

Last reviewed: January 2019

Intervention website: <http://www.cfchildren.org/>

GUIDEBOOK INTERVENTION INFORMATION SHEET

Second Step Elementary

Please note that in the ‘Intervention summary’ table below, ‘child age’, ‘level of need’, and ‘race and ethnicities’ information is **as evaluated in studies**. Information in other fields describes the intervention as **offered/supported by the intervention provider**.

Intervention summary	
Description	Second Step Elementary is a classroom-based, universal intervention for children between the ages of 6 and 11 years old, and is delivered in primary schools. It is delivered in 22 to 25 sessions, which are each five to 40 minutes long. Each session is delivered by one teacher to groups in school classes.
Evidence rating	2
Cost rating	1
Child outcomes	<ul style="list-style-type: none">• Supporting children’s health and wellbeing<ul style="list-style-type: none">- Improved social behaviour.• Preventing crime, violence and antisocial behaviour<ul style="list-style-type: none">- Reduced antisocial behaviour.
Child age (population characteristic)	6 to 11 years old
Level of need (population characteristic)	Universal

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Intervention summary	
Race and ethnicities (population characteristic)	<ul style="list-style-type: none">• African American• Asian American• Asian/Pacific Islander• European American• Hispanic• Native American• White.
Type (model characteristic)	Group
Setting (model characteristic)	<ul style="list-style-type: none">• Primary school• Children's centre• Early years setting.
Workforce (model characteristic)	Classroom teacher
UK available?	Yes
UK tested?	No

Model description

Second Step Elementary is a classroom-based intervention designed to improve school success and student behaviour. It is a universal intervention for children between the ages of 6 and 11 years old, and is delivered in primary schools.

Second Step is based on cognitive behaviour therapy and the content units are aligned with socio-emotional core competencies identified by the Collaborative for Academic, Social, and Emotional Learning (CASEL).

Teachers begin each unit with a unit card that presents information specific to that unit. Lessons in nursery and up to Grade 3 are presented on large photo cards and in Grades 4 and 5 are based on video vignettes.

Please note that different editions of the Second Step Elementary intervention have been available over the course of the intervention's development. The fourth edition is the most up-to-date and currently available version, and is described here. However, the evidence assessed by EIF investigates implementations of both the original edition (Grossman et al., 1997) and the second edition (Frey et al., 2005). The fourth edition is similar to the other versions with respect to

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length/frequency, mode of delivery and content, although it features an additional unit on ‘skills for learning’.

Target population

Age of child	6 to 11 years old
Target population	Children between the ages of 6 and 11 years old in primary schools.

Please note that the information in this section on target population is as **offered/supported by the intervention provider**.



Theory of change

Why		Who	How	What		
Science-based assumption	Science-based assumption	Science-based assumption	Intervention	Short-term outcomes	Medium-term outcomes	Long-term outcomes
Antisocial behaviours compromise the learning environment and are associated with poor long-term behavioural and schooling outcomes.	<ul style="list-style-type: none"> • Behavioural problems may be due to inability to perform competently, or lack of motivation • Promoting social skills and improving motivation can lead to behavioural improvements. 	Children between the ages of 6 and 11 in primary schools.	The intervention teaches skills that strengthen students' ability to learn, have empathy, manage emotions, and solve problems.	Children have improved social-emotional competence and increased self-regulation.	Children have increased school success, reduced aggression, and improved peer relations.	Children have fewer behavioural problems as adults, and greater educational and employment outcomes.



Implementation requirements

Who is eligible?	Children between the ages of 6 and 11 years old in primary schools.
How is it delivered?	Second Step Elementary is delivered in 22 to 25 sessions, which are each five to 40 minutes long. Each session is delivered by one teacher to groups in school classes.
What happens during the intervention?	<ul style="list-style-type: none"> • Each unit begins with a unit card that presents information specific to that unit. Lessons in nursery and up to Grade 3 are presented on large photo cards and in Grades 4 and 5 are based on video vignettes. • Vignettes are used as basis for discussion and role-plays. • Teachers, and characters in videotapes, model key skills. • Students practise skills and teachers reinforce the performance of practised skills.
Who can deliver it?	The practitioner who delivers this intervention is a classroom teacher.
What are the training requirements?	<p>The intervention comes with an online Staff-Training Toolkit to help train teachers to implement the intervention with fidelity. The toolkit can be used by anyone overseeing intervention implementation and was designed to be adapted to best suit users' own settings. The toolkit, which is customisable for any individual or group of teachers, includes the following components:</p> <ul style="list-style-type: none"> • A kick-off meeting agenda guided by a PowerPoint: Staff receive an overview of the intervention and prepare to deliver the first unit. • Four check-in meeting agendas: These meetings are held after each of the first four units is delivered. Staff reflect on successes and challenges with implementation and prepare to deliver the next unit. These check-in meetings provide valuable opportunities for timely feedback and coaching throughout intervention implementation. • A wrap-up meeting agenda: Staff reflect on successes and plan for next year's implementation.
How are practitioners supervised?	Supervision of practitioners is not required.
What are the systems for maintaining fidelity?	<p>Intervention fidelity is maintained through the following processes:</p> <ul style="list-style-type: none"> • Training manual • Face-to-face training • Fidelity monitoring.
Is there a licensing requirement?	Yes



Implementation requirements (Cont.)

*Contact details	<p>Organisation: Committee for Children</p> <p>Email address: info@cfchildren.org</p> <p>Websites: http://www.cfchildren.org/ http://www.secondstep.org/</p> <p>*Please note that this information may not be up to date. In this case, please visit the listed intervention website for up to date contact details.</p>
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Evidence summary

Second Step Elementary's most rigorous evidence comes an RCT and a QED which were conducted in the United States, consistent with Foundations' Level 2 evidence strength threshold.

These studies identified statistically significant positive impact on prosocial behaviour, and reductions in antisocial behaviour.

Second Step Elementary has preliminary evidence of improving a child outcome, but we cannot be confident that the intervention caused the improvement.

Search and review

	Number of studies
Identified in search	6
Studies reviewed	3
Meeting the L2 threshold	2
Meeting the L3 threshold	0
Contributing to the L4 threshold	0
Ineligible	4



Individual study summary: Study 1

Study 1	
Study design	RCT
Country	United States
Sample characteristics	12 urban and suburban elementary schools (790 students), with children between 7 and 8 years old, where schools have a low level of need
Race, ethnicities, and nationalities	<ul style="list-style-type: none"> • White (78.5% in intervention schools, 80.1% in control schools) • African American (5.3% in intervention schools, 9.4% in control schools) • Asian/Pacific Islander (10.5% in intervention schools, 5.9% in control schools) • Hispanic (4.1% in intervention schools, 3.5% in control schools) • Native American (1.2% in intervention schools, 1.1% in control schools) • Other/missing (0.4% in intervention schools, 0% in control schools).
Population risk factors	Less than a quarter of sample population had behavioural problems, around a quarter received special education
Timing	<ul style="list-style-type: none"> • Baseline • Post-test • Six-month follow-up.
Child outcomes	<ul style="list-style-type: none"> • Increased neutral/prosocial behaviour (playground/cafeteria) (observational measure) • Increased neutral/prosocial behaviour (all settings) (observational measure).
Other outcomes	None
Study Rating	2
Citation	Grossman, D. C., Neckerman, H. J., Koepsell, T. D., Liu, P., Asher, K., Beland, K., Frey & K., Rivara, F. (1997) Effectiveness of a violence prevention curriculum among children in elementary school: A randomized controlled trial. <i>JAMA</i> . 277 (20), 1605–1611.



Brief summary

Population characteristics

This study was conducted in the urban and suburban elementary schools in the state of Washington, US, with a sample of children aged 8 years old on average. 53% of the children were male. Most children were White (79%). Less than a quarter of the sample population had behavioural problems, around a quarter received special education. Most participants came from a two-parent family.

Study design

Six schools (418 students) were randomly assigned to the Second Step treatment group, and six schools (372 students) were randomly assigned to a business-as-usual control group.

Measurement

Measurement occurred at baseline (before the start of the curriculum), post-test (two weeks following the conclusion of the curriculum), and six-month follow-up (six months following the curriculum). All measures were completed at each timepoint.

- **Parent report measures** included the Parent-child Rating Scale (P-CRS) and the Child Behavior Checklist (CBCL).
- **Teacher report measures** included the School Social Behaviour Scales (SSBS) and the Achenbach Teacher Report Form (TRF).
- **Researcher-led assessments** included the Social Interaction Observation System coded direct behavioural observation (completed by a random subsample of 588 students).

Study retention

Baseline

86.84% (686) children completed baseline assessment, representing 89% (372) Second Step Elementary children and 84.41% (314) control group children.

Post-test (two weeks following the conclusion of the curriculum)

82.15% (649) children participated at post-test, representing 82.78% (346) Second Step Elementary children and 81.45% (303) control group children.

Six-month follow-up (six months following the curriculum)

79.49% (628) children participated at six-month follow-up, representing 81.1% (339) Second Step Elementary children and 77.69% (289) control group children.



Results

Data-analytic strategy

Since schools, rather than students, were randomised, the generalised estimating equation (GEE) regression method was used to adjust for individual level covariates under cluster randomisation. Baseline behavioural score, academic performance, behavioural problems, grade, and sex were included as covariates in the final regression model.

Findings

Second Step Elementary children were found to have reduced negative behaviour and increased neutral/prosocial behaviour on coded direct observation; the negative behaviour coding had a mean interrater correlation coefficient of 0.5, which was not considered to be sufficiently high to be deemed reliable and so this finding did not contribute to the intervention rating. The neutral/prosocial behaviour coding had a mean interrater correlation coefficient of 0.92.

Limitations

The conclusions that can be drawn from this study are limited by methodological issues pertaining to unequivalent groups and statistical models not controlling for baseline differences between the groups, hence why a higher rating is not achieved.

Study 1: Outcomes table

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Child outcomes					
Interpersonal skills	SSBS (Teacher report)	Not reported	No	649	Post-test
Interpersonal skills	SSBS (Teacher report)	Not reported	No	628	Six-month follow-up
Self-management skills	SSBS (Teacher report)	Not reported	No	649	Post-test
Self-management skills	SSBS (Teacher report)	Not reported	No	628	Six-month follow-up



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Hostile–irritable behaviour	SSBS (Teacher report)	Not reported	No	649	Post-test
Hostile–irritable behaviour	SSBS (Teacher report)	Not reported	No	628	Six-month follow-up
Antisocial–aggressive behaviour	SSBS (Teacher report)	Not reported	No	649	Post-test
Antisocial–aggressive behaviour	SSBS (Teacher report)	Not reported	No	628	Six-month follow-up
Demanding–disruptive behaviour	SSBS (Teacher report)	Not reported	No	649	Post-test
Demanding–disruptive behaviour	SSBS (Teacher report)	Not reported	No	628	Six-month follow-up
Aggressive behaviour	TRF (Teacher report)	Not reported	No	649	Post-test
Aggressive behaviour	TRF (Teacher report)	Not reported	No	628	Six-month follow-up
Delinquent behaviour	TRF (Teacher report)	Not reported	No	649	Post-test
Delinquent behaviour	TRF (Teacher report)	Not reported	No	628	Six-month follow-up
Acting out	P-CRS (Parent report)	Not reported	No	649	Post-test



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Acting out	P-CRS (Parent report)	Not reported	No	628	Six-month follow-up
Assertive social skills	P-CRS (Parent report)	Not reported	No	649	Post-test
Assertive social skills	P-CRS (Parent report)	Not reported	No	628	Six-month follow-up
Peer social skills	P-CRS (Parent report)	Not reported	No	649	Post-test
Peer social skills	P-CRS (Parent report)	Not reported	No	628	Six-month follow-up
Aggressive behaviour	CBCL (Parent report)	Not reported	No	649	Post-test
Aggressive behaviour	CBCL (Parent report)	Not reported	No	628	Six-month follow-up
Delinquent behaviour	CBCL (Parent report)	Not reported	No	649	Post-test
Delinquent behaviour	CBCL (Parent report)	Not reported	No	628	Six-month follow-up
Physical negative behaviour – classroom setting	Social Interaction Observation System (researcher-led assessment)	Not reported	Yes*	588	Post-test



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Physical negative behaviour – classroom setting	Social Interaction Observation System (researcher-led assessment)	Not reported	Yes*	588	Six-month follow-up
Verbal negative behaviour – classroom setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Post-test
Verbal negative behaviour – classroom setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
Overall negative behaviour – classroom setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Post-test
Overall negative behaviour – classroom setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Neutral/prosocial behaviour – classroom setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Post-test
Neutral/prosocial behaviour – classroom setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
Physical negative behaviour – playground/cafeteria setting	Social Interaction Observation System (researcher-led assessment)	Not reported	Yes*	588	Post-test
Physical negative behaviour – playground/cafeteria setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
Verbal negative behaviour – playground/cafeteria setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Post-test



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Verbal negative behaviour – playground/cafeteria setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
Overall negative behaviour – playground/cafeteria setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Post-test
Overall negative behaviour – playground/cafeteria setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
Neutral/prosocial behaviour – playground/cafeteria setting	Social Interaction Observation System (researcher-led assessment)	Not reported	Yes	588	Post-test
Neutral/prosocial behaviour – playground/cafeteria setting	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Physical negative behaviour – all settings	Social Interaction Observation System (researcher-led assessment)	Not reported	Yes*	588	Post-test
Physical negative behaviour – all settings	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
Verbal negative behaviour – all settings	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Post-test
Verbal negative behaviour- all settings	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
Overall negative behaviour – all settings	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Post-test



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Overall negative behaviour – all settings	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
Neutral/prosocial behaviour – all settings	Social Interaction Observation System (researcher-led assessment)	Not reported	Yes	588	Post-test
Neutral/ prosocial behaviour – all settings	Social Interaction Observation System (researcher-led assessment)	Not reported	No	588	Six-month follow-up
<p>* Physical negative behaviour observations had a mean intraclass correlation coefficient of 0.50, which was not considered sufficiently high to meet Foundations’ evidence standards concerning measure reliability; as such these findings do not contribute to the rating.</p>					

Individual study summary: Study 2

Study 2	
Study design	QED
Country	United States
Sample characteristics	15 elementary schools (1,253 students), with children between 7 and 11 years old, where schools have a low level of need.



Study 2	
Race, ethnicities, and nationalities	<ul style="list-style-type: none"> • 52% to 89% European American • 18% Asian American • 12% African American.
Population risk factors	Not reported
Timing	<ul style="list-style-type: none"> • Baseline • Post-intervention year-1 • Pre-intervention year-2 • Post-intervention year-2.
Child outcomes	Decreased antisocial behaviours (Teacher report)
Other outcomes	None
Study Rating	2
Citation	Frey, K. S., Nolen, S. B., Van Schoiack Edstrom, L. & Hirschstein, M. K. (2005) Effects of a school-based social-emotional competence program: Linking children's goals, attributions, and behaviour. <i>Applied Developmental Psychology</i> . 26, 171–200.

Brief summary

Population characteristics

This study was conducted in the United States, with a sample of 1,235 children aged between 7 and 11 years old, roughly evenly divided by sex (48.2% female) and grade level (54.6% in second grade). The majority of students were European American (52–89%) with Asian American (18%) and African American (12%) ethnicities comprising the next largest ethnic groups.

Study design

The second study is a QED. Fifteen elementary schools (seven K to 5th Grade and eight K to 6th Grade) from three cities in western Washington were recruited to participate in the study. Due to necessity rather than design, school recruitment extended over two years.

Two-thirds of the initial 11 schools recruited in the pre-study year were randomly assigned to a Second Step intervention (2nd edition) and one-third of the initial 11 schools to a business-as-usual comparison group; a further four schools were recruited to the comparison group in the initial year of data collection. There were 620 participants in the intervention group and 615 in the comparison group.



Measurement

Measurement took place at baseline (pre-intervention year-1), post-intervention year-1, pre-intervention year-2, and post-intervention year-2.

Baseline and post-intervention year-1

- **Child report measures** included a survey developed for this study to report reactions to and intended behaviours towards hypothetical vignettes of provocations.
- **Teacher report measures** included School Social Behaviour Scale (SBSS).

Pre-intervention year-2

- **Teacher report measures** included School Social Behaviour Scale (SBSS).

Post-intervention year-2

- **Child report measures** included a survey developed for this study to report reactions to and intended behaviours towards hypothetical vignettes of provocations.
- **Teacher report measures** included School Social Behaviour Scale (SBSS).
- **Researcher-led assessments** included coded observation of the Prisoner's dilemma game and coded interviews prior to and following the Prisoner's dilemma game; child behaviours, negotiation strategies, need for adult intervention in negotiation, satisfaction with negotiation outcomes and reasoning for this satisfaction were recorded.

Study retention

Post-intervention

72.7% (898) children participated in post-intervention assessment, representing 74.5% (462) of Second Step participants and 70.9% (436) of comparison group participants.

Results

Data-analytic strategy

Whenever possible, an omnibus multivariate analyses of covariance (MANCOVA) was used, grouping conceptually related variables in order to decrease the number of analyses and chance of spurious results. Univariate analyses were undertaken only if multivariate results were significant at $p = .05$. Participant sex, grade, and baseline ratings of social competence or antisocial behaviour were entered as covariates, yielding a 2 (group) analysis of covariance. Multilevel modelling was used to confirm study findings with individuals nested within classrooms. Chi-square analysis was used to analyse group differences for 'need for adult intervention' in the prisoner's dilemma game.

Findings

This study found that Second Step Elementary children had decreased antisocial behaviours, compared to the comparison group.



Limitations

The conclusions that can be drawn from this study are limited by methodological issues pertaining to inequivalent groups at baseline, the treatment condition not being modelled at the level of assignment, measures not being blind to condition, and a lack of equivalence of the groups after attrition has taken place, hence why a higher rating is not achieved.

Study 2: Outcomes table

Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Child outcomes					
Antisocial behaviours	SSBS (Teacher report)	Not reported	Yes	898	Post-intervention year-1
Antisocial behaviours	SSBS (Teacher report)	Not reported	No	898	Post-intervention year-2
Social competence	SSBS (Teacher report)	d = 0.2	Yes*	898	Post-intervention year-1
Social competence	SSBS (Teacher report)	d = 0.1	Yes*,**	898	Post-intervention year-2
Prosocial goals and expected satisfaction (multivariate)	Prisoner's dilemma game (researcher observation)	d = 0.17	Yes*	898	Post-intervention year-2
Prosocial goals	Prisoner's dilemma game (researcher observation)	Not reported	Yes*	898	Post-intervention year-2
Expected satisfaction – Self-interested	Prisoner's dilemma game (researcher observation)	Not reported	Yes*	898	Post-intervention year-2



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Expected satisfaction – Cooperative	Prisoner's dilemma game (researcher observation)	Not reported	No	898	Post-intervention year-2
Joint decision making	Prisoner's dilemma game (researcher observation)	Not reported	No	898	Post-intervention year-2
Negotiation context	Prisoner's dilemma game (researcher observation)	Not reported	No	898	Post-intervention year-2
Need for adult intervention	Prisoner's dilemma game (researcher observation)	Not reported	Yes*	898	Post-intervention year-2
Observed negotiating strategies – coercive strategies (multivariate)	Prisoner's dilemma game (researcher observation)	$d = 0.14$	Yes*	898	Post-intervention year-2
Observed negotiating strategies – Aggressive behaviour	Prisoner's dilemma game (researcher observation)	Not reported	Yes*	898	Post-intervention year-2
Observed negotiating strategies – Demand, whine	Prisoner's dilemma game (researcher observation)	Not reported	No	898	Post-intervention year-2



Outcome	Measure	Effect size	Statistical significance	Number of participants	Measurement time point
Outcome satisfaction (multivariate)	Prisoner's dilemma game (researcher observation)	$d = 0.14$	Yes*	898	Post-intervention year-2
Actual satisfaction – Game outcome	Prisoner's dilemma game (researcher observation)	Not reported	Yes **, **	898	Post-intervention year-2
Actual satisfaction – Prize division	Prisoner's dilemma game (researcher observation)	Not reported	Yes*	898	Post-intervention year-2
Actual satisfaction – Egalitarian reasons	Prisoner's dilemma game (researcher observation)	$d = 0.1$	Yes*	898	Post-intervention year-2
Hostile attributions and intentions	Questionnaire developed for this study (Child report)	Not reported	No	898	Post-intervention year-2
* Measure was not accepted as valid and reliable. **Significant outcome not confirmed in subsequent HLM.					

Other studies

The following studies were identified for this intervention but did not count towards the intervention's overall evidence rating. An intervention receives the same rating as its most robust study or studies.

Edwards, D., Hunt, M. H., Meyers, J., Grogg, K. R. & Jarrett, O. (2005) Acceptability and student outcomes of a violence prevention curriculum. *The Journal of Primary Prevention*. 26 (5), 401–418.

Holsen, I., Smith, B. H. & Frey, K. S. (2008) Outcomes of the social competence program *Second Step* in Norwegian elementary schools. *School Psychology International*. 29 (1), 71–88.



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. *Developmental Psychology*. 55 (2), 415–433.

Taub, J. (2001) Evaluation of the Second Step violence prevention program at a rural elementary school. *School Psychology Review*. 31 (2), 186–200.

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Note on provider involvement: This provider has agreed to Foundations’ terms of reference (or the Early Intervention Foundation's terms of reference), and the assessment has been conducted and published with the full cooperation of the intervention provider.