and constant **reinforcement of desirable behaviour**, providing opportunities for pupils to verbalise their emotional experiences, and engendering a sense of fun. **Local authority training events** crucial part of the process. **Inter-school networks** played a role in supporting one another in their attempts to successfully implement the small group work. Some **LAs** had also begun to experiment with the development (or purchasing) of **additional materials** to provide schools with a greater range of options in their implementation of SEAL small group work. Readiness, Dipping in and Building on what you know at the level of school **Adaptation of material at the school level**	"You get relaxed and you go back to class and it helps you [to] listen and do your work." "They make learning really fun" "Makes me learn a lot". Overwhelming consensus among pupils (with only a couple of minor exceptions) was that the small group work was not actually 'work' in the sense that they understood it – rather, it was a time for 'fun' and 'games': "JB: So do you prefer being in a small group instead of a big class? Pupil 1: Yeah. Pupil 2: Definitely. JB: Why's that? Pupil 1: Because you play games and like in class you have to do work. Pupil 2: Boring work"

Humphrey 2018 The PATHS curriculum for promoting social and emotional well-being among children aged 7–9 years	Findings from an evaluation of PATHS in 45 schools in Greater Manchester	Teachers attracted to PATHS as a fresh approach (after SEAL) especially as evidence-based and seemed more structured. Also seen as more fun – though some sessions were too wordy and dull. (But others thought overlap with SEAL made some of the course irrelevant so they skipped opening sessions). The progression of skills was seen as a positive feature by teachers. Material is easy to use. But still can need a lot of preparation time to be familiar with the materials. [Some objected to it being so scripted]. Teachers see the need for SEL (which mostly they do)	Overall presented well, but drop in implementation fidelity with 65% of lessons delivered in year 1 and only 39% in year 2. Schools already had experience with several SEL programmes so not clear how PATHS was different. Not seen as a priority, so could get left out if no time. Finding the time was seen by teachers as the most significant barrier. Mostly teachers not consulted about introduction of PATHS so some felt it was forced on them. Some questioned relevance of the curriculum seeing it American. In a school with a majority Muslim	*Sometimes it's a bit long.* *. . . the stories would be better with pictures and books because you're reading it and they [pupils] just switch off because it's just really long and they just get fed up and even though you're asking questions and things it's difficult like . . . it just didn't work for them. [teacher]*

		Training and external support (coaches) seen as very useful, though some teachers did not use as felt teaching materials were sufficient	population some of it was seen as inappropriate. Others felt the the need to adapt the programme because of time constraints. Senior leadership team in school need to support and promote the approach	

Annex 4 – AMSTAR Quality Rating

Modified AMSTAR item		Scoring guide	Social skills	
			Beelman 2020	Piquero 2016
1	Did the research questions and inclusion criteria for the review include the components of the PICOS?	To score 'Yes' appraisers should be confident that the 5 elements of PICO are described somewhere in the report	Yes	Yes
2	Did the review authors use a comprehensive literature search strategy?	At least two bibliographic databases should be searched (partial yes) plus at least one of website searches or snowballing (yes).	Yes	Yes
3	Did the review authors perform study selection in duplicate?	Score yes if double screening or single screening with independent check on at least 5-10%	Yes	No
4	Did the review authors perform data extraction in duplicate?	Score yes if double coding	Yes	No
5	Did the review authors describe the included studies in adequate detail?	Score yes if a tabular or narrative summary of included studies is provided.	Yes	Yes
6	Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?	Score yes if there is any discussion of any source of bias such as attrition, and including publication bias.	Partial Yes	Partial Yes
7	Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?	Yes if the authors report heterogeneity statistic. Partial yes if there is some discussion of heterogeneity.	Yes	Yes
8	Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review? Overall	Yes if authors report funding and mention any conflict of interest	Partial Yes Medium	No Low



www.youthendowmentfund.org.uk

The Youth Endowment Fund Charitable Trust

Registered Charity Number: 1185413