Universal Social and Emotional Learning

Toolkit technical report

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About National Children's Bureau

This report has been produced by the National Children's Bureau on behalf of the Youth Endowment Fund. The National Children's Bureau works collaboratively across the issues affecting children to influence policy and get services working together to deliver a better childhood. They were commissioned by the Youth Endowment Fund (YEF) as their Toolkit Partner 2023-2026. The Toolkit partnership is managed on behalf of NCB by Dr Ciara Keenan. Any queries relating to the methods should be directed to ckeenan@ncb.org.uk.

About Youth Endowment Fund

The Youth Endowment Fund's mission is to prevent children and young people becoming involved in violence. They do this by finding out what works and building a movement to put this knowledge into practice. The fund was established in March 2019 by children's charity Impetus, with a £200m endowment and ten-year mandate from the Home Office. For more information, please visit www.youthendowmentfund.org.uk

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Abstract/Plain Language Summary

The objective of this report is to review the evidence on the effectiveness of universal social and emotional learning (Universal SEL) in reducing and/or preventing violence and offending involving children and young people. SEL involves the acquisition of the knowledge and skills to develop healthy identities, manage emotions, feel and show empathy for others, communicate effectively, and establish and maintain supportive relationships. Universal interventions are provided to all children or young people and are generally implemented in classrooms or large groups through a structured curriculum.

Key findings

- Universal SEL interventions are associated with a **24.5%** reduction in violence outcomes, based on a meta-analysis of 93 outcomes across 22 studies. There is **Very High confidence** in this finding. Twenty-one cluster randomised control trials (RCT) and one RCT provided robust causal evidence (nine high quality, eleven moderate quality and two low quality).
- Universal SEL interventions are associated with a **45.3%** decrease in crime and offending, based on a meta-analysis of 22 measured outcomes across four studies. There is **Low confidence** in this finding given the small number of studies and substantial variation in results. Four cluster RCTs, all rated as moderate quality.
- The impact of Universal SEL interventions differed meaningfully depending on the gender composition of participating children and young people. Interventions with mixed-gender groups samples showed moderate and statistically significant beneficial effects.
- Beneficial effects favouring Universal SEL programmes were found across all ethnicity groups examined.
- Universal SEL interventions demonstrate broadly similar effects across age groups, with no strong evidence that these programmes are substantially more or less beneficial for any particular age range.
- Evidence suggests that successful implementation of Universal SEL interventions is associated with strong fidelity, alignment with SEL-focused

frameworks, adherence to SAFE[1] principles, engaging and well-sequenced delivery, adequate provider training, and careful attention to equity, particularly cultural responsiveness and the inclusion of children and young people with SEND. However, the evidence underpinning these implementation factors is relatively limited and variable in quality.

- Available evidence indicates that children and young people consistently report positive experiences of Universal SEL programmes, highlighting enjoyment, engagement, and perceived relevance. They value interactive and culturally relevant delivery, note improvements in confidence, prosocial behaviour, and emotional wellbeing, and emphasise the transferability of skills for everyday life and future challenges, including school transitions. These findings are promising, but the underlying evidence base is not extensive and should be interpreted with appropriate caution.
- Universal SEL interventions may be relatively low-cost to implement. However, robust economic and cost-effectiveness evidence remains limited. While some studies suggest potentially substantial long-term economic benefits, including reduced crime-related costs and improved lifetime earnings, these findings are based on sparse evidence base and should therefore be treated cautiously.

Conclusion

Our meta-analysis finds that Universal SEL reliably reduce children and young people's involvement in violence, and improves behaviour, wellbeing, and school outcomes. Evidence for reductions in crime and offending is promising but remains less certain. Interactive, sequenced delivery using SAFE practices, ensuring fidelity to core content, and adapting programmes for cultural relevance must be prioritised in the implementation of Universal SEL interventions, while strategies for SEND inclusion must be developed. Active training for teachers and developing their own SEL skills are essential for effective implementation. Robust

[1] SAFE practices refer to the recommended approach in which interventions are delivered in a Sequenced, Active, Focused, and Explicit manner.

monitoring systems for fidelity should be embedded to strengthen outcomes. Together, these actions will enhance engagement, improve effectiveness, and ensure Universal SEL programmes meet the diverse needs of all learners.

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Preface on Terminology

This review draws on evidence spanning over half a century, during which language around personal characteristics has evolved significantly. At times, we may have to reproduce original terminology used in studies which we recognize today as being outdated and unacceptable offensive terms. This only occurs when the terminology is used in direct quotations or refers to an outcome that the author measured that remains relevant to our analysis. The wider narrative will adhere to current inclusive-language standards guided by the National Children's Bureau, Youth Endowment Fund, and Race Equality Foundation. These guiding principles include using capitalisation to acknowledge shared identities (e.g., Black, Asian), whilst not capitalising white due to its association with white supremacy. The review also avoids deficit framing and respects individuals' self-identification. Person-first language will generally be used when referring to children and young people, except for Deaf and autistic communities, who widely prefer identity-first language. The team acknowledges limitations in terminology and strives for respectful and precise representation throughout. The full preface on terminology can be accessed here.

Objective and Approach

The objective of this report is to review the evidence on the effectiveness of **Universal SEL** in reducing and/or preventing violence and offending involving children and young people. Social and emotional learning (SEL) involves the acquisition of the knowledge and skills to develop healthy identities, manage emotions, feel and show empathy for others, communicate effectively, and establish and maintain supportive relationships. SEL is generally recognised to comprise five key competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, n.d.).

Previous reviews within the youth justice field have focused more specifically on 'social skills training', a subset of SEL focusing primarily on self-control, perspective-taking, and the inhibition of antisocial behaviour. These reviews have shown that children who take part in social skills training are less likely to become involved in crime and violence (Beelmann & Lösel, 2021; Gaffney et al., 2021; Piquero et al., 2016). With social skills training, the presumed causal mechanism is that developing self-control, anger management, and problem-solving skills encourages children to think before they act, reduce impulsivity, and avoid aggression, leading to a reduced risk of involvement in antisocial behaviour, crime and violence (Gaffney et al., 2021).

The current review extends the focus to social and emotional learning more broadly, recognising that skills such as empathy, emotional regulation, and communication, are also important in supporting children to develop positive, prosocial identities, healthy, supportive relationships, and positive coping strategies, all of which help children to avoid aggression and antisocial behaviour.

The review included any studies which provided outcomes for children and young people aged 0 to 17 years. Included programmes were those in which the primary active component was the structured development of social and emotional skills through a documented SEL curriculum (manual, lesson plans, defined modules etc.), with at least 30% of contact time devoted to SEL skill-building[2]. Examples

[2] The 30%–50% threshold was agreed at the scoping stage as a pragmatic way of defining a substantively SEL-focused intervention and reducing overlap with other strands.

include Promoting Alternative Thinking Strategies (PATHS)[3], Second Step[4], and emotional literacy classes. The intervention must also seek to reduce crime, offending, or violence, or externalising behaviours associated with violence such as aggression, bullying or substance misuse, or school exclusions and disciplinary actions. Only studies with a treatment as usual comparison group were included; studies with an alternative treatment group were excluded.

Social and emotional learning programmes can be targeted or universal. The focus of this review is on **Universal SEL** only. Universal programmes are provided to all children or young people and are generally implemented in classrooms or large groups through a structured curriculum.

This technical report draws on a comprehensive systematic review methodology and includes:

- **Fifty-six effectiveness studies** from the USA, Canada, England, Ireland, China, Chile, Colombia, Croatia, Denmark, Germany, India, Italy, Niger, Portugal, Romania, Spain, and Switzerland, with 56 studies providing outcomes data for the meta-analysis: 93 violence outcomes across 22 studies; 22 crime and offending outcomes across 4 studies; and 630 outcomes across the whole of the YEF outcomes framework.
- **A meta-review consisting of sixteen systematic reviews** providing implementation insights on what factors influenced the effectiveness of Universal SEL interventions. Findings are reported according to the following implementation factors: delivery method, duration/dosage, features of effective programmes, frameworks guiding Universal SEL interventions, SAFE practices, curricula content, multicomponent programmes, sequencing of learning, fidelity, intervention providers and training, family involvement and equity considerations.

The remainder of this report is structured as follows: First, the **Description of the Intervention** outlines the key components of universal social and emotional

[3] For further reading on PATHS UK, see: PATHS® Childhood Development Programme for Schools | PATHS® UK | PATHS

[4] For further reading on Second Step, see: Second Step® K-12 Programs Strengthen Human Skills | Second Step®

learning and its intended implementation. Second, **How Effective is the Intervention?** presents findings from our meta-analysis on crime reduction and broader social outcomes. Third, **Who Does it Work For?** examines evidence on the populations that benefit most from universal social and emotional learning. Fourth, **What Factors Affect Implementation?** explores key factors which influence the effectiveness of universal social and emotional learning interventions. Fifth, **How Much Does It Cost?** reviews available cost data. Finally, the **Conclusion and Takeaway Messages** summarise key findings and recommendations, followed by **Appendices** detailing the systematic review methodology and characteristics of included research.

Description of the Intervention

In the following section details are provided on the interventions which inform this report, noting their key components, any equipment, materials, supplies or training required, the duration and intensity of interventions, who delivered the interventions, and where and how the interventions were delivered.

Features of the approach

Social and emotional learning supports children to think before they act, understand other people's perspectives, communicate effectively, and use strategies for managing impulsiveness or aggression. Programmes can vary from a single session to multi-year interventions. Universal SEL is aimed at all children and young people.

Appendix 3 presents detailed information for all included studies. The evidence base for this review comprises studies from:

- USA (n=34)
- Italy (n=3)
- England (n=2)
- Canada (n=2)
- China (n=2)
- Germany (n=2)
- Ireland (n=2)
- Spain (n=2)
- Australia (n=1)
- Chile and Columbia (n=1)
- Croatia (n=1)
- Denmark (n=1)
- Hong Kong (n=1)
- India (n=1)
- Niger (n=1)
- Portugal (n=1)
- Romania (n=1)
- South Africa (n=1)

- Switzerland (n=1)

Key components of Universal SEL

All the Universal SEL programmes included in this review are manualised approaches to supporting children and young people to develop social and emotional competencies.

Programmes are typically delivered to a whole classroom and are highly structured, with detailed lesson plans, activities, and in some cases scripts. Children and young people are supported to recognise emotions, develop empathy, display pro-social behaviour and problem-solve. Structured techniques are presented, such as through identifying problem situations and planning and evaluating potential solutions. In Tools of the Mind (Blair et al., 2018; Morris et al., 2014; Nesbitt & Farran, 2021), children were encouraged to plan their play, in some cases collaboratively with the teacher and other children. This was intended to strengthen children's abilities to regulate their emotions and behaviour.

Techniques utilised included storytelling, puppets, videos and modelling to introduce and practice new concepts and behaviours. Once concepts had been introduced, they were reinforced through role-playing, games, group activities, and discussions. Some programmes included additional components such as goal setting (Bergin et al., 2024; Conner & Fraser, 2011; Dodsworth, 2002; Frey et al., 2005; Muratori, Bertacchi, et al., 2017; Muratori, Giuli, et al., 2017). Where wellbeing or emotion regulation was a feature of the intervention, several programmes utilised mindfulness practices, such as breathing techniques (Brown et al., 2023; Coelho et al., 2023; Finlon et al., 2015; Frank et al., 2017; Izard et al., 2008; Newman et al., 2024; Schonert-Reichl et al., 2015).

The most frequently evaluated programme in the review was Promoting Alternative Thinking Strategies (PATHS)/Preschool PATHS, which was a component of 11 interventions (Bierman et al., 2008; Conduct Problems Prevention Research Group, 1999; Crean & Johnson, 2013; Domitrovich et al., 2007; Fishbein et al., 2016; Hamre et al., 2012; Humphrey et al., 2016; Malti et al., 2011; Morris et al., 2014; Novak et al., 2017; Shek & Sun, 2010). PATHS aimed to encourage social and emotional competence by developing emotional literacy, positive peer relations, and social

problem solving. Modules included self-control, emotional understanding, positive self-esteem, healthy relationships and interpersonal problem-solving skills.

Some programmes addressed behaviours beyond social and emotional competencies. Positive Action (Beets et al., 2009; Duncan et al., 2016; Duncan et al., 2019; Guo et al., 2015; Lewis, 2012; Schmitt et al., 2014; Washburn, 2011) adopted an asset-building approach and addressed additional health-related behaviours such as physical activity and nutrition to support development of positive self-esteem and self-concept.

While all the studies addressed children's behaviour, parents and carers were involved in several interventions, for example by attending parent/carer sessions or sharing materials to encourage reinforcement of the learning at home (Bierman et al., 2008; Crean & Johnson, 2013; Finlon et al., 2015; Fishbein et al., 2016; Humphrey et al., 2016; Izard et al., 2008; Komro et al., 2004; Lewis, 2012; Singh et al., 2019; Ştefan & Miclea, 2013). In addition to these sessions, Singh et al. (2019) described how a support network for parents and carers was facilitated and activities were held to encourage involvement with the school.

The school environment was directly addressed in eight studies (Beets et al., 2009; Bergin et al., 2024; Bierman et al., 2008; Brown et al., 2023; Guo et al., 2015; Jensen et al., 2013; Shinde et al., 2020; Ştefan & Miclea, 2013). Examples included creating colourful decorations reinforcing the messages of the programme, encouraging staff to reflect on current practices and providing opportunities for change, involving the school community in school-related decisions, and training teachers to engage in positive classroom management.

Some interventions directly addressed aggression or violence (Bierman et al., 2008; Conner & Fraser, 2011; Daunic et al., 2012; Guo et al., 2020; Luengo Kanacri et al., 2020; Waasdorp et al., 2022; Wike, 2011), such as Second Step (Frey et al., 2005; Lipschutz, 2010; Low et al., 2019; Polanin, 2014; Stephenson, 2009; Sullivan et al., 2015b, 2015a). Though the core components remained similar to the other interventions in the review, some versions of Second Step included content around anger management, diffusing fights and resisting peer pressures. DARE25 (Culliney et al., 2022) encouraged children to avoid crime and violence by encouraging safe, healthy and informed decision-making. It focused on areas

such as peer pressure, balancing risks and consequences and managing stress. Drug use was addressed in one study (Komro et al., 2004) and involved a multicomponent intervention which included teachers, peers, parents and community volunteers.

Equipment, materials or supplies

As per the eligibility criteria, all included interventions were manualised and had a detailed programme manual outlining session content and activities, with programmes such as PATHS and Second Step including scripts.

Across studies, materials and props were widely utilised, such as puppets, books, music and videos to introduce new concepts and promote discussion. For example, (Losel et al., 2009) described how pictures of people displaying different emotions were analysed and Crean & Johnson (2013) noted inclusion of "lessons, pictures, photographs, posters and other materials for feelings identification". Webster-Stratton et al. (2008) described how the Incredible Years Teacher Classroom Management and Child Social and Emotion curriculum offered a menu of materials to choose from including 100 videotaped modules, life-size puppets, homework activities, games and picture cue cards.

Several studies reported that materials were shared with parents and carers to enable further practice and reinforcement at home (Bierman et al., 2008; Crean & Johnson, 2013; Finlon et al., 2015; Fishbein et al., 2016; Humphrey et al., 2016; Izard et al., 2008; Komro et al., 2004; Lewis, 2012; Singh et al., 2019; Ştefan & Miclea, 2013). Bierman et al. (2008)'s description of the PATHS curriculum mentioned inclusion of "handouts for parents, with suggestions for home activities. Children also took home letter stickers and compliment pages to prompt their parents to ask them about their school day and provide positive support at home".

In addition, venues and arrangements would be necessary for some of the additional elements of the programmes. Culliney et al. (2022) described how a graduation ceremony was arranged to celebrate students' completion of DARE25, and similar arrangements would be required for the parent meetings and activities in Singh et al. (2019).

Who delivers Universal SEL

A variety of professionals were involved in the delivery of the social emotional learning programmes, with some delivered by multiple experts from different fields:

- A large majority of Universal SEL interventions were provided by teachers, in some cases supported by other professionals (Beets et al., 2009; Bergin et al., 2024; Bierman et al., 2008; Blair et al., 2018; Brown et al., 2023; Castro-Olivo, 2014; Clarke et al., 2014; Coelho et al., 2023; Conduct Problems Prevention Research Group, 1999; Conner & Fraser, 2011; Crean & Johnson, 2013; Daunic et al., 2012; DiPerna et al., 2018; Dodsworth, 2002; Domitrovich et al., 2007; R. J. Duncan et al., 2019; Feis & Simons, 2008; Finlon et al., 2015; Fishbein et al., 2016; Frank et al., 2017; Frey et al., 2005; Garaigordobil & Echebarría, 1995; Guo et al., 2015; Hamre et al., 2012; Humphrey et al., 2016; Izard et al., 2008; Jensen et al., 2013; Lewis, 2012; Lipschutz, 2010; Low et al., 2019; Luengo Kanacri et al., 2020; Malti et al., 2011; Morris et al., 2014; Muratori, Bertacchi, et al., 2017; Muratori et al., 2018; Muratori, Giuli, et al., 2017; Nesbitt & Farran, 2021; Novak et al., 2017; Scheithauer & Hess, 2023; Schmitt et al., 2014; Schonert-Reichl et al., 2015; Shinde et al., 2020; Silke et al., 2024; Singh et al., 2019; Ştefan & Miclea, 2013; Waasdorp et al., 2022; Washburn, 2011; Webster-Stratton et al., 2008; Wike, 2011). Other professionals within schools also provided support such as teaching/mealtime assistants (Blair et al., 2018; Waasdorp et al., 2022), a guidance counsellor (Daunic et al., 2012) and, in one case, the principal (Beets et al., 2009).
- Several studies involved facilitation by programme staff (Crean & Johnson, 2013; Guo et al., 2015; Sandy & Boardman, 2000) or researchers (Castro-Olivo, 2014; Dodsworth, 2002; Polanin, 2014; Ştefan & Miclea, 2013; Stephenson, 2009; Sullivan et al., 2015b, 2015a; Webster-Stratton et al., 2008).
- Other facilitators included psychologists (Castillo-Gualda et al., 2018; Garaigordobil & Echebarría, 1995), counsellors (Shinde et al., 2020) or health professionals (Singh et al., 2019), yoga instructors (Frank et al., 2017), and students (Conner & Fraser, 2011; Guo et al., 2020; Peng et al., 2024;

Waasdorp et al., 2022). DARE (Komro et al., 2004) was facilitated by a trained police officer while DARE25 (Culliney et al., 2022) by a specially trained professional with extensive knowledge of the consequences of drug and alcohol use.

How was the intervention delivered

Where stated, primary interventions were delivered face-to-face to classes or groups of children (Beets et al., 2009; Bergin et al., 2024; Bierman et al., 2008; Blair et al., 2018; Castro-Olivo, 2014; Clarke et al., 2014; Coelho et al., 2023; Conduct Problems Prevention Research Group, 1999; Conner & Fraser, 2011; Crean & Johnson, 2013; Culliney et al., 2022; Daunic et al., 2012; DiPerna et al., 2018; Dodsworth, 2002; Domitrovich et al., 2007; R. J. Duncan et al., 2019; Feis & Simons, 2008; Finlon et al., 2015; Fishbein et al., 2016; Frank et al., 2017; Frey et al., 2005; Garaigordobil & Echebarría, 1995; Grant, 1995; Guo et al., 2015, 2020; Hamre et al., 2012; Humphrey et al., 2016; Izard et al., 2008; Komro et al., 2004; Lewis, 2012; Lipschutz, 2010; Losel et al., 2009; Low et al., 2019; Luengo Kanacri et al., 2020; Malti et al., 2011; Morris et al., 2014; Muratori, Bertacchi, et al., 2017; Muratori et al., 2018; Muratori, Giuli, et al., 2017; Nesbitt & Farran, 2021; Newman et al., 2024; Novak et al., 2017; Polanin, 2014; Sandy & Boardman, 2000; Scheithauer & Hess, 2023; Schmitt et al., 2014; Schonert-Reichl et al., 2015; Shek & Sun, 2010; Shinde et al., 2020; Silke et al., 2024; Singh et al., 2019; Ştefan & Miclea, 2013; Stephenson, 2009; Sullivan et al., 2015b, 2015a; Waasdorp et al., 2022; Webster-Stratton et al., 2008; Wike, 2011). The community activities in Komro et al. (2004) also appeared to be group-based and included seminars and neighbourhood clean ups. In Jensen et al. (2013), Singh et al. (2019) and Ştefan and Miclea (2013), sessions were delivered to groups of parents/teachers.

Where Universal SEL is delivered

Where stated, all interventions were conducted in schools/preschools. In Jensen et al. (2013), teachers learned skills in workshops and conferences which were implemented in the classroom. As well as school delivery, DARE (Komro et al., 2004) also involved violence-prevention activities in the community such as a bullying prevention seminars and neighbourhood cleanups.

Training for the providers of Universal SEL

Extensive training was described for many of the programmes. An initial training session was reported most frequently. Typically, training was held for a full day or more and might involve a combination of theory, instruction and practical activities such as role play (Bierman et al., 2008; Brown et al., 2023; Castillo-Gualda et al., 2018; Clarke et al., 2014; Coelho et al., 2023; Conduct Problems Prevention Research Group, 1999; Crean & Johnson, 2013; Daunic et al., 2012; DiPerna et al., 2018; Domitrovich et al., 2007; Feis & Simons, 2008; Fishbein et al., 2016; Frey et al., 2005; Guo et al., 2020; Hamre et al., 2012; Humphrey et al., 2016; Malti et al., 2011; Morris et al., 2014; Muratori, Bertacchi, et al., 2017; Muratori et al., 2018; Muratori, Giuli, et al., 2017; Nesbitt & Farran, 2021; Novak et al., 2017; Scheithauer & Hess, 2023; Shinde et al., 2020; Webster-Stratton et al., 2008). The longest training duration for implementers was reported by Scheithauer and Hess (2023), lasting nine days.

Some authors reported shorter training sessions which lasted a few hours (Beets et al., 2009; Castro-Olivo, 2014; Izard et al., 2008) or did not report the length of training (Conner & Fraser, 2011; Culliney et al., 2022; Finlon et al., 2015; Frank et al., 2017; Garaigordobil & Echebarría, 1995; Guo et al., 2015; Jensen et al., 2013; Komro et al., 2004; Lewis, 2012; Lipschutz, 2010; Low et al., 2019; Luengo Kanacri et al., 2020; Peng et al., 2024; Sandy & Boardman, 2000; Ştefan & Miclea, 2013; Stephenson, 2009; Sullivan et al., 2015b, 2015a; Waasdorp et al., 2022; Washburn, 2011).

In addition to the initial training, several studies involved either booster sessions during the school year, or, for multi-year studies, refresher sessions at the start of each school year (Beets et al., 2009; Bierman et al., 2008; Blair et al., 2018; Domitrovich et al., 2007; Feis & Simons, 2008; Finlon et al., 2015; Garaigordobil & Echebarría, 1995; Humphrey et al., 2016; Jensen et al., 2013; Nesbitt & Farran, 2021; Washburn, 2011; Webster-Stratton et al., 2008).

Regular supervision or consultation were also features of many interventions, with support including observations, feedback, discussion and queries, typically offered on a weekly to monthly basis (Bierman et al., 2008; Blair et al., 2018; Brown et al., 2023; Castillo-Gualda et al., 2018; Castro-Olivo, 2014; Clarke et al., 2014; Coelho et al., 2023; Conduct Problems Prevention Research Group, 1999; Conner &

Fraser, 2011; Crean & Johnson, 2013; Domitrovich et al., 2007; Feis & Simons, 2008; Fishbein et al., 2016; Frank et al., 2017; Frey et al., 2005; Humphrey et al., 2016; Jensen et al., 2013; Malti et al., 2011; Morris et al., 2014; Nesbitt & Farran, 2021; Novak et al., 2017; Ştefan & Miclea, 2013; Wike, 2011).

In some cases, group meetings or conferences were arranged, so that experiences and ideas could be shared between delivery staff (Beets et al., 2009; Brown et al., 2023; Clarke et al., 2014; Jensen et al., 2013; Muratori, Bertacchi, et al., 2017; Muratori et al., 2018; Muratori, Giuli, et al., 2017; Scheithauer & Hess, 2023; Shinde et al., 2020).

Only one study (Silke et al., 2024) reported no formal training, though the author noted that teachers were provided with a handbook and contact details they could use to access support, if necessary.

Duration of Universal SEL

The duration of interventions varied across studies but was most frequently reported to be between six months and a year, typically covering a school year (Beets et al., 2009; Bierman et al., 2008; Clarke et al., 2014; Conduct Problems Prevention Research Group, 1999; Daunic et al., 2012; Domitrovich et al., 2007; Feis & Simons, 2008; Finlon et al., 2015; Fishbein et al., 2016; Garaigordobil & Echebarría, 1995; Hamre et al., 2012; Humphrey et al., 2016; Jensen et al., 2013; Komro et al., 2004; Malti et al., 2011; Morris et al., 2014; Muratori, Bertacchi, et al., 2017; Muratori et al., 2018; Muratori, Giuli, et al., 2017; Novak et al., 2017; Peng et al., 2024; Schmitt et al., 2014; Sullivan et al., 2015b).

Ten interventions were delivered for up to three months (Castro-Olivo, 2014; DiPerna et al., 2018; Dodsworth, 2002; Lipschutz, 2010; et al., 2009; Newman et al., 2024; Polanin, 2014; Schonert-Reichl et al., 2015; Silke et al., 2024; Singh et al., 2019) and 13 were delivered for three to six months (Brown et al., 2023; Coelho et al., 2023; Conner & Fraser, 2011; Culliney et al., 2022; Frank et al., 2017; Grant, 1995; Guo et al., 2020; Izard et al., 2008; Luengo Kanacri et al., 2020; Sandy & Boardman, 2000; Stephenson, 2009; Sullivan et al., 2015b; Webster-Stratton et al., 2008).

The remainder with a stated duration were multi-year interventions, which lasted up to six years (Bergin et al., 2024; Blair et al., 2018; Castillo-Gualda et al., 2018;

Crean & Johnson, 2013; R. J. Duncan et al., 2019; Frey et al., 2005; Guo et al., 2015; Low et al., 2019; Nesbitt & Farran, 2021; Shek & Sun, 2010; Shinde et al., 2020; Wike, 2011).

Intensity also varied across studies. In most cases, the intervention was implemented once or twice a week (Castro-Olivo, 2014; Clarke et al., 2014; Coelho et al., 2023; Conner & Fraser, 2011; Culliney et al., 2022; Daunic et al., 2012; Dodsworth, 2002; Domitrovich et al., 2007; Finlon et al., 2015; Fishbein et al., 2016; Frey et al., 2005; Garaigordobil & Echebarría, 1995; Grant, 1995; Guo et al., 2020; Hamre et al., 2012; Izard et al., 2008; Lewis, 2012; Low et al., 2019; Malti et al., 2011; (the PATHS portion of) Morris et al., 2014; Novak et al., 2017; Sandy & Boardrnan, 2000; Scheithauer & Hess, 2023; Schonert-Reichl et al., 2015; Silke et al., 2024; Stephenson, 2009; Webster-Stratton et al., 2008).

Eight studies reported daily implementation (Crean & Johnson, 2013; Feis & Simons, 2008; Humphrey et al., 2016; (the Tools of the Mind portion of) Morris et al., 2014; Muratori, Bertacchi, et al., 2017; Muratori, Giuli, et al., 2017; Schmitt et al., 2014; Ştefan & Miclea, 2013), while ten others were delivered up to four times a week (Bierman et al., 2008; Brown et al., 2023; Conduct Problems Prevention Research Group, 1999; DiPerna et al., 2018; Duncan et al., 2019; Frank et al., 2017; Guo et al., 2015; Lipschutz, 2010; et al., 2009; Polanin, 2014). One was delivered less than weekly (Castillo-Gualda et al., 2018), while others varied over the course of the programme (Muratori et al., 2018; Newman et al., 2024).

How Effective is the Intervention?

This section examines the effectiveness of Universal SEL in reducing violence, crime and offending, and other related outcomes through a systematic review and meta-analysis, to provide a robust and objective summary of existing evidence, incorporating advanced statistical techniques, including robust variance estimators (Pustejovsky & Tipton, 2022), for improved accuracy.

Quantitative data from **56 effectiveness studies** provided information, including 6 papers that contributed independent clusters from multi-arm trials (Brown et al., 2023; Hamre et al., 2012; Komro et al., 2004; Morris et al., 2014; Shinde et al., 2020 and Lipschutz et al., 2010). Together, these 56 studies reported information across a variety of **630 outcomes** related to the impact of Universal SEL in preventing involvement in violence for children and young people.

These studies, included in the meta-analysis, assessed the effectiveness of Universal SEL across approximately **64,430 children and young people.** The studies employed a range of study designs, including:

- Quasi-Experimental Designs (QED): (n = 1, 1.79%)
- Randomised Controlled Trials (RCT): (n = 4, 7.14%)
- Cluster Randomised Controlled Trials (cRCT): (n = 51, 91.07%)

The 56 effectiveness studies varied considerably in their methodological design and reporting characteristics (see Appendix 3 for individual study details).

Most studies used a prospective design and assigned participants at the start of the study (n = 54, 96.43%), while two studies used a retrospective design (3.57%). Most studies (n = 52, 92.86%) allocated at the level of groupings or clusters of individuals, e.g. classrooms or schools, while four studies (7.14%) allocated at the level of individuals. Most studies used random allocation (n = 50, 89.29%), while five studies used quasi-random procedures (8.93%) and one study used non-random allocation methods (1.79%).

The effectiveness studies spanned multiple decades, with the earliest conducted by Grant et al. (1995) and the most recent by Newman et al. (2024). The studies were conducted in sixteen different countries including:

- US (n=34, 60.71%)

- Italy (n=3, 5.36%)
- England (n=2, 3.57%)
- Germany (n=2, 3.57%)
- India (n=2, 3.57%)
- Ireland (n=2, 3.57%)
- Niger (n=2, 3.57%)
- Canada (n=1, 1.79%)
- Chile/Columbia (n=1, 1.79%)
- China (n=1, 1.79%)
- Croatia (n=1, 1.79%)
- Denmark (n=1, 1.79%)
- Portugal (n=1, 1.79%)
- Romania (n=1, 1.79%)
- Spain (n=1, 1.79%)
- Switzerland (n=1, 1.79%)

Fuller descriptions of the included studies are available in Appendix 3. Studies were assessed for methodological quality using the YEF-EQA critical appraisal tool[5] and were rated as follows:

- High: (n = 14, 25%)
- Moderate: (n = 32, 57.14%)
- Low: (n = 10, 17.86%)

Most studies reported that their funding came from national institutes or government grants (n=30, 53.57%), while two studies reported funding from university grants (3.57%). Ten studies reported their funding source as a

[5] The Youth Endowment Fund Evidence Quality Assessment (YEF-EQA) tool provides a structured framework for assessing the quality of research studies across three domains RCTs/robust QEDs, studies employing Other Quantitative Designs and Pre/Post Designs and Process Evaluations. It scores studies against a detailed set of criteria covering clarity of intervention description, appropriateness of methodology, recruitment and sampling, data quality, analytic rigour, and the validity of conclusions. Individual items are rated on a 1–3 scale (with conditional items scored as 0 where not applicable), producing a total score and overall quality classification (High, Moderate, or Low).

foundation or charity (17.86%). Fourteen studies did not report their funding source (25%). Most studies did not report any conflict of interest (n = 34, 60.71%). Thirteen studies (23.21%) explicitly declared no conflict of interest and nine studies (16.07%) stated that the researchers have a financial interest in the intervention.

As outlined earlier, the intensity of interventions varied from daily (n = 8, 14.29%) or 2-4 times per week (n = 15, 26.79%) to weekly (n = 17, 30.36%). Fourteen studies (25%) did not state how frequently they were delivered and two studies (3.57%) reported variability in how frequently the interventions were delivered. Interventions also differed in their duration, with the majority lasting 6 – 12 months (n = 21, 37.50%). Interventions in ten studies lasted 3-6 months (17.86%), eight lasted between 1-3 months (14.29%), four lasted between 1-2 years (7.14%), four lasted 3 years (7.14%) and two lasted between 4-5 years (3.57%) Seven studies did not state how long the intervention lasted.

Interventions were predominantly delivered in schools (n = 54, 96.43%) or in schools and at home (n = 2, 3.57%). Interventions were delivered by a range of professionals, with the majority delivered by a teacher (n= 49, 87.50%), or by a service provider or leader (n=3, 5.36%). One study (1.79%) reported that the intervention was delivered by a researcher and three (5.36%) did not report who delivered the intervention.

In terms of demographic representation, most studies had mixed sex samples (n = 49, 87.50%), though one (1.79%) had majority female, and six studies (10.71%) did not report the gender balance of the sample. In terms of ethnicity, twenty-three studies (41.07%) reported diverse or balanced participant groups, eleven studies (19.64%) reported some diversity, and five (8.93%) reported a majority white (≥85% participants of white ethnicity) sample. Seventeen studies (30.36%) did not report the ethnicity of the sample. Nineteen studies (33.93%) reported that the majority of families in the sample were on low incomes, while seventeen (30.36%) reported that some families were from mixed backgrounds. Twenty studies (35.71%) did not provide information on the socioeconomic status of participants.

Measured outcomes

Across the 56 effectiveness studies, 630 outcomes were identified and extracted, spanning **seventeen outcome categories** within the YEF Outcomes Framework.[6]

- Ability to resolve conflicts (k=11, n=4)[7]
- Behavioural difficulties (k=163, n=46)
- Building & maintaining relationships (k=153, n=34)
- Bullying (k=14, n=10)
- Crime and offending (k=22, n=4)
- Drug and alcohol use (k=27, n=3)
- General mental health (k=18, n=14)
- Helping others (prosocial behaviours) (k=37, n=17)
- Parenting practices (k=4, n=2)
- Positive and prosocial identity (k=3, n=1)
- Regulating & managing emotions (k=71, n=25)
- Resilience (k=1, n=1)
- School climate (k=20, n=5)
- School engagement (k=67, n=17)
- School engagement with parents/carers (k=2, n=1)
- Self-esteem (k=5, n=4)
- Victim of crime (k=12, n=7)

To inform our violence estimate, outcomes must be a measure of violent crime or violent offending, or a measure of overt or relational aggression that was directed at another person. Measures of bullying can inform the violence estimate where the study reports bullying as repeated physical violence or repeated verbal harassment.

Across the 22 studies that met this criteria, we identified 93 violence outcomes. Fifty-seven of these were related to behavioural difficulties, 14 were related to bullying and 22 were related to crime and offending. Outcomes were derived from

[6] The YEF Outcomes Framework identifies specific outcomes linked to reducing the risk of children and young people becoming involved in crime and violence, providing a structured approach for measuring the impact of interventions.

[7] In this context, k = number of outcomes measured, and n = number of studies.

survey measures reported by teachers (n=257, 40.79%), self-reported survey measures (n=205, 32.54%), observations (n=42, 6.67%), survey measures reported by parents (n=41, 6.51%), administrative school records (n=8, 1.27%), , and peers (n=7, 1.11%). Outcomes were also derived from cognitive/practical tests and responses to hypothetical scenarios (n=70, 11.11%).

We present summary results from two separate multivariate meta-analyses on violence, and crime and offending below (Table 1).

Table 1: *Summary of findings on violence and crime outcomes*

Outcome	SMD	CI (95%)	*P*	% reduction	Impact rating	Number of studies	Evidence rating
Violence	-0.18	-0.36 to -0.01	0.041*	24.5%	Mod	22	5
Crime & Offending	-0.41	-0.81 to 0.00	0.051	45.3%	High	4	2

**significant at p < 0.05*

Meta-analysis of violence outcomes in Universal SEL interventions

Universal SEL is associated with a Moderate impact on violence, corresponding with a 25% reduction in violence involvement, based on 93 measured outcomes across 22 studies.

The primary focus in the initial analysis is the reduction and prevention of violence, as defined by YEF. Violence is a broad construct that incorporates incidents/behaviours as well as convictable offences. Violence may be of a physical, verbal, psychological, or sexual nature (YEF, 2023: p.12).

The team identified 93 outcomes measuring **violence** specifically across 22 studies: 9 Type A, 11 Type C, 2 Type D, giving an overall security rating of **Level 5.** Collectively, these measures assess weapon involvement, physical and social aggression, bullying, violence perpetration, and violent intentions, drawing on

self-, teacher-, parent-, and other reports to capture both severity and form of aggressive behaviour across youth populations.

A total of $k = 93$ outcomes were included in the analysis. The estimated average outcome based on the multivariate random-effects model was $\hat{\mu} = -0.18$, (95% CI: -0.36, -0.01).

This estimate was statistically significantly different from zero $t = -2.04$, $p = 0.04$, although the effect became not statistically significant when adjusting for clustering across studies using robust variance estimation (t = -2.04, df = 18.8, p = 0.056). The estimate remained the same (g = -0.18) suggesting the original meta-analysis was stable, although the increases in the p-value and standard error suggest that within-study correlation was underestimated in the original model.

Table 2: *RVE Output for meta-analysis on violence outcomes*

	Estimate	SE	t-stat	d.f (Satt)	p-val (Satt)	Sig	YEF impact rating	YEF evidence security rating
Intercept	-0.18	0.09	-2.04	18.8	0.06	N.S.	Mod	5

In practical terms, this indicates that the intervention had a meaningful impact on violence-related outcomes across studies. Based on YEF impact categorisation available in the technical guide, the effect size (g = -0.18) corresponds to a "moderate impact" rating, but the uncertainty around the adjusted estimate means the evidence should be interpreted cautiously.

According to the Q-test, high levels of heterogeneity were present $Q(92) = 4.90 \times 10^4$, $p < .0001$, $\hat{\tau}^2 = 0.135$, $I^2 = 99.8\%$. This level of variability suggests that the average effect masks substantial differences across studies, with some interventions likely performing better than others. In practice, this means the findings should not be interpreted as showing a uniform effect across all SEL programmes; rather, intervention design, implementation, and context are likely

to shape impact. We expand on our analysis of heterogeneity and evidence security later in the report (see How Secure is the Evidence?).

The SMD of -0.18 corresponds to a relative risk reduction of 24.5% in the risk of being involved in violence, with an absolute risk reduction of 3.9%. In practical terms, 16% of young people who do not receive a Universal SEL programme go on to be involved in violence, compared with 12% of those who participate in a Universal SEL programme (Figure 1).

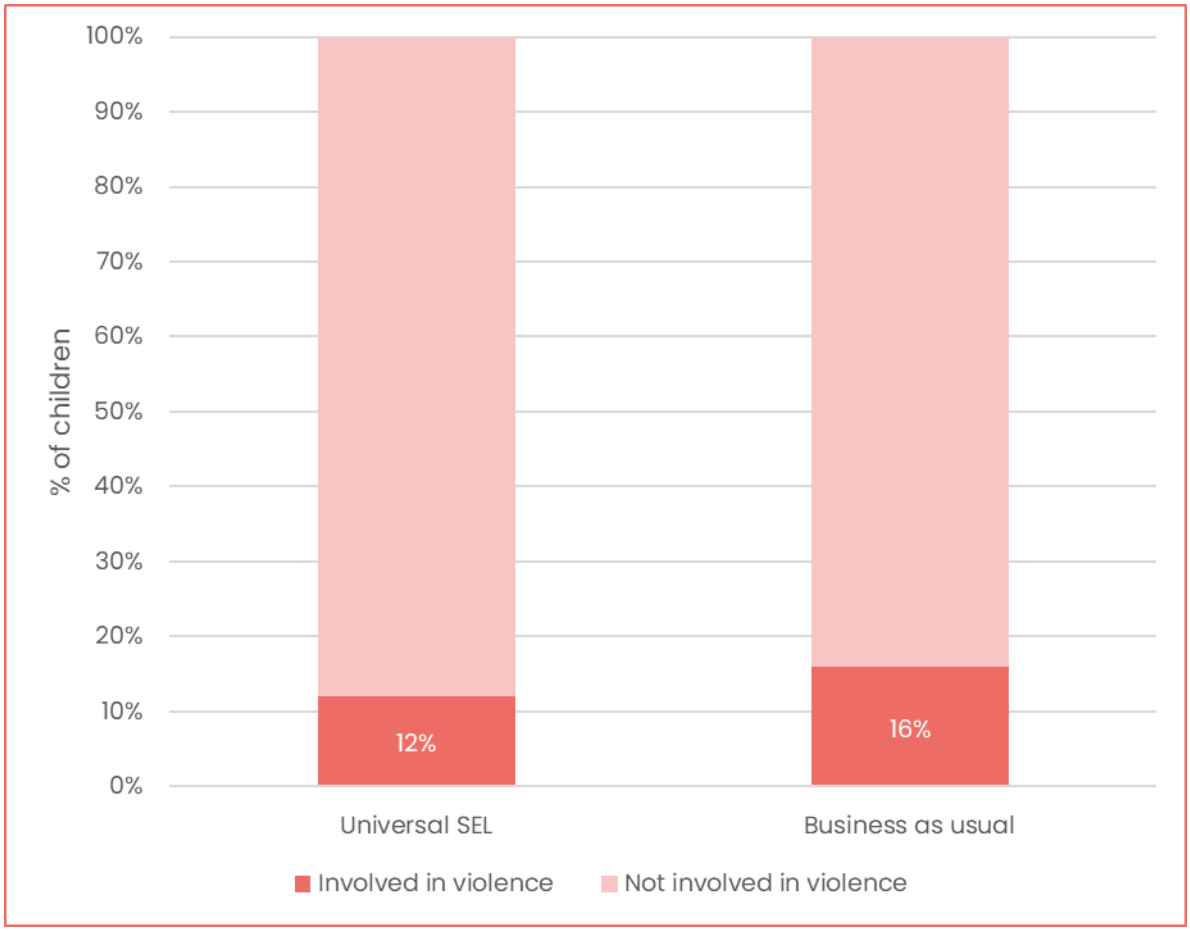

Figure 1: *Absolute risk reduction in violence involvement associated with Universal SEL interventions compared to business as usual*

Meta-analysis of crime and offending outcomes in Universal SEL interventions

Universal SEL interventions are associated with a high impact, corresponding with a 45.3% decrease in crime and offending, based on 22 measured outcomes across 4 studies.

The team identified 22 outcomes measuring **crime and offending** specifically across four studies. All studies were Type C, giving an overall security rating of **Level 2.** Crime outcomes included carrying a weapon (Beets et al., 2009; Komro et al., 2004) and self-reported violence related behaviours, including threats to cut or stab someone intentionally (Beets et al., 2009; Lewis, 2012).

A total of $k = 22$ outcomes were included in the analysis. The estimated average outcome based on the multivariate random-effects model was $\hat{\mu} = -0.41$, (95% CI: -0.81, 0.00).

This estimate was not statistically significantly different from zero at the conventional level $t = -1.95$, $p = 0.051$ and the effect remained statistically non-significant when adjusting for clustering across studies using robust variance estimation (t = -1.95, df = 3, p = 0.146).

Although the estimate remained the same (g = -0.41), the increases in the p-value and standard error suggest that within-study correlation was underestimated in the original model.

Table 3: *RVE Output for meta-analysis on crime and offending outcomes*

	Estimate	SE	t-stat	d.f (Satt)	p-val (Satt)	Sig	YEF impact rating	YEF evidence security rating
Intercept	-0.41	0.21	-1.95	3	0.146	N.S.	High	2

In practical terms, this indicates that the intervention had a high impact on crime and offending-related outcomes across studies. Based on YEF impact

categorisation, the effect size (g = -0.41) corresponds to a "high impact" rating, but this effect was not statistically significant. After adjusting for the clustering of outcomes within studies using robust variance estimation, the result remained statistically non-significant (p = 0.146), indicating substantial uncertainty around the estimate. Although the direction and magnitude of the effect are promising, the limited number of studies and low evidence security rating (Level 2) mean that strong conclusions cannot be drawn.

According to the Q-test, high levels of heterogeneity were also present $Q(21) = 161.8, \quad p < .0001, \quad \widehat{\tau}^2 = 0.167, \quad I^2 = 87.0\%$. This level of variability suggests that the study results differ from each other a great deal, far more than would be expected by chance alone. We expand on our analysis of heterogeneity and evidence security on this outcome later in the report (see How Secure is the Evidence?).

The SMD of -0.41 corresponds to a relative risk reduction of 45.3% in the risk of being involved in crime and offending, with an absolute risk reduction of 11.3%. In practical terms, 25% of young people who do not receive a Universal SEL programme go on to be involved in crime or offending, compared with 14% of those who receive the intervention (Figure 2).

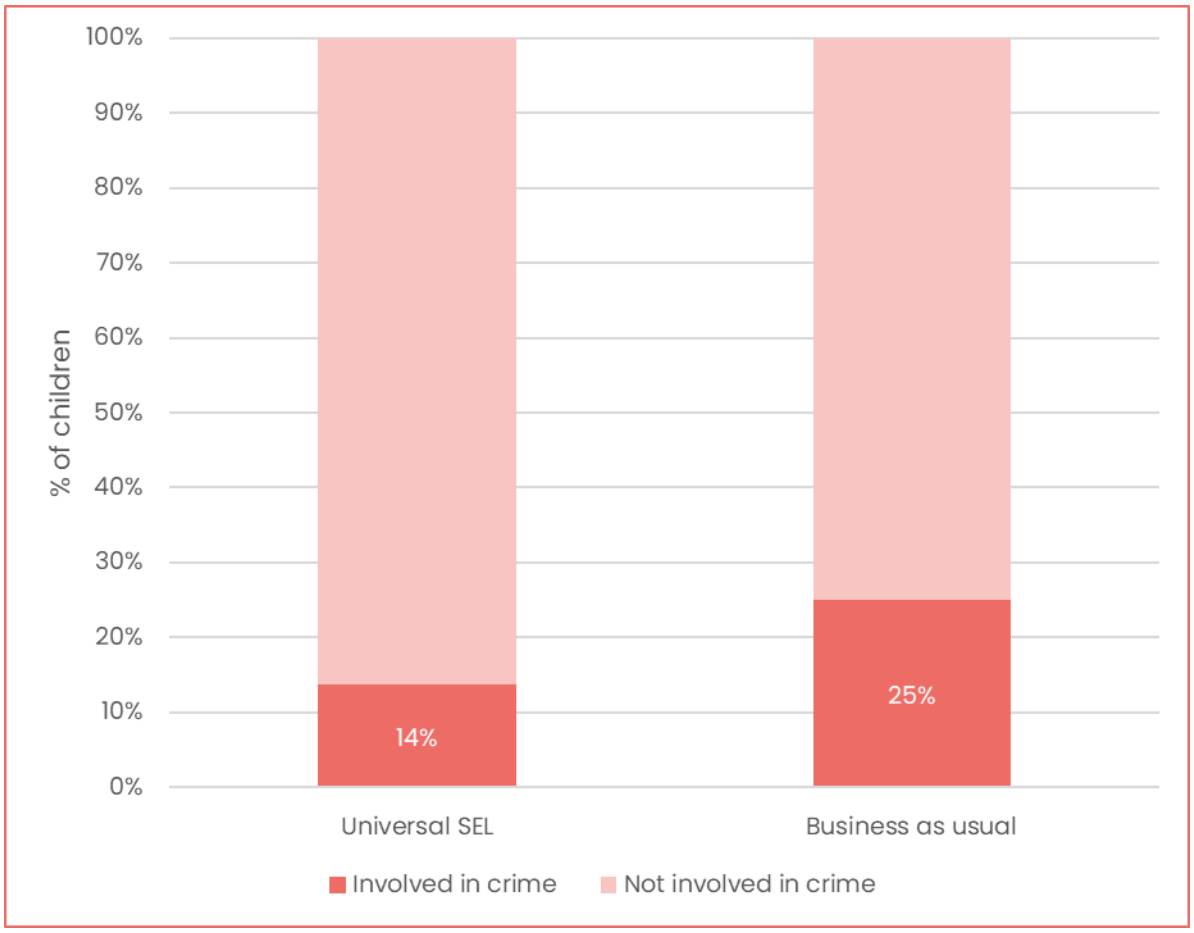

Figure 2: *Absolute risk reduction in crime and offending associated with Universal SEL interventions compared to business as usual*

Meta-analysis of all related outcomes in Universal SEL interventions

Including the violence, crime, and offending outcomes described above, the team extracted a total of 630 measured outcomes from 56 effectiveness studies that align with the YEF outcomes framework. These studies included 14 Type A, 32 Type C, 10 Type D, giving an overall security rating of **Level 5.**

A total of $k = 630$ outcomes were included in the analysis. The estimated average outcome based on the multivariate random-effects model was $\hat{\mu} = -0.21$, (95% CI: -0.29, -0.14).

This estimate was statistically significantly different from zero $t = -5.72$, $p < 0.0001$ and the effect remained statistically significant when adjusting for

clustering across studies using robust variance estimation (t = -5.7, df = 51.4, p < 0.001). The estimate remained the same (g = -0.21) suggesting the original meta-analysis was stable.

Table 4: *RVE Output for meta-analysis of all related outcomes*

	Estimate	SE	t-stat	d.f (Satt)	p-val (Satt)	Sig	YEF impact rating	YEF evidence security rating
Intercept	-0.21	0.037	-5.7	51.4	<0.001	***	Moderate	5

In practical terms, these findings indicate that the intervention had a statistically significant and meaningful impact across multiple relevant YEF outcomes, including violence, crime, and offending. The pooled effect size (g = -0.21) corresponds to a "moderate impact" rating under the YEF categorisation framework. This effect was statistically significant in the multivariate random-effects meta-analysis and remained robust after adjusting for clustering of outcomes within studies using robust variance estimation (p < .001), indicating that the results are stable and unlikely to be driven by modelling assumptions.

According to the Q-test, the true outcomes appear to be extremely heterogeneous $Q(629) = , \quad p < 0.0001, \quad \hat{\tau}^2 = 0.06, \quad I^2 = 99.7\%$. Such significant variability suggests that the differences in effect sizes are not solely due to random chance but may be influenced by specific study characteristics or contexts. To explore potential sources of this heterogeneity, conducting moderator analyses is recommended.

Subgroup analysis

Outcome type

To explore whether programme effectiveness varied by outcome category, subgroup meta-analyses were conducted (Table 5).

Table 5: Subgroup analysis on outcome domains

Outcome Domain	k	n	SMD (robust SE)	p-value	YEF impact rating
Ability to resolve conflicts	11	4	−0.48 (0.30)	.232	High
Behavioural difficulties	163	46	−0.21 (0.04)	< .001 ***	Moderate
Building & maintaining relationships (social-emotional skills)	153	34	−0.12 (0.03)	.001 **	Moderate
Bullying	14	10	−0.39 (0.21)	.116	High
Crime and offending	22	4	−0.51 (0.17)	.130	High
Drug and alcohol use	27	3	−0.48 (0.17)	.184	High
General mental health	18	14	−0.28 (0.08)	.006 **	High
Helping others (prosocial behaviours)	37	17	−0.08 (0.04)	.054	Small
Parenting practices	4	2	−0.36 (0.39)	.523	High
Positive and prosocial identity	3	1	−0.26 (0.02)	n/a	
Regulating & managing emotions	71	25	−0.14 (0.05)	.023 *	Moderate
Resilience	1	1	−0.44 (0.00)	n/a	
School climate	20	5	−0.27 (0.02)	.005 **	High
School engagement	67	17	−0.08 (0.04)	.140	Small

School engagement with parents/carers	2	1	−0.05 (≈0.00)	n/a	
Self-esteem	5	4	−0.36 (0.13)	.132	High
Victim of crime	12	7	−0.13 (0.15)	.424	Moderate
Between-group heterogeneity (Q_n test); 17 outcome domains; Wald $\chi^2(16) = 5.55 \times 10^8$, $p < .001$ ***					

Note. Estimates computed using robust variance estimation (RVE) with CR2 adjustment for dependent effect sizes (Tipton, 2015). Subgroup-specific p-values are based on robust t-tests with Satterthwaite small-sample degrees of freedom. The omnibus test of differences across outcome domains was conducted using a CR2-robust Wald chi-square test. Significance levels: $p < .05$ (*), $p < .01$ (**), $p < .001$ (***).

Universal SEL interventions demonstrated statistically significant beneficial effects in several well-powered outcome domains. The strongest and most extensive evidence relates to behavioural difficulties (k = 163, n = 46), where Universal SEL programmes produced a moderate and statistically significant improvement (SMD = −0.21, $p < .001$). This finding indicates consistent reductions in behavioural difficulties among young people receiving SEL support.

Similarly, strong evidence was found for building and maintaining relationships (social–emotional skills), with 153 effect sizes from 34 studies showing a statistically significant positive impact (SMD = −0.12, p = .001). These results suggest that Universal SEL interventions effectively enhance young people's interpersonal and social–emotional competencies. Clear benefits were also observed for general mental health (SMD = −0.28, k = 18, n = 14, p = .006), indicating meaningful improvements in overall psychological wellbeing among participants.

Evidence additionally supports improvements in regulating and managing emotions (SMD = −0.14, k = 71, n = 25, p = .023), demonstrating that Universal SEL approaches help children and young people better understand, manage, and express their emotions. Statistically significant positive effects were also observed for school climate (SMD = −0.27, k = 20, n = 5, p = .005), suggesting that Universal

SEL interventions may contribute to more positive, supportive, and well-functioning school environments.

Finally, a robust Wald chi-square test revealed substantial variation in effects across outcome domains ($\chi^2(16) = 5.55 \times 10^8$, $p < .001$), confirming that the impact of Universal SEL interventions is not uniform. This heterogeneity underscores the importance of considering outcome domain when assessing the overall effectiveness of Universal SEL programmes, as benefits appear to be concentrated in specific areas such as behaviour, social–emotional skills, mental health, emotion regulation, and school climate.

Country

To investigate potential differences in the effectiveness of Universal SEL interventions, subgroup analyses were conducted by country (Table 6).

Table 6: *Subgroup analysis on country*

Country	k	n	SMD (robust SE)	p-value	YEF impact rating
USA	464	34	−0.22 (0.05)	< .001 ***	Moderate
Italy	5	3	−0.20 (0.16)	.343	Moderate
Ireland	26	2	+0.06 (0.05)	.485	Small (Harmful)
England	23	2	−0.38 (0.40)	.508	High
Germany	11	2	−0.18 (0.05)	.180	Moderate

India	10	2	+0.04 (0.21)	.864	Small (Harmful)
Niger	6	2	−0.15 (0.00)	.016 *	Moderate
China	11	1	−0.17 (0.00)	n/a	
Canada	15	1	−0.22 (0.01)	n/a	
Spain	13	1	−0.28 (0.01)	n/a	
Switzerland	12	1	+0.09 (0.00)	n/a	
Croatia	9	1	−0.05 (0.00)	n/a	
Romania	9	1	−0.42 (0.00)	n/a	
Portugal	6	1	+0.15 (0.00)	n/a	
Denmark	5	1	−0.18 (0.00)	n/a	
Chile/Colombia	4	1	+0.15 (0.01)	n/a	
Between-group heterogeneity (Q_n test) 16 countries; χ^2 (15) = 3399 $p < .001$ ***					

Significant variation in programme effects emerged across countries. In the USA (k = 464, n = 34), programmes showed a statistically significant beneficial effect

(SMD = −0.22, $p < .001$). Among countries with multiple studies, there was a statistically significant benefit in Niger (SMD = −0.15, k = 6, n = 2, p = .016), while effects in Ireland, England, Germany and India did not reach statistical significance, although point estimates in England and Germany were in the beneficial (negative) direction.

A robust Wald chi-square test indicated strong evidence of between-country heterogeneity ($\chi^2(15) = 3399$, $p < .001$). This suggests that the effectiveness of Universal SEL interventions varies meaningfully across national contexts.

Publication year

Subgroup meta-analyses were conducted by decade to explore variation in effect sizes over time, given the wide range of publication years across included studies (Table 7).

Table 7: *Subgroup analysis on publication year*

Publication period	k	n	SMD (robust SE)	p-value	YEF impact rating
1980–1989	9	1	−0.93 (0.03)	n/a	
1990–1999	16	2	−0.46 (0.21)	.277	High
2000–2009	151	9	−0.22 (0.13)	.177	Moderate
2010–2019	354	31	−0.17 (0.03)	< .001 ***	Moderate
2020–2029	100	13	−0.22 (0.12)	.137	Moderate
Between-group heterogeneity (Q_n test); 5 periods; $\chi^2(4) = 73.2$; $p < .001$ ***					

Universal SEL interventions showed consistently beneficial effects across all publication periods, with all standardised mean differences (SMDs) favouring the intervention (i.e., negative values). The most statistically robust evidence comes from studies published between 2010–2019 ($k = 354$ effects, $n = 31$ studies), which show a moderate beneficial impact ($SMD = -0.17$, $p < .001$).

A CR2-robust Wald chi-square test indicated statistically significant between-group heterogeneity across publication periods ($\chi^2(4) = 73.2$, $p < .001$), providing strong evidence that the effectiveness of interventions varies by publication year. In practical terms, this suggests that while beneficial effects are observed across all decades, the magnitude and precision of these effects differ over time, with more recent decades offering more precise and reliable estimates due to substantially greater statistical power.

Age band

Subgroup meta-analyses were conducted on the age of the intervention participants to evaluate if age impacted effectiveness. To examine whether programme effectiveness varied by age, studies were grouped into three age-band categories: 0–9 years (Pre-school and Early Childhood/Early Primary), 10–14 years (Middle Childhood/Early Adolescence), and 15–17 years (Adolescence/Middle to High School). Studies that included participants spanning more than one age band were classified as Mixed age groups (Table 8).

Table 8: *Subgroup analysis on developmental age-band*

Age band	k	n	SMD (robust SE)	p-value	YEF impact rating
0–9 (Pre-school & Early Childhood/ Early Primary)	355	30	−0.13 (0.04)	.003 **	Moderate
Mixed	196	18	−0.28 (0.08)	.020 *	High
10–14 (Middle Childhood/Early Adolescence)	79	8	−0.22 (0.14)	.201	Moderate

Between-group heterogeneity (Q_n test); 3 age bands; $\chi^2(2) = 1.3$; $p = .272$

Universal SEL interventions demonstrated statistically significant beneficial effects across several age groups. Among studies focused on younger children aged 0–9 years (Pre-school & Early Childhood/Early Primary; k = 355 effect sizes from 30 studies), Universal SEL programmes were associated with a moderate but statistically significant improvement (SMD = −0.13, $p < 0.01$). For interventions delivered to mixed-age samples (k = 196, 18 studies), effects were somewhat larger and also statistically significant (SMD = −0.28, $p < 0.05$).

In contrast, for samples focused specifically on young people aged 10–14 years (Middle Childhood/Early Adolescence; k = 79, 8 studies), the estimated effect size was similar in magnitude (SMD = −0.22) but not statistically significant ($p = .201$), likely reflecting the more limited number of studies and effect sizes available for this age band.

A CR2-robust Wald chi-square test of between-group heterogeneity indicated no statistically significant differences in effects across age bands ($\chi^2(2) = 1.3$, $p = .272$). This suggests that, while there is some variation in point estimates, the effectiveness of Universal SEL interventions appears broadly similar across age groups, with no strong evidence that these programmes are substantially more or less effective for any particular age band. In practical terms, while effects appear strongest and most consistent in early childhood and mixed-age samples, differences between age groups should be interpreted cautiously.

Ethnicity

To explore whether programme effectiveness varied by ethnicity, studies were grouped into three categories: Majority white (>85% white participants), Some diversity (15–49% Black and Global Majority), and Diverse/balanced (≥50% Black and Global Majority) (Table 9).

Table 9: *Subgroup analysis on ethnicity*

Ethnicity	k	n	SMD (robust SE)	p-value	YEF impact rating

Diverse/balanced	314	23	−0.25 (0.07)	.006 **	High
Some diversity	110	11	−0.16 (0.05)	.015 *	Moderate
Not stated/unclear	129	17	−0.13 (0.10)	.217	Moderate
Majority white	77	5	−0.15 (0.09)	.226	Moderate
Between-group heterogeneity (Q_n test); 4 subgroups; $\chi^2(3) = 0.52$; $p = .671$					

Ethnic composition of the sample did not emerge as a strong moderator of Universal SEL intervention effects. All subgroups showed beneficial effects favouring Universal SEL programmes, however, studies with ethnically diverse/balanced samples (SMD = −0.25, k = 314, n = 23, p = .006) and samples with some diversity (SMD = −0.16, k = 110, n = 11, p = .015) reached statistical significance.

A CR2-robust Wald chi-square test of between-group heterogeneity indicated no evidence that effects differed systematically by ethnic composition of the study participants ($\chi^2(3) = 0.52$, $p = .671$). This suggests that Universal SEL interventions are effective across ethnically diverse contexts, with particularly strong and well-powered evidence in studies including diverse or balanced participant samples.

Gender

To investigate whether the effectiveness of Universal SEL programmes varied according to the gender composition of the study samples, subgroup analyses were conducted across four categories: studies with majority male samples, majority female samples, some gender balance, and those with no reported gender information (Table 10).

Table 10: *Subgroup analysis on gender*

Sample gender composition	k	n	SMD (robust SE)	p-value	YEF impact rating
Mixed sex	581	49	−0.18 (0.04)	< .001 ***	Moderate
Not stated/unclear	41	6	−0.56 (0.18)	.048 *	High
Majority girls	8	1	−0.03 (0.01)	n/a	
Between-group heterogeneity (Q_n test); 3 gender groupings; $\chi^2(2) = 10.0$; $p < .001$ ***					

Subgroup analysis by gender composition indicates that the effectiveness of Universal SEL interventions varies significantly across samples with different gender reporting. Programmes evaluated in mixed-sex samples showed moderate and statistically significant beneficial effect (SMD = −0.18, k = 581, n = 49, $p < .001$), representing the most robust and well-powered evidence base.

A robust Wald chi-square test indicated statistically significant between-group heterogeneity across gender categories ($\chi^2(2) = 10.0$, $p < .001$), meaning the effectiveness of Universal SEL interventions differs meaningfully depending on the gender composition of participating children and young people.

Multiple meta-regressions (models 1-5)

Following these five subgroup analyses, we ran five separate random-effects meta-regression models with robust variance estimation to examine pre-specified moderators: (1) quality, (2) setting, (3) intervention features, (4) population characteristics, and (5) outcome characteristics. See Appendix 1 for an overview of the methods used in this section and Appendix 3 for a list of the studies that provided data for these analyses.

Moderator Analysis 1. Quality Moderators

Characteristics in model 1 include:

- Study design
- Study timing

- Unit of allocation into group
- Method of allocation into group
- Quality appraisal as assessed by the YEF-EQA tool

Table 11: *Meta-regression (with robust inference) on quality moderators*

Moderator	β (estimate)	SE	t	df	p	95% CI
Intercept[8]	−0.18	1.39	−0.13	1.00	0.92	−17.88, 17.52
Design = individual RCT (vs reference)	−0.15	0.30	−0.49	4.15	0.65	−0.98, 0.68
Design = QED (nonrandomised)	−0.82	1.42	−0.58	1.05	0.66	−16.87, 15.25
Study timing = prospective	−0.57	1.41	−0.40	1.09	0.75	−15.45, 14.32
Method of allocation = quasi-random	0.07	0.17	0.40	4.49	0.71	−0.39, 0.53
Study quality (YEF EQA) = Low	0.52	0.25	2.06	10.44	0.07	−0.04, 1.09
Study quality (YEF EQA) = Moderate	0.76	0.27	2.85	1.46	0.15	−0.90, 2.41

Note: Values are from a multivariate random-effects meta-regression estimated by REML, clustering on study ID to account for non-independence of multiple effect sizes per study. Robust (clustered) standard errors and small-sample (Satterthwaite) t-tests were used for statistical inference.

[8] In this model, high-quality studies are the reference category; the coefficients for low- and moderate-quality studies therefore represent differences relative to high-quality studies, not separate category-specific pooled effects.

The estimated between-study variance component was $\tau^2 = 0.18$ (SD = 0.42), indicating moderate variation in true effects across studies. A test for residual heterogeneity remained statistically significant (QE(df = 623) = 219,486.09, $p < .0001$), and the omnibus test of moderators was also statistically significant (QM(df = 6) = 136.51, $p < .0001$); showing that the design, timing, allocation method, and study quality moderators do not fully account for the heterogeneity in effect sizes. None of the individual moderator coefficients is statistically significant at the conventional 5% level, and the confidence intervals are wide. There is only weak, borderline evidence that studies rated as Low quality on the YEF EQA may show less favourable effects than High-quality studies ($\beta = 0.52$, $p = .07$), however, the confidence interval still includes zero.

Moderator Analysis 2. Setting-level moderators

Characteristics included in the model are:

- Country of intervention
- Setting of intervention

Table 12: *Meta-regression (with robust inference) on setting-level moderators*

Moderator	β (estimate)	SE	t	df	p	95% CI
Intercept	−0.21	0.12	−1.76	1.00	0.33	−1.72, 1.30
Country = Chile/Colombia	0.37	0.14	2.56	1.81	0.14	−0.32, 1.05
Country = China	0.04	0.12	0.36	1.00	0.78	−1.47, 1.55
Country = Croatia	0.21	0.19	1.09	1.99	0.39	−0.62, 1.04
Country = Denmark	0.03	0.13	0.22	1.99	0.85	−0.52, 0.58

Country = England	−0.35	0.49	−0.73	1.94	0.55	−2.52, 1.81
Country = Germany	0.03	0.13	0.24	1.98	0.83	−0.54, 0.60
Country = India	0.36	0.26	1.40	2.00	0.30	−0.75, 1.47
Country = Ireland	0.24	0.13	1.83	1.94	0.21	−0.34, 0.81
Country = Italy	−0.01	0.20	−0.03	2.62	0.98	−0.69, 0.68
Country = Niger	0.06	0.12	0.47	1.77	0.69	−0.53, 0.64
Country = Portugal	0.36	0.12	2.97	1.88	0.10	−0.19, 0.91
Country = Romania	−0.22	0.13	−1.66	1.93	0.24	−0.80, 0.37
Country = Spain	−0.07	0.12	−0.53	1.79	0.65	−0.66, 0.53
Country = Switzerland	0.29	0.31	0.91	1.98	0.46	−1.07, 1.64
Country = USA	−0.05	0.13	−0.40	1.10	0.75	−1.35, 1.25
Intervention setting = School and home	0.13	0.07	1.78	1.15	0.30	−0.56, 0.82

The estimated between-study variance component was $\tau^2 = 0.06$ (SD = 0.25), indicating modest between-study heterogeneity. Residual heterogeneity remained statistically significant ($QE(df = 613) = 2.18 \times 10^5$, $p < 0.0001$), showing that the country and setting moderators do not appreciably reduce unexplained heterogeneity. A joint test of all moderators also confirmed that none of the included moderators significantly explain variation in effect sizes, $QM(df = 16) = 14.90$, $p = 0.53$.

Moderator Analysis 3. Intervention-level moderators

Characteristics included in the model are:

- Intervention intensity
- Intervention duration
- Intervention provider
- Training for intervention providers
- Delivery method
- Group or individual intervention

Table 13: *Meta-regression (with robust inference) on intervention-level moderators*

Moderator	β (estimate)	SE	t	df	p	95% CI
Intercept	−0.09	0.21	−0.42	6.33	0.69	−0.59, 0.42
Duration = 1–3 months	−0.34	0.13	−2.61	8.54	0.03	−0.64, −0.04
Duration = 2–3 years	−0.07	0.10	−0.67	5.47	0.53	−0.33, 0.19
Duration = 3–5 years	−0.09	0.14	−0.61	3.81	0.58	−0.48, 0.31

Duration = 3–6 months	−0.28	0.25	−1.15	8.17	0.28	−0.85, 0.29
Duration = 6–12 months	−0.04	0.08	−0.50	5.60	0.64	−0.23, 0.15
Duration = 7–12 months	0.02	0.22	0.11	2.53	0.92	−0.76, 0.81
Duration = Not stated	−0.18	0.11	−1.65	9.31	0.13	−0.41, 0.06
Intensity = Daily	−0.23	0.13	−1.70	12.82	0.11	−0.51, 0.06
Intensity = Not stated	−0.05	0.11	−0.47	16.06	0.65	−0.27, 0.17
Intensity = Variable across intervention	−0.35	0.13	−2.66	2.00	0.12	−0.92, 0.22
Intensity = Weekly	−0.03	0.12	−0.27	17.35	0.79	−0.29, 0.22
Implementer training = Yes (pre-intervention)	−0.04	0.12	−0.35	6.86	0.74	−0.32, 0.24
Implementer training = Manual/prior qualification	0.37	0.22	1.68	3.92	0.17	−0.25, 0.99
Implementer training = Ongoing supervision	−0.02	0.10	−0.17	7.38	0.87	−0.26, 0.23
Delivery method = Not stated	−0.03	0.28	−0.09	3.04	0.93	−0.92, 0.87

Provider = Researcher	0.44	0.26	1.71	6.58	0.13	−0.18, 1.05
Provider = Service provider/ unspecified	0.24	0.18	1.33	5.71	0.24	−0.21, 0.68
Provider = Teacher/ education professional	0.07	0.20	0.34	4.48	0.75	−0.46, 0.60
Delivery = Small group	−0.27	0.24	−1.14	2.54	0.35	−1.09, 0.56
Delivery = Group and individual	0.18	0.10	1.81	10.33	0.10	−0.04, 0.39
Delivery = Not stated	0.19	0.22	0.86	1.44	0.51	−1.21, 1.59

The estimated between-study variance component was $\tau^2 = 0.06$ (SD = 0.25), indicating substantial heterogeneity across studies. A test for residual heterogeneity remained highly significant ($Q_E(df = 608) = 215{,}197.60$, $p < .0001$), and the omnibus test of moderators was not statistically significant ($Q_M(df = 21) = 21.63$, $p = 0.42$), confirming that, and considered jointly, these moderators did not reliably account for between-study differences in effect sizes.

Moderator Analysis 4. Population-level moderators

Characteristics included in the model are:

- Age-Band
- Socioeconomic status
- Ethnicity
- Gender

Table 14: *Meta-regression (with robust inference) on population-level moderators*

Moderator	β (estimate)	SE	t	df	p	95% CI
Intercept	−0.28	0.17	−1.66	6.09	0.15	−0.69, 0.13
Age band = 10–14 years (vs reference)	−0.25	0.14	−1.73	10.10	0.11	−0.56, 0.07
Age band = Mixed	0.03	0.07	0.43	23.50	0.67	−0.11, 0.16
Ethnicity = Majority white	0.032	0.17	0.19	9.58	0.85	−0.34, 0.40
Ethnicity = Not stated/ unclear	0.20	0.09	2.22	16.09	0.04	0.01, 0.39
Ethnicity = Some diversity	0.01	0.09	0.06	14.51	0.95	−0.19, 0.20
Gender = Mixed sex	0.07	0.14	0.53	3.63	0.63	−0.32, 0.47
Gender = Not stated/unclear	−0.38	0.18	−2.18	4.09	0.09	−0.86, 0.10
SES = Mixed backgrounds	0.01	0.10	0.10	18.71	0.92	−0.20, 0.22
SES = Not stated/unclear	0.03	0.07	0.45	20.12	0.66	−0.12, 0.19

The estimated between-study variance component was $\tau^2 = 0.05$ (SD = 0.22), indicating variation in effects across studies. A test for residual heterogeneity

remained highly significant (QE(df = 620) = 215,064.20, p < .0001), showing that these individual-level moderators did not fully account for the substantial heterogeneity between effect sizes. The omnibus test of moderators was statistically significant (QM(df = 9) = 23.42, p = .005), suggesting that, taken together, age band, ethnicity, gender, and SES explain some observed variation.

Moderator Analysis 5. Outcome moderators

Characteristics included in the model are:

- YEF outcome category
- Methods used to collect the outcome data

Table 15: *Meta-regression (with robust inference) on outcome-level moderators*

Moderator	β (estimate)	SE	t	df	p	95% CI
Intercept	−0.33	0.20	−1.60	2.82	0.21	−1.00, 0.35
Outcome type = Behavioural Difficulties	0.16	0.20	0.79	1.84	0.52	−0.78, 1.10
Outcome type = Building and Maintaining Relationships (social-emotional skills)	0.29	0.20	1.43	1.84	0.30	−0.65, 1.22
Outcome type = Bullying	0.13	0.20	0.66	1.84	0.58	−0.81, 1.07
Outcome type = Crime and offending	−0.60	0.20	−2.99	1.84	0.11	−1.54, 0.34
Outcome type = Drug and alcohol use	−0.20	0.57	−0.36	2.25	0.75	−2.40, 2.00

Outcome type = General Mental Health	0.22	0.20	1.07	2.99	0.36	−0.43, 0.87
Outcome type = Helping Others (prosocial behaviours)	0.26	0.20	1.29	1.84	0.34	−0.68, 1.19
Outcome type = Parenting Practices	0.55	0.18	3.11	1.48	0.13	−0.53, 1.62
Outcome type = Positive and prosocial identity	0.31	0.53	0.59	2.37	0.61	−1.66, 2.29
Outcome type = Regulating and Managing Emotions	0.16	0.20	0.79	1.84	0.52	−0.78, 1.10
Outcome type = Resilience	0.59	0.38	1.56	2.49	0.23	−0.77, 1.95
Outcome type = School climate	0.08	0.22	0.34	3.26	0.75	−0.59, 0.74
Outcome type = School Engagement	−0.01	0.26	−0.04	2.16	0.97	−1.06, 1.03
Outcome type = School engagement with parents/carers	0.25	0.21	1.15	2.81	0.34	−0.46, 0.95
Outcome type = Self-esteem	0.01	0.20	0.06	1.84	0.96	−0.92, 0.95
Outcome type = Victim of crime	0.33	0.22	1.53	2.22	0.25	−0.52, 1.19

Data source = Observation	−0.35	0.14	−2.53	2.51	0.10	−0.85, 0.14
Data source = Parent report	−0.41	0.01	−39.34	1.04	0.01**	−0.53, −0.29
Data source = Peer report	0.15	0.04	4.34	1.19	0.11	−0.16, 0.46
Data source = Self report	0.14	0.02	9.82	1.03	0.06	−0.03, 0.32
Data source = Teacher report	−0.04	0.02	−2.08	1.03	0.28	−0.23, 0.16
Data source = Test	−0.49	0.14	−3.60	1.19	0.14	−1.70, 0.72

The estimated between-study variance component was $\tau^2 = 0.11$ (SD = 0.33), indicating substantial variation across studies. A test for residual heterogeneity remained highly significant (QE(df = 607) = 80,837.91, $p < .0001$), showing that outcome type and data source moderators did not fully account for variability in effect sizes.

In simple terms, only one data source (parent report) showed statistically significant associations with effect sizes, while other moderators were statistically non-significant, indicating limited explanatory power for heterogeneity.

Publication bias

A funnel plot of the effect size estimates is shown in Figure 3. The rank correlation test (Begg's test) indicated statistically significant funnel plot asymmetry (Kendall's $\tau = -0.22$, $p < .0001$), suggesting the presence of small-study effects consistent with potential publication bias. In contrast, the regression test for funnel plot asymmetry (Egger's test) did not indicate evidence of asymmetry ($z = -0.36$, $p = .72$), suggesting no systematic association between effect size and study precision.

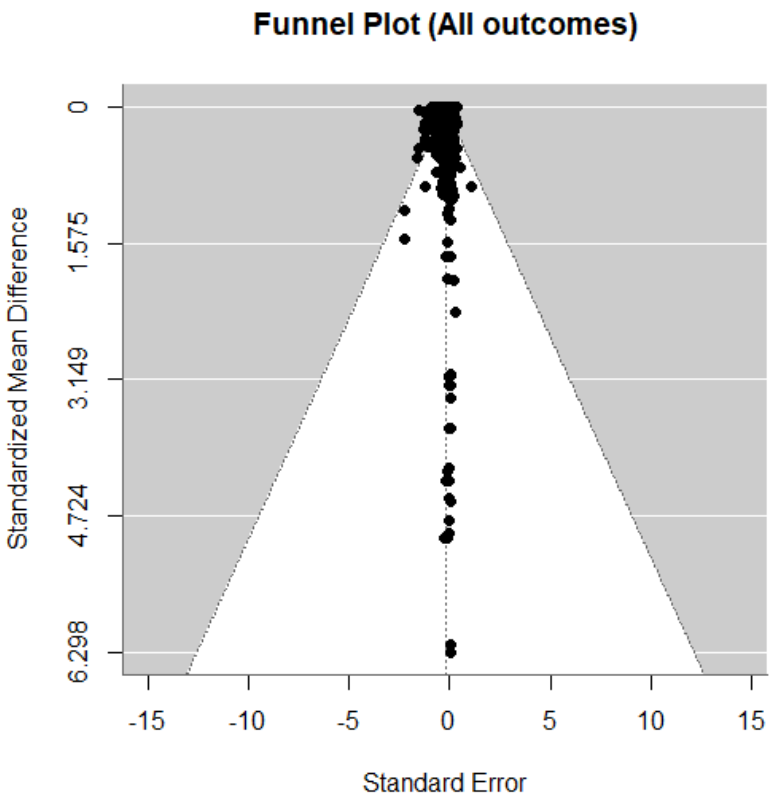

Figure 3: *Funnel plot*

To further examine the impact of publication bias on the pooled effect, a trim-and-fill analysis was conducted. The procedure estimated no missing studies on the right side of the funnel plot (estimated number missing = 0, SE = 11.47), indicating that the observed asymmetry was not attributable to an absence of small studies with effects in the opposite direction. Consequently, the adjusted random-effects model yielded results identical to the original model.

Under the trim-and-fill model (k = 630; REML estimator), the pooled effect size remained statistically significant (estimate = -0.20, SE = 0.01, z = -14.08, p < .0001, 95%, CI -0.22, -0.17). Substantial heterogeneity was observed (τ^2 = 0.06, SE = 0.01; I^2 = 99.58%), and the test for residual heterogeneity was statistically significant (Q(629) = 219,574.73, p < .0001).

Overall, although the rank correlation test suggested funnel plot asymmetry, neither Egger's regression test nor the trim-and-fill analysis provided evidence that the pooled effect estimate was materially influenced by publication bias. The

observed asymmetry may therefore reflect factors other than publication bias, such as substantial between-study heterogeneity, variation in study precision, or genuine differences in effects across studies. In practical terms, there is no clear evidence that publication bias is materially distorting the overall finding. While one test suggested asymmetry, the balance of the evidence indicates that the pooled effect is robust and that the observed pattern is more likely to reflect genuine differences between studies.

Sensitivity analyses

When each study is removed one at a time, the estimated overall standardized mean difference (SMD) remains stable, ranging approximately from -0.19 to -0.22. This narrow range indicates that no individual study has a disproportionate influence on the pooled effect size. Across all leave-one-out models, the estimated SMD remains negative, and all confidence intervals exclude zero. This means that the intervention effect remains statistically significant regardless of which study is removed and no further investigation is required.

How Secure is the Evidence?

Violence outcomes

Our confidence in the findings on the prevention and reduction of violence is **Very High**. The meta-analysis included 93 violence-related outcomes drawn from 22 studies that assessed the impact of Universal SEL on children and young people.

The studies included:

- 21 cluster RCTs: of these, nine were rated as high quality **(Type A)**, 11 as moderate quality **(Type C)**, and one as low quality **(Type D)**
- One RCT rated as low quality **(Type D)**

As a result, a **Level 5** evidence security rating was applied.

Heterogeneity was very high (I^2 = 99.8%). However, subsequent moderator analyses on the full model indicate that this variation is systematic and associated with identifiable moderators (e.g., country and sample characteristics), rather than unexplained noise. As a result, the overall evidence security rating was not downgraded, and a **Level 5** evidence security rating was maintained.

Crime and offending outcomes

Our confidence in the findings on crime and offending is **Low**. The meta-analysis included 22 crime and offending related outcomes drawn from four studies that assessed the impact of Universal SEL on children and young people.

The studies included:

- Four cluster RCTs, all rated as moderate quality **(Type C)**

As a result, a **Level 2** evidence security rating was applied.

Heterogeneity was high (I^2 = 87.0%). However, subsequent moderator analyses on the whole model indicate that this variation is systematic and associated with identifiable moderators (e.g., country and sample characteristics), rather than unexplained noise. As a result, the overall evidence security rating was not downgraded, and a **Level 2** evidence security rating was maintained.

All outcomes

Our confidence in the findings on all outcomes is **Very High**. The meta-analysis included 630 outcomes drawn from 56 studies that assessed the impact of Universal SEL on children and young people.

The studies included:

- 51 cluster RCTs: of these, 14 were rated as high quality **(Type A)**, 30 were rated as moderate quality **(Type C),** seven as low quality **(Type D)**
- Four RCTs: of these, one was rated as moderate quality **(Type C)** and three as low quality **(Type D)**
- One QED rated as moderate quality **(Type C)**

As a result, a **Level 5** evidence security rating was applied.

Heterogeneity was very high (I^2 = 99.7%). However, subsequent moderator analyses indicate that this variation is systematic and associated with identifiable moderators (e.g., outcome domain, country and sample characteristics), rather than unexplained noise.

Results are highly robust across sensitivity analyses, including influence diagnostics, leave-one-out analyses, exclusion of lower-quality studies, restriction to RCTs and cluster RCTs, and alternative outcome timing specifications. These analyses reinforce confidence that the overall positive effect is not driven by any single study or methodological choice. As a result, the overall evidence security rating was not downgraded, and a **Level 5** evidence security rating was maintained.

What factors affect implementation?

This section summarises implementation-relevant insights from previous systematic reviews, including factors associated with stronger effects in prior syntheses. These findings are presented as contextual evidence and may differ from the moderator analyses in our effectiveness meta-analysis due to differences in included studies, outcome definitions, and analytic approach.

Sixteen systematic reviews were included (see Appendix 5 for details of the reviews). Quality appraisal ratings for systematic reviews included in this report can be found in Table 16.

Table 16: Quality appraisal ratings for systematic reviews included in Universal SEL

Overall quality of the study	Study IDs
Moderate quality (n=1)	Cipriano et al., 2023
Low quality (n=13)	Brown et al., 2023; Charlton et al., 2021; Daley & McCarthy, 2021; Durlak et al., 2011; Hahn et al., 2007; January et al., 2011; Li et al., 2024; Mertens et al., 2020; Murano et al., 2020; Shi & Cheung, 2024; Sklad et al., 2012; Taylor et al., 2017; Wigelsworth et al., 2016
Critically Low (n=2)	Goldberg et al., 2019; Luo et al., 2022

Implementation Processes and Delivery Capacity

Fidelity

Six systematic reviews consistently show that fidelity, defined as the extent to which an intervention is delivered as intended, is a critical implementation factor in Universal SEL interventions, with consistent evidence that higher-quality delivery strengthens outcomes (Charlton et al., 2021; Durlak et al., 2011; Goldberg et al., 2019; Luo et al., 2022; Murano et al., 2020). Meta-analyses typically demonstrate stronger and more consistent effects when interventions are implemented with

good fidelity, including improvements in SEL skills, behaviour, emotional wellbeing and academic outcomes, whereas fidelity problems are associated with smaller or non-significant effects (Durlak et al., 2011; Goldberg et al., 2019). Although some reviews report larger effects in studies where fidelity was not measured, this likely reflects limitations related to a lack of reporting rather than evidence that fidelity is unimportant, highlighting ongoing methodological weaknesses in how fidelity is assessed and described (Luo et al., 2022; Murano et al., 2020). In contrast, Taylor et al. (2017) found no clear fidelity effects, but the absence of a clear definition or clarity on the measurement of fidelity limits the interpretability of this finding.

Taken together, this evidence highlights the importance of implementing Universal SEL interventions with high fidelity to its original design. This has direct implications for practice: planning for implementation should include explicit strategies to support, monitor and sustain fidelity, such as training, clear implementation guidance, self-report checklists, observations and ongoing monitoring processes (Charlton et al., 2021). Embedding these throughout the implementation and delivery of Universal SEL supports the likelihood that the intervention will achieve its intended outcomes for children and young people.

Fidelity to Universal SEL Intervention Frameworks

Cipriano et al. (2023) explored whether fidelity to Universal SEL interventions frameworks, including the Framework for SEL, Collaborative for Academic, Social and Emotional Learning – 5 (CASEL 5) competency framework, and the Economic Approaches to Social Emotional Learning (EASEL) taxonomy, influences outcomes for children and young people.

Interventions which demonstrated high fidelity by delivering content across all domains of the Framework for SEL (cognitive regulation, emotional processes and social/interpersonal skills) or the CASEL 5 competency framework (self-awareness, self-management, social awareness, relationship skills, and responsible decision-making) facilitated better outcomes for children and young people. These benefits were particularly evident for peer relationships and emotional distress when compared with interventions showing low fidelity.

In contrast, high fidelity to the EASEL taxonomy, which includes the three domains from the Framework for SEL plus three supplemental categories (values,

perspectives and identity), did not yield better outcomes for children and young people than interventions with low fidelity to the EASEL taxonomy. This suggests that expanding content too broadly may dilute intervention impact. Together, these findings indicate that implementation of Universal SEL interventions should focus more on coherent and complete coverage of core, well-established domains. Specifically, when implementing a Universal SEL intervention, practitioners should prioritise fidelity to a comprehensive but focused framework (such as CASEL 5 or the Framework for SEL), ensuring balanced skill development across core domains rather than attempting to address an extensive range of loosely integrated competencies (Cipriano et al., 2023).

Fidelity to SAFE Practices

SAFE practices refer to the recommended principles of interventions being Sequenced, Active, Focused and Explicit in their delivery. Theorists argue that interventions are more likely to be implemented successfully and have better outcomes for children and young people if they have a sequenced step-by-step approach to training, utilise active learning strategies, embed sufficient time for skill development and establish explicit learning goals (Durlak et al., 2011). Three systematic reviews examined the fidelity to SAFE practices in the implementation of Universal SEL interventions (Cipriano et al., 2023; Durlak et al., 2011; Taylor et al., 2017).

Durlak et al. (2011) found that programmes with high fidelity, following all four SAFE principles, were beneficial across a wide range of outcomes for children and young people (i.e., SEL skills, attitudes, social behaviour, conduct problems, emotional distress and academic performance), whereas low fidelity (i.e., partial adherence) was associated with benefits across fewer outcome domains (attitudes, conduct problems and academic performance only). Similarly, Cipriano et al. (2023) reported that interventions with high fidelity to SAFE principles facilitated improvements in SEL skills and reduced externalising behaviours more than interventions with low fidelity to SAFE principles. In contrast, Taylor et al. (2017) found that outcomes for children and young people did not differ according to the degree of fidelity to SAFE principles. However, most studies included in Taylor et al.'s (2017) review fully adhered to SAFE principles, limiting meaningful comparison. Taken together, the evidence suggests that ensuring

fidelity to SAFE principles is an important implementation factor, implying that schools should prioritise delivery models which follow a clear sequence, actively engage students, focus on skill practice, and communicate explicit learning goals.

Taken together, these findings indicate that following SAFE implementation guidance in the delivery of Universal SEL interventions is generally associated with stronger and more positive outcomes amongst children and young people. Specifically, programmes that are sequenced, interactive, skill-focused, and explicit tend to outperform those that rely on passive or unstructured methods.

Intervention Providers and Training

Evidence from eight systematic reviews suggests that implementation quality is influenced by how Universal SEL interventions are delivered in practice, including the preparedness, training and support of those responsible for delivery, with variation in these implementation conditions contributing to mixed outcomes for children and young people. Teachers are the most common providers, and evidence suggests they can deliver SEL programmes effectively across a wide range of outcomes (Charlton et al., 2021; Cipriano et al., 2023; Durlak et al., 2011). Some reviews report larger effects when programmes are delivered by researchers or non-classroom staff (Luo et al., 2022; Murano et al., 2020), particularly for behavioural outcomes, while others show that teacher-led interventions produce the most consistent benefits across social, emotional, behavioural and academic domains, including meaningful reductions in violence (Durlak et al., 2011; Hahn et al., 2007). Overall, differences by provider tend to be modest and outcome-specific, suggesting that multiple personnel types can successfully deliver Universal SEL when adequately supported.

Crucially, the evidence points more strongly to the importance of training and support than to provider type alone. Developing the social and emotional competencies of teachers through training is associated with improved outcomes for children and young people and appears more influential than other implementation features, such as family support in implementing interventions, types of activities embedded and wider school-based support (Shi & Cheung, 2024). Utilising active training opportunities, such as workshops and coaching, appear to be more beneficial in supporting teachers to develop their skills for

implementing Universal SEL programmes, rather than relying on passive supports such as manuals alone (Sklad et al., 2012). For implementation, this highlights the need to invest in building provider capacity, particularly teachers' own SEL skills, alongside clear implementation guidance, to maximise the effectiveness of Universal SEL interventions in real-world settings.

Equity Considerations in Implementing Universal SEL

Four systematic reviews considered the role of equity factors in implementing Universal SEL interventions. These cover adaptations made to interventions based on the cultural needs of participants (Cipriano et al., 2023; Li et al., 2024; Wigelsworth et al., 2016) and evidence of considering SEND in the design and implementation of interventions (Daley & McCarthy, 2021).

Cultural adaptations

Three systematic reviews considered the role of culture and country of delivery in the effectiveness of Universal SEL programmes (Cipriano et al., 2023; Li et al., 2024; Wigelsworth et al., 2016). Both Wigelsworth et al. (2016) and Cipriano et al. (2023) hypothesised that interventions developed and implemented in the same context, due to consistencies in cultural-value alignment, would have a greater positive effect than those that were not. Partially supporting this hypothesis, Cipriano et al. (2023) found marginally stronger reductions in externalising behaviours when programmes were developed and delivered in the same country, while Wigelsworth et al. (2016) reported same-country advantages for some outcomes (social-emotional competence, attitudes towards the self, prosocial behaviour and emotional distress) but not others (conduct problems, academic achievement and emotional competence). In these cases, interventions delivered outside their country of origin showed stronger effects. These inconsistencies suggest that cultural alignment and contextual fit may support certain outcomes, but implementing Universal SEL interventions in the country of origin alone does not reliably predict improvements in outcomes for children and young people.

Wigelsworth et al. (2016) suggest that favourable effects for interventions developed and implemented in the same country are due to cultural alignment between the values of the communities in which the interventions were designed for and those in which they are provided to, with this differing internationally.

Furthermore, maintaining delivery within the country of origin enables improved access to critical infrastructure to support implementation (e.g., quality supervision, site preparation and staff training). Wigelsworth et al. (2016) propose that interventions delivered in their country of origin may benefit from closer alignment with local values and better access to implementation infrastructure, such as training, supervision and site preparation. However, stronger effects observed for some outcomes when interventions were delivered elsewhere indicate that certain Universal SEL programmes may be adaptable with minimal disruption to core mechanisms, particularly when only surface-level adaptations are needed. This highlights the complexity of balancing cultural fit with implementation feasibility across contexts.

Li et al. (2024) found that Universal SEL interventions which were adapted to meet the cultural needs of participants, through surface-level changes (e.g., language, culturally relevant materials) and deep-level adaptations (e.g., embedding cultural values, family involvement), was associated with improved SEL knowledge amongst children and young people. Furthermore, culturally adapted interventions were viewed as more acceptable and feasible to implement, which can lead to increased engagement and enjoyment amongst participants. Regarding the implementation of Universal SEL interventions, this suggests that attention should be given to how interventions can be culturally adapted, while maintaining fidelity to core components, to maximise relevance, engagement and effectiveness for diverse student populations.

Universal SEL for children and young people with SEND

One systematic review of 166 studies found very limited and inconsistent consideration of children and young people with SEND in the design and implementation of Universal SEL interventions (Daley & McCarthy, 2021), creating major gaps in understanding the inclusivity and implementation of Universal SEL interventions for children with SEND. Only 11% of studies explicitly reported including students with SEND, while most provided no information or actively excluded them, often based on assumptions about their ability to participate rather than identified need. As a result, there is little reliable evidence on how Universal SEL interventions can be implemented with children and young people with SEND or whether outcomes differ for this group.

The review also highlighted minimal attention to SEND in intervention design and delivery. Programme timing, setting and facilitator role were often poorly specified, making it unclear whether students with SEND could regularly participate, particularly those with alternative timetables or who required specialist support. Although delivery formats and facilitators varied widely, almost no studies reported training intervention providers in inclusive practices, and few described making adaptations to activities to enable children and young people with SEND to participate, despite many of the activities requiring high demands on cognitive, social and behavioural skills. Even when interventions acknowledged learner variability, this rarely translated into SEND-specific consideration.

For implementation, these findings underline the need to embed inclusivity explicitly within Universal SEL planning and delivery. This includes clearly documenting participation of students with SEND, selecting delivery times and formats that ensure access, training intervention providers in inclusive practices, and adapting activities to accommodate diverse needs without compromising core components. Addressing these implementation factors is essential to ensure Universal SEL interventions are equitable, feasible and appropriate for all learners, including those with SEND.

Delivery Characteristics

Delivery Method

Delivery method refers to *how* an intervention's content is delivered and experienced in practice, shaping participant engagement, skill practice and consistency of delivery. It directly influences fidelity, feasibility and participant responsiveness, affecting whether an intervention is implemented as intended and achieves its desired outcomes. Consequently, decisions about delivery method are central to implementation planning, as they determine whether an intervention can be implemented consistently, at sufficient quality, and in a way that maximises its intended impact.

Evidence from three systematic reviews explored differences in delivery method for Universal SEL interventions. Consistent with Social Learning Theory which highlights the importance of hands-on engagement for skill acquisition, January

et al. (2011) found that programmes using experiential, practice-based activities supported children and young people in developing their social competence skills, more so than relying on passive approaches alone, such as instructional or discussion-based methods. Similarly, Brown et al. (2023) reported that school-based programmes incorporating relational components, such as mentoring, supported skill development, whilst interventions focused on teaching SEL skills via moral sentiments were less impactful for children and young people. Together, these findings suggest that Universal SEL interventions which implement interactive and relationship-focused delivery models support the skill development of children and young people more than passive approaches to learning.

Evidence on specific instructional components[9] reinforces this conclusion. Mertens et al. (2020) found that the implementation of delivery methods by teachers which promoted active learning of skills were associated with stronger intrapersonal outcomes for children and young people. Similarly, delivering learning using a combination of different media formats (e.g., video content, audio elements, visual supports and digital or interactive tools), supported children and young people to engage with the content of the intervention, leading to improved outcomes. Some structured passive approaches, such as clear didactic instruction where the emphasis is on teachers transferring their knowledge to students, were also linked to beneficial outcomes, indicating that effective implementation requires balance rather than reliance on any single method. By contrast, unstructured discussion was associated with weaker intervention effects, with authors noting that teachers may be more equipped to teach psychological constructs directly, whilst preventing discussions from side-tracking can be harder to manage. Taken together, these findings indicate that the implementation of Universal SEL interventions can be supported by the prioritisation of structured, engaging and practice-oriented activities, alongside well managed teacher-led instruction.

[9] Instructional components refer to techniques and methods of information delivery used by facilitators, including practicing of desired behaviours, modelling, discussion, goal setting, self-monitoring, multimedia, homework and didactic instruction.

Duration/Dosage

Dosage typically refers to the amount of content or number of sessions delivered (e.g. sessions completed, hours of exposure), while duration refers to the overall length of time across which the intervention is implemented (e.g. weeks or months). Duration and dosage influence the fidelity of interventions as they determine how much of the intended intervention content is actually delivered in practice, influencing participants' exposure to and practice of core components.

Evidence on the role of duration of Universal SEL interventions on outcomes for children and young people is mixed across nine systematic reviews (Brown et al., 2023; Cipriano et al., 2023; Hahn et al., 2007; January et al., 2011; Luo et al., 2022; Mertens et al., 2020; Shi & Cheung, 2024; Sklad et al., 2012; Taylor et al., 2017). Some reviews suggest benefits from longer exposure, with more sessions predicting improvements in social competence and reductions in internalising problems and bullying (January et al., 2011; Mertens et al., 2020). In contrast, several reviews found that shorter programmes were equally, or sometimes more, effective, particularly for social skills and externalising behaviour, although positive effects were found for all durations suggesting that providing Universal SEL interventions is important regardless of the specific duration (Brown et al., 2023; Cipriano et al., 2023; Sklad et al., 2012). Others found no significant relationship between duration or dosage metrics and outcomes across multiple domains, including behaviour and violence (Hahn et al., 2007; Luo et al., 2022; Taylor et al., 2017).

Importantly, evidence suggests that how much of the intended content is delivered (i.e., fidelity) matters more than overall programme length. Shi and Cheung (2024) found that implementing the recommended levels of programme content was one of the strongest moderators of outcomes, whereas total programme duration was not significantly associated with effectiveness. This indicates that sufficient coverage of core components and fidelity to the intended dosage are more critical implementation factors than simply extending programme length. For implementation, this highlights the importance of realistic scheduling that enables full delivery of core content, prioritising quality and completion over duration, to maximise impact while maintaining feasibility of delivery.

Intervention Curriculum

The curriculum of an intervention shapes what content is delivered, how it is sequenced, and the level of complexity involved during real-world delivery. How the curriculum is implemented in practice, including what is emphasised, simplified, or omitted, affects participants' exposure to core mechanisms of change. Curriculum demands also influence fidelity, as overly complex or misaligned content is more likely to be delivered inconsistently. Implementation of Universal SEL interventions requires curricula that preserve essential components while remaining feasible and well aligned with implementer skills and participant needs.

Two systematic reviews examined curriculum components of Universal SEL interventions (Mertens et al., 2020; Shi & Cheung, 2024). Mertens et al. (2020) found that content targeting interpersonal skills, such as problem-solving and insight-building, was associated with stronger effects, particularly for bullying and social competence, whereas focusing on some intrapersonal components (e.g. assertiveness, emotion regulation, cognitive coping) were linked to weaker effects for internalising problems and self-esteem. Similarly, Shi and Cheung (2024) reported that curricula with a high proportion of cognitive content were associated with poorer overall behavioural and academic outcomes, suggesting that cognitive-heavy approaches may reduce opportunities for experiential, relational and emotional skill development. Mertens et al. (2020) highlight that this may be because Universal SEL interventions tend to be delivered by teachers with only brief training opportunities and limited experience of teaching cognitive-focused content.

These findings imply that it may be more beneficial to children and young people to implement Universal SEL interventions which prioritise relational and problem-focused skills supported by active, experiential learning, rather than relying heavily on cognitively demanding elements that may require specialist training to deliver effectively. When implementing Universal SEL interventions in schools, often through teachers with limited time and training, interventions should be designed and delivered in ways that align with implementer capacity, experience and skillset.

Sequencing of Learning

Sequencing of learning determines *how* an intervention's components are delivered in practice, including the order in which participants are exposed to skills. Deviating from the intended sequence can change how skills build on one another, affecting fidelity and the likelihood that the intervention activates its expected mechanisms of change.

Cipriano et al. (2023) examined whether the order in which teaching SEL skills are implemented influences the effectiveness of Universal SEL interventions, distinguishing between intrapersonal skills (such as self-management) and interpersonal skills (such as communication). Most interventions followed a structured sequence, typically teaching intrapersonal skills before interpersonal skills, and this approach was associated with children and young people having more positive experiences of the school climate and experiencing modest improvements in other social, emotional and behavioural outcomes (e.g., SEL skills, attitudes/beliefs and externalising behaviours). The authors suggest that implementing learning activities which aim to strengthen intrapersonal regulation skills first may support children and young people to engage more with subsequent interpersonal learning.

These findings highlight that sequencing of SEL content is an important implementation consideration. Specifically, delivering content in a purposeful order, rather than presenting content in an unstructured way, may strengthen Universal SEL interventions by aligning with developmental learning processes. This underscores the importance of maintaining the intended skill sequence during delivery, as sequencing supports fidelity and helps ensure that later components build on earlier learning.

Multi-component Programmes

Multi-component Universal SEL programmes extend classroom instruction by adding parent, family, community or whole-school elements, with the intention of reinforcing skill development across contexts. Examples include parents working with their children to complete skill-related homework or school-wide policies and practices to encourage social emotional development. Multi-component delivery affects how an intervention is implemented, organised, delivered, and

sustained in real-world settings. Adding parent, community or whole-school components changes the complexity of delivery, the number of implementers involved, coordination demands, and the resources required.

Evidence suggests interventions implementing multi-component approaches can support positive outcomes for children and young people, but do not consistently outperform single-component programmes. For example, Taylor et al. (2017) and Durlak et al. (2011) both found that multi-component interventions improved children and young people's attitudes, conduct problems, emotional distress and academic performance, yet this was broadly comparable to those of classroom-only programmes. One explanation is that multi-component programmes are less likely to adhere fully to SAFE principles and are more likely to experience implementation challenges, which may limit their added value.

By contrast, Goldberg et al. (2019) found that programmes implementing a community component (e.g., involvement of community members in school components, community-led activities), alongside whole-school Universal SEL interventions, supported children and young people's social and emotional adjustment more than single-component approaches, suggesting that added components can enhance impact when they are well-designed and well-integrated. Similarly, reviews focusing on parental involvement show that programmes delivered across both school and home contexts can enhance social competence, behaviour and sometimes academic outcomes, particularly when parents are provided with training on how to implement and reinforce learning from Universal SEL interventions (Luo et al., 2022; Murano et al., 2020). However, parental engagement alone does not appear to outweigh other core implementation factors, such as providing training to teachers to implement Universal SEL interventions in the classroom (Shi & Cheung, 2024).

This indicates that adding additional elements alone is insufficient, instead consideration must be given to whether multiple components can be delivered with fidelity, coherence and adequate support. Adding family or community elements should therefore be a deliberate implementation decision, supported by training, coordination and infrastructure to maintain fidelity across components. Schools may benefit from prioritising high-quality delivery of core classroom

components first and expanding to multi-component models only when they can be implemented coherently and sustained over time.

Summary of Key Findings from Meta-Review

To briefly summarise, key findings from this section include:

- The quality and consistency in implementing Universal SEL interventions strongly influences outcomes for children and young people, with high fidelity interventions being most effective. Critically, reporting and measurement of fidelity remain issues across studies.
- When implementing a Universal SEL intervention, fidelity to a comprehensive but focused framework (such as CASEL or the Framework for SEL) and ensuring balanced skill development across core domains, supports positive outcomes for children and young people.
- Universal SEL interventions with high fidelity to SAFE practices, that are sequenced, interactive, skill-focused, and explicit, tend to outperform those that rely on unstructured methods.
- Utilising active training opportunities, such as workshops and coaching, appear to be more beneficial in supporting teachers to develop their skills in implementing Universal SEL interventions, rather than relying on passive supports such as manuals alone.
- Universal SEL interventions which are adapted to meet the cultural needs of participants are viewed as more acceptable and feasible to implement and can lead to increased engagement and enjoyment amongst participants.
- There is a striking lack of systematic attention to learners with SEND leaving major gaps in understanding their participation in Universal SEL interventions and appropriate adaptations.
- The implementation of Universal SEL interventions can be supported by the prioritisation of structured, engaging and practice-oriented activities, alongside well managed teacher-led instruction.
- Ensuring coverage of all core content with fidelity to the recommended provision level is more important than simply making programmes longer.

- Curricula that prioritise relational and problem focused skills and minimise cognitively demanding content are more feasible for implementing in schools, particularly given teachers' expertise and experience in delivering such content.
- Purposeful sequencing, typically teaching intrapersonal skills before interpersonal skills, supports fidelity and strengthens outcomes by aligning with developmental learning processes.
- Universal SEL interventions which embed multi-components (e.g., parental or community involvement) can enhance outcomes when well-integrated and supported but often face greater implementation challenges and should only be adopted when fidelity, training and coordination can be sustained.

- Most systematic reviews were rated as low or critically low quality, with only one assessed as moderate and none as high quality, meaning the conclusions above should be interpreted with care.

Experiences of children and young people

Four studies examined the views of children and young people who participated in Universal SEL programmes. Three studies were rated as moderate quality using the YEF-EQA (Castro-Olivo, 2014; Culliney *et al.*, 2022; Fu et al. 2024) and one study as low quality (Bergin *et al.*, 2024). Across the studies, children and young people consistently reported positive experiences of the interventions, with strong convergence in perceived enjoyment, relevance and benefit despite differences in programme design, age ranges and cultural context.

Enjoyment and engagement emerged as a central theme across all studies, and the evidence suggests that the perceived fun and interactivity of programmes was closely tied to both motivation and engagement with learning. High levels of engagement were found in Castro-Olivo's (2014) survey of 49 Latino English language learners who participated in the Jóvenes Fuertes (Strong Teens) programme, a culturally adapted Universal SEL intervention aimed at enhancing social-emotional knowledge and resilience in middle and high school students. Among respondents, 93.5% reported liking the programme and 84.4% were satisfied with the way it was taught. Similarly, Fu et al. (2024) found that amongst 617 fifth-grade pupils who participated in the rural Southwest China Positive Growth intervention, mean satisfaction and interest ratings were 9.1 and 9.2 out of 10 respectively, with 97.65% expressing willingness to attend a similar programme again. These results suggest that even in large-scale, less-resourced settings, structured and interactive interventions can maintain high levels of pupil engagement.

Qualitative accounts from Bergin et al.'s (2024) study of the Leader in Me (LiM) framework, designed to foster positive behavioural habits and strengthen school climate, found that all 20 interviewed pupils described the intervention positively, frequently referring to it as "fun" and expressing enthusiasm for assemblies, leadership days and leadership groups. Culliney et al.'s (2022) research with Year 6 pupils following participation in the Universal SEL programme DARE25, found that the combination of interactive activities and credible, enthusiastic facilitators played a key role in sustaining pupil enjoyment and engagement during the intervention. For example, pupils noted that DARE25 "incorporat[ed] quizzes…

which made it more interesting" and that "our DARE Officer was quite fun and making activities fun" after initial nervousness.

Perceived improvements in social behaviour and relationships were consistently reported across studies, and the results indicate that programmes can influence both individual and collective outcomes. In Bergin et al. (2024), 100% of pupils volunteered comments indicating that students were more prosocial towards each other following LiM, 80% reported feeling happier, 90% described increased independence and responsibility, and 50% perceived themselves as more prosocial. Pupils expressed these outcomes in their own words: "at this school, there's a lot nicer kids…I think I've gotten a lot kinder," and "I'm just a happier person. I don't feel so insecure about myself… I just felt like I could be myself more." Comparable perceptions emerged from the Jóvenes Fuertes social validity questionnaire, where 96.2% of pupils reported changes in both their own and their peers' behaviour, and 95.4% indicated that the programme taught important skills to classmates (Castro-Olivo, 2014). In DARE25 focus groups, pupils similarly reported positive behavioural and emotional effects, noting that "DARE25 helped me to be confident… my body language has changed" and "now I know how to say no and what the risks are". These reflections demonstrate that children and young people value the positive changes in their own and others' behaviour because of taking part in Universal SEL interventions.

Across studies, children and young people highlighted the transferability of skills and preparation for future challenges. In Bergin et al. (2024), 18 of 20 pupils described becoming more independent and responsible in schoolwork and at home as a result of their participation, with 80% noting that prosocial behaviour extended beyond school. One pupil explained that LiM "has definitely made me work a little bit harder," while another said the skills learnt help her "pay attention" in class. Findings from Castro-Olivo (2014) echoed this, with 86.9% of pupils finding the skills they learnt useful, 84.4% likely to apply them, and 92.3% reporting improved school performance. Importantly, pupils also recognised that these skills helped them feel better prepared for future challenges, particularly the transition to secondary school. In the DARE25 study, several pupils noted that learning to resist peer pressure, communicate effectively, and make safer choices gave them confidence to navigate new environments: "when you go up to high

school… you now know the resistance strategies". Similarly, LiM pupils reflected that improved confidence, goal-setting, and prosocial behaviour would help them manage new responsibilities and challenges in later school years. In Fu et al.'s (2024) research, post-intervention questionnaires completed by children and young people revealed mean ratings of helpfulness (8.6/10) and usefulness in daily life (8.07/10), indicating similar perceptions of real-world applicability. Collectively, these accounts suggest that Universal SEL programmes not only affect current behaviour but also equip children with transferable skills, coping strategies, and self-efficacy to manage future academic, social and emotional challenges.

Differences in pupils' accounts across programmes reflect the interplay of delivery, context, and design, rather than divergence in perceived value. LiM's whole-school approach emphasised belonging and school climate, with pupils describing their schools as "homier" and "like family," and 12 pupils identifying "helping others" as their favourite activity (Bergin et al., 2024). Comparatively, Culliney et al. (2022) reported that DARE25 pupils stressed the credibility of external delivery: "Teachers are just going to say what they've been told to say – they're not someone that's actually from that organisation that has experience". This perceived credibility appeared to underpin strong engagement with sensitive topics such as drug use, knife crime and stress. The value placed on officers with relevant professional backgrounds, including former police officers ("They knew about the dangers… what's bad for you"), further reinforces the contribution of practitioner experience to programme credibility. Cultural adaptation was salient in Jóvenes Fuertes, with 88.5% of students agreeing it was designed for Latinos like themselves (Castro-Olivo, 2014). Fu et al. (2024) showed that structured, session-based delivery could engage pupils in large-scale rural settings effective.

When integrated across studies, these findings present a coherent and rich picture. Children and young people consistently report enjoying programmes, recognising improvements in prosocial behaviour, confidence, and emotional wellbeing, and valuing the transferability of skills for everyday life and future transitions. Quantitative and qualitative evidence shows that programmes designed to be interactive, culturally or contextually relevant, and delivered credibly can achieve high levels of pupil engagement and perceived impact.

Crucially, many children and young people explicitly linked programme participation to preparedness for new challenges, particularly transitions to secondary school, demonstrating the potential of Universal SEL interventions to foster both current and anticipatory resilience. These insights highlight the importance of considering pupil perspectives when evaluating and implementing interventions.

How much does it cost?

Five studies examined the costs of Universal SEL interventions. Three studies were conducted in the US (Hahn et al., 2007; Taylor et al., 2017; Vazsonyi et al., 2004), one in the UK (Berry et al., 2015), and one in Switzerland (Sorrenti et al., 2025). Two of the US-based studies were systematic reviews (Hahn et al., 2007; Taylor et al., 2017) and both were rated as Low quality using AMSTAR 2. Of the primary studies included, one was rated as moderate quality using the YEF-EQA (Sorrenti et al., 2025), one as low quality (Vazsonyi et al., 2004) and one as very low quality (Berry et al., 2015). Across studies, costing methods and perspectives varied considerably, and only one study attempted a cost–benefit analysis (Taylor et al., 2017).

Berry et al. (2015) conducted a detailed cost-consequence analysis of the PATHS programme alongside a cluster RCT in 29 primary schools in Birmingham, UK. Using a micro-costing (bottom-up) approach from a multi-agency public sector perspective, costs were separated into non-recurrent (training) and recurrent (delivery and project management) components. Berry et al. (2015) estimated the average cost of PATHS at £12,666 per school, equivalent to £139 per child receiving the intervention (or £127 per child when training costs were excluded)[10].

Sorrenti et al. (2025) evaluated the long-term effects of PATHS in Zurich, Switzerland, and reported implementation costs of $1,540 per class and $67 per child, driven primarily by teacher training and programme materials. Rather than

[10] According to Berry et al.'s (2015) original costs and adjusting these using the Band of England inflation calculator, the estimated average cost of implementing PATHS in 2025 would be £17,651 per school, £193 per child receiving the intervention or £176 per child when training costs are excluded. These figures are provided solely for illustrative purposes and should not be interpreted as precise or definitive cost estimates.

estimating cost-effectiveness, Sorrenti et al. (2025) conducted a cost comparison with other educational and developmental interventions drawn from the literature. PATHS was shown to be relatively low cost compared with high-intensity early childhood programmes such as the Perry Preschool Program and the Carolina Abecedarian Project. However, the authors cautioned that such comparisons were limited by missing cost data and contextual factors, including differences in teacher salaries and delivery models.

Vazsonyi et al. (2004) examined the PeaceBuilders Violence Prevention Program in two US school districts and described it as a low-cost intervention, with total costs of less than $200 per child over three years. The study contrasted these costs with estimates from Cohen (1998) indicating that the lifetime societal costs of criminal behaviour can range from $1.3 to $2.3 million per individual. Although not a formal cost-benefit analysis, the authors argued that even modest reductions in future criminality would more than offset the relatively small investment required for PeaceBuilders.

Taylor et al. (2017) conducted meta-analysis synthesising findings from 82 universal school-based SEL interventions in the US. Rather than reporting programme delivery costs, Taylor et al. (2017) drew on published economic estimates to calculate the lifetime monetary benefits or cost savings associated with achieving specific outcomes, such as educational attainment, reduced criminal justice involvement and improved health outcomes. Estimated benefits were substantial, including over $367,000 in additional lifetime earnings per high school graduate and cost savings of up to $3.95 million from preventing one case of conduct disorder. Although only a small subset of studies reported such long-term outcomes, Taylor et al. (2017) concluded that the findings provide indicative evidence of the potential for large downstream economic benefits from Universal SEL interventions.

Finally, Hahn et al (2007) conducted a systematic review of Universal SEL programmes aimed at preventing violence and aggression. Several included primary studies reported programme costs, including PATHS at $15–$45 per student per year and PeaceBuilders at <$200 per child, although most did not link costs to measured benefits. One exception was the Seattle Social Development Project, which demonstrated a cost–benefit ratio of $3.14 for every dollar invested, reflecting reductions in crime-related costs. Hahn et al (2007) concluded that

while programme costs generally appear modest relative to potential benefits, robust economic evaluations remain scarce, and further high-quality studies are needed to determine the cost-effectiveness of Universal SEL interventions.

Together, the evidence suggests that SEL interventions are relatively low cost to implement, particularly when delivered universally in school settings. However, the economic evidence base is weak, with substantial variation in costing methods, limited use of cost-effectiveness or cost–benefit analyses, and a heavy reliance on modelled or indirect estimates of long-term benefits. While review-level studies indicate the potential for substantial downstream cost savings, particularly through improved educational and behavioural outcomes, these conclusions rest on low-quality evidence. Further high-quality economic evaluations, embedded within well-designed trials, are needed to determine the long-term cost-effectiveness of Universal SEL interventions.

A micro-costing approach was used to estimate the resources required to deliver the PATHS curriculum within a cluster RCT (Turner et al. 2020[11]). Only intervention-specific costs were included, as data on additional service use were not collected. Costs were separated into non-recurrent and recurrent components, with all unit costs, assumptions, and sources documented in the costing framework.

Non-recurrent costs consisted of expenditure on PATHS classroom materials, training for PATHS coaches, and the initial full-day training delivered to teachers.

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[11] This study (Turner et al., 2020) was added in response to a helpful comment received during peer review. As the point was raised after the strand had been completed, the study was not included in the original costing analysis. We have nevertheless incorporated it into the review for completeness and appreciate the reviewer bringing it to our attention. Owing to the timing of this addition and wider time constraints, it has not been integrated throughout the rest of the report.

Reference: Turner, A. J., Sutton, M., Harrison, M., Hennessey, A., & Humphrey, N. (2020). Cost-Effectiveness of a School-Based Social and Emotional Learning Intervention: Evidence from a Cluster-Randomised Controlled Trial of the Promoting Alternative Thinking Strategies Curriculum. Applied Health Economics and Health Policy, 18(2), 271–285. https://doi.org/10.1007/s40258-019-00498-z

These items were assumed to support delivery beyond the 2-year trial period and were therefore annuitised over their expected useful life using a 3.5% discount rate. Classroom materials and PATHS coach training were assigned a 5-year lifespan, consistent with the expected duration of programme implementation. For the initial teacher training, the relevant lifespan was set as the minimum of this 5-year period or the expected length of teacher retention, estimated using teacher attrition rates observed during the trial. Total non-recurrent incremental costs amounted to £39,323 across the PATHS schools.

Recurrent costs reflected the ongoing resource inputs required to sustain delivery, including follow-up training sessions and regular support provided by PATHS coaches. These costs were inflated to 2018/19 prices, and costs occurring after the first year were discounted at 3.5%. Total recurrent incremental costs were £48,550, driven primarily by the continued provision of PATHS coach support.

Combining all elements, the total incremental cost of delivering PATHS during the trial was £87,873. This cost was divided across the 2,745 children who received the intervention (including 69 opt-outs), resulting in a per-child incremental cost of £32.01. These estimates formed the basis for the subsequent cost-effectiveness analysis, which assessed whether the health-related quality-of-life (QALY) gains observed over the 2-year period justified the investment required to implement PATHS at scale. Assuming a willingness-to-pay (WTP) threshold of £20,000 per QALY, the expected incremental net benefit (INB) was £5.56 per child (95% CI – 14.68 to 25.81), and the probability of cost-effectiveness was 84%. However, when intervention costs were recalculated to include teachers' salary costs associated with PATHS delivery, the probability of cost-effectiveness fell to 0%, highlighting the strong sensitivity of conclusions to assumptions about staff time and opportunity costs.

Conclusion and Takeaway Messages

Our systematic review and meta-analysis demonstrate that Universal SEL programmes have a moderate impact on reducing youth violence and broad positive effects on related outcomes. We also observed a promising but inconclusive reduction in crime and offending outcomes. As with prior research, the effectiveness of Universal SEL interventions appears to vary with context, programme design, implementation fidelity, and participant characteristics, reflected in the high heterogeneity of results.

Violence

Universal SEL interventions were associated with an estimated 24.5% relative risk reduction in violence involvement among children and young people in our analysis, with an absolute risk reduction of 3.9%. Our meta-analysis of 93 violence-related outcomes (22 studies) therefore suggests that Universal SEL programmes can meaningfully reduce aggressive and violent behaviours in school-aged populations. When adjusting for clustered data, the effect became marginally statistically non-significant ($p=0.056$), so caution is warranted. Nonetheless, our confidence in this violence finding is very high (evidence security Level 5) given the number and quality of randomised trials included.

Meta-analyses focusing specifically on violence outcomes of Universal SEL programmes are rare, so direct comparisons are limited. However, an early review by Hahn et al. (2007), on behalf of the U.S. Task Force on Community Preventive Services, reported a median 15% relative reduction in violent behaviours across Universal SEL programmes, an effect in the same direction as our estimated 24.5% reduction, though smaller in magnitude. Our finding is also consistent with meta-analytic evidence that Universal SEL interventions lead to fewer conduct problems and aggressive incidents. For example, Durlak et al. (2011) analysed 213 Universal SEL programs and found significant improvements in students' behaviours, alongside gains in social-emotional skills and attitudes.

Importantly, the Universal SEL programmes in our review were generally not designed solely to prevent violence, rather, they aimed to build social-emotional competencies and positive behaviours, with violence outcomes often measured

as one of many outcomes. This could mean that more targeted SEL programmes achieve even greater effects on violence-related outcomes, as found in our review of targeted SEL programmes (an estimated 42.7% relative risk reduction; Keenan et al., 2026).

Crime and Offending

Our meta-analysis also examined crime and offending outcomes, with Universal SEL programmes showing an estimated 45.3% relative reduction in risk and an 11% absolute decrease in youth crime and offending behaviours (from 25% of youth involved in crime who did not participate in Universal SEL interventions to 14% with Universal SEL[12]).

Despite this promising finding of Universal SEL interventions having a high impact on crime and offending outcomes, caution is advised as this result was based on only four cluster RCTs of moderate quality and was not statistically significant after adjusting for clustering (p=0.15). The review team therefore interpret the crime and offending reduction as promising but tentative, yielding a low evidence security rating (Level 2). In simple terms, the large relative effect we found (45% lower odds of crime) must be viewed cautiously as it could be an overestimate or specific to the few studies available.

There have been no prior meta-analyses focusing specifically on Universal SEL interventions' effects on formal crime or offending outcomes, making direct comparison challenging. The earlier review by Hahn et al. (2007) examined universal school-based prevention programmes across a range of neighbourhood contexts and found that programmes implemented in higher-crime and lower socio-economic (SES) settings were associated with reductions in crime-related outcomes that were comparable to those observed in more advantaged settings. While median estimates provided by the authors suggested reductions in the order of 10–15%, substantial variability and incomplete reporting

[12] The relative risk reductions and absolute risk reductions reported here are derived using baseline prevalence rates for the relevant outcomes, including crime and offending, violence, and related behaviours, as set out in the technical guide.

of contextual characteristics mean these findings should be interpreted cautiously and are not directly comparable with our analysis.

All outcomes

Beyond violence, crime and offending outcomes, a final meta-analysis included 630 outcomes across 17 YEF Outcome domains. This analysis found a moderate overall effect of Universal SEL programmes on this broader set of youth outcomes ($g=-0.21$, $p < .001$). In practical terms, children who participated in Universal SEL interventions showed significant improvements across a wide range of personal, social, and school-related outcomes compared to those who did not. These findings are drawn from 56 studies that assessed the impact of Universal SEL interventions on children and young people and, as a result, we feel confident in the findings and a Level 5 evidence security rating is applied.

Not every outcome category showed a statistically significant change, but several did, most notably behavioural difficulties, social and relationship skills, general mental health, emotional regulation, and school climate all improved with Universal SEL. Each of these statistically significant findings had a moderate impact according to the YEF criteria.

Decades of research, including multiple meta-analyses, support these findings and show that Universal SEL interventions deliver benefits across a range of outcomes for children and young people. For instance, Wilson and Lipsey (2007) noted that universal programmes led to decreases in aggression and disruptive behaviour, as well as improvements in students' social skills, academic performance, and other adjustment outcomes. This broad pattern of benefits is echoed in our results and numerous other reviews and so our findings reinforce the already strong evidence-base that Universal SEL interventions have many benefits for the students who receive them and are a useful intervention to promote positive development and a healthier school environment more generally.

What Works?

Findings from the meta-review suggest that high-quality implementation of Universal SEL interventions is characterised by strong fidelity to the original programme design and content, alignment with focused SEL frameworks (particularly the Framework for SEL and CASEL-5), adherence to SAFE principles, and delivery through engaging, well-sequenced and relational or problem-solving methods, alongside well-managed teacher-led instruction. Furthermore, embedding active training opportunities, such as workshops and coaching, can support intervention providers in their delivery of universal SEL interventions. Given the greater likelihood of experiencing implementation challenges, multi-component approaches, such as involving parents or communities, should only be implemented if fidelity can be ensured and sustained, through sufficient resourcing and training of parents or community members.

The findings also highlight important equity and feasibility considerations. Universal SEL interventions which are adapted to meet the cultural needs of participants are viewed as more acceptable and feasible to implement and can lead to increased engagement and enjoyment amongst participants, highlighting the importance of considering differences in the personal characteristics and experiences of children and young people. However, evidence shows a persistent lack of attention to the inclusion of children and young people with SEND, leaving significant gaps in understanding their participation in Universal SEL interventions and how accessible these are for different children.

Overall, schools and systems should prioritise realistic implementation planning that supports fidelity, builds provider capacity, and responds to the cultural and developmental needs of learners. Strengthening these implementation foundations is essential to ensuring Universal SEL interventions are implemented appropriately, equitably, and sustainably in real-world educational settings.

Who Benefits Most?

Gender

The effectiveness of Universal SEL interventions was found to differ meaningfully depending on the gender composition of participating children and young

people. Interventions with mixed-sex groups samples showed moderate and statistically significant beneficial effects. Our findings differ from a past meta-analysis, which found no meaningful differences in effectiveness based on gender composition (Cipriano et al., 2024). However, this may be due to methodological differences, whereby Cipriano et al. (2024) only examined four studies which reported on the effects of Universal SEL by binary gender groups (male/female) and did not explore mixed-sex samples.

Broader educational research suggests that mixed-sex groups can create richer social dynamics that support learning and skill development, which may contribute to the success of Universal SEL interventions for children and young people in mixed-gender groups. Diverse peer interactions expose participants to a wider range of perspectives, communication styles, and problem-solving approaches (Curşeu et al., 2018), which may support the development of social-emotional competencies, such as empathy, cooperation, and conflict resolution. Mixed-gender settings also reduce the risk of reinforcing gender-specific stereotypes and promote inclusivity, helping students practice adaptive behaviours in varied social contexts (Fabes et al., 2019). These factors may indirectly enhance the effectiveness of SEL interventions by fostering more authentic and varied opportunities for social learning.

Critically, our findings, similar to previous reviews, are affected by under-reporting of gender composition. For example, in our review, six included studies failed to report or were unclear on the gender composition of participants. As Durlak et al. (2022) highlight in their meta-review of 12 meta-analyses on SEL programmes, poor reporting of demographic characteristics, including gender and ethnicity, directly impacts on our understanding of who benefits most from Universal SEL and why.

Ethnicity

Consistent with past research (e.g., Durlak et al., 2022), our findings indicate that the effectiveness of Universal SEL is not moderated by the ethnic composition of study samples. Indeed, all ethnic compositions explored showed beneficial effects favouring Universal SEL programmes, with studies that had ethnically

diverse/balanced samples or samples with some diversity reaching statistical significance.

This pattern likely reflects the design principles of Universal SEL, which emphasise culturally responsive practices, inclusive curricula, and skills that are broadly applicable across diverse social contexts (Cipriano et al., 2024). Furthermore, studies with ethnically diverse or balanced samples often report statistically significant benefits, suggesting that diversity may enhance opportunities for perspective-taking and cross-cultural understanding, reinforcing the universal applicability of SEL interventions (Lee et al., 2023).

Age

Our findings indicate that Universal SEL interventions demonstrate broadly similar effectiveness across age groups, with no strong evidence that these programmes are substantially more or less effective for any particular age band. While effect sizes appear strongest and most consistent in early childhood and in studies with mixed-age samples, these differences should be interpreted with caution. This suggests that the core competencies targeted by Universal SEL, such as self-awareness, emotional regulation, and interpersonal skills, are developmentally relevant across childhood and adolescence, supporting the conclusion that Universal SEL programmes can be applied effectively across diverse age ranges without significant loss of impact. This aligns with prior meta-analyses showing that Universal SEL programmes yield positive outcomes across developmental stages, from early childhood through adolescence, without clear evidence of age or grade (i.e., elementary/middle/high school) acting as significant moderators (Cipriano et al., 2024; Durlak et al., 2011).

Limitations

Challenges with the studies measuring effectiveness

A key challenge in synthesising the evidence on Universal SEL interventions relates to limitations in the reporting and availability of quantitative outcome data across a subset of otherwise eligible and relevant studies. In total, 15 studies met the review's inclusion criteria at the screening stage (see a list in Appendix 1) but could not be included in the meta-analysis due to insufficient reporting of results

and or variance components to allow the team to calculate effect sizes. Where possible, authors were contacted to request additional information or clarification. However, either no response was received, or the requested data were no longer available. As a result, these studies could not be included in the meta-analysis, as doing so would have required imputation or assumptions that would undermine the reliability and transparency of the meta-analysis results. To ensure transparency, these studies are described in the narrative description of interventions but are not included in the quantitative synthesis.

Challenges with the studies measuring implementation

Within the meta-review, one study was rated as moderate quality, 13 studies as low quality and two as critically low quality using the AMSTAR 2 tool (Appendix 1). Low and critically low-quality reviews reduce our confidence in the findings, with examples of methodological issues including lacking a pre-specified protocol, incomplete reporting of excluded studies and, inadequate or missing risk-of-bias assessments. Although this is somewhat mitigated by the large number of reviews included in the meta-review with similar findings, this demonstrates the need for higher-quality evidence on the implementation of Universal SEL interventions. In particular, there is very limited evidence available on the cost-effectiveness of Universal SEL interventions, with more research needed in this area.

Given the breadth of scope and the inclusion of a large number of systematic reviews, overlap of primary studies is an inherent methodological consideration in meta-reviews. Following best-practice guidance outlined by Pieper et al. (2014), overlap was examined using a citation matrix and quantified using the Corrected Covered Area (CCA). Overlap was very low (CCA = 2%), which corresponds to slight overlap as defined by Pieper et al. (2014)[13]. This finding indicates limited redundancy across reviews and suggests that the synthesis in this report was not driven by repeated inclusion of the same primary studies. While overlap cannot be entirely eliminated in comprehensive meta-reviews, the low CCA strengthens confidence that the conclusions reflect a broad and diverse body of evidence.

[13] Categorisations for overlap in reviews are Slight = 0-5%, Moderate = 6-10%, High = 11-15%, Very High = >15%

However, it is important to note that a list of included studies was unavailable for one systematic review (Daley & McCarthy, 2021). Whilst we reached out to authors for this list, it was not made available prior to submission of this report. As such, it is possible, when this additional review is accounted for, that the overlap may be slightly higher than estimated above. Although, given the differences in research questions across reviews, the range of Universal SEL programmes available, variety in review time periods and study design eligibility, this will likely continue to limit the degree of overlap across the included reviews (Durlak et al., 2022).

Final Thoughts and Recommendations

Universal school-based SEL programmes are associated with a moderate 24.5% reduction in violence among children and young people, alongside broader improvements across a range of outcomes linked to violence, crime and offending. The evidence for violence outcomes is very strong (Level 5), based on 22 studies and 93 violence-related outcomes. In contrast, while findings for crime and offending are promising and suggest a potentially large and substantial reduction of 45.3%, confidence is rated as low (Level 2) because this estimate is based on only four studies and remains statistically uncertain after adjusting for clustered outcomes.

Nonetheless, based on the current evidence base at the time of writing, we make the following key recommendations:

- Continue to use Universal SEL programmes in schools as part of violence prevention activity, given the consistent evidence of a moderate reduction in violence and broader benefits across key outcomes.
- Our analysis breaks some new ground in examining outcomes on crime and offending where synthesised evidence was previously unavailable. We recommend more high-quality trials that include validated measures of crime and offending (including administrative outcomes where feasible) and longer follow-up periods to continue to build the evidence-base.
- There are persistent limitations in the reporting of demographic variables amongst primary studies, including gender, age and ethnicity. Evaluations need to consistently record and report on these to enable the field to develop our understanding of who benefits most.

- Prioritise fidelity throughout implementation by embedding systems to monitor and support delivery as intended (e.g., training, observations, checklists and ongoing feedback).
- Adopt focused, well-established SEL frameworks (e.g., CASEL or the Framework for SEL), implementing balanced coverage of core domains.
- Ensure adherence to SAFE principles by implementing interventions that are clearly sequenced, actively engaging, skill-focused and explicit, with sufficient protected time for practice.
- Invest in intervention provider training, particularly aiming to develop teachers' own social and emotional competencies. Draw on active training approaches such as workshops, coaching and supervision.
- Use structured, engaging delivery methods, prioritising experiential, relational and practice-based activities supported by well-managed instruction, rather than passive or unstructured discussion formats.
- Embed equity and inclusivity in implementation, by adapting interventions to cultural contexts while maintaining fidelity, explicitly planning for the inclusion of learners with SEND.

References

For studies included in effectiveness and implementation sections, mark them with an asterisk (*) at the beginning of the reference.

Beelmann, A., & Lösel, F. (2021). 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*, 7(1), 41–65. https://doi.org/10.1007/s40865-020-00142-8

* Beets, M., Flay, B., Vuchinich, S., Snyder, F., Acock, A., Li, K., Burns, K., Washburn, I., & Durlak, J. (2009). Use of a social and character development program to prevent substance use, violent behaviors, and sexual activity among elementary-school students in Hawaii. *American Journal of Public Health*, 99(8), 1438–1445. https://doi.org/10.2105/AJPH.2008.142919

* Bergin, C., Tsai, C., Prewett, S., Jones, E., & Murphy, D. A. B. B. (2024). Effectiveness of a Social-Emotional Learning Program for Both Teachers and Students. *AERA Open* https://doi.org/10.1177/23328584241281284

* Berry, V., Nick, A., Sarah, B., S, T. R., Tudor, E. R., Tobin Kate, Jones Carys, & Bywater Tracey. (2015). The Effectiveness and Micro-costing Analysis of a Universal, School-Based, Social–Emotional Learning Programme in the UK: A Cluster-Randomised Controlled Trial. *School Mental Health*, 8(2), 238–256. https://doi.org/10.1007/s12310-015-9160-1

* Bierman, K., Domitrovich, E., Nix, R., Gest, S., Welsh, J., Greenberg, M., Blair, C., Nelson, K., & Gill, S. (2008). Promoting academic and social-emotional school readiness: The Head Start REDI program. *Child Development*, 79(6), 1802–1817. https://doi.org/10.1111/j.1467-8624.2008.01227.x

* Blair, C., McKinnon, R. D., & Daneri, M. P. (2018). Effect of the tools of the mind kindergarten program on children's social and emotional development. *Early Childhood Research Quarterly*, 43, 52–61. https://doi.org/10.1016/j.ecresq.2018.01.002

* Brown, L., Kim, H., Dolan, C. T., Brown, A., Sklar, J., & Aber, J. L. (2023). Remedial programming and skill-targeted SEL in Low-Income and crisis-affected contexts:

Experimental evidence From Niger. *Journal of Research on Educational Effectiveness* https://doi.org/10.1080/19345747.2022.2139785

CASEL. (n.d.). *Fundamentals of SEL.* Collaborative for Academic, Social, and Emotional Learning. Retrieved 10 December 2025, from https://casel.org/fundamentals-of-sel/

Castillo-Gualda, R., Cabello, R., Herrero, M., Rodriguez-Carvajal, R., & Fernandez-Berrocal, P. (2018). A Three-Year Emotional Intelligence Intervention to Reduce Adolescent Aggression: The Mediating Role of Unpleasant Affectivity. *J Res Adolesc,* 28(1), 186–198. https://doi.org/10.1111/jora.12325

* Castro-Olivo, S. (2014). Promoting social-emotional learning in adolescent Latino ELLs: A study of the culturally adapted Strong Teens program. *School Psychology Quarterly: The Official Journal of the Division of School Psychology,* 29(4), 567–577. https://doi.org/10.1037/spq0000055

* Charlton, C., Moulton, S., & Sabey, C. (2021). A systematic review of the effects of schoolwide intervention programs on student and teacher perceptions of school climate. *Journal of Positive Behavior Interventions* https://doi.org/10.1177/1098300720940168

Cipriano, C., Ha, C., Wood, M., Sehgal, K., Ahmad, E., & McCarthy, M. F. (2024). A systematic review and meta-analysis of the effects of universal school-based SEL programs in the United States: Considerations for marginalized students. *Social and Emotional Learning: Research, Practice, and Policy*, 3, 100029.

* Cipriano, C., Strambler M, J., Naples L, H., Ha C, Kirk M, Wood M, Sehgal K, Zieher A K, Eveleigh A, McCarthy M, Funaro M, Ponnock A, Chow J C, & Durlak J. (2023). *The state of evidence for social and emotional learning: A contemporary meta-analysis of universal school-based sel interventions*. https://doi.org/10.1111/cdev.13968

* Clarke, A. M., Bunting, B., & Barry, M. (2014). Evaluating the implementation of a school-based emotional well-being programme: A cluster randomized controlled trial of Zippy's Friends for children in disadvantaged primary schools. *Health Educ Res*, 29(5), 786–798. https://doi.org/10.1093/her/cyu047

* Coelho, V., Peixoto, C., Azevedo, H., Machado, F., Soares, M., & Espain, A. (2023). *Effects of a Portuguese social–emotional learning program on the competencies of elementary school students*. frontiersin.org. https://doi.org/10.3389/fpsyg.2023.1195746

Conduct Problems Prevention Research Group. (1999). Initial impact of the fast track prevention trial for conduct problems: II. Classroom effects. *Journal of Consulting and Clinical Psychology*, 67, 648–657.

* Conner, N. W., & Fraser, Mark. W. (2011). Preschool Social–Emotional Skills Training. *Research on Social Work Practice*, 21(6), 699–711. https://doi.org/10.1177/1049731511408115

* Crean, H. F., & Johnson, D. B. (2013). Promoting Alternative Thinking Strategies (PATHS) and elementary school aged children's aggression: Results from a cluster randomized trial. *American Journal of Community Psychology,* 52(1–2), 56–72. https://doi.org/10.1007/s10464-013-9576-4

* Culliney, M., Willis, B., Formby, E., Clark, L., & Demack, S. (2022). *DARE 25 evaluation report.*

Curşeu, P. L., Chappin, M. M. H., & Jansen, R. J. G. (2018). Gender diversity and motivation in collaborative learning groups: The mediating role of group discussion quality. *Social Psychology of Education*, 21(2), 289–302. https://doi.org/10.1007/s11218-017-9419-5

* Daley, S. G., & McCarthy, M. F. (2021). Students With Disabilities in Social and Emotional Learning Interventions: A Systematic Review. *Remedial and Special Education*, 42(6), 384–397. https://doi.org/10.1177/0741932520964917

* Daunic, A., Smith, S., Bergin, C., Barber, B., Becker, M., Peters, C., Taylor, G., Van Loan, C. L., Li, W., & Naranjo, A. (2012). Reducing developmental risk for emotional/behavioral problems: A randomized controlled trial examining the Tools for Getting Along curriculum. *Journal of School Psychology*, 50(2), 149–166. https://doi.org/10.1016/j.jsp.2011.09.003

Deacon, E., & Van Rensburg, E. (2014). Enhancing Emotional and Social Competence in a Group of South-African School Beginners: A Preliminary Study.

Journal of Psychology in Africa, 22(4), 677–680. https://doi.org/10.1080/14330237.2012.10820587

Digest of Education Statistics. (2025). *Table 64. Public and private elementary and secondary teachers, enrollment, and pupil/teacher ratios: Selected years, fall 1955 through fall 2018.* National Center for Education Statistics; National Center for Education Statistics. https://nces.ed.gov/programs/digest/d09/tables/dt09_064.asp

* DiPerna, C., J., Lei, P., Cheng, W., Hart S, C., & Bellinger, J. (2018). A cluster randomized trial of the Social Skills Improvement System-Classwide Intervention Program (SSIS-CIP) in first grade. *Journal of Educational Psychology*, 110(1), 1–16. https://doi.org/10.1037/edu0000191

Dodsworth, P. (2002). Evaluation of a social problem-solving curriculum for preventing early adolescent aggression.]. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 63, 2649.

Domitrovich, C., Cortes, R., & Greenberg, M. (2007). Improving young children's social and emotional competence: A randomized trial of the preschool 'PATHS' curriculum. *J Prim Prev*, 28(2), 67–91. https://doi.org/10.1007/s10935-007-0081-0

* Duncan, R. J., Rolan, E., Marceau, K., Lewis, K. M., Bavarian, N., DuBois, D. L., & Flay, B. (2019). Childhood protective factors and a prevention program reduce later problem behaviors. *Journal of Applied Developmental Psychology*, 65, 101063. http://dx.doi.org/10.1016/j.appdev.2019.101063

* Duncan, R., Washburn, I. J., Lewis, K. M., Bavarian, N., DuBois, L., Acock, A., Vuchinich, S., & Flay, B. (2016). *Can Universal SEL Programs Benefit Universally? Effects of the Positive Action Program on Multiple Trajectories of Social-Emotional and Misconduct Behaviors* (pp. 214–224). http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED590411&site=ehost-live http://dx.doi.org./10.1007/s11121-016-0745-1

Durlak, J. A., Mahoney, J. L., & Boyle, A. E. (2022). What we know, and what we need to find out about universal, school-based social and emotional learning programs for children and adolescents: A review of meta-analyses and directions for future research. *Psychological Bulletin*, 148(11–12), 765.

* 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

Fabes, R. A., Martin, C. L., & Hanish, L. D. (2019). Gender Integration and the Promotion of Inclusive Classroom Climates. *Educational Psychologist*, 54(4), 271–285. https://doi.org/10.1080/00461520.2019.1631826

* Feis, C. L., & Simons, C. (2008). Training Preschool Children in Interpersonal Cognitive Problem-Solving Skills. *Prevention in Human Services*, 3(4), 59–70. https://doi.org/10.1300/J293v03n04_07

* Finlon, K. J., Izard, C. E., Seidenfeld, A., Johnson, S. R., Cavadel, E., Ewing, E., & Morgan, J. (2015). Emotion-based preventive intervention: Effectively promoting emotion knowledge and adaptive behavior among at-risk preschoolers. *Dev Psychopathol*, 27(4 Pt 1), 1353–1365. https://doi.org/10.1017/S0954579414001461

* Fishbein, D. H., Domitrovich, C., Williams, J., Gitukui, S., Guthrie, C., Shapiro, D., & Greenberg, M. (2016). Short-Term intervention effects of the PATHS curriculum in young low-income children: Capitalizing on plasticity. *The Journal of Primary Prevention*, 37(6), 493–511. https://doi.org/10.1007/s10935-016-0452-5

Frank, J., Kohler, K., Peal, A., & Bose, B. (2017). *Effectiveness of a school-based yoga program on adolescent mental health and school performance: Findings from a randomized controlled trial.* https://doi.org/10.1007/s12671-016-0628-3

* Frey, K. S., Nolen, S., Edstrom, L. V. S., & Hirschsten, M. K. (2005). Effects of a school-based social-emotional competence program: Linking children's goals, attributions, and behavior. *Journal of Applied Developmental Psychology*, 26, 171–200. https://doi.org/10.1016/j.appdev.2004.12.002

* Fu, L., Zhang, Z., Yang, Y., & McMillen, J. C. (2024). Acceptability and preliminary impact of a school-based SEL program for rural children in China: A quasi-experimental study. *Children and Youth Services Review*, 160, 107579.

Gaffney, H., Farrington, D. P., & White, H. (2021). *Social Skills Training: Toolkit Technical Report. Youth Endowment Fund.*

https://youthendowmentfund.org.uk/wp-content/uploads/2021/06/Social-Skills-technical-report.pdf

* Garaigordobil, M., & Echebarría, A. (1995). Assessment of a Peer-Helping Game Program on Children's Development. *Journal of Research in Childhood Education*, 10(1), 63–69. https://doi.org/10.1080/02568549509594688

* Goldberg, J. M., Sklad, M., Elfrink, T. R., Schreurs, K. M. G., Bohlmeijer, E. T., & Clarke, A. M. (2019). Effectiveness of interventions adopting a whole school approach to enhancing social and emotional development: A meta-analysis. *European Journal of Psychology of Education*, 34(4), 755–782. https://doi.org/10.1007/s10212-018-0406-9

* Grant, A. (1995). *The effect of social skills training on the self-concept, academic achievement, and discipline of fifth-grade students*. University of South Carolina.

* Guo, S., Peng, J., Fraser, M. W., Sun, X., Wu, F., & Day, S. H. (2020). Strengthening the Social Information Processing Skills of Third Graders in Rural China. *Research on Social Work Practice*, 1049731520921953. https://doi.org/10.1177/1049731520921953

* Guo, S., Wu, Q., Smokowski, P. R., Bacallao, M., Evans, C. B. R., & Cotter, K. L. (2015). A Longitudinal Evaluation of the Positive Action Program in a Low-Income, Racially Diverse, Rural County: Effects on Self-Esteem, School Hassles, Aggression, and Internalizing Symptoms. *Journal of Youth & Adolescence*, 44(12), 2337–2358. https://doi.org/10.1007/s10964-015-0358-1

* Hahn, R., Fuqua-Whitley, D., Wethington, H., Lowy, J., Crosby, A., Fullilove, M., Johnson, R., Liberman, A., Moscicki, E., & Price, L. (2007). Effectiveness of universal school-based programs to prevent violent and aggressive behavior: A systematic review. *American Journal of Preventive Medicine*, 33(2), S114–S129.

* Hamre, B., Pianta, R., Mashburn, A., & Downer, J. (2012). Promoting Young Children's Social Competence through the Preschool PATHS Curriculum and MyTeachingPartner Professional Development Resources. *Early Educ Dev*, 23(6), 809–832. https://doi.org/10.1080/10409289.2011.607360

* Humphrey, N., Barlow, A., Wigelsworth, M., Lendrum, A., Pert, K., Joyce, C., Stephens, E., Wo, L., Squires, G., Woods, K., Calam, R., & Turner, A. (2016). A cluster randomized

controlled trial of the Promoting Alternative Thinking Strategies (PATHS) curriculum. *J Sch Psychol*, 58, 73–89. https://doi.org/10.1016/j.jsp.2016.07.002

Izard, C., King, K., Trentacosta, C., Morgan, J., Laurenceau, J., Krauthamer-Ewing, S., & Finlon, K. (2008). Accelerating the development of emotion competence in Head Start children: Effects on adaptive and maladaptive behavior. *Dev Psychopathol*, 20(1), 369–397. https://doi.org/10.1017/S0954579408000175

* January, A. M., Casey, R. J., & Paulson, D. (2011). A Meta-Analysis of Classroom-Wide Interventions to Build Social Skills: Do They Work? *School Psychology Review*, 40(2), 242–256. https://doi.org/10.1080/02796015.2011.12087715

* Jensen, B., Holm, A., & Bremberg, S. (2013). Effectiveness of a Danish early year preschool program: A randomized trial. *International Journal of Educational Research*, 62, 115–128. https://doi.org/10.1016/j.ijer.2013.06.004

Keenan, C., Mallion, J. S., Nugent, R., Hedges, S., Idrees, I., Murphy, L., Allen, K., Torres, O., Hinks, J., Towers, J. (2026). *Social and Emotional Learning - Targeted.* Youth Endowment Fund.

* Komro, K. A., Perry, C. L., Veblen-Mortenson, S., Stigler, M. H., Bosma, L. M., Munson, K. A., & Farbakhsh, K. (2004). *Violence-Related Outcomes of the D.A.R.E. Plus Project. Health Education & Behavior*, 31(3), 335–354. https://doi.org/10.1177/1090198104263337

Lee, J., Shapiro, V. B., & Kim, B.-K. E. (2023). Universal school-based social and emotional learning (SEL) for diverse student subgroups: Implications for enhancing equity through SEL. *Prevention Science*, 24(5), 1011–1022.

* Lewis, K. M. (2012). Evaluation of a social-emotional and character development program: Methods and outcomes. *Unpublished Doctoral Dissertation*, Ann Arbor: University Microfilms.

* Li, A., Miller, F., & Williams, S. (2024). Cultural adaptations to social–emotional learning programs: A systematic review. *School Psychology.* https://psycnet.apa.org/record/2025-06564-001

* Lipschutz, B. (2010). *The Use of Digital Storytelling to Improve the Effectiveness of Social and Conflict Resolution Skill Training for Elementary Students* [ProQuest

LLC]. https://search.proquest.com/docview/609970582?pq-origsite=gscholar&fromopenview=true

* Losel, F., Stemmler, M., Jaursch, S., & Beelmann, A. (2009). Universal Prevention of Antisocial Development: Short- and Long-Term Effects of a Child- and Parent-Oriented Program. *Monatsschrift Fur Kriminologie Und Strafrechtsreform*, 92, 289–307. https://doi.org/10.1515/mks-2009-922-314

* Low, S., Smolkowski K, Cook C, & Desfosses D. (2019). Two-year impact of a universal social-emotional learning curriculum: Group differences from developmentally sensitive trends over time. *Dev Psychol*, 55(2), 415–433. https://doi.org/10.1037/dev0000621

* Luengo Kanacri, B P, Zuffiano A, Pastorelli C, Jimenez-Moya G, Tirado L U, Thartori E, Gerbino M, Cumsille P, & Martinez M L. (2020). Cross-national evidences of a school-based universal programme for promoting prosocial behaviours in peer interactions: Main theoretical communalities and local unicity. *Int J Psychol*, 55 Suppl 1(S1), 48–59. https://doi.org/10.1002/ijop.12579

* Luo, L., Reichow, B., Snyder, P., Harrington, J., & Polignano, J. (2022). Systematic Review and Meta-Analysis of Classroom-Wide Social–Emotional Interventions for Preschool Children. *Topics in Early Childhood Special Education*, 42(1), 4–19. https://doi.org/10.1177/0271121420935579

* Malti, T., Ribeaud, D., & Eisner, M. P. (2011). The effectiveness of two universal preventive interventions in reducing children's externalizing behavior: A cluster randomized controlled trial. *J Clin Child Adolesc Psychol*, 40(5), 677–692. https://doi.org/10.1080/15374416.2011.597084

* Mertens, E., Deković, M., Leijten, P., & Londen M Van. (2020). Components of school-based interventions stimulating students' intrapersonal and interpersonal domains: A meta-analysis. *Springer*. https://doi.org/10.1007/s10567-020-00328-y

* Morris, P., Mattera, S., Castells, N., Bangser, M., Bierman, K., & Raver, C. (2014). *Impact findings from the Head Start CARES demonstration: National evaluation of three approaches to improving preschoolers' social and emotional competence.* Executive summary (OPRE Report 2014-44).

* Murano, D., Sawyer, J. E., & Lipnevich, A. A. (2020). A Meta-Analytic Review of Preschool Social and Emotional Learning Interventions. *Review of Educational Research*, 90(2), 227–263. https://doi.org/10.3102/0034654320914743

* Muratori, P., Bertacchi, I., Giuli, C., Nocentini, A., & Lochman, J. (2017). Implementing Coping Power Adapted as a Universal Prevention Program in Italian Primary Schools: A Randomized Control Trial. *Prev Sci*, 18(7), 754–761. https://doi.org/10.1007/s11121-016-0715-7

* Muratori, P., Giuli, C., Bertacchi, I., Orsolini, L., Ruglioni, L., & Lochman, J. E. (2017). Coping power for preschool-aged children: A pilot randomized control trial study. *Early Interv Psychiatry*, 11(6), 532–538. https://doi.org/10.1111/eip.12346

* Muratori, P., Lochman, J., Bertacchi, I., Giuli, C., Guarguagli, E., Pisano, S., Gallani, A., & Mammarella, I. (2018). Universal Coping Power for pre-schoolers: Effects on children's behavioral difficulties and pre-academic skills. *School Psychology International*, 40(2), 128–144. https://doi.org/10.1177/0143034318814587

* Nesbitt & Farran. (2021). Effects of Prekindergarten Curricula: *Tools of the Mind* as a Case Study, *Monographs of the Society for Research in Child Development*, https://doi.org/10.1111/mono.12425

* Newman, R. I., Yim, O., & Stewart, M. (2024). Breathing life into social emotional learning programs: A Bio-Psycho-Social approach to risk reduction and positive youth development. *Journal of Adolescence*. https://doi.org/10.1002/jad.12317

* Novak, M., Mihic, J., Basic, J., & Nix, R. (2017). PATHS in Croatia: A school-based randomised-controlled trial of a social and emotional learning curriculum. *Int J Psychol*, 52(2), 87–95. https://doi.org/10.1002/ijop.12262

Parker, K., Nunns, M., Xiao, Z., Ford, T., Stallard, P., Kuyken, W., Axford, N., & Ukoumunne, O. C. (2025). Patterns of intra-cluster correlation coefficients in school-based cluster randomised controlled trials of interventions for improving social-emotional functioning outcomes in pupils: A secondary data analysis of five UK-based studies. *BMC Medical Research Methodology*, 25(1), 120. https://doi.org/10.1186/s12874-025-02574-6

Peng, J., Li, N., Sun, X., & Guo, S. (2024). Strengthening the social information processing skills of third graders in rural China: Findings of 'Let's Be Friends (Shaanxi), Trial 2'. *Child & Family Social Work.* https://doi.org/10.1111/cfs.13080

Pieper, D., Antoine, S.-L., Mathes, T., Neugebauer, E. A., & Eikermann, M. (2014). Systematic review finds overlapping reviews were not mentioned in every other overview. *Journal of Clinical Epidemiology,* 67(4), 368–375.

Piquero, A. R., Jennings, W. G., Farrington, D. P., Diamond, B., & 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(2), 249–264. https://doi.org/10.1007/s11292-016-9257-z

Polanin, M. K. (2014). *Effects of cultural awareness training in conjunction with an established bullying prevention program (Publication no. 909)* [Loyola University Chicago]. https://ecommons.luc.edu/luc_diss/909/

Pustejovsky, J. E., & Tipton, E. (2022). Meta-analysis with Robust Variance Estimation: Expanding the Range of Working Models. *Prevention Science: The Official Journal of the Society for Prevention Research*, 23(3), 425–438. https://doi.org/Meta-analysis%2520with%2520Robust%2520Variance%2520Estimation:%2520Expanding%2520the%2520Range%2520of%2520Working%2520Models

Rutterford, C., Copas, A., & Eldridge, S. (2015). Methods for sample size determination in cluster randomized trials. *International Journal of Epidemiology*, 44(3), 1051–1067. https://doi.org/10.1093/ije/dyv113

* Sandy, S., & Boardman, S. (2000). The peaceful kids conflict resolution program. *International Journal of Conflict Management*, 11(4).

* Scheithauer, H., & Hess, M. (2023). Developmentally appropriate prevention of behavioral and emotional problems, social-emotional learning, and developmentally appropriate practice for early childhood education and care: The Papilio-3to6 program. *International Journal of Developmental Science.* https://doi.org/10.3233/dev-220331

Schmitt, S. A., Flay, B. R., & Lewis, K. (2014). A pilot evaluation of the Positive Action prekindergarten lessons. *Early Child Development and Care*, 184(12), 1978–1991. https://doi.org/10.1080/03004430.2014.903942

* Schonert-Reichl, K. A., Oberle, E., Lawlor, M., Abbott, D., Thomson, K., Oberlander, T., & Diamond, A. (2015). Enhancing cognitive and social-emotional development through a simple-to-administer mindfulness-based school program for elementary school children: A randomized controlled trial. *Dev Psychol*, 51(1), 52–66. https://doi.org/10.1037/a0038454

Shek, D. T. L., & Sun, R. C. F. (2010). Effectiveness of the Tier 1 Program of Project P.A.T.H.S.: Findings based on three years of program implementation. *Scientific World Journal*, 10, 1509–1519. https://doi.org/10.1100/tsw.2010.122

* Shi, J., & Cheung, A. C. K. (2024). Effective Components of Social Emotional Learning Programs: A Meta-analysis. *Journal of Youth and Adolescence*, 53(4), 755–771. https://doi.org/10.1007/s10964-024-01942-7

* Shinde, S., Weiss HA, Khandeparkar P, & Pereira B. (2020). A multicomponent secondary school health promotion intervention and adolescent health: An extension of the SEHER cluster randomised controlled trial in Bihar, India. *PLoS* https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1003021

* Silke, C., Davitt, E., Flynn, N., Shaw, A., Brady, B., Murry, C., & Dolan, P. (2024). Activating social empathy: An evaluation of a school-based social and emotional learning programme. *Social and Emotional Learning: Research, Practice, and Policy.* https://www.sciencedirect.com/science/article/pii/S2773233923000219

Singh, N., Minaie, M., Skvarc, D., & Toumbourou, J. (2019). Impact of a secondary school depression prevention curriculum on adolescent social-emotional skills: Evaluation of the resilient families program. *Journal of Youth and Adolescence*, 48(6), 1100–1115.

* Sklad, M., Diekstra, R., Ritter, M. D., Ben, J., & Gravesteijn, C. (2012). Effectiveness of school-based universal social, emotional, and behavioral programs: Do they enhance students' development in the area of skill, behavior, and adjustment? *Psychology in the Schools*, 49(9), 892–909. https://doi.org/10.1002/pits.21641

* Sorrenti, G., Zölitz, U., Ribeaud, D., & Eisner, M. (2025). The causal impact of socio-emotional skills training on educational success. *Review of Economic Studies.* https://academic.oup.com/restud/article-abstract/92/1/506/7612957

* Ştefan, C. A., & Miclea, M. (2013). Effects of a Multifocused Prevention Program on Preschool Children's Competencies and Behavior Problems. *Psychology in the Schools,* 50(4), 382–402. https://doi.org/10.1002/pits.21683

* Stephenson, C. W. (2009). *The effectiveness of a violence prevention program used as a nursing intervention tool on aggression among children in pre-kindergarten.* Florida Atlantic University.

Sullivan, T. N., Sutherland, K. S., Farrell, A. D., & Taylor, K. A. (2015a). An Evaluation of Second Step. *Remedial and Special Education,* 36(5), 286–298. https://doi.org/10.1177/0741932515575616

Sullivan, T. N., Sutherland, K. S., Farrell, A. D., & Taylor, K. A. (2015b). An Evaluation of Second Step: What Are the Benefits for Youth With and Without Disabilities? *Remedial and Special Education*, 36, 286–298.

* Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting Positive Youth Development Through School-Based Social and Emotional Learning Interventions: A Meta-Analysis of Follow-Up Effects. *Child Development*, 88(4), 1156–1171. https://doi.org/10.1111/cdev.12864

* Vazsonyi, A. T., Belliston, L. M., & Flannery, D. J. (2004). Evaluation of a School-Based, Universal Violence Prevention Program: Low-, Medium-, and High-Risk Children. *Youth Violence and Juvenile Justice*, 2(2), 185–206. https://doi.org/10.1177/1541204003262224

* Waasdorp, T., Paskewich, B., Waanders, C., Fu, R., & Leff, S. (2022). The Preventing Relational Aggression in Schools Everyday (PRAISE) Program: Adaptations to Overcome Subgroup Differences in Program Benefits. *Prev Sci*, 23(4), 552–562. https://doi.org/10.1007/s11121-022-01348-6

* Washburn, I. J. (2011). Evaluation of a social-emotional and character development program. Dissertation Abstracts International Section A: *Humanities and Social Sciences*, 71, 3805.

* Webster-Stratton, C., Reid, M., & Stoolmiller, M. (2008). Preventing conduct problems and improving school readiness: Evaluation of the Incredible Years Teacher and Child Training Programs in high-risk schools. *Journal of Child Psychology and Psychiatry*, 49(5), 471–488. https://doi.org/10.1111/j.1469-7610.2007.01861.x

* Wigelsworth M, Lendrum A, Oldfield J, Scott A, ten Bokkel, I, Tate K, & Emery C. (2016). The impact of trial stage, developer involvement and international transferability on universal social and emotional learning programme outcomes: A meta-analysis. *Cambridge Journal of Education*, 46(3), 347–376. https://doi.org/10.1080/0305764x.2016.1195791

* Wike, T. L. (2011). *The effectiveness of a social skills intervention for preventing aggression in children: An evaluation of the "Making Choices" intervention.*

Wilson, S. J., & Lipsey, M. W. (2007). School-based interventions for aggressive and disruptive behavior: Update of a meta-analysis. *American Journal of Preventive Medicine*, 33(2), S130–S143.

YEF. (2023). *Children, violence and vulnerability: The second annual Youth Endowment Fund report into young people's experiences of violence*. Youth Endowment Fund. https://youthendowmentfund.org.uk/wp-content/uploads/2023/11/YEF_Children_violence_and_vulnerability_2023_FINAL.pdf

Appendix 1. Methods of the systematic review

Protocol

Prior to initiating this systematic review, we developed a comprehensive protocol for an Evidence and Gap Map (EGM) outlining the research objectives, eligibility criteria, search strategy, data extraction, quality appraisal, and synthesis methods. This protocol was registered and is available on the Open Science Framework (OSF),[14] ensuring transparency and adherence to predefined methods.

The methods described below are aligned with the current Toolkit Strands on Problem-Oriented Policing, Informal Pre-court Diversion, Formal Pre-court Diversion, Youth Clubs and Detached Youth Work ensuring a structured and rigorous approach to evidence synthesis.

Eligibility Criteria

To define the scope of relevant research, we applied the following criteria from the outset:

	Inclusion Criteria	Exclusion Criteria
Population	All children and young people aged 0–17 in a given setting. Also aim to capture subgroup effects by race, gender, age, SES, or disability.	Adults aged 18 and older unless the target age group is also included and the outcomes can be disaggregated.
Dose	Any, including one-off sessions to multi-year programmes.	Any programmes where the SEL component comprises<30% of contact time.

[14] Protocol is available to access here: https://osf.io/vamxy

	Programmes should devote ≥30% of contact time to SEL skill-building	
Setting	Typically, schools or community settings.	Purely therapeutic or clinical settings (e.g. individual psychotherapy or CBT delivered as treatment without a documented SEL curriculum).
Primary mechanism of change	Structured SEL skills development is **central and the most dominant or 'active' element of the intervention**, with a documented curriculum required (manuals, lesson plans, modules). The intervention **MUST** target/seek to reduce crime or offending; violence or violent crime; and externalising behaviours associated with violence (e.g., aggression, bullying, alcohol abuse, drug abuse). This criterion is used to determine study inclusion. Once the study is included, all *additional* outcomes that fall within the YEF Outcomes Framework will be extracted, even if they are not crime or violence related.	Programmes that do not include a structured SEL skills development curriculum, programme, manual or set of resources. Interventions that DO NOT target/seek to reduce crime or offending; violence or violent crime; and externalising behaviours associated with violence (e.g., aggression, bullying, alcohol abuse, drug abuse). Studies that only focus on outcomes unrelated to crime, violence or externalising behaviours (e.g., purely academic outcomes, general wellbeing).

Participation	Open access or mandatory as part of school curriculum; **all children participate**.	N/A
Delivered by	Any providers, typically teachers or youth sector providers.	N/A
Timing	Any	N/A

Details of screening

Searches for both Targeted and Universal SEL were run simultaneously in OpenAlex and GoogleScholar and returned 30,246 identified records. Given the volume of research retrieved, we used a machine-learning–assisted screening approach to efficiently prioritise records for title and abstract review. OpenAlex bibliographic metadata were downloaded and uploaded into ASReview LAB v2, an open-source active-learning screening tool designed to support systematic title and abstract screening of large textual datasets. Within ASReview LAB, records were screened at title and abstract level using an active-learning workflow with a senior review member (CK) making initial decisions. A total of 2,117 titles and abstracts were identified as potentially relevant following screening in ASReview LAB. These records were then exported and imported into EPPI-Reviewer for onward processing. The EPPI-Reviewer classifier conducted initial title and abstract screening. A total of 631 records were marked as included and 1,486 as excluded. A team of reviewers then screened the full text for all included studies. Senior reviewers conducted a check of any exclusions, and any discrepancies were discussed as a team and reconciled.

Of the 631 records screened at full-text level, 301 were excluded (for reasons, see Table 166). For inaccessible PDFs, the team attempted to contact lead authors to request access to the report or further data.

Table 16: *Full-text screening results*

Reason for exclusion	Number of Records Excluded at Full-Text Level
Did not target children and young people	10
PDF not accessible	26
Study Design not eligible	90
Outcomes or intervention not relevant	152
Excluded based on language	21
Duplicates	2

Following full-text screening, 330 studies were flagged as potentially relevant for inclusion. In addition, 116 studies were identified from the existing EGM; these had previously been coded under an earlier "social skills" category. Senior team members reviewed these at full text level to assess eligibility for the current SEL strand. All 446 studies had data extracted for the EGM, with reviewers checking the study design and relevant Toolkit strand. Of these 446 papers, six papers were excluded (two on study design and four on relevance to YEF), 186 were categorised into other Toolkit strands/interventions. Following this process, 71 were included in the Targeted SEL strand and 183 were included in the Universal SEL strand.

Following data extraction for the EGM, these 183 papers proceeded to full Toolkit data extraction. At this stage reviewers checked the study design in detail and excluded 22 studies where the comparison group was not 'business as usual' and 68 studies that did not meet the strand's robust causal study design criteria (i.e., the minimum requirements for credible, causal and robust evidence). A further study was excluded because the intervention was not relevant to YEF and another because it was a duplicate. All exclusions following full text screening were checked by a senior reviewer.

Table 17: *Reasons for exclusion after full text screening*

Reason for exclusion	Number of Records Excluded at EGM Data Extraction Level
Study design not meeting robust causal threshold	68
Comparison group was not business as usual	22
Outcomes or intervention not relevant	1
Duplicate	1

There was a total of 91 papers that were eligible for inclusion. Of these, six papers related to the same study as other included papers and so were linked with the study with the most relevant information (the 'master study'; see Table 1818).

Table 18: *List of linked studies*

Master study	Linked studies
Low (2019)	Low (2015), Merrin (2023)
Shek (2010)	Shek (2008)
Malti (2011)	Averdijk (2016), Sorrenti (2025)
Bierman (1999)	Conduct (2010)

Among the 85 studies, 65 included only effectiveness evidence, 21 included only implementation evidence, and four included both implementation and effectiveness evidence, giving a total of 65 effectiveness and 24 implementation studies.

There were 15 occasions (Bergin et al., 2024; Castillo-Gualda et al., 2018; Conduct Problems Prevention Research Group, 1999; Deacon & Van Rensburg, 2014; Dodsworth, 2002; Domitrovich et al., 2007; Frank et al., 2017; Izard et al., 2008; Peng et al., 2024; Polanin, 2014; Schmitt et al., 2014; Shek & Sun, 2010; Singh et al., 2019; Sullivan et al., 2015b, 2015a) where the reporting of results and/or variance was

insufficient to allow for reliable data transformation or confidence in effect size estimation. In these cases, studies were excluded from the meta-analysis due to issues such as lack of minimum design standards, incomplete or aggregated statistical reporting, or absence of the basic descriptive information (e.g., group-level means, standard deviations, or standard errors) required for calculation of effect sizes. Authors were contacted but either did not respond or were unable to provide further information, so these studies were excluded from the meta-analysis. They are included in the description of interventions section above but not in Appendix 3. The final total for the meta-analysis was therefore 56, including 6 papers that contributed independent clusters from multi-arm trials (Brown et al., 2023; Hamre et al., 2012; Komro et al., 2004; Morris et al., 2014; Shinde et al., 2020 and Lipschutz et al., 2010).

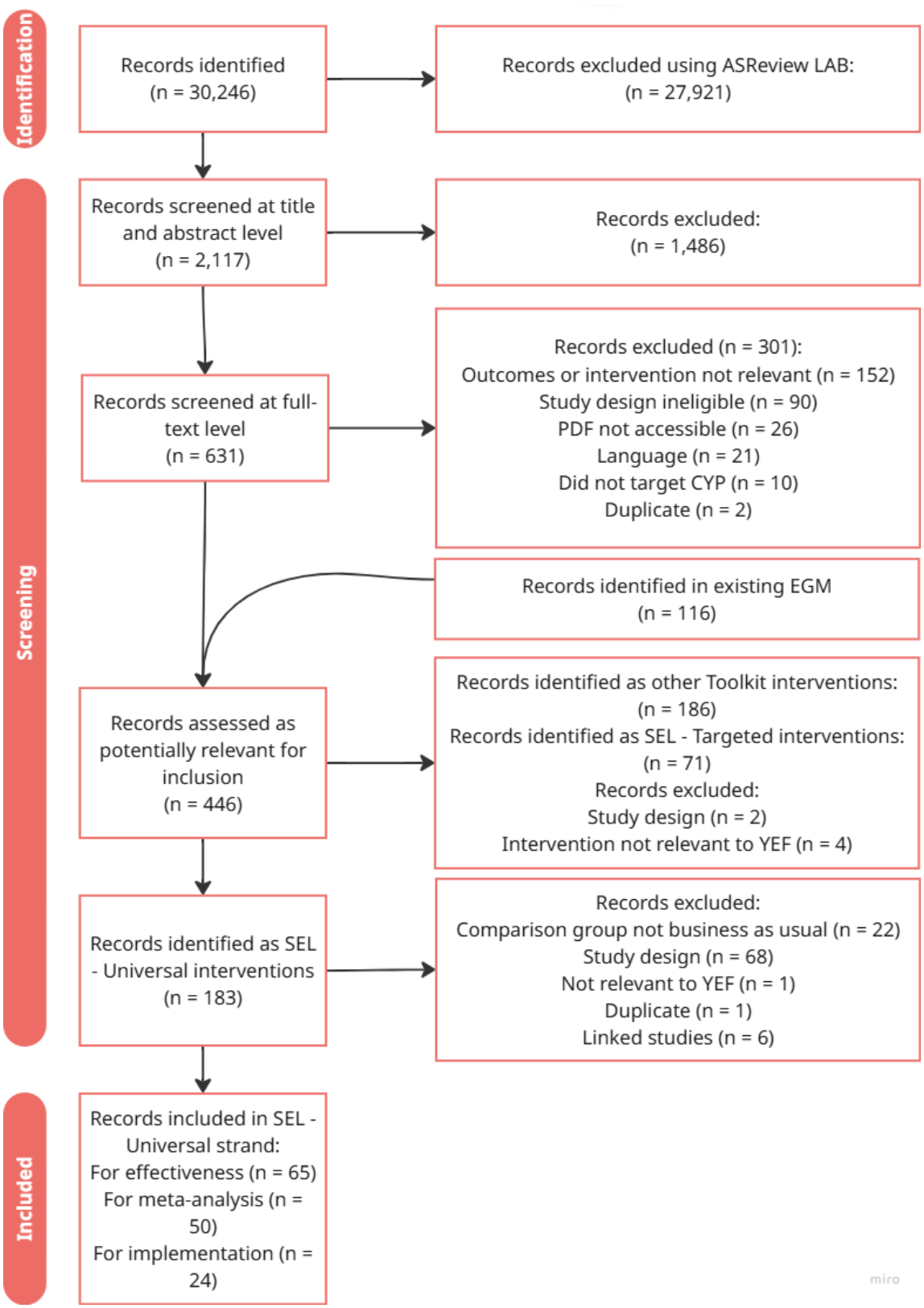

Figure 4: *PRISMA Flow Diagram*

Quality appraisal process for effectiveness studies

The YEF-EQA tool was used across all studies to systematically assess the quality, reliability, and relevance of the research.

Table 19: *Quality appraisal ratings for studies included in Universal SEL*

Study ID	Overall quality of the study	Study Design
Beets et al. (2009)	Moderate	RCT
Bergin et al. (2024)	High	QED & PE
Blair et al. (2018)	Moderate	RCT
Brown et al. (2023)	High	RCT
Castillo-Gualda et al. (2018)	Moderate	RCT
Castro-Olivo (2014)	Moderate	RCT & PE
Clarke et al. (2014)	Moderate	RCT & PE
Coelho et al. (2023)	Moderate	RCT & PE
Conner and Fraser (2011)	Moderate	RCT
Crean and Johnson (2013)	High	RCT
Culliney et al. (2022)	High	RCT & PE
Daunic et al. (2012)	Moderate	RCT & PE

Deacon and Van Rensburg (2014)	Moderate	QED
DiPerna et al. (2018)	High	RCT
Dodsworth (2002)	Moderate	RCT
Domitrovich et al. (2007)	Moderate	RCT & PE
Duncan et al. (2016)	Moderate	RCT
Duncan et al. (2019)	High	RCT
Feis and Simons (2008)	Low	RCT
Finlon et al. (2015)	Low	RCT & PE
Fishbein et al. (2016)	Moderate	RCT & PE
Frank et al. (2017)	Moderate	RCT & PE
Frey et al. (2005)	Moderate	RCT
Garaigordobil and Echebarría (1995)	Low	RCT
Grant (1995)	Moderate	RCT
Guo et al. (2015)	Moderate	QED & PE
Guo et al. (2020)	Moderate	RCT & PE
Hamre et al. (2012)	Low	RCT & PE

Humphrey et al. (2016)	Moderate	RCT & PE
Izard et al. (2008)	Low	RCT
Jensen et al. (2013)	Low	RCT
Komro et al. (2004)	Moderate	RCT
Lewis (2012)	Moderate	RCT
Lipschutz (2010)	Low	RCT
Losel et al. (2009)	Moderate	RCT
Low et al. (2015)	Moderate	RCT & PE
Luengo Kanacri et al. (2020)	Moderate	RCT
Malti et al. (2011)	Moderate	RCT
Morris et al. (2014)	Moderate	RCT & PE
Muratori et al. (2017)	Moderate	RCT
Muratori et al. (2017)	Moderate	RCT
Muratori et al. (2018)	Moderate	RCT
Nesbitt and Farran (2021)	High	RCT & PE
Newman et al. (2024)	Moderate	RCT

Novak et al. (2017)	High	RCT
Peng et al. (2024)	High	RCT
Polanin (2014)	High	RCT
Sandy and Boardman (2000)	Moderate	RCT
Scheithauer and Hess (2023)	Moderate	RCT
Schmitt et al. (2014)	Low	RCT & PE
Schonert-Reichl et al. (2015)	High	RCT & PE
Shek et al. (2010)	Low	RCT
Shinde et al. (2020)	High	RCT
Silke et al. (2023)	Moderate	RCT
Singh et al. (2019)	High	RCT
Ştefan and Miclea (2013)	Moderate	RCT & PE
Stephenson (2009)	Low	RCT
Sullivan et al. (2015)	Moderate	RCT
Sullivan et al. (2015)	Moderate	RCT & PE
Waasdorp et al. (2022)	Low	RCT & PE

Washburn (2011)	High	RCT
Webster-Stratton et al. (2008)	High	RCT & PE
Wike (2011)	Moderate	RCT & PE

How the findings were analysed and combined

Preparing the data frame for analysis

Included studies comprised a mixture of individually randomised controlled trials, cluster randomised controlled trials, and robust quasi-experimental designs. For all studies, the primary effect size was the standardised mean difference (SMD) expressed as Hedges' g.

As is common in meta-analysis, the team encountered several challenges in harmonising effect sizes across studies. First, there was a need to standardise the direction of SMD values so that negative values consistently indicate a favourable intervention effect. For example, in DiPerna et al. (2018), a decrease in 'bullying' is positive, but a decrease in 'social skills' is negative. To achieve alignment across all outcomes, we reviewed all effect size direction labels and, where necessary, multiplied positive SMD values by –1 for outcomes where a lower score signified improvement This ensured that all SMDs reflected the same directional meaning, **that negative SMD values always indicate beneficial effects.** This approach supports clear interpretation and comparability across studies within the meta-analysis.

Nine outcomes were odds ratios and so were approximately converted into an equivalent SMD by multiplying the natural log of the $\mathrm{OR} \times \frac{\sqrt{3}}{\pi}$ (approximately 0.5513).[15] In practical terms:

[15] Because this transformation is a linear scaling, the standard error of the SMD can be obtained by applying the same $\frac{\sqrt{3}}{\pi}$ factor to the standard error of the log OR

$$SMD\ (Cohen's\ d)\ \approx \frac{\sqrt{3}}{\pi}\ln(OR)\ = \frac{\ln(OR)}{1.814}$$

Additionally, 625 outcomes were from cluster randomised controlled trials. In a cluster trial, randomisation occurs at a group-level (e.g. school, classroom). People within the same cluster tend to be more similar to each other than to people in other clusters. There is therefore less information about the effectiveness of an intervention in a trial of 100 people in 10 schools than in a trial of 100 people randomised individually. This non-independence of participants within clusters must be accounted for or the effect size will be over-estimated. For cluster randomised trials which reported the effect sizes from cluster-adjusted analyses (e.g. mixed-effects models, generalised estimating equations) along with their standard errors or confidence intervals, we converted those estimates directly to Hedges' g and derived the standard error of g from the reported uncertainty, with no further adjustment required. However, for cluster randomised trials analysed as if they were individually randomised, the effect size precision was adjusted using a design effect (Rutterford et al., 2015). The design effect (DE) was defined as:

$$DE = 1 + (M - 1)\rho$$

Where M is the average cluster size and ρ is the intracluster correlation coefficient (ICC). For these studies we retained the point estimate of g but inflated its standard error by DE (equivalently, we reduced the effective sample size in each arm by dividing the original sample size by DE before computing the sampling variance). When ICCs were not reported, we used values from similar studies in the same substantive area, matching outcome type and reporter (Self-report, parent, or teacher) as cLosely as possible (Parker et al., 2025). The impact of these assumptions was examined in sensitivity analyses by varying the ICC over a plausible range. For one study (Grant, 1995), the number of clusters was not reported and could not be inferred from information within the paper, meaning the mean cluster size had to be reported by estimating the number of clusters based on the average pupil-teacher ratio in 1974 (Digest of Education Statistics, 2025).

Meta-analysis

A random-effects model was fitted to the data. The amount of heterogeneity (i.e., τ^2), was estimated using the restricted maximum-likelihood estimator (Viechtbauer, 2005). In addition to the estimate of τ^2, the Q-test for heterogeneity (Cochran, 1954) and the I^2 statistic (Higgins & Thompson, 2002) are reported. In case any amount of heterogeneity is detected, a prediction interval for the true outcomes is also provided (Riley et al., 2011).

Publication bias

To assess the presence of publication bias in our meta-analysis, we employed several statistical tests designed to detect funnel plot asymmetry, which can be indicative of such bias. A funnel plot was generated to visually inspect for publication bias. In the absence of bias, the plot should resemble a symmetrical inverted funnel, with effect sizes from smaller studies scattering widely at the bottom and larger studies clustering near the top.

Sensitivity analyses

Studentized residuals and Cook's distances are used to examine whether studies may be outliers and/or influential in the context of the model (Viechtbauer & Cheung, 2010). Studies with a studentized residual larger than the $100\times(1-0.05/(2\times k))$th percentile of a standard normal distribution are considered potential outliers (i.e., using a Bonferroni correction with two-sided $\alpha=0.05$ for k studies included in the meta-analysis). Studies with a Cook's distance larger than the median plus six times the interquartile range of the Cook's distances are considered to be influential. The rank correlation test (Begg & Mazumdar, 1994) and the regression test (Sterne & Egger, 2005), using the standard error of the observed outcomes as predictor, are used to check for funnel plot asymmetry. The analysis was carried out using R (version 4.4.2) (R Core Team, 2020) and the metafor package (version 4.8.0) (Viechtbauer, 2010).

Sub-group analysis

Subgroup-specific effects were estimated using robust variance estimation with CR2 adjustment, and statistical significance was assessed using t-tests with

Satterthwaite small-sample degrees of freedom. We used coef_test() from the clubSandwich package to compute cluster-robust standard errors (CR2) with Satterthwaite degrees of freedom for hypothesis testing. Differences in effects across outcome domains were examined using a CR2-robust Wald chi-square test.

Results tables presented in the main report show the robust effect size (SMD) of Universal SEL interventions on different subgroup domains, with robust standard errors (SE) and study counts (k = number of effect sizes; n = number of studies). Negative SMDs indicate a reduction/improvement for the Universal SEL group compared to BAU control.

All estimates below are calculated using robust variance estimation (RVE) to account for dependence among effect sizes within studies. p-values correspond to two-tailed tests.

Meta-review

A meta-review was conducted to explore implementation factors related to Universal SEL. A meta-review refers to an evidence synthesis approach which summarises findings from multiple existing systematic reviews and meta-analyses. Rather than analysing individual studies, a meta-review examines the consistency of the evidence across reviews, enabling a high-level summary of what is known. We undertook a meta-review for this strand due to the high volume of primary studies exploring the implementation of Universal SEL interventions, which was not feasible to examine in the timescale and budget available.

The EGM had 25 systematic reviews relevant to this strand, all of which were reviewed initially by a senior researcher. Of these, 16 were identified as having examined implementation factors and were included in the meta-review. The quality of these were assessed using the Chat-GPT AMSTAR-2 expert, which analyses systematic reviews using the AMSTAR 2 tool. AMSTAR 2 (A Measurement Tool to Assess Systematic Reviews) is a critical appraisal tool used to evaluate the methodological quality of systematic reviews. It consists of 16 domains that assess how rigorously a systematic review was planned, conducted and reported,

covering areas such as protocol registration, literature search quality, risk-of-bias assessment, data synthesis methods, and consideration of publication bias. Seven of these domains are considered critical, meaning weaknesses in these areas substantially reduce confidence in the review's findings. AMSTAR 2 rates confidence in the results of a review as high, moderate, low or critically low, based on the presence of critical and non-critical flaws.

Table 20: *Quality appraisal ratings for studies included in the meta-review*

Study ID	Overall quality of the study
Brown et al. (2023)	Low
Charlton et al. (2021)	Low
Cipriano et al., (2023)	Moderate
Daley & McCarthy (2021)	Low
Durlak et al. (2011)	Low
Goldberg et al. (2019)	Critically Low
Hahn et al. (2007)	Low
January et al. (2011)	Low
Li et al., (2024)	Low
Luo et al (2022)	Critically Low
Mertens et al. (2020)	Low
Murano et al. (2020)	Low

Shi & Cheung, (2024)	Low
Sklad et al. (2012)	Low
Taylor et al. (2017)	Low
Wigelsworth et al. (2020)	Low

A thematic analytic approach was taken to identify and structure recurring patterns in the reviews regarding implementation factors. An inductive approach was taken and began with a familiarisation with the reviews, involving reading these several times, noting initial observations and reflections on implementation factors included. Looking across reviews, themes were created on common implementation factors examined. Finally, themes were refined, named and defined and a narrative summary related to each theme was written for the report. If the systematic reviews report moderator analyses that contribute to our understanding of implementation, we describe this narratively.

Based on the data available, findings are reported according to the following themes:

Implementation Processes and Delivery Capacity

- **Fidelity**

  Fidelity refers to how closely Universal SEL interventions are delivered as originally designed, covering the quality and consistency of implementation. Fidelity can include adherence to core programme components, coverage of key SEL domains (e.g., CASEL or Framework for SEL), and alignment with SAFE principles.

- **Intervention Providers and Training**

  Intervention provider and training relate to who delivers the Universal SEL intervention (e.g., classroom teachers, school staff, external specialists) and the nature of their training and ongoing support.

- **Equity Considerations in Implementing Universal SEL**
    - **Cultural adaptations**

      Cultural adaptations refer to changes made to SEL interventions to better align with participants' cultural, linguistic, and contextual needs. This considers how cultural alignment, contextual fit, and adaptability influence engagement, acceptability, and implementation feasibility.
    - **SEND**

      This refers to the extent to which Universal SEL interventions include, accommodate, and are designed to meet the needs of children and young people with SEND.

Delivery Characteristics

- **Delivery Method**

  Delivery method refers to the way in which a Universal SEL intervention's content is delivered and experienced in practice, including the structure, format, and techniques used to engage learners. It shapes how participants interact with the material, how consistently skills are taught, and how feasible the intervention is to implement.
- **Duration / Dosage**

  Duration and dosage describe the length, frequency, and intensity of Universal SEL interventions, including how long programmes run and the cumulative exposure children and young people receive.
- **Intervention Curriculum**

  Intervention curriculum refers to the specific content, concepts and skills covered in a Universal SEL programme, along with how these elements are structured, sequenced and articulated for real-world delivery. It shapes what participants are exposed to, how complex delivery demands are, and how well core mechanisms of change are preserved.

- **Sequencing of Learning**

  Sequencing of learning refers to the planned order in which an intervention's skills and concepts are introduced.

- **Multicomponent Programmes**

  Multicomponent programmes refer to SEL interventions that extend beyond classroom instruction by incorporating additional elements, such as family, community or whole-school components to reinforce skill development across multiple contexts. They influence implementation by increasing the number of people involved, the coordination required, and the complexity of delivery.

Only two systematic reviews covered cost, and none explored children and young people's views. As such, we supplemented these sections with primary studies that were identified at the EGM or Toolkit extraction level as having cost-data or reported children and young people's views. Of these, an additional two primary studies reported on cost-data and three studies on children and young people's views.

Appendix 2. Location Details

	Number of UK Studies	Number (and Location) of International Studies
Contributing to Evidence Quality Rating	2	USA (n=34); China (n=1); Chile/Columbia (n=1); India (n=2); Switzerland (n=1); Croatia (n=1); Canada (n=1); Ireland (n=2); Denmark (n=1); Germany (n=2); Italy (n=3); Niger (n=2); Portugal (n=1); Romania (n=1); Spain (n=1)
Contributing to Estimated Impact on Violence	1	USA (n=13); China (n=1); Chile/Columbia (n=1); India (n=2); Switzerland (n=1); Croatia (n=1); Canada (n=1); Ireland (n=1)
Contributing to Estimated Impact on Crime and Offending	0	USA (n=4)
Contributing to Cost Data[16]	1	USA (n=3); Switzerland (n=1)

[16] The meta-review included in this report examined existing systematic reviews and meta-analyses to examine implementation factors influencing the effectiveness of Universal SEL interventions for children and young people. As a result, detailed study-level contextual information including the number of countries represented in individual primary studies contributing to the implementation evidence is provided in Appendix 5 for each study included in this meta-review.

Appendix 3. Characteristics of included studies for effectiveness

Authors (Year)	Country	Study Design	Intervention	Population/ Place	Comparison	Outcomes Measured	Quality Level	Findings
Beets et al., 2009	USA	RCT	The Positive Action social and character development programme was designed to improve academics, student behaviours, and character through class-based lessons delivered from 1st to 5th grade	Students in 1st or 2nd grade in Hawaiian schools in the lower 3 quartiles of SAT scores and where at least 25% of students were receiving free or reduced-price lunch	Business as usual	Violence Drug and alcohol use	Moderate	Positive Action students engaged in fewer negative behaviours, including lower rates of violent behaviour and substance use, compared to comparison group students
Bergin et al., 2024	USA	QED and PE	The Leader in Me (LiM) programme is a framework for	Elementary school	Schools in Missouri that did not	Behavioural difficulties	High	LiM schools had a greater improvement in academic

			building positive behavioural habits through changes to the school environment, regular class activities, student leadership roles, and group activities	students in Missouri	implement LiM, matched through propensity score matching	School engagement		outcomes and a reduction in discipline incidents compared to matched non-LiM schools
Bierman (2008)	USA	RCT and PE	The Head Start – REDI (Research based, developmentally-informed) intervention used a classroom-based curriculum to promote school readiness competencies, with a focus on	4-year-old students attending one of 44 Head Start classrooms in Pennsylvania	Business as usual	Violence Behavioural difficulties Helping others (prosocial behaviours) School engagement	High	Head Start – REDI students displayed a significant improvement in 7 out of 11 language and socio-emotional skills, compared to those in the comparison group. There was also a significant improvement in 3 out of 12 behavioural

			socio-emotional and cognitive development. This intervention incorporates the Preschool PATHS Curriculum			Ability to resolve conflicts Building and maintaining relationships (socio-emotional skills)		measures, including teacher-rated aggression, for those in the intervention classrooms.
Blair, 2018	USA	RCT	The Tools of the Mind programme used group-based activities to develop children's social-emotional skills, especially executive function	Kindergarten students in schools who volunteered to participate in the study	Business as usual	Violence Behavioural difficulties School engagement Building and maintaining relationships (social-	Moderate	At the end of kindergarten, Tools of the Mind children had lower aggression, conduct and general behaviour problems, and improved Self-regulation, emotional regulation, and teacher-child relationships,

						emotional skills) Regulating and managing emotions		compared to the comparison group
Brown, 2023	Niger	RCT	The Tutoring in a Healing Classroom (HCT) Intervention focused on improving children's maths and literacy skills while also providing foundational social-emotional support	2nd to 4th grade students from public schools in the Diffa region, which has been affected by conflict and crisis	Business as usual	School engagement	High	HCT students had greater improvements in literacy, maths and overall school grades than those in the comparison group after 22 weeks
Castro-Olivo, 2014	USA	RCT	The Jovenes Fuertes programme (adapted from	Adolescents enrolled in beginning to intermediate	Waitlist control group	Building and maintaining relationships (social-	Moderate	The Jovenes Fuertes participants reported higher levels of social-emotional learning

			the Strong Teens programme) includes 12 lessons that teaches students key social-emotional skills such as self-awareness, empathy, problem-solving, and anger management	English Language Development classes in Southern California		emotional skills) Resilience		knowledge and resiliency post-intervention relative to the comparison group
Clarke, 2014	Ireland	RCT and PE	Zippy's Friends is a curriculum designed to promote mental health and emotional wellbeing by increasing coping skills	7–8 year-old children in disadvantaged schools	Business as usual	Behavioural difficulties Helping others (prosocial behaviours) Building and maintaining relationships (social-	Moderate	Children who participated in Zippy's Friends did not differ from comparison children on emotional or behavioural functioning after the intervention

						emotional skills) Regulating and managing emotions		
Conner, 2011	USA	RCT	The Making Choices programme (adapted for preschool children) was a series of lessons to prevent aggressive behaviour and promote social problem-solving skills	3–4-year-old children	Waitlist control	Violence Behavioural difficulties School engagemen t Family relationships and support General Mental Health Parenting practices	Moderat e	Children who received the Making Choices programme had significant improvements in academic competence, social competence, peer relationships, school performance, and relationship with caregivers, compared to comparison group children
Crean, 2013	USA	RCT	The Promoting Alternative Thinking	3rd grade children, followed	Business as usual	Violence Bullying	High	There were no significant effects of PATHS on self-

			Strategies (PATHS) programme aims to develop and strengthen emotional literacy skills, social problem solving and positive peer relations in order to promote social and emotional competence	through to 5th grade		Behavioural difficulties		reported aggression, delinquency or victimisation. Although there were significant effects on aggressive problem solving, hostile attribution bias and aggressive interpersonal negotiation strategies
Culliney, 2022	England	RCT	The DARE25 programme is an adapted version of the UK D.A.R.E intervention. The original iteration focused on drug resistance, whereas DARE25	Year 6 children attending primary schools within 1hr drive of Nottinghamshire	Business as usual	Violence Crime and offending Behavioural difficulties Drug and alcohol use	High	Children who took part in DARE25 showed a significant reduction in delinquent behaviour in comparison to the control group. However, there was little impact of the

			has been developed with a focus on skills-based decision making. Including additional content on risky behaviours and offending			Positive and prosocial identity		DARE25 programme on behavioural and emotional problems, physical aggression, verbal aggression, relational aggression, victimisation (both overt and relational) and substance use.
Daunic, 2012	USA	RCT and PE	The Tools for Getting Along (TFGA) intervention teaches students how to use social problem-solving skills in emotionally heightened social situations to reduce and/or prevent emotional and	4th and 5th grade students, in schools where: at least 60% of students qualified for free school lunches, were located a reasonable distance from the research	Business as usual	Violence Behavioural difficulties Ability to resolve conflicts Building and maintaining relationships (social-emotional skills) Regulating and	Modera te	Children in the intervention condition showed an improvement in problem-solving skills and executive function-related behaviours, as well as a decrease in anger and aggression, relative to the control group. These effects were especially strong for intervention

			behavioural problems.	site and at least 75% of teachers had agreed to participate.		managing emotions		students who presented as higher risk at the start.
DiPerna, 2018	USA	RCT	The Social Skills Improvement System-Classwide Intervention Programme (SSIS-CIP) includes a curriculum that focuses on specific social-skills to encourage classroom success. These skills were determined by a nationally	Students in 1st grade classes, from 6 elementary schools	Business as usual	Violence Bullying Behavioural difficulties School engagemen t Building and maintaining relationships (social-emotional skills) General Mental Health	High	SSIS-CIP students showed a significant improvement in empathy and social engagement. Although effect sizes indicated a positive effect of SSIS-CIP on academic motivation and engagement, these results were not significant. There was also no significant effect of SSIS-CIP for any other social skills measured (communication, cooperation,

			representative sample of teachers					assertion, responsibility, self-control and observed positive social interactions), nor for any problem behaviours assessed
Duncan, 2016	USA	RCT	The Positive Action programme includes a classroom-based curriculum which highlights the importance of feeling good about oneself, alongside teaching students' self-control techniques and social skills to	Implemented over 6 years, children were followed from 3rd through to 8th grade. Specifically looks at children deemed to be higher risk, specified by authors as being predominantl	Business as usual	Violence Behavioural difficulties Building and maintaining relationships (social-emotional skills)	Modera te	At endline those in the Positive Action group showed significant improvement in social-emotional and character development, as well as significantly lower levels of misconduct, in comparison to the control group, irrespective of whether children were in the higher risk category.

			encourage prosocial peer interactions.	y low-income and minority.				
Duncan, 2019	USA	RCT	The Positive Action programme which includes a curriculum focused on SEL	Urban, predominately low-income sample from 14 schools, students were followed from 3rd grade through to 8th grade	Business as usual	Violence Drug and alcohol use	High	Although results showed no effect of the intervention on violence and substance use in late childhood (5th grade), there was an effect in early adolescence (8th grade) with those in the intervention group reporting significantly lower substance use and violence, compared to those in the control group. Indicating that the programme may have a positive impact on longer-term outcomes,

								rather than immediate effects.
Coelho (2023)	Portugal	RCT and PE	Calmly Learning to Learn Yourself is a classroom based SEL programme which aims to develop various social and emotional skills in children and young people, including components on mindfulness and growth mindset.	Six 3rd grade classrooms and six 4th grade classrooms in three elementary schools in Northern Portugal	Business as usual	Building and maintaining relationships (social-emotional skills) Regulating and managing emotions	Moderate	Students in the intervention group displayed significantly lower levels of conflicts and isolation at post-testing, in comparison to the control group. However, those in the intervention group also showed significantly lower levels of comfort and mutual affection compared to the control group at post-testing. Authors did note that the COVID pandemic created unanticipated problems (e.g.,

								inability to deliver the intervention face-to-face) and this may have contributed to the mixed findings and overall effectiveness of the intervention.
Feis, 2008	USA	RCT	The Interpersonal Cognitive Problem-Solving training (ICPS) encourages young children to develop interpersonal skills, by building coping strategies to help them solve interpersonal problems, thereby reducing	Children who were categorised as low-income and already part of another programme (Head Start)	Business as usual	Behavioural difficulties Ability to resolve conflicts	Low	Data for the study was collected once a year, over 3 years and showed that each year those in the ICPS group displayed greater problem-solving ability compared to those in the control group. Additionally, at year 3, students in the ICPS group had significant reductions in negative classroom behaviours

			maladaptive behaviour and encouraging positive mental health					and received fewer mental health consultation referrals, compared to the control group.
Finlon, 2015	USA	RCT and PE	The Emotion-Based Prevention Programme (EBP) is delivered in a large-group format and focuses on encouraging children to learn and practice techniques around emotion regulation, labelling, activation, regulation and utilisation.	Children in the final sample ranged from 3-5 years old, and were recruited from an inner-city Head Start system	Business as usual	Behavioural difficulties Helping others (prosocial behaviours) Building and maintaining relationships (social-emotional skills) Regulating and managing emotions	Low	Findings showed that at post-testing those in the EBP group showed significantly stronger positive emotional and behavioural outcomes (i.e., emotion knowledge and internalising behaviours), in comparison to the control group. Additionally, those in the EBP group who had higher contextual risks displayed fewer externalising

								behaviours, and BPD participants in classrooms with low emotional support showed more prosocial behaviours, less solitary play and more positive peer interactions, compared to those in the control group.
Fishbein, 2016	USA	RCT and PE	The preschool/kindergarten version of the PATHS curriculum aims to improve childrens social-emotional skills in order to reduce problematic behaviours.	Children in kindergarten classrooms from 4 public elementary schools located in highly disadvantaged neighbourhoods.	Business as usual	Violence Behavioural difficulties Helping others (prosocial behaviours) School engagement Building and maintaining	Moderate	Children in the PATHS group showed greater improvements across all social competence outcomes (i.e., emotion regulation, prosocial behaviour and peer relations) and behavioural outcomes (i.e., aggression, internalising

						relationships (social-emotional skills) General Mental Health Regulating and managing emotions		behaviours, impulsivity and hyperactivity) at post-testing, compared to the control group.
Frey, 2005	USA	RCT	The Second Step programme uses a variety of methods to decrease aggressive behaviour and increase empathetic and socially responsible	Children aged between 7-11 years old, attending one of 15 elementary schools from 3 cities	Business as usual	Behavioural difficulties Helping others (prosocial behaviours) Ability to resolve conflicts Building and maintaining	Modera te	Significant improvements in student behaviour, goals and social reasoning were associated with being part of the Second Step programme, as opposed to being in the control group.

			behaviour in children			relationships (social-emotional skills)		
Garaigordobil, 1995	Spain	RCT	A co-operative, peer helping game which focuses on improving social behaviour in the classroom	1st grade elementary school children	Business as usual	Behavioural difficulties School engagement Building and maintaining relationships (social-emotional skills) General Mental Health Happiness Regulating and	Low	The intervention group had greater improvements in leadership, cheerfulness, sensitivity, respect/self-control, adaptability, verbal and numerical aptitude and global maturity, as well as decreases in aggressiveness, apathy/withdrawal and anxiety/shyness at post-testing, in comparison to the control group.

						managing emotions		
Grant, 1995	USA	RCT	The New Model Me Programme aims to teach social skills, including lessons on social communication skills, decision making and cooperation	5th grade students	Business as usual	Behavioural difficulties School engagement Self-esteem	Moderate	Children in the intervention group had significantly increased self-esteem and decreased number of disciplinary referrals. However, there were no significant effects for academic grades
Guo, 2015	USA	QED and PE	Positive Action is a school-based programme which focuses on improving academic achievement, school attendance, problem	A random sample of 40% of the middle school children from the intervention county	Business as usual	Violence Bullying Behavioural difficulties General Mental Health Self-esteem	Moderate	Those in the Positive Action group displayed significant increases in self-esteem and decreases in school hassles, in comparison to the control condition at post-testing. However,

			behaviours and family factors (i.e., parent-child bonding, family cohesion and family conflict)					there were no significant decreases in aggressive behaviour or internalising symptoms.
Guo, 2020	China	RCT and PE	Lets Be Friends is a school-based intervention which aims to increase social and interpersonal skills in children to reduce maladaptive behaviour and encourage social competence	3rd grade children who mainly grow up in the countryside and those who grow up in a single-child household	Business as usual	Violence Behavioural difficulties Building and maintaining relationships (social-emotional skills) Regulating and managing emotions	Moderate	Children in the intervention condition displayed better social information processing skills, including reduced aggressive behaviours, in comparison to the control condition
Hamre, 2012	USA	RCT and PE	The My Teaching Partner (MTP) project provides	233 prekindergarten teachers,	Business as usual	Behavioural difficulties	Low	Although there was improvement in social competence for those

			intensive professional development support for teachers, with a focus on improving interactions between teachers and their students. The preschool PATHS curriculum is also provided within the MTP project	all part of a state-funded prekindergarten programme that serves at-risk children, 4 to 5 children from each of the 233 classrooms were randomly selected to take part		Building and maintaining relationships (social-emotional skills)		who were given the PATHS curriculum in comparison to those who were not, there was no improvement in social problem behaviours or social problems for those in the PATHS/MTP group
Humphrey, 2016	England	RCT and PE	The Promoting Alternative Thinking Strategies (PATHS) SEL curriculum focuses on	Children were aged 7-9 years old at baseline and attended participating schools in	Business as usual	Behavioural difficulties Helping others (prosocial behaviours)	Moderate	For the sample as a whole there were significant improvements in teacher-rated perceptions of students'

			teaching children the skills to enable them to work with others, understand emotions and manage behaviours.	Greater Manchester		Building and maintaining relationships (social-emotional skills) General Mental Health		socioemotional skills for those in the PATHS group, although no other significant effects of PATHS were found for any other measures. For children who were identified as at-risk, PATHS did produce significant, albeit small, gains in prosocial behaviour and engagement, along with a reduction in emotional symptoms
Jensen, 2013	Denmark	RCT	The Action Competences in Social Pedagogical Work with Socially Endangered	3–6-year-old children enrolled at one of 58 participating preschools	Business as usual	Behavioural difficulties Helping others (prosocial behaviours)	Low	Children in the intervention group displayed reductions in emotional symptoms, conduct problems and

			Children and Youth (ASP) programme aims to support preschool staff to critically reflect on, and change, current practices			Building and maintaining relationships (social-emotional skills)		hyperactivity/inattention, with particularly strong effects at second follow-up. However, no effects of ASP were found for peer relationship problems or prosocial behaviours
Komro, 2004	USA	RCT	The Drug Abuse Resistance Education (D.A.R.E) Plus Project focuses on drug and violence prevention. D.A.R.E Plus combines school, family and neighbourhood approaches to prevent drug use	Middle or Junior High schools in Minnesota that had implemented the (standard) D.A.R.E programme and already had officers which could teach the	Business as usual & D.A.R.E (standard version)	Violence Building and maintaining relationships (social-emotional skills) Parenting practices	Moderate	Boys in the D.A.R.E Plus programme displayed significantly less physically violent acts and fewer verbally violent acts, in comparison to those in the control group and the standard D.A.R.E programme. However, there were no significant effects of D.A.R.E Plus observed

			and violence amongst young adolescents	D.A.R.E curriculum				for girls, aside from lower reported rates on victimisation in comparison to those in the standard D.A.R.E programme
Lewis, 2012	USA	RCT	The Positive Action programme aims to improve behaviour, academic achievement and character by enhancing social-emotional skills and character development	Students who attended one of the low-performing, high poverty Elementary or Middle schools within the Chicago Public School system selected for participation	Business as usual	Violence Behavioural difficulties Criminal peers Helping others (prosocial behaviours Building and maintaining relationships (social-emotional skills) Regulating and	Modera te	Students enrolled in the PA schools demonstrated significant improvements in students beliefs and behaviours, as well as reporting less support for aggression, lower levels of bullying and fewer disruptive and violent behaviours in comparison to those in control schools, with these effects being particularly strong for girls.

						managing emotions		Parental reports also indicated less bullying and conduct problems, with stronger effects for boys. Additionally, both disciplinary referrals and suspensions were lower in intervention schools, compared to control schools, at post-assessment
Lipschutz, 2010	USA	RCT	The Second Step curriculum teaches social skills to reduce aggression and increase and improve prosocial behaviours	3rd, 4th and 5th grade students	Business as usual	Violence Behavioural difficulties Helping others (prosocial behaviours Ability to resolve conflicts	Low	There were no effects of Second Step found on prosocial behaviours or anti-social behaviours. However, there were significant differences found between the different age groups, with those in grade 5

						Regulating and managing emotions		having better teacher-rated prosocial behaviours than students in grades 3 and 4, irrespective of treatment group
Losel, 2009	Germany	RCT	The I Can Problem Solve programme is a group training course that focuses on social problem solving	Kindergartners from eligible pre-schools	Business as usual	Violence Behavioural difficulties School engagement General Mental Health	Moderate	Teacher-ratings for those in the I Can Problem Solve programme showed positive effects at follow-up (2-3months after intervention), with children displaying significantly less internalising and externalising problems in comparison to those in the control group

Low, 2019	USA	RCT and PE	The Second Step programme aims to help students increase their ability to learn, have empathy, manage emotions and problem solve using a skills-focused SEL curriculum	Students in kindergarten through 3rd grade	Business as usual	Behavioural difficulties Helping others (prosocial behaviours Building and maintaining relationships (social-emotional skills) Regulating and managing emotions	Moderate	Students attending schools which implemented Second Step showed improved scores for emotional symptoms and hyperactivity in comparison to those in control schools. Effects of sex were also apparent, with improvements in conduct and peer problems for boys only, and although boys and girls improved with regards to hyperactivity this effect was stronger for boys. Observed classroom behaviour did not

								differ between the intervention and control schools
Luengo, 2020	Chile & Columbia	RCT	The Promoting Prosocial and Emotional Skills to Counteract Externalising Problems in Adolescence (CEPIDEA) aims to promote prosocial behaviours with peers to reduce aggressive behaviours	7th grade at pre-testing	Business as usual	Violence Helping others (prosocial behaviours)	Moderate	Positive effects of CEPIDEA were found for self, peer and teacher-rated prosocial behaviour in both Chilean and Columbian intervention students. This improvement in prosocial behaviours also predicted significantly lower levels of physical aggression
Malti, 2011	Switzerland	RCT	The Promoting Alternative Thinking Strategies (PATHS) is a prevention	Children starting their 1st year of elementary school in Zurich	Business as usual	Violence Bullying Behavioural difficulties Helping others	Moderate	Students in the PATHS group showed a greater overall decline in teacher-rated aggressive behaviour and

			programme that aims to enhance social competence and reduce externalising behaviour problems in primary school children			(prosocial behaviours) Building and maintaining relationships (social-emotional skills)		impulsivity/ADHD, in comparison to those in the control group. Additionally, those in the PATHS group also showed a larger decline in parent-rated aggressive behaviour, compared to the control group.
Morris, 2014	USA	RCT and PE	The Preschool PATHS programme aims to train teachers on the effective use of clear lesson plans and teaching strategies to increase students' knowledge of	4-years-old at baseline	Business as usual	Behavioural difficulties School engagement Building and maintaining relationships (social-emotional skills) School environment	Moderate	PATHS helped teachers to improve delivery of social-emotional instructions. However, there was no improvement on the overall classroom climate for students. Additionally, students in the PATHS intervention displayed small to moderate

			social and emotional skills. The Tools of the Mind-Play uses games to enhance children's abilities to regulate emotions and behaviours			(school climate)		improvements in emotional knowledge, social problem-solving skills and social behaviours. Tools of the Mind – Play had no effect on students' self-regulation or executive functioning, but did have a positive effect on emotional knowledge
Muratori, 2017b	Italy	RCT	Coping Power Universal (CPU) is a preventative intervention which aims to lower the risk of pre-school age children developing	4-year-olds attending nursery	Business as usual	Behavioural difficulties	Modera te	Both teachers and parents reported a decrease in CPU children's behavioural difficulties. Additionally, there was also an increase in teacher-rated prosocial behaviours

			behavioural problems					for students in the intervention group
Muratori, 2017a	Italy	RCT	The Coping Power Universal (CPU) programme aims to reduce behavioural difficulties in children	3rd and 4th grade classes	Business as usual	Behavioural difficulties	Moderate	In comparison to the control classes there were significant reductions in teacher-rated hyperactivity and inattention, as well as in conduct problems and emotional symptoms for those in the CPU classes.
Muratori, 2018	Italy	RCT	The Coping Power Universal (CPU) intervention focuses on reducing behavioural problems in children using targeted	5-year-olds attending two pre-schools	Business as usual	Behavioural difficulties	Moderate	Teachers rated those in the CPU group as having significantly fewer hyperactivity behaviours. Additionally, parents of children in CPU reported fewer emotional problems (overall stress).

			activities over 24 sessions					Children in the CPU group also scored significantly higher on pre-maths and language abilities at post-testing, compared to those in the control group. However, CPU had no significant effects on conduct problems
Nesbitt, 2021	USA	RCT and PE	Tools of the Mind aims to increase children's executive functioning and self-regulation skills to prepare them for kindergarten onwards	Pre-kindergarten children from 2 Southern states	Business as usual	School engagement Building and maintaining relationships (social-emotional skills) Regulating and	High	There were no significant effects of Tools of the Mind on academic achievement, executive functioning or self-regulation, any significant effects found were in favour of the control children.

						managing emotions		
Newman, 2024	USA	RCT	SKY Schools is a biopsychosocial intervention that aims to address risk reduction and behavioural problems in youth, as well as teach techniques to encourage psychological wellbeing	8th grade students in a low-income school in Miami	Business as usual	Violence Behavioural difficulties Regulating and managing emotions	Moderate	Students in the intervention group had significantly improved in planning and concentrating, anger coping, distractibility and aggressive normative beliefs at post testing, in comparison to the control group.
Novak, 2017	Croatia	RCT	The Promoting Alternative Thinking Strategies (PATHS) SEL curriculum focuses on teaching children the skills to	1st grade children from 29 schools	Business as usual	Violence Bullying Behavioural difficulties Helping others (prosocial behaviours)	High	There were no effects of PATHS found for the sample as a whole. When splitting the sample into high and low-risk, there were significant positive effects found for the low-risk sample on

			enable them to work with others, understand emotions and manage behaviours.			School engagement Building and maintaining relationships (social-emotional skills) General Mental Health Regulating and managing emotions		almost all outcomes (prosocial behaviour, emotion regulation, learning behaviour, inattention, hyperactivity, oppositional behaviour and physical aggression), except for withdrawn/depressed behaviour, which was not significant. However, there were no significant effects of PATHS found for the high-risk sample
Sandy, 2000	USA	RCT	The Peaceful Kids Early Childhood Social-Emotional Learning (ECSEL) programme aims to develop	Pre-school children aged 2-6 years old	Business as usual Alternative treatment where parents	Violence Ability to resolve conflicts Building and maintaining	Moderate	There were significant positive effects of ECSEL found for cooperative behaviour and self-control when

			social-emotional, cognitive and conflict resolution skills in preschool children, utilising training for both the day care staff and children they work with		were also trained on the ECSEL programme	relationships (social-emotional skills) General Mental Health Regulating and managing emotions		compared to children in the business-as-usual condition. However, there were no significant effects found for responses to conflict situations, assertiveness, externalising or internalising behaviours for those in the ECSEL condition, in comparison to those in the business-as-usual group
Scheithauer, 2023	Germany	RCT	The Papilio 3to6 intervention focuses on preventing the onset of emotional and behavioural problems by	3-6 year olds	Waitlist control	Behavioural difficulties Helping others (prosocial behaviours) Building and maintaining	Moderate	There were significant positive effects found for children in the intervention group on all outcomes (hyperactivity/inattention, prosocial behaviour, emotional

			developing children's social-emotional skills and cooperative peer relationships			relationships (social-emotional skills) General Mental Health		symptoms, peer relationship problems and conduct problems), in comparison to children in the control group
Schonert-Reichl, 2015	Canada	RCT and PE	The MindUp curriculum encourages executive functioning (including self-regulation), social-emotional understanding and positive mood. It also encourages acts of kindness for each other and	4th and 5th graders	Business as usual	Violence Behavioural difficulties Helping others (prosocial behaviours) School engagemen t Building and maintaining relationships (social-	High	Compared to children in the control condition, MindUp children displayed stronger executive functioning, higher levels of wellbeing, reduced aggression and increased prosocial behaviours. Additionally, those in the MindUp condition displayed tendencies towards higher maths

			collective community service learning activities			emotional skills) General Mental Health School environment (school climate)		achievement, relative to children in the control condition
Shinde, 2020	India	RCT	The SEHER programme focuses on four key areas: promoting social skills, engaging the school community in decisions at the school-level, providing factual knowledge about health and risk behaviours to	9th grade students in government run schools	Business as usual	Violence Bullying General Mental Health School environment (school climate)	High	The SM version of the SEHER programme had significant positive effects on school climate scores, depression symptoms, attitudes towards gender equality, bullying frequency, violence victimisation and violence perpetration, in comparison to both the control and TSM

			students, and increasing problem solving skills. Two version of SEHER are available, one delivered by a lay counsellor (SM) and one delivered by teachers (TSM)					version of the intervention. There were no significant effects for TSM found in comparison to either SM or the control condition
Silke, 2023	Ireland	RCT	The Activating Social Empathy (ASM) programme aims to encourage social and personal development by teaching students' empathy skills	12–16 year-olds	Business as usual	Violence Behavioural difficulties Helping others (prosocial behaviours) Meaningful relationships Building and maintaining relationships	Modera te	There was no effect of ASM found for aggressive behaviour. However, ASM did influence students' empathy, with those in the ASM group reporting significantly higher levels of empathy, in comparison to the control condition, at

						(social-emotional skills) Positive and prosocial identity		post-testing. Although there were no direct effects of ASM on other outcomes, higher levels of empathy at follow-up were associated with greater levels of prosocial helping, prosocial behaviour, emotional self-efficacy and social responsibility.
Ştefan, 2013	Romania	RCT and PE	The Social-Emotional Prevention Programme (SEP) aims to increase children's social and emotional competencies in both high and low-risk children	4-5-year-olds attending preschool	Business as usual	Violence Bullying Behavioural difficulties Helping others (prosocial behaviours)	Modera te	Children in the SEP programme displayed higher scores at post-testing for emotional knowledge and social problem solving, compared to children in the control group. Additionally, children

						Ability to resolve conflicts Building and maintaining relationships (social-emotional skills) Regulating and managing emotions		in the SEP condition received increased scores from both parents and teachers at post-assessment for measures of social-emotional competences and externalising problems, relative to those in the control condition
Stephenson, 2009	USA	RCT	The Second Step Violence Prevention Programme is designed to teach important social and emotional skills to prevent and reduce	3-5-year-old children attending a private preschool in central Florida	Business as usual	Violence Behavioural difficulties Helping others (prosocial behaviours)	Low	There were no significant effects of the Second Step Programme on relational aggression, overt/physical aggression or total aggression scores. Additionally, there were no significant

			aggression in pre-kindergarten children					differences found for gender on mean aggression scores
Waasdorp, 2022	USA	RCT and PE	The Preventing Relational Aggression in Schools Everyday (PRAISE) programme aims to reduce overt and relational aggression, with a focus on culturally diverse students who attend urban, under-resourced schools	3rd and 5th grade students attending one of 3 under-resourced, urban schools	Business as usual	Violence Behavioural difficulties School engagement Ability to resolve conflicts Building and maintaining relationships (social-emotional skills)	Low	There were significant effects of PRAISE on relational aggression, with those in the intervention group having significantly lower scores, compared to those in the control group, at post-testing. Additionally, for those in the PRAISE group, social information processing and academic engagement scores also increased at post-testing. There were also some differences for gender

								found at post-testing between the intervention and control groups, with girls in the PRAISE group scoring significantly better on social information processing, whilst boys in the PRAISE group scored significantly higher on academic engagement
Washburn, 2011	USA	RCT	The Positive Action intervention is a social emotional and character development school-based programme	Hawaii Trial: children in 1st and 2nd grade at baseline Chicago Trial: Children in grades 3, 4 and 5	Business as usual	Positive and prosocial identity	High	Students in both the Positive Action and control schools displayed a general decline in positive character related behaviours over time. However, the Positive Action programme

				Southeastern State Trial: children in kindergarten to 4th grade				significantly slowed these declines across all 3 trials
Webster-Stratton, 2008	USA	RCT and PE	The Incredible Years Teacher Classroom Management and Child Social and Emotional curriculum (Dinosaur School) is a clinical model that has been adapted for use by teachers, including 30 classroom lessons for preschool and early-school	Students attending one of 14 elementary schools selected for the project based on high levels of students receiving free or reduced school lunches	Business as usual	Violence Behavioural difficulties School engagemen t Building and maintaining relationships (social-emotional skills) Regulating and managing emotions	High	The intervention significantly improved teacher's classroom management approaches, in comparison to control classrooms. Additionally, students in the intervention classrooms significantly improved in emotional self-regulation, social competence and conduct problems, compared to control students. These

			children, with a focus on reducing aggressive behaviours			School engagement with parents/carers School environment (school climate)		effects were particularly strong for classrooms where initial levels of school readiness were low and conduct problems were high
Wike, 2011	USA	RCT and PE	The Making Choices programme aims to increase social competence in students, and in turn reduce physical and relational aggression	3rd grade students	Business as usual	Violence Behavioural difficulties Helping others (prosocial behaviours) Building and maintaining relationships (social-emotional skills)	Moderate	Children in the making choices programme were scored lower by teachers on relational aggression and higher on social competence and prosocial behaviour in 4th and 5th grades, compared to children in the control condition. Additionally, those in

						Regulating and managing emotions		the Making Choices group were rated as having lower levels of overt aggression at 4th grade, in comparison to control students. Finally, there were significant positive effects of Making Choices at 5th grade for emotion regulation.

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Appendix 4. Measured outcomes across included studies for effectiveness

YEF outcome framework category *Category description (as described in the framework)*	**Measured outcomes** *(descriptions by study authors)*	**Studies**
Violence	"Carried a knife or razor to use to hurt someone"; "Threatened to cut or stab someone"; "Cut or stabbed someone intentionally to hurt them"; "Carried a gun"; "Shot at someone"; "Gets into a lot of fights"; "Physically hurts others"; "Threatens others"; "Destroys things belonging to others"; "Overt aggression"; "Aggression (BASC)"; "Aggression"; "PBFS Physical aggression"; "PBFS Relational aggression"; "PBFS Verbal aggression"; "Proactive aggression"; "Bullying"; "Violence"; "CCC Relational aggression"; "Physical violence scale"; "Verbal violence scale"; "Weapon carrying scale"; "Intentions to use physical violence/weapons"; "Bullying behaviours"; "Violence related behaviours"; "Physical aggression"; "Teacher reports aggressive behaviour"; "Parent reports aggressive behaviour"; "Child reports aggressive behaviour"; "Starts fights"; "Frequency of bullying"; "Violence (perpetration)"; "Relational aggression"; "Overt physical aggression"; "Overt"; "Relational"; "ICST aggression";	**(n = 22, k = 93)** Beets (2009); Bierman (2008); Crean (2013); Culliney (2022); Daunic (2012); DiPerna (2018); Duncan (2019); Fishbein (2016); Guo (2020); Komro (2004); Lewis (2012); Luengo (2020); Malti (2011); Novak (2017); Schonert-Reichl (2015); Shinde (2020); Silke (2023); Stephenson (2009); Waasdorp (2022); Wike (2011)

Crime and offending	"Carried a knife or razor to use to hurt someone"; "Threatened to cut or stab someone"; "Cut or stabbed someone intentionally to hurt them"; "Carried a gun"; "Shot at someone"; "Weapon carrying scale"; "Violence related behaviours"	**(n = 4, k = 22)** Beets (2009); Komro (2004); Lewis (2012)
Behavioural difficulties	"Gets into a lot of fights"; "Physically hurts others"; "Threatens others"; "Destroys things belonging to others"; "CST Aggressive responses"; "Overt aggression"; "Aggression Conduct Probs"; "General Behaviour Problems"; "Conduct problems"; "Aggression/hostility"; "Child behaviour"; "Aggression (BASC)"; "Conduct problems (BASC)"; "Acting out behaviour problems"; "Aggression"; "Frequency of delinquent behaviours"; "Normative beliefs about aggression"; "Aggressive social problem solving"; "Hostile attribution bias"; "Aggressive interpersonal negotiation strategies"; "PBFS Physical Aggression"; "PBFS Verbal Aggression"; "PBFS Delinquent Behaviour"; "Proactive aggression"; "Anger expression scale for children: Trait anger"; "Externalising"; "Interference"; "Average misconduct score"; "Violence"; "Hostility/aggression"; "Externalising behaviour"; "Disruptive behaviour"; "Child activity scale – Total"; "Aggression/stubbornness"; "Disciplinary referrals"; "CCC Authority Acceptance"; "SLA Response Decision"; "Total difficulties"; "Physical violence scale"; "Verbal violence scale"; "Intentions to use physical violence/weapons"; "Norms about physical violence"; "Frequency of disruptive behaviours"; "Suspensions"; "SSBS B:	**(n = 46, k = 163)** Beets (2009); Bierman (2008); Blair (2018); Clarke (2014); Conner (2011); Crean (2013); Culliney (2022); Daunic (2012); DiPerna (2018); Duncan (2016); Duncan (2019); Feis (2008); Finlon (2015); Fishbein (2016); Garaigordobil (1995); Grant (1995); Guo (2015); Guo (2020); Humphrey (2016); Jensen (2013); Komro (2004); Lewis (2012); Lipschutz (2010); Losel (2009); Low (2015); Luengo (2020); Malti (2011); Morris (2014); Muratori

	Antisocial behaviour"; "Total problem score"; "Externalising problems"; "Total score"; "SDQ Conduct Problems"; "Observations of disruptive behaviour"; "Physical aggression"; "Teacher reports aggressive behaviour"; "Teacher reports nonaggressive externalizing behaviour"; "Parent reports aggressive behaviour"; "Child reports aggressive behaviour"; "Behaviour problems – total score"; "Overall"; "SDQ: Overall Stress"; "Total"; "Distractibility"; "Aggressive normative beliefs"; "Inattention"; "Oppositional behaviour"; "Starts fights"; "Breaks rules"; "SSRS score – behaviour problems"; "Overt physical aggression"; "Antisocial behaviours"; "HAB: overt"; "Overt"; "Average endorsement of delinquent behaviour"; "Child total conduct problems"; "ICST aggression"	(2017)a; Muratori (2017)b; Muratori (2018); Newman (2024); Novak (2017); Sandy (2000); Scheithauer (2023); Schonert-Reichl (2015); Silke (2023); Ştefan (2013); Stephenson (2009); Waasdorp (2022); Washburn (2011); Webster-Stratton (2008); Wike (2011)
Bullying	"PBFS Relational aggression"; "Bullying"; "CCC Relational aggression – Teacher form"; "Bullying behaviours"; "BASC - Aggression and conduct problems subscale"; "Frequency of bullying"; "Violence (perpetration)"; "Relational aggression"; "CSBQ - relational"	**(n = 10, k = 14)** Culliney (2022); DiPerna (2018); Guo (2020); Lewis (2012); Shinde (2020); Silke (2023); Stephenson (2009); Waasdorp (2022); Wike (2011)
Drug and alcohol use	"Smoking"; "Alcohol consumption"; "Alcohol use – intoxication"; "Drug use"; "Drug use – intoxication"; "PBFS Substance use"; "Substance use"	**(n = 3, k = 27)**

		Beets (2009); Culliney (2022); Duncan (2019)
School engagement	"Learning engagement"; "Teacher-child relationships"; "Academic Competence"; "ASER French"; "ASER Math"; "School grades"; "School performance"; "Academic motivation"; "Academic engagement"; "Student Teacher Relationship Scale – Total"; "Skill total"; "Verbal comprehension"; "Numerical aptitude"; "Perceptive aptitude"; "Global maturity"; "Academic GPA"; "DESSA Skills for learning"; "Observations of academic engaged time"; "Math CBM, digits correct per minute"; "Reading CBM, Words correct per minute"; "Learning behaviours – work related skills"; "Expectation of child retention"; "Letter, word"; "Spelling"; "Academic knowledge"; "Oral comprehension"; "Picture vocabulary"; "Applied problems"; "Quantitative concepts"; "Work-related skills"; "Learning behaviour"; "School Self-concept"; "Maths scores"; "COCA Overall School Readiness"; "Child % Disengaged Total"	**(n = 17, k = 67)** Bierman (2008); Blair (2018); Brown (2023); Conner (2011); DiPerna (2018); Fishbein (2016); Garaigordobil (1995); Grant (1995); Low (2015); Morris (2014); Nesbitt (2021); Novak (2017); Schonert-Reichl (2015); Waasdorp (2022); Webster-Stratton (2008)
Victim of crime	"Victimisation at school"; "Overt victimisation"; "Relational victimisation"; "School hassle score"; "Victimisation scale"; "Violence (victimisation)	**(n = 7, k = 12)** Crean (2013); Culliney (2022); Guo (2015); Komro (2004); Shinde (2020)

Building and maintaining relationships (social-emotional skills)	"Emotion identification"; "Emotion recognition"; "Social competence"; "Strong Teens Knowledge Test"; "Empathy"; "Social skills"; "Peer relationship problems"; "Peer acceptance"; "Child relationship with peers"; "Child relationship with caregiver"; "SDQ Total Difficulties Score"; "Problem solving knowledge"; "Relational problem solving"; "Positive problem orientation"; "Social skills composite"; "Average SECD score"; "Communication"; "Emotion knowledge"; "Observed negative interactions"; "Observed positive interactions"; "Peer relationship questionnaire total"; "Prosocial goals"; "Frequencies of goal choices by group – Dominating"; "Frequencies of goal choices by group – Individualistic": Frequencies of goal choices by group – Egalitarian"; "Frequencies of goal choices by group – Altruistic"; "Cheerfulness"; "Sensitivity"; "Adaptability"; "Leadership"; "SLA Encoding"; "CCC Social Contact"; "CCC Social Competence"; "Social problems"; "Social-emotional competence"; "Peer problems"; "SSIS Total"; "SSIS Communication"; "SSIS Assertions"; "SSIS Responsibility"; "SSIS Engagement"; "Outcome expectancies"; "Respect for teachers"; "Respect for parents"; "Responsibility"; "Social competency"; "Aggressive problem solving"; "Competent problem solving"; "SDQ Peer problems"; "Social-emotional composite"; "DESSA Problem solving"; "Child reports socially competent problem solving"; "Child reports aggressive problem solving"; "Social problem solving – competent response"; "Social problem solving – aggressive response"; "Social	**(n = 34, k = 153)** Bierman (2008); Castro-Olivo (2014); Clarke (2014); Coelho (2023); Conner (2011); Culliney (2022); Daunic (2012); DiPerna (2018); Duncan (2016); Finlon (2015); Fishbein (2016); Frey (2005); Garaigordobil (1995); Guo (2020); Hamre (2012); Humphrey (2016); Jensen (2013); Komro (2004); Lewis (2012); Low (2015); Malti (2011); Morris (2014); Nesbitt (2021); Novak (2017); Scheithauer (2023); Schonert-Reichl (2015); Silke (2023); Ştefan (2013); Waasdorp (2022); Webster-Stratton (2008); Wike (2011)

	skills rating scale"; "Interpersonal skills"; "Emotion knowledge: Facial emotional identification"; "Emotion knowledge: emotions situations identification"; "Perspective taking"; "Social responsibility"; "Trustworthy"; "Takes others views"; "Kind"; "Peer relations"; "Social Competence Screening"; "Emotional competence screening"; "Social information processing knowledge"; "Number of different positive strategies"; "Number of different negative strategies"; "Child positive to peer"; "Child positive to teacher"; "ICST interpersonal competence"	
Regulating and managing emotions	"Self-regulation"; "Emotion regulation"; "Self-awareness"; "Emotional symptoms"; "Hyperactivity"; "Behaviour regulation"; "Behaviour regulation: Inhibit"; "Behaviour regulation: Shift"; "Metacognition"; "Metacognition: Organise"; "Metacognition: Initiate"; "Metacognition: Monitor"; "Anger out"; "Trait anger"; "Hyperactive-inattentive"; "Hyperactivity/distractibility"; "Respect - Self-control"; "CCC - Cognitive concentration"; "Self-control"; "Emotional problems"; "Hyperactivity inattention"; "Outcome expectancies"; "Outcome expectations about physical violence"; "Self-efficacy for peer interaction"; "SDQ Emotional symptoms"; "SDQ Hyperactivity"; "DESSA Emotion Management"; "Teacher reports impulsivity/ADHD"; "Parent reports impulsivity/ADHD"; "Child reports impulsivity/ADHD"; "Head, toes, knees, shoulders"; "Planning and concentration"; "Anger coping"; "Emotional control"; "Emotional Self-efficacy"; "CCC - Emotion Regulation"	**(n = 25, k = 71)** Blair (2018); Clarke (2014); Daunic (2012); DiPerna (2018); Coelho (2023); Feis (2008); Finlon (2015); Fishbein (2016); Garaigordobil (1995); Guo (2020); Humphrey (2016); Jensen (2013); Komro (2004); Lewis (2012); Low (2015); Malti (2011); Nesbitt (2021); Newman (2024); Novak (2017); Sandy (2000); Scheithauer (2023);

		Schonert-Reichl (2015); Silke (2023); Wike (2011)
Ability to resolve conflict	"CST Competent responses"; "CST Inept responses"; "PIPS Subscale scores: Solutions"; "PIPS Subscale scores: Categories"; "Problem solving, PIPS total score"; "Positive strategies"; "Negative strategies"	**(n = 4, k = 11)** Bierman (2008); Feis (2008); Finlon (2015); Ştefan (2013)
General mental health	"Depression/anxiety"; "Internalising"; "Anxiety/fear"; "Internalising behaviour"; "Apathy-withdrawal"; "Anxiety/shyness"; "Emotional symptoms"; "Internalizing problems"; "Withdrawn behaviour"; "Optimism"; "Depressive symptoms"	**(n = 14, k = 18)** Conner (2011); DiPerna (2018); Feis (2008); Finlon (2015); Fishbein (2016); Garaigordobil (1995); Guo (2015); Humphrey (2016); Losel (2009); Novak (2017); Sandy (2000); Schonert-Reichl (2015); Shinde (2020)
Helping others (prosocial behaviours)	"Prosocial behaviour"; "Prosocial behaviours"; "Prosocial"; "Cooperation"; "Empathy"; "Prosocial interactions"; "Honesty"; "Altruism"; "SDQ Prosocial"; "DESSA Empathy"; "Teacher reports prosocial behaviour"; "Parent reports prosocial behaviour"; "Child	**(n = 17, k = 37)** Clarke (2014); Finlon (2015); Fishbein (2016); Humphrey (2016); Jensen (2013); Lewis (2012); Lipschutz (2010); Low

	reports prosocial behaviour"; "Shares"; "Helpful"; "Prosocial helping"; "CCC - prosocial behaviour"	(2015); Luengo (2020); Malti (2011); Novak (2017); Sandy (2000); Scheithauer (2023); Schonert-Reichl (2015); Silke (2023); Wike (2011)
Parenting practices	"Reading activities – Parent: How often and how many books do parents read with child"; "Parenting skills"; "Parent bonding"; "Communication with child"	**(n = 2, k = 4)** Bierman (2008); Conner (2011)
Positive and prosocial identity	"POMP score"	**(n = 1, k = 3)** Washburn (2011)
School climate	"Emotional support"; "Classroom organization"; "Instructional support"; "Classroom management"; "Social-emotional instruction"; "Scaffolding"; "School climate"; "Class atmosphere"; "Teacher positive reinforcement total"; "Teacher critical statements"; "Harsh/critical style"; "Warm/affectionate"; "Inconsistent/permissive";	**(n = 5, k = 20)** Morris (2014); Shinde (2020); Webster-Stratton (2008)
School engagement with parents/carers	"Parent involve with school/teacher"; "Parent involve with education"	**(n = 1, k = 2)** Webster-Stratton (2008)

Self-esteem	"Self-concept"; "Self-esteem"; "Self-development"; "Positive actions/feelings"	**(n = 4, k = 5)** Garaigordobil (1995); Grant (1995); Guo (2015); Lewis (2012)
Resilience	"Resiliency"	**(n = 1, k = 1)** Castro-Olivo (2014)

Appendix 5. Characteristics of studies included in meta-review of implementation findings

Authors (Year)	Study Design	Number of studies included	Number and ages of children and young people involved	Countries of studies included	Implementation Factors Covered	AMSTAR 2 Rating
Brown et al. (2023)	Meta-analysis of the effectiveness of character education interventions. The search strings included SEL.	214 (152 interventions)	307,512	Not reported	**Delivery Characteristics:** • Delivery Method • Duration/Dosage	Low
Charlton et al., (2021)	A systematic review of the effects of schoolwide intervention programmes on	8 of the included studies were SEL interventions.	1096 schools across the whole systematic review (not specified for SEL).	65% of all 18 studies were conducted in the US, 4% did not specify location or were conducted	**Implementation Processes and Delivery Capacity:** • Fidelity	Low

	students and teacher perceptions of school climate.			in schools outside the US: Australia, Cypress, Finland, Greece, India, or Uganda. (Not specified for SEL)	• Intervention Providers and Training	
Cipriano et al., (2023)	A meta-analysis of school-based SEL interventions from kindergarten to Grade 12.	252 interventions across 424 studies.	575,361 learners	Argentina (n=1); Australia (n=23); Austria (n=1); Belgium (n=4); Cambodia (n=1); Canada (n=21); China (n=6); Columbia (n=1); Costa Rica (n=1); Cyprus (n=1); Democratic Republic of the Congo (n=2); England (n=27); Estonia (n=1);	**Implementation Processes and Delivery Capacity:** • Intervention Providers and Training • Intervention Providers and Training • Equity Considerations: Cultural Adaptations	Moderate

				Finland (n=6); Georgia (n=1); Germany (n=6); Greece (n=4); Hong Kong (n=7) India (n=1); Indonesia (n=2); Iran (n=2); Ireland (n=5); Israel (n=6); Italy (n=15); Jamaica (n=1); Japan (n=2); Lebanon (n=2); Lithuania (n=2); Malta (n=1); Mexico (n=1); Netherlands (n=14); New Zealand (n=1); Nigeria (n=1); Norway (n=7); Pakistan (n=1); Philippines (n=1);	**Delivery Characteristics:** • Duration/Dosage • Sequencing of Learning	

				Portugal (n=7); Romania (n=1); Russia (n=1); Slovakia (n=1); Slovenia (n=1); South Africa (n=2); South Korea (n=2); Spain (n=20); Sweden (n=2); Switzerland (n=1); Taiwan (n=2); Tanzania (n=1); Turkey (n=13); Uganda (n=1) United Kingdom (n=2); United States of America (n=175); Vietnam (n=1); Unknown (n=12)		

Daley & McCarthy (2021)	Systematic review examining the effectiveness and implementation of Universal SEL interventions for children and young people with SEND.	116 studies	Not reported	Not reported	**Implementation Processes and Delivery Capacity:** • Equity Considerations: Universal SEL for children and young people with SEND	Low
Durlak et al. (2011)	Meta-analysis synthesising findings on school-based, universal social and emotional learning programmes and their effects on improving social and emotional	213 studies	270,034 students	Most interventions took place in the US (87%), remaining outside of the US.	**Implementation Processes and Delivery Capacity:** • Fidelity • Intervention Providers and Training **Delivery Characteristics:** • Multicomponent Programmes	Low

	skills, attitudes and behaviour.					
Goldberg et al. (2019)	A meta-analysis aimed at evaluating the effectiveness of interventions (universal and targeted) that use a whole-school approach to promote the social and emotional development of children and young people.	45 studies included in the meta-analysis representing 30 interventions. Of these 45 studies, 38 studies representing 14 interventions (47%) included a targeted component.	496,299 children and young people between the ages of 4-16	Twenty-five studies (56%) were carried out outside of the US, with the remaining 20 being US-based.	**Implementation Processes and Delivery Capacity:** • Fidelity **Delivery Characteristics:** • Multi-component Programmes	Critically Low
Hahn et al. (2007)	A systematic review of universal school-based programmes	53 primary studies	Sample sizes for studies ranged from 21-39,168	High-income countries as defined by the World Bank	**Implementation Processes and Delivery Capacity:**	Low

	aimed at reducing violet behaviour among children and adolescents.		students, with a median of 563		• Intervention Providers and Training **Delivery Characteristics:** • Duration/Dosage	
January et al. (2011)	Systematic Review with meta-analysis of empirical studies examining social competency following a classroom-based SEL intervention	28	12,965	Not reported	**Delivery Characteristics:** • Delivery Method • Duration/Dosage	Low
Li et al., (2024)	A meta-analysis of cultural adaptations to SEL programmes and whether they	11	5173	US	**Implementation Processes and Delivery Capacity:** **Equity Considerations:**	Low

	produced positive outcomes.				• Cultural Adaptations	
Luo et al (2022)	A systematic review and meta-analysis examining the efficacy of classroom-wide socio-emotional interventions for improving social, emotional and behavioural outcomes in preschool children.	39 studies in the systematic review and 33 studies included in the meta-analysis	10,646 pre-school children	US (n = 28); Romania (n=2); Spain (n=2); Turkey (n=2); UK (n=2); Norway (n=1); Jamaica (n=1); Australia (n=1)	**Implementation Processes and Delivery Capacity** • Fidelity • Intervention Providers and Training **Delivery Characteristics:** • Duration/Dosage • Multi-component Programmes	Critically Low
Mertens et al., (2020)	A meta-analysis examining how intervention components relate to the effectiveness of	104 studies representing 99 unique universal school-base interventions	97,884 students	USA; Canada; Europe; Australia; Asia; Africa	**Delivery Characteristics:** • Delivery Method • Duration/Dosage	Low

	interventions targeting students intrapersonal and interpersonal development.				• Intervention Curriculum	
Murano et al. (2020)	Meta-analysis summarising the effects of universal and targeted SEL interventions in preschool students.	48 articles (57 independent studies) including 33 universal and 15 targeted SEL interventions.	15,498 preschool students	Not reported	**Implementation Processes and Delivery Capacity** • Fidelity • Intervention Providers and Training **Delivery Characteristics:** • Multi-component Programmes	Low
Shi & Cheung, (2024)	A meta-analysis examining the impact of universal school-based SEL	59 studies	83,233 children and young people	Unclear	**Implementation Processes and Delivery Capacity**	Low

	programmes to identify which intervention components make these interventions work.				• Intervention Providers and Training **Delivery Characteristics:** • Duration/Dosage • Intervention Curriculum • Multi-component Programmes	
Sklad et al. (2012)	Meta-analysis of school based universal social, emotional and behavioural programmes.	75	The average reported intervention group size was 543 participants (range = 13 to 8280).	North America (n=59); Europe (n=11); Other (n=5)	**Implementation Processes and Delivery Capacity** • Intervention Providers and Training **Delivery Characteristics** • Duration/Dosage	Low

Taylor et al. (2017)	Meta-analysis of school-based SEL interventions.	82	97,406 from kindergarten to high school	USA (53.7%); Outside the USA (46.3%)	**Implementation Processes and Delivery Capacity** • Fidelity **Delivery Characteristics** • Duration/Dosage • Multi-component Programmes	Low
Wigelsworth et al. (2020)	Meta-analysis of indicators that could potentially influence successful outcomes in SEL based programmes.	89	Not provided	Study took part in its country of origin = 'Home' (80%) Study took part outside its country of origin = 'Away' (20%)	**Implementation Processes and Delivery Capacity:** **Equity Considerations**: • Cultural Adaptations	Low

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Appendix 6. Characteristics of studies on cost and children and young people's views

Authors (Year)	Country	Study Design	Intervention (Name and brief description)	Quality Level	Findings
Berry et al., (2015)	UK	RCT	PATHS (Promoting Alternative Thinking Strategies) - an evidence-based SEL programme targeted at children aged 4-11 years, aiming to reduce children's level of behavioural and emotional difficulty	Very Low	**Cost:** A cost-consequence analysis estimated the average cost of PATHS at £12,666 per school or £139 per child (or £127 per trial excluding training costs)
Hahn et al., (2007)	USA	SR/MA	Various - universal school-based programmes in preventing violence and aggressive behaviour among children and young people of preschool and school age.	Low	**Cost:** Most studies reported programme costs without assessing cost-effectiveness. One programme (Seattle Social Development Project) estimated both costs and benefits, showing a benefit-cost ratio of $3.14 per $1 invested (net benefit $9,837 per participant), but the review concluded that robust economic

			Studies were reviewed if the reduction of violent or aggressive behaviour was an objective of the program, although not necessarily the only or principal objective.		evaluations of school-based programmes are scarce.
Sorrenti et al., (2025)	Switzerland	RCT	PATHS (Promoting Alternative Thinking Strategies) - a classroom-based socio-emotional learning programme for elementary school students that aims to reduce behavioural problems	Moderate	**Cost:** Implementation of PATHS in Switzerland cost $1,540 per class and $67 per child, mainly driven by teacher training and materials; PATHS was low-cost relative to comparable educational interventions.
Taylor et al., (2017)	USA	SR/MA	Various - 82 school-based universal social and emotional learning interventions	Low	**Cost:** No intervention costs were reported. The study summarised published estimates of the lifetime economic value of outcomes linked to SEL (e.g., >$367,000 in additional lifetime earnings per high school graduate and large savings from avoided crime and substance

					use), illustrating the potential magnitude of long-term benefits.
Vazsonyi et al., (2004)	USA	QED	PeaceBuilders – a school-based universal violence prevention program, on young people identified as low, medium, or high risk for future violence.	Low	**Cost:** PeaceBuilders cost <$200 per child over three years, compared with estimated lifetime societal costs of criminal behaviour ranging from $1.3-$2.3 million per individual.
Bergin et al., (2024)	USA	RCT and PE	Leader in Me (LiM) - a universal school-wide SEL program applied to all students. It is a framework for building positive behavioural habits in individuals and for changing structural aspects of the school.	Low	**Children and young people's views:** Part of Bergin's study included a collective case study in four diverse, high-implementing elementary schools, collecting 20 participants' perspectives on the LiM intervention through interviews. The feedback from students was overwhelmingly positive, with no negative comments made about LiM. On the intervention, students described it as "fun" and confirmed that they liked the assemblies, leadership days, and being in a leadership group.
Castro-Olivo, (2014)	USA	RCT and PE	The study examined the culturally adapted	Moderate	**Children and young people's views:** Students reported very high satisfaction with the Strong

			Jovenes Fuertes (Strong Teens) SEL programme on the social emotional outcomes of Latino English language learners. The programme involves learning key SEL skills, such as Self-awareness, social awareness, empathy, problem solving, anger management, responsible decision making, goal setting, and reframing of destructive thoughts.		Teens programme, with 84-96% endorsing its usefulness, cultural relevance, and positive impact on their own and peers' social-emotional skills.
Culliney et al., (2022)	England	RCT & PE	DARE25: A universal school-based programme that aims to encourage children to make safer, healthier and more informed choices and keep them safe from	Moderate	**Children and young people's views:** Pupils viewed DARE25 as an engaging and well-delivered programme led by credible external officers, with interactive activities that supported their understanding. They also reported increased confidence, better communication and stronger resistance strategies, helping them feel more prepared for

			involvement in crime and violence.		real-life risks and the transition to secondary school.
Fu et al., (2024)	China	QED and PE	Positive Growth curriculum was designed to improve children's social emotional competencies with a focus on self-awareness, self-management, social awareness, and relationship skills.	Moderate	**Children and young people's views:** Children reported very high satisfaction, interest, and perceived usefulness of the SEL programme, with 95% completing all sessions and nearly all (97.65%) wanting to participate in a similar programme again, indicating strong overall acceptability.

Appendix 7. Moderator categories

Quality moderators

Study design

Category	Description
Randomised Controlled Trial (RCT)	A study in which participants are prospectively and randomly allocated between intervention and comparison groups
Quasi-experimental design (QED)	A study with a well-designed, closely matched but non-randomised comparison group, for example studies using propensity score matching, difference-in-differences, regression discontinuity, or synthetic control groups
Cluster Randomised Controlled Trial (cluster-RCT)	A study where groups, such as schools or classrooms, are randomly assigned to intervention or control conditions, rather than assigning individuals.

Study quality

Category	Description
Low	Study quality assessed using the YEF-EQA tool

Moderate	
High	

Setting-level moderators

Setting

Category	Description
School	Intervention took place in school
School and home	Intervention included sessions at school and at home

Intervention-level moderators

Duration

Category	Description
1 – 3 months	Period of time over which the intervention took place
3 – 6 months	

6 – 12 months	
1 – 2 years	
2 – 3 years	
3 – 5 years	
Not stated	

Intensity

Category	Description
Daily	Frequency of intervention sessions
2 – 4 per week	
Weekly	
Variable across intervention	
Not stated / unclear	

Provider

Category	Description
Researcher	Professional who delivered the intervention
Service provider or unspecified leader	
Teacher or other education professional	
Not stated	

Provider training

Category	Description
Yes – manual or pre-existing qualification	No formal or bespoke training but providers received a manual or were required to have a specific qualification
Yes – pre-intervention	Providers received training before implementing the intervention
Yes – with ongoing supervision	Providers received training and ongoing supervision visits, calls or workshops to monitor fidelity and provide support

Not stated	Study does not specify what training providers received

Delivery method

Category	Description
Face to face	Intervention was delivered only through face to face sessions
Not specified	Study does not specify what training providers received

Individual or group

Category	Description
Group – class or large group	Intervention was delivered only through sessions with a whole class
Group – small groups	Intervention was delivered only through sessions with smaller groups of children
Group and individual	Intervention was delivered through a mix of group and one-to-one sessions
Not specified	Study does not specify how the intervention was delivered

Population-level moderators

Age band

Category	Description
0 - 9	Pre-school and early childhood / early primary school
10 – 14	Middle childhood / early adolescence
Mixed	Intervention targets a broad range of ages

Ethnicity

Category	Description
Majority white Sample	>85% of sample identified as white
Some Diversity	Between 15–49% of participants identified as Black and Global Majority (i.e., Black, Hispanic/Latinx, Asian, Indigenous, etc.)
Diverse / Balanced	50% or more Black and Global Majority youth in the sample
Not stated / unclear	Study does not specify the ethnicity of participants

Sex/Gender

Category	Description
Majority girls	Sample included >70% girls
Mixed sex	40–70% male and 30–60% female
Not stated / unclear	Study did not report the gender breakdown of participants

Outcome moderators

Outcome type

Category	Description
Ability to resolve conflicts	Skills to de-escalate conflicts and arguments.
Behavioural difficulties	Disruptive or aggressive behaviours due to distress or needs, excluding hyperactivity and neuro-diverse conditions.
Building and maintaining relationships	Social-emotional skills for listening, cooperating, and understanding emotions.
Bullying	Repeated verbal, physical, or indirect harassment, including isolating, stealing, or damaging property.

Crime and offending	Criminal behaviours including non-violent acts (e.g., shoplifting), sexually violent crimes, and violent acts (e.g., assault, robbery).
Drug and alcohol use	Problematic use of substances causing harm to self or others, impacting health, school, or social functioning.
General mental health	Encompasses psychological mental health, which specifically relates to an individual's cognitive and emotional functioning, including their ability to manage thoughts, behaviours, and cope with life's challenges. Includes mental health conditions like anxiety, depression, PTSD
Helping others (prosocial behaviour)	Engaging in positive, prosocial behaviours such as helping, comforting, or sharing.
Parenting practices	Parenting practices, often learnt from a parent/carer's own experience of being a child, that are not appropriate for a certain situation. It includes harsh or inappropriate discipline, controlling behaviour, inconsistent parenting, or low parental warmth.
Positive and prosocial identity	Viewing yourself as someone who engages in positive and meaningful activities and not in criminal activities.
Regulating and managing emotions	Also called 'emotion regulation'. Having the skills and techniques to manage feelings and reactions to situations and events, reducing the intensity, duration, and impact of such feelings.

Resilience	Contexts and resources that enable some children and young people to thrive despite experiencing difficult circumstances.
School climate	A positive whole-school culture encompasses emotional, relational, and physical safety, as well as cultivates shared nurturing values. This environment fosters the wellbeing of children, young people, parents/carers, and staff.
School engagement	Indicators of active participation in education, including attendance, positive connections with peers and staff, avoiding exclusions, and achieving good grades
School engagement with parents/carers	Opportunities to involve parents and carers in a child or young person's educational journey.
Self-esteem	Viewing yourself positively, including confidence in your abilities, appearance, and self-worth.
Victim of crime	Experiencing crimes such as robbery, vandalism, assault, or other harmful acts.

Data source

Category	Description
Administrative	From school or criminal justice system records e.g. exam grades, school attendance

Observation	Measured by the researcher directly observing the behaviour
Parent report	Reported by a parent through a survey or interview
Peer report	Reported by a peer through a survey or interview
Self-report	Reported by the young person through a survey or interview
Teacher report	Reported by a teacher through a survey or interview
Not stated	Study does not report how the outcome was measured