

## Social and emotional learning

Moderate impact for very low cost based on very limited evidence

Social and emotional learning (SEL) interventions and approaches seek to improve pupils' interaction with others and their self-management of emotions

### Implementation cost



### Evidence strength



### Impact (months)



### Subject breakdown

maths: 23  
 reading: 31  
 toolkit: 53

### School phase breakdown

primary: 37  
 secondary: 16  
 toolkit: 53

## Technical Appendix

The criteria used to judge the inclusion of studies in the Toolkit are:

- The population sampled involved early years and school age learners from 3-18 learning in their first language.
- The intervention or approach being tested was educational in nature, including named or clearly defined programmes and recognisable approaches classifiable according to the Toolkit strand definitions (e.g. peer tutoring or small group teaching). The intervention or approach is undertaken in a normal educational setting or environment for the learners involved, such as a nursery or school or a typical setting (e.g. an outdoor field centre or museum).
- A valid comparison was made between those receiving the educational intervention or approach and those not receiving it.
- Outcomes include the assessment of educational or cognitive achievement which reports quantitative results from testing of attainment or learning outcomes, such as by standardised tests or other appropriate curriculum assessments or school examinations or appropriate cognitive measures.
- The study design provided a quantitative estimate of the impact of the intervention or approach on the educational attainment of the sample, calculated or estimated in the form of an effect size (standardised mean difference) based on a counterfactual comparison.

Standardised mean differences and confidence intervals for the most appropriate estimates of the impact of the intervention or approach for the Toolkit were extracted from each included study, along with other study variables. These effect sizes were further synthesised into a single pooled effect using a random effects meta-analysis adopting a restricted maximum likelihood (REML) estimation methods. For the full details of the methodology see the [Protocol and Analysis Plan \(https://educationendowmentfoundation.org.uk/public/files/Toolkit/EEF\\_Evidence\\_Database\\_Protocol\\_and\\_Analysis\\_Plan\\_June2019.pdf\)](https://educationendowmentfoundation.org.uk/public/files/Toolkit/EEF_Evidence_Database_Protocol_and_Analysis_Plan_June2019.pdf).

## References (53)

The forest plot below is a graphical representation of the results of all included studies in this Toolkit strand. It shows the effect size and confidence interval of each study, and whether the particular intervention in that study was more or less effective than standard practice or other alternative interventions that the study looked at.

Studies that show an effect size result on the right-hand side of the red vertical red indicate that the particular intervention studied was more effective than standard practice. Studies that show an effect size on the left-hand side of the red vertical indicate that the particular intervention studied was less effective than standard practice.

Author	Title	Effect Size	Effect Size (Graph)
O'Donnell (1995)	Preventing school failure, drug use, and delinquency among low-income children: Long-term intervention in elementary schools <i>(American Journal of Orthopsychiatry)</i>	<b>Effect Size:</b> 3.074 <b>LCI:</b> 2.502 <b>UCI:</b> 3.645 <b>Weight:</b> 1.5 <b>Standard error:</b> 0.292	
Cauce (1987)	Long term effects of a systems-oriented school prevention program. <i>(American Journal of Orthopsychiatry)</i>	<b>Effect Size:</b> 1.517 <b>LCI:</b> 0.876 <b>UCI:</b> 2.158 <b>Weight:</b> 1.393 <b>Standard error:</b> 0.327	
Mannarino (1982)	Evaluation of social competence training in the schools <i>(Journal of School Psychology)</i>	<b>Effect Size:</b> 1.202 <b>LCI:</b> 0.667 <b>UCI:</b> 1.738 <b>Weight:</b> 1.559 <b>Standard error:</b> 0.273	
Stevahn (1996)	The impact of a cooperative or individualistic context on the effectiveness of conflict resolution training. <i>(American Educational Research Journal)</i>	<b>Effect Size:</b> 0.928 <b>LCI:</b> 0.534 <b>UCI:</b> 1.322 <b>Weight:</b> 1.784 <b>Standard error:</b> 0.201	
Stevahn (2002)	Effects of conflict Resolution training integrated into a high school social studies curriculum. <i>(The Journal of Social Psychology)</i>	<b>Effect Size:</b> 0.912 <b>LCI:</b> 0.481 <b>UCI:</b> 1.342 <b>Weight:</b> 1.727 <b>Standard error:</b> 0.22	
Grant (1995) SEL	The effect of social skills training on the self-concept, academic achievement, and discipline of fifth-grade students <i>(NA)</i>	<b>Effect Size:</b> 0.879 <b>LCI:</b> 0.572 <b>UCI:</b> 1.185 <b>Weight:</b> 1.913 <b>Standard error:</b> 0.156	

Author	Title	Effect Size	Effect Size (Graph)
Stevahn (1997)	Effects on high school students of conflict resolution training integrated into English literature. <i>(The Journal of Social Psychology)</i>	<b>Effect Size:</b> 0.859 <b>LCI:</b> 0.208 <b>UCI:</b> 1.51 <b>Weight:</b> 1.378 <b>Standard error:</b> 0.332	
Flay (2001) 1_2	Effects of the Positive Action Program on achievement and discipline: Two matched-control comparisons. <i>(Prevention Science)</i>	<b>Effect Size:</b> 0.825 <b>LCI:</b> 0.788 <b>UCI:</b> 0.863 <b>Weight:</b> 2.147 <b>Standard error:</b> 0.019	
Flay (2006)	Progress report of the randomized trial of Positive Action in Hawaii: End of third year of intervention. <i>(Positive Action)</i>	<b>Effect Size:</b> 0.73 <b>LCI:</b> 0.699 <b>UCI:</b> 0.761 <b>Weight:</b> 2.149 <b>Standard error:</b> 0.016	
Brigman (2003) 1_3	Ready to learn: Teaching kindergarten students school success skills <i>(Journal of Educational Research)</i>	<b>Effect Size:</b> 0.677 <b>LCI:</b> 0.22 <b>UCI:</b> 1.134 <b>Weight:</b> 1.685 <b>Standard error:</b> 0.233	
Arbuthnot (1986)	Behavioral and cognitive effects of a moral reasoning development intervention for high-risk behavior-disordered adolescents. <i>(Journal of Consulting and Clinical Psychology)</i>	<b>Effect Size:</b> 0.67 <b>LCI:</b> 0.043 <b>UCI:</b> 1.297 <b>Weight:</b> 1.414 <b>Standard error:</b> 0.32	
Murray (2005) 1_2	Implementing a teacher-student relationship program in a high-poverty urban school: Effects on social, emotional, and academic adjustment and lessons learned. <i>(Journal of School Psychology)</i>	<b>Effect Size:</b> 0.628 <b>LCI:</b> 0.047 <b>UCI:</b> 1.209 <b>Weight:</b> 1.486 <b>Standard error:</b> 0.296	
Snyder (2010)	Impact of a social-emotional and character development program on school-level indicators of academic achievement, absenteeism, and disciplinary outcomes: A matched-pair, cluster-randomized, controlled trial <i>(Journal of Research on Educational Effectiveness)</i>	<b>Effect Size:</b> 0.603 <b>LCI:</b> 0.563 <b>UCI:</b> 0.644 <b>Weight:</b> 2.147 <b>Standard error:</b> 0.021	
Snyder (2010)	Impact of the Positive Action program on school-level indicators of academic achievement, absenteeism, and disciplinary outcomes: A matched-pair, cluster randomized, controlled trial. <i>(Journal of Research on Educational Effectiveness)</i>	<b>Effect Size:</b> 0.584 <b>LCI:</b> 0.546 <b>UCI:</b> 0.622 <b>Weight:</b> 2.147 <b>Standard error:</b> 0.02	
Horner (2009)	A randomized, wait-list controlled effectiveness trial assessing School-Wide Positive Behavior Support in elementary schools <i>(Journal of Positive Behavior Interventions)</i>	<b>Effect Size:</b> 0.578 <b>LCI:</b> 0.051 <b>UCI:</b> 1.106 <b>Weight:</b> 1.572 <b>Standard error:</b> 0.269	

Author	Title	Effect Size	Effect Size (Graph)
Flay (2001) 1_1	Effects of the Positive Action Program on achievement and discipline: Two matched-control comparisons. ( <i>Prevention Science</i> )	<b>Effect Size:</b> 0.538 <b>LCI:</b> 0.511 <b>UCI:</b> 0.564 <b>Weight:</b> 2.149 <b>Standard error:</b> 0.014	
Coie (1984)	Effects of Academic Tutoring on the Social Status of Low-Achieving, Socially Rejected Children ( <i>Child Development</i> )	<b>Effect Size:</b> 0.452 <b>LCI:</b> -0.438 <b>UCI:</b> 1.342 <b>Weight:</b> 1.049 <b>Standard error:</b> 0.454	
Felner (1982)	Primary prevention during school transitions: Social support and environmental structure. ( <i>American Journal of Community Psychology</i> )	<b>Effect Size:</b> 0.416 <b>LCI:</b> 0.098 <b>UCI:</b> 0.734 <b>Weight:</b> 1.897 <b>Standard error:</b> 0.162	
Solomon (2000)	A six-district study of educational change: Direct and mediated effects of the child development project. ( <i>Social Psychology of Education</i> )	<b>Effect Size:</b> 0.407 <b>LCI:</b> 0.099 <b>UCI:</b> 0.715 <b>Weight:</b> 1.911 <b>Standard error:</b> 0.157	
Tobias (1999)	A peer facilitator-led intervention with middle school problem-behaviors students ( <i>Professional School Counseling</i> )	<b>Effect Size:</b> 0.38 <b>LCI:</b> 0.057 <b>UCI:</b> 0.703 <b>Weight:</b> 1.89 <b>Standard error:</b> 0.165	
August (2002)	The Early Risers longitudinal prevention trial Examination of 3-year-outcomes in aggressive children with intent-to- treat and as-intended analyses. ( <i>Psychology of Addictive Behaviors</i> )	<b>Effect Size:</b> 0.337 <b>LCI:</b> 0.063 <b>UCI:</b> 0.611 <b>Weight:</b> 1.956 <b>Standard error:</b> 0.14	
Schonfeld (2014)	Cluster-randomized trial demonstrating impact on academic achievement of elementary social-emotional learning. ( <i>School Psychology Quarterly</i> .)	<b>Effect Size:</b> 0.299 <b>LCI:</b> 0.069 <b>UCI:</b> 0.529 <b>Weight:</b> 2.01 <b>Standard error:</b> 0.117	
Riggs (2006)	The mediational role of neurocognition in the behavioral outcomes of a social-emotional prevention program in elementary school students: Effects of the PATHS curriculum. ( <i>Prevention Science</i> )	<b>Effect Size:</b> 0.29 <b>LCI:</b> 0.069 <b>UCI:</b> 0.511 <b>Weight:</b> 2.02 <b>Standard error:</b> 0.113	
Ashdown (2011) 1_2	Can explicit instruction in social and emotional learning skills benefit the social-emotional development, well-being, and academic achievement of young children? ( <i>Early Childhood Education Journal</i> )	<b>Effect Size:</b> 0.281 <b>LCI:</b> -0.241 <b>UCI:</b> 0.803 <b>Weight:</b> 1.58 <b>Standard error:</b> 0.266	

Author	Title	Effect Size	Effect Size (Graph)
Artley (1985)	Modification of children's behavior. (NA)	<b>Effect Size:</b> 0.259 <b>LCI:</b> 0.108 <b>UCI:</b> 0.41 <b>Weight:</b> 2.088 <b>Standard error:</b> 0.077	
Murray (2005) 1_1	Implementing a teacher-student relationship program in a high-poverty urban school: Effects on social, emotional, and academic adjustment and lessons learned. ( <i>Journal of School Psychology</i> )	<b>Effect Size:</b> 0.256 <b>LCI:</b> -0.312 <b>UCI:</b> 0.825 <b>Weight:</b> 1.506 <b>Standard error:</b> 0.29	
Oyersman (2006)	Possible selves and academic outcomes: How and when possible selves impel action. ( <i>Journal of Personality and Social Psychology</i> )	<b>Effect Size:</b> 0.252 <b>LCI:</b> -0.028 <b>UCI:</b> 0.532 <b>Weight:</b> 1.948 <b>Standard error:</b> 0.143	
Rimm-Kaufman (2007)	The contribution of the Responsive Classroom Approach on children's academic achievement: Results from a three year longitudinal study ( <i>Journal of School Psychology</i> )	<b>Effect Size:</b> 0.223 <b>LCI:</b> 0.021 <b>UCI:</b> 0.426 <b>Weight:</b> 2.04 <b>Standard error:</b> 0.103	
Brigman (2003) 1_2	Ready to learn: Teaching kindergarten students school success skills ( <i>Journal of Educational Research</i> )	<b>Effect Size:</b> 0.204 <b>LCI:</b> -0.241 <b>UCI:</b> 0.649 <b>Weight:</b> 1.704 <b>Standard error:</b> 0.227	
Hawkins (1999)	Preventing adolescent health risk behaviors by strengthening protection during childhood. ( <i>Archives of Pediatrics and Adolescent Medicine</i> )	<b>Effect Size:</b> 0.182 <b>LCI:</b> -0.029 <b>UCI:</b> 0.394 <b>Weight:</b> 2.031 <b>Standard error:</b> 0.108	
Morris (2013)	Does a preschool social and emotional learning intervention pay off for classroom instruction and children's behavior and academic skills? Evidence from the foundations of learning project ( <i>Early Education and Development</i> )	<b>Effect Size:</b> 0.126 <b>LCI:</b> -0.122 <b>UCI:</b> 0.374 <b>Weight:</b> 1.989 <b>Standard error:</b> 0.126	
Linares (2005)	Developing cognitive-social-emotional competencies to enhance academic learning ( <i>Psychology in the Schools</i> )	<b>Effect Size:</b> 0.123 <b>LCI:</b> -0.325 <b>UCI:</b> 0.57 <b>Weight:</b> 1.7 <b>Standard error:</b> 0.228	
Twemlow (2001)	Creating a peaceful school learning environment: A controlled study of an elementary school intervention to reduce violence. ( <i>American Journal of Psychiatry</i> )	<b>Effect Size:</b> 0.108 <b>LCI:</b> -0.175 <b>UCI:</b> 0.392 <b>Weight:</b> 1.944 <b>Standard error:</b> 0.145	

Author	Title	Effect Size	Effect Size (Graph)
Bavarian (2013)	Using social-emotional and character development to improve academic outcomes: A matched-pair, cluster-randomized controlled trial in low-income, urban schools. <i>(Journal of School Health)</i>	<b>Effect Size:</b> 0.104 <b>LCI:</b> -0.041 <b>UCI:</b> 0.25 <b>Weight:</b> 2.093 <b>Standard error:</b> 0.074	
Bierman (2002)	Evaluation of the first 3 years of the Fast Track prevention trial with children at high risk for adolescent conduct problems. <i>(Journal of Abnormal Child Psychology)</i>	<b>Effect Size:</b> 0.075 <b>LCI:</b> -0.066 <b>UCI:</b> 0.216 <b>Weight:</b> 2.096 <b>Standard error:</b> 0.072	
Conduct (2002)	Evaluation of the first 3 years of the fast track prevention trial with children at high risk for adolescent conduct problems <i>(Journal of Abnormal Child Psychology)</i>	<b>Effect Size:</b> 0.07 <b>LCI:</b> -0.062 <b>UCI:</b> 0.201 <b>Weight:</b> 2.103 <b>Standard error:</b> 0.067	
Manchester (2015) 1_2	Promoting Alternative Thinking Strategies (PATHS): Evaluation report and executive summary <i>(NA)</i>	<b>Effect Size:</b> 0.063 <b>LCI:</b> -0.036 <b>UCI:</b> 0.161 <b>Weight:</b> 2.124 <b>Standard error:</b> 0.05	
Munoz (2006)	Literacy-embedded character education in a large urban district: Effects of the child development project on elementary school students and teachers <i>(Journal of Research in Character Education)</i>	<b>Effect Size:</b> 0.06 <b>LCI:</b> -0.009 <b>UCI:</b> 0.129 <b>Weight:</b> 2.138 <b>Standard error:</b> 0.035	
Bierman (2008)	Promoting academic and social-emotional school readiness: The Head Start REDI program <i>(Child Development)</i>	<b>Effect Size:</b> 0.048 <b>LCI:</b> -0.16 <b>UCI:</b> 0.256 <b>Weight:</b> 2.035 <b>Standard error:</b> 0.106	
Brackett (2012)	Enhancing academic performance and social and emotional competence with the RULER feeling words curriculum. <i>(Learning and Individual Differences)</i>	<b>Effect Size:</b> 0.046 <b>LCI:</b> -0.193 <b>UCI:</b> 0.286 <b>Weight:</b> 1.999 <b>Standard error:</b> 0.122	
Prenovost (2001)	A first-year evaluation of after school learning programs in four urban middle schools in the Santa Ana Unified school district <i>(NA)</i>	<b>Effect Size:</b> 0.038 <b>LCI:</b> -0.07 <b>UCI:</b> 0.146 <b>Weight:</b> 2.119 <b>Standard error:</b> 0.055	
Gottfredson (1986)	An empirical test of school- based environmental and individual interventions to reduce the risk of delinquent behavior. <i>(Criminology)</i>	<b>Effect Size:</b> 0.029 <b>LCI:</b> -0.118 <b>UCI:</b> 0.175 <b>Weight:</b> 2.092 <b>Standard error:</b> 0.075	

Author	Title	Effect Size	Effect Size (Graph)
Foley (2001)	Preliminary analysis of Virtual Y after-school attendance and academic performance Final evaluation report program year 1999-2000 ( <i>NY National Center for Schools and Communities</i> )	<b>Effect Size:</b> 0.028 <b>LCI:</b> -0.077 <b>UCI:</b> 0.134 <b>Weight:</b> 2.12 <b>Standard error:</b> 0.054	
Cowen (1966)	Prevention of emotional disorders in the school setting: A further investigation. ( <i>Journal of Consulting Psychology</i> )	<b>Effect Size:</b> 0.018 <b>LCI:</b> -0.334 <b>UCI:</b> 0.371 <b>Weight:</b> 1.847 <b>Standard error:</b> 0.18	
Cook (1999)	Comer's school development program in Prince George's County, Maryland: A theory-based evaluation. ( <i>Educational Research Journal</i> )	<b>Effect Size:</b> 0.015 <b>LCI:</b> -0.02 <b>UCI:</b> 0.051 <b>Weight:</b> 2.148 <b>Standard error:</b> 0.018	
Sloan (2018)	Zippy's Friends: Evaluation report and executive summary ( <i>NA</i> )	<b>Effect Size:</b> -0.02 <b>LCI:</b> -0.085 <b>UCI:</b> 0.045 <b>Weight:</b> 2.14 <b>Standard error:</b> 0.033	
Manchester (2015) 1_1	Promoting Alternative Thinking Strategies (PATHS): Evaluation report and executive summary ( <i>NA</i> )	<b>Effect Size:</b> -0.032 <b>LCI:</b> -0.15 <b>UCI:</b> 0.085 <b>Weight:</b> 2.113 <b>Standard error:</b> 0.06	
Ashdown (2011) 1_1	Can explicit instruction in social and emotional learning skills benefit the social-emotional development, well-being, and academic achievement of young children? ( <i>Early Childhood Education Journal</i> )	<b>Effect Size:</b> -0.045 <b>LCI:</b> -0.65 <b>UCI:</b> 0.56 <b>Weight:</b> 1.449 <b>Standard error:</b> 0.309	
Brigman (2003) 1_1	Ready to learn: Teaching kindergarten students school success skills ( <i>Journal of Educational Research</i> )	<b>Effect Size:</b> -0.046 <b>LCI:</b> -0.49 <b>UCI:</b> 0.397 <b>Weight:</b> 1.706 <b>Standard error:</b> 0.226	
Hundert (1999)	Helping children adjust – A Tri-Ministry Study: II. Program effects. ( <i>Journal of Child Psychology and Psychiatry</i> )	<b>Effect Size:</b> -0.095 <b>LCI:</b> -0.204 <b>UCI:</b> 0.014 <b>Weight:</b> 2.118 <b>Standard error:</b> 0.056	
Jones (2010)	A school-randomized clinical trial of an integrated social-emotional learning and literacy intervention: Impacts after 1 school year. ( <i>Journal of Consulting and Clinical Psychology</i> )	<b>Effect Size:</b> -0.23 <b>LCI:</b> -0.358 <b>UCI:</b> -0.101 <b>Weight:</b> 2.105 <b>Standard error:</b> 0.066	

Author	Title	Effect Size	Effect Size (Graph)
Nelson (2002)	Maximizing student learning: The effects of a comprehensive school-based program for preventing problem behaviors. ( <i>Journal of Emotional &amp; Behavioral Disorders</i> )	<b>Effect Size:</b> -0.314 <b>LCI:</b> -0.421 <b>UCI:</b> -0.208 <b>Weight:</b> 2.12 <b>Standard error:</b> 0.054	
Roseberry (1997)	An applied experimental evaluation of conflict resolution curriculum and social skills development (NA)	<b>Effect Size:</b> -0.339 <b>LCI:</b> -0.64 <b>UCI:</b> -0.039 <b>Weight:</b> 1.922 <b>Standard error:</b> 0.153	