



## STUDY REFERENCE: C/ADEPIS07

### Programme Name

*Second Step*

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### Programme description

The *Second Step* programme is a universal, classroom-based programme designed to increase students' school success, improve peer relationships, and decrease problem behaviours by promoting social-emotional competence and self-regulation. It teaches skills that strengthen students' ability to learn, have empathy, manage their emotions and behaviours and solve problems. The *Second Step* programme was developed by Committee for Children (CfC), a non-profit organisation in Seattle, Washington, dedicated to fostering the safety and well-being of children through social-emotional learning and development.

The programme is developed for children from 4 to 14 years old. There are three grade-specific curricula: Early Learning (age 4-5), Primary (age 5-11) and Secondary School (age 11-14). The curricula are designed to be delivered in a classroom or other group setting by teachers and/or other youth service providers. Programme 'kits' are commercially available and include online professional staff training and supporting resources.

The *Second Step* program for Primary school (US Elementary) consists of separate curricula for each school grade level. Each curriculum includes 22 to 25 lessons, lasting for about 25 – 40 minutes, delivered each week of the academic year, with reinforcement activities during the week. Lessons, which are built around a relevant story, are sequential, developmentally appropriate, and provide opportunities for modelling, practice, and skills reinforcement. Stories are used to demonstrate important peer-relations skills and to teach affective, emotional, cognitive, and behavioural social skills. The content of the lessons varies and is organised around four core units:

- Skills for Learning: Students gain skills to help themselves learn, including how to focus their attention, listen carefully, use self-talk to stay on task, and be assertive when asking for help with schoolwork;
- Empathy: Students learn to identify and understand their own and others' feelings. Students also learn how to take another's perspective and how to show compassion;
- Emotion Management: Students learn specific skills for calming down when experiencing strong feelings, such as anxiety or anger;
- Problem Solving: Students learn a process for solving problems with others in a positive way.

The *Second Step* programme for Early Learning is similar in scope, with Weekly Themes consisting of short 5 to 10 minute activities each day of the week. The *Second Step* programme for Secondary

School (US Middle school) has 13 to 15 one-hour lessons covering similar topics as the Primary programme, along with lessons and activities on substance abuse prevention and bullying prevention.

### Target population

*Second Step* programme targets children aged 4 to 14 years old.

### Expected Outcomes

To improve children's social and emotional knowledge and skills, as well as to increase their pro-social attitudes and decrease their level of disruptive behaviours.

### References:

Frey, K. S., Nolen, S. B., Edstrom, L. V., & Hirschstein, 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.

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, 401–418.

Espelage, D. L., Low, S., Polanin, J. R., & Brown, E. C. (2013). The impact of a middle school program to reduce aggression, victimization, and sexual violence. *Journal of Adolescent Health*, 53(2), 180–186.

Espelage, D. L., Polanin, J. R., & Rose, C. A. (2015). Social-emotional learning program to reduce bullying, fighting, and victimization among middle school students with disabilities. *Remedial and Special Education*, doi: 10.1177/0741932514564564

Low, S., Cook, C. R., Smolkowski, K., & Buntain-Ricklefs, J. (2015). Promoting social-emotional competence: An evaluation of the elementary version of *Second Step*. *Journal of School Psychology*, 53, 463–477.

### Study details

A number of evaluations of the *Second Step* programme have been conducted over the past several years. Evaluations have been conducted at school level in various grades, across the U.S. and internationally, examining the impact on several different student outcomes.

### Summary of studies

Title of study	Location	Sample size at baseline	Number of schools	Age group	Treatment and control groups
Low et al. (2015)	Washington and Arizona (USA)	7300	61	5-8 years old	Randomised control trial
Frey et al. (2005)	Western Washington (USA)	1253	15	7 – 11 years old	Randomised controlled trial
Edwards et al (2005)	South eastern, USA	455	Schools from one small urban school district	9 – 11 years old	Pre-post test design
Espelage et al. (2013)	Kansas and Illinois (USA)	3616	36	11-12 years old	Randomised control trial
Espelage et al. (2015)	Illinois (USA)	123	12	11- 14 years old	Subgroup of a previous randomised control trial (Espelage et al., 2013)

## Second Step- Primary School Version

### 1) *Low et al. (2015)*

**Study details:** This study analyses impact of the 4<sup>th</sup> edition (the first with the 2011 edition of the *Second Step* program) of the primary school version of the *Second Step* programme. A randomised controlled trial was conducted across 61 schools with participants being students from kindergarten to 2<sup>nd</sup> grade.

**Study sample:** A total number of N=7300 students (aged from 5 to 8 years old) were involved in the trial. 321 teachers also took part to the study.

**Outcome measure:** The study investigates the impact of the programme on social-behavioural outcomes over the period of 1 year, with data collected at the baseline and at two follow up points in the following fall (T1) and spring (T2) of the year. Outcome measures include teacher's assessments on student behaviour and classroom behavioural observations.

**Empirical methodology:** A large-scale matched randomised control design was used in the study. 61 elementary schools, from two States (Arizona and Washington), were either assigned to the treatment group (n= 31) or to the control group (n=30). Schools were matched on free and reduced lunch and percentage of non-white students to obtain no significant differences between treatment and control groups on baseline measures related to social emotional behaviour (such as emotional problems, conduct problems, hyperactivity, peer problems, skills for learning, empathy etc.). To assess effectiveness of the intervention, a hierarchical mixed-model (time x condition) analysis, which accounted for interclass correlation associated with students nested within schools was conducted.

### 2) *Frey et al (2005)*

**Study details:** This study (conducted with the 2002 edition of the *Second Step* program) analyses the effects of the *Second Step* social-emotional learning programme addressing the relations between social cognitions and antisocial behaviour in fifteen elementary schools located in Western Washington, USA.

**Study sample:** N= 1253 children (ages 7-11) took part to the study and were assigned either to intervention or control groups. Of this initial sample, 462 (74 percent) in the treatment group and 436 (71 percent) in the control group completed all outcome measures over two years with an overall attrition of 25.5% in the intervention group and 28.8% in the control group over the two years.

**Outcome measures:** The study particularly seeks to evaluate the impact of *Second Step* on students' behaviour, social cognition and affect as well as to examine relations between behaviour and motivational constructs. To measure children's behaviour, the study uses teacher reports, self-reports and direct observations. To measure social cognition and affect of students, hypothetical vignettes which reproduced structured conflict were administered to students. Subsequently students were interviewed on their reactions to those.

**Empirical methodology:** Students enrolled in second through fourth grade in 15 elementary schools from three different cities in Western Washington were recruited for the study and were randomly assigned to either the intervention or control group. Children were then followed for two school years. Omnibus multivariate analyses of covariance (MANCOVA) were used to test for significant

group differences, followed by confirmatory hierarchical linear modelling (HLM) analyses of individuals nested within classroom.

### **3) Edwards et al. (2005)**

**Study details:** This study investigates the effectiveness of the *Second Step* violence prevention curriculum on fourth and fifth grade elementary school students from a small urban area in the USA.

**Study sample:** N= 455 students participated in the study, of which 214 from fourth grade and 241 from fifth grade classes. Of the total number of students 120 were randomly selected to participate in individual interviews. 24 teachers, who participated to this programme, were also interviewed.

**Outcome measures:** To assess efficacy of the programme, both quantitative (rating scale from the BASC, the Bully Survey, content tests, and report card data) and qualitative (student and teachers semi-structured interviews) data were collected. The former were collected to assess the impact of the programme on children's behaviour, and the latter to obtain students' and teachers' perception of the programme.

**Empirical methodology:** Pre-post test design for fourth and fifth grade students was conducted to assess efficacy of the *Second Step* programme. For quantitative data, multivariate analysis and MANOVA was carried out for each of the tests. Those were combined with qualitative data from students' and teachers' interviews, assessing perception and acceptability of the programme.

## **Second Step – Secondary School Version**

### **1) Espelage et al. (2013)**

**Study details:** This study evaluates the impact of the Second Step programme, secondary school version, on reducing youth violence among middle school six grades students coming from 36 different Midwestern schools in the United States. Teachers implemented 15 weekly lessons of the Second Step programme that focused on social emotional learning. The study assesses the 1-year impact of the programme.

**Study sample:** N=3616 students from 36 Midwestern schools (coming from Illinois and Kansas) took part in the research project and provided data to be analysed. Of those, n=1940 students were assigned to the intervention group while n=1676 were in the control group. Average age was 11.25 years old in the intervention and 11.23 in the control group.

**Outcome measures:** In order to measure the impact of the intervention in reducing youth violence, seven primary outcomes were assessed including: verbal/relational bullying perpetration; peer victimisation; physical aggression; homophobic name calling perpetration and victimisation; and sexual violence perpetration and victimisation. Data were collected through self-reported questionnaires.

**Empirical methodology:** The study employs a longitudinal nested-cohort design with randomisation conducted at school level. Schools were first matched into pairs on the basis of data related to school environment and characteristics of the student population, and then one school from each group was randomly assigned to either the intervention or control group. Multilevel analysis was then carried out to analyse data.

### **2) Espelage et al. (2015)**

**Study details:** The current study presents results from a three-year randomised controlled trial assessing the impact of the Second Step programme, Secondary School version, in reducing bullying, physical aggression, and peer victimisation among middle school students with disabilities. Teachers delivered 41 lessons of the Second Step programme to students from sixth to eighth grade classes over the course of three years.

**Study sample:** 12 schools out of a larger sample provided data on disabilities. A total of N=123 students with disabilities participated to this study and assigned to intervention n=47 and control n=76 group. Age of participants at the baseline was between 11 and 12 years old.

**Outcome measures:** Data are collected in relation to four main dimensions: demographics, bullying perpetration, peer victimisation and physical aggression. Participants were asked to complete surveys in order to assess these outcomes.

**Empirical methodology:** Subsample from a previous randomised controlled trial (Espelage et al.2013) were considered in this study. Then linear mixed growth models were conducted to analyse outcomes results.

## Results and Impact

### Primary school version

Evaluations suggest the programme can have positive impact on reducing negative and anti-social behaviour in children. However; one study found that these effects seem to fade over time.

- **(Low et al., 2015)** Significant improvements in social-emotional competences and behaviour were made by children who started the school year with skill deficits in these areas. Additionally, the number of lessons completed and student engagement were predictive of improved student outcomes.
- **(Frey et al., 2005)** Results show that significant effects were found in the first year of the programme. Among those children with high baseline ratings in antisocial behaviour, the intervention group showed greater declines in antisocial behaviour than the control group. These differences become weaker in the second year with no remaining group differences in antisocial behaviour. Similarly in the first year significant differences were found between groups in gains in social competencies, however such differences were not as significant in the second year.
- **(Edwards et al., 2005)** the study reveals significant gains in social emotional skills - knowledge about empathy, anger management, impulse control- for students after they received the *Second Step* programme.

### Secondary school version

- **(Espelage et al., 2013)** Results show that students receiving the intervention were significantly less likely to self-report physical aggression perpetration: at post-test they were 42% less likely to self-report physical aggression than students in the control group. No significant differences were found for the other outcomes.
- **(Espelage et al., 2015)** The study demonstrates a significant reduction in bullying perpetration for intervention students compared to those ones in the control group. No significant differences were found for the other outcomes.

Impact grade: 2

Overall quality of evaluation of evidence

The *Second Step* programme is a promising intervention with a consistent body of evidence behind it. The intervention has been evaluated through various randomised controlled trials and other similar studies are underway. Overall, the evaluations considered meet the following criteria (except for Edwards et al. 2005, as it utilises a pre-post test design and does not involve randomisation):

- i) **Fair and independent evaluation** Low (2015) and Frey (2005) are randomised controlled trials with randomisation carried out at school level. Espelage (2013, 2015) also present a randomisation at school level with schools matched into pairs.
- ii) **Statistical power of analysis:** Good levels of statistical analysis were conducted in the present studies trying to establish relationship between the programme and defined outcomes. All listed studies have a strong design and analytical approach that indicates reliability of results.
- iii) **Minimum bias:** The studies come not without limitations. In Frey (2005) the randomisation process reveals some limitations: only 11 out of the 15 schools were subjected to randomisation while the additional 4 were recruited later and no-randomly assigned to the control group. Implementation issues should also be considered as it is important to note that in Frey et al (2005) schools assigned to the control group were trained and allowed to implement the *Second Step* programme in grades other than those being studied which may raise some contamination issues. The main limitation in Low et al (2015) is the fact that the study is only focusing on results at 1 year follow up. While in Espelage (2013, 2015) only self-reported data were collected and not direct observations which may involve information bias.
- iv) **Transferability and generalisability:** These evaluations reinforce the body of evidence for the *Second Step* programme primary version; however more research is needed to confirm transferability particularly for the Secondary School version of the programme where studies have only been conducted in two US States.

Level of evidence grade: 7

**Appendix: details of impact grades and quality of evidence grades are set out below**

Impact grade	Description
0 (none)	No relationship between the youth service and the outcome in question.
1 (low)	Provision of the youth service may be positively related to one but not all outcomes or just for sub-groups of the target population.
2 (medium)	The youth service has moderate impact on all outcomes and sub-groups or high impact on some outcomes and sub-groups.
3 (high)	The youth service has high impact on all outcomes and sub-groups.

Score	Type of study	More Description	Example of a study	How to improve the quality of evidence
0	Basic	Studies that describe the intervention and collect data on activity associated with it.	A study that describes the intervention and states how much it cost or how many hours of services young people received.	Collect some “before and after” data on the outcome of interest for those receiving the intervention. If it is too late for that, collect outcome “after” data for the group receiving the services and try to compare these outcomes with comparable youth using other sources of data.
1	Descriptive, anecdotal, expert opinion	Studies that ask respondents or experts about whether the intervention works.	A study that uses focus groups or expert opinion or indeed surveys those who received the intervention after they received it.	Collect some “before and after” data on the outcome of interest for those receiving the services. If it is too late for that, collect outcome “after” data for the group receiving the services and try to compare these outcomes with comparable youth using other sources of data.
2	Study where a statistical relationship (correlation) between the outcome and receiving services is established	The correlation is observed at a single point in time, outcomes of those who receive the intervention are compared with those who do not get it.	A study that conducts a survey only after the services have been delivered and concludes that youths who received the services responded more positively than those who did not.	This evidence does not allow for the fact that prior to the intervention youths who received the service may have been different from those who did not. Collect some before and after data on the outcome of interest for those receiving the intervention. If it is too late to do that, see if you can compare outcomes for a clearly defined comparison or control group using other “before” data sources, such as administrative data.
3	Study which accounts for when the services were delivered by surveying before and after	This approach compares outcomes before and after an intervention.	A study that conducts a survey before and after the program.	If you have before-after data you can measure the change in a particular outcome after the services were delivered. Try to determine whether you can compare this gain in the outcome for those who received the youth services to the gain for a similar group of youth who did not receive the services. You might use administrative data for this.
4	Study where there is both a before and after evaluation strategy and a clear comparison between groups who do and do not receive the youth services	These studies use comparison groups, also known as control groups.	A study that matches two locations where both individuals and areas are comparable and surveys them before and after the program e.g. pilot studies.	You have most of the data you need. Contact an expert on statistics or econometrics and they will be able to apply various statistical methodologies to improve the robustness of your results e.g. matching methods to define a better control or comparison group. NOTE: this is the minimum level of evaluation quality applied by the Social Research Unit et al (2011), which also stipulates that any such study fulfil various quality criteria.

5	As above but in addition includes statistical modelling to produce better comparison groups and of outcomes to allow for other differences across groups	Study with a before and after evaluation strategy, statistically generated control groups and statistical modelling of outcomes.	A study that uses a statistical method, such as propensity score matching, to ensure that the group receiving the youth services is similar to the comparison group and a statistical model of outcomes (e.g. difference in difference).	Short of a random control trial, this methodology is the most robust. To improve confidence in the results try to collect additional data, perhaps from administrative sources, on the comparison group to determine any differences between them that may have pre dated the intervention.
6	Study where intervention is provided on the basis of individuals being randomly assigned to either the treatment or the control group.	Study that compares results from two independent randomly generated groups (one receiving the intervention and the other one not) and uses statistical analysis to determine effectiveness of the programme.	A study which conducts a Randomised Controlled Trial. A study that takes into account the following criteria: <i>i)</i> a fair independent evaluation has to be conducted; <i>ii)</i> transferability and generalisability of the programme; <i>iii)</i> statistical power of the analysis; <i>iv)</i> minimum bias	The gold standard. It is challenging to run a RCT, with cost, ethical and practical issues arising. Even with a RCT you have to think about how generalisable it is to other situations. If the RCT was only males, it cannot tell you about how well the youth service would do for females, for example.
7	Various studies that evaluate an intervention which has been provided through random allocation at individual level.	The Intervention has been evaluated more than once and its effectiveness is assessed through more than one RCT showing high level of statistical analysis and reporting high quality of evidence	A series of studies which conduct RCT on a particular intervention programme. Studies that take into account the following criteria: <i>i)</i> a fair independent evaluation has to be conducted; <i>ii)</i> transferability and generalisability of the programme; <i>iii)</i> statistical power of the analysis; <i>iv)</i> minimum bias	Same challenges of level 6 apply here. To improve conduct Meta-analysis or Systematic reviews of RCT which compares results from various numbers of studies involving experimental analysis.