PATHS Elementary curriculum

Review: February 2018

The PATHS® Elementary curriculum is a comprehensive programme for promoting emotional and social competencies and reducing aggression and behaviour problems in elementary school-aged children while simultaneously enhancing the educational process in the classroom.

This overall curriculum is designed to be used by educators and counsellors in a multi-year, universal prevention model. It is delivered in preschool and school settings, and was primarily developed as a universal programme.

The PATHS Elementary curriculum assists educators to create an environment that helps young children between the ages 6 and 12 years. The curriculum provides primary school teachers with systematic, developmentally based lessons, materials, and instructions for teaching their students emotional literacy, self-control, social competence, positive peer relations, and interpersonal problem-solving skills. A key objective of promoting these developmental skills is to prevent or reduce behavioural and emotional problems.
PATHS Elementary curriculum has evidence of a short-term positive impact on child outcomes from at least one rigorous evaluation.

**What does the evidence rating mean?**

**Level 3** indicates evidence of efficacy. This means the programme can be described as evidence-based: it has evidence from at least one rigorously conducted RCT or QED demonstrating a statistically significant positive impact on at least one child outcome.

This programme does not receive a rating of 4 as it has not yet replicated its results in another rigorously conducted study, where at least one study indicates long-term impacts, and at least one uses measures independent of study participants.

**What does the plus mean?**

The plus rating indicates that this programme has evidence from at least one level 3 study, along with evidence from other studies rated 2 or better.

**Cost rating**

A rating of 1 indicates that a programme has a low cost to set up and deliver, compared with other interventions reviewed by EIF. This is equivalent to an estimated unit cost of less than £100.
Child outcomes

According to the best available evidence for this programme’s impact, it can achieve the following positive outcomes for children:

**Supporting children’s mental health and wellbeing**

- Reduced aggressive social problem-solving - based on **study 1a**
- Reduced hostile attribution bias - based on **study 1a**
- Reduced aggressive interpersonal negotiation strategies - based on **study 1a**
- Reduced conduct problems - based on **study 1a**
- Reduced aggressive behaviour - based on **study 1a, study 2a**
- Reduced acting-out behaviour - based on **study 1a**
- Reduced impulsivity/ADHD - based on **study 2a**

**Enhancing school achievement & employment**

- Increased academic competence and motivation - based on **study 1b**

**Preventing crime, violence and antisocial behaviour**

- Reduced prevalence of police contacts - based on **study 2b**
Key programme characteristics

Who is it for?
The best available evidence for this programme relates to the following age-groups:

- Primary school
- Preadolescents

How is it delivered?
The best available evidence for this programme relates to implementation through these delivery models:

- Group

Where is it delivered?
The best available evidence for this programme relates to its implementation in these settings:

- Primary school
- Secondary school

How is it targeted?
The best available evidence for this programme relates to its implementation as:

- Universal

Where has it been implemented?
England, Northern Ireland, Scotland, Switzerland, United States, Wales
UK provision

This programme has been implemented in the UK.

UK evaluation

This programme's best evidence does not include evaluation conducted in the UK.
About the programme

What happens during delivery?

How is it delivered?

- The PATHS Elementary curriculum is delivered to classes of children over the course of primary school, in 30–55 sessions per school year, of between 20-30 minutes duration each.

What happens during the intervention?

- PATHS lessons include instruction in identifying and labelling feelings, expressing feelings, assessing the intensity of feelings, managing feelings, understanding the difference between feelings and behaviours, delaying gratification, controlling impulses, reducing stress, self-talk, reading and interpreting social cues, understanding the perspectives of others, using steps for problem-solving and decision-making, having a positive attitude towards life, self-awareness, non-verbal communication skills, and verbal communication skills.

- The sessions are interactive and include a variety of activities including roleplays, group discussions and games.

What are the implementation requirements?

Who can deliver it?

- The practitioner who delivers this programme is a classroom teacher with QCF-6 level qualifications.

What are the training requirements?

- The practitioners have 14 hours of programme training.
- Booster training of practitioners is recommended.
How are the practitioners supervised?

- It is recommended that practitioners are supervised by 1 programme developer supervisor (qualified to QCF-6 level).

What are the systems for maintaining fidelity?

Programme fidelity is maintained through the following processes:

- training manual
- other printed material
- face-to-face training
- fidelity monitoring
- in-class coaching support.

Is there a licensing requirement?

There is no licence required to run this programme.
How does it work? (Theory of Change)

How does it work?

- For early years and primary school age, children’s emotional awareness, self-control (self-regulation), and interpersonal problem-solving skills are key mediators of socially competent outcomes (low behaviour problems, good mental health, good peer relations, and engagement in learning at school).

- The PATHS curriculum is focused on teaching students skills to (1) become more aware of and be able to label their own emotions, (2) be able to take others’ points of view and assess others’ emotions, (3) use new strategies for self-control (regulation) to be able to calm down, (4) use new interpersonal problem-solving strategies to develop and carry out effective plans for interpersonal and school-related challenges.

- In the short term, children will have better accuracy in labelling and discussing their own and others’ emotions, they will be better able to calm down and self-regulate when upset or distressed, they will have improved abilities to describe interpersonal problems and generate and carry out effective solutions, they will be able to communicate positively with peers and adults; overall this will lead to high teacher ratings and observations of social and emotional competence.

- In the longer term, children will show lower rates of behaviour problems, lower rates of internalising problems, and show improvements in engagement and attention in the classroom.

Intended outcomes

Supporting children’s mental health and wellbeing Enhancing school achievement & employment Preventing crime, violence and antisocial behaviour

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About the evidence

The most rigorous evidence from PATHS Elementary comes from two cluster randomised controlled trials, conducted in the USA and Switzerland. These studies identified statistically significant positive impact on a number of child outcomes. The programme receives an overall rating of 3+ due to one study receiving a level 3 rating and the other receiving a level 2+.

Study 1a

Citation: Crean & Johnson, (2013) | Design: Cluster RCT

Country: United States | Study rating: 3

Sample: 786 students (mean age = 8.1 years) from 10 schools, ranging from grade 3 to 5

Timing: Post-test

Child outcomes:
Reduced aggressive social problem-solving
Reduced hostile attribution bias
Reduced aggressive interpersonal negotiation strategies
Reduced conduct problems
Reduced aggressive behaviour
Reduced acting-out behaviour

Other outcomes:
None measured


Available at https://www.ncbi.nlm.nih.gov/pubmed/23625456

Study design and sample
The first study is a rigorously conducted cluster RCT, with schools as the unit
of randomisation.

The study involved 10 schools: five schools were randomly assigned to either the treatment condition where students received PATHS training (N = 377) or the control condition, where students received social and character development training as usual (N = 409). A two-step randomisation process was used for this process. Firstly, schools were pairwise matched by a computer-generated algorithm of the schools on a number of variables. Secondly, a coin-flip was used to assign one school from each pair to the intervention or control condition.

This study was conducted in the USA with a sample of 786 students from two cohorts of schools with children ranging from grade 3 to grade 5. The mean age of the sample was 8.1 years, which consisted of girls (57%) and boys (43%). The ethnic diversity of the students consisted of White/Caucasian (51%), African-American (38%), Hispanic non-Hispanic (17%) and those who identified as other (10%). Most families had an income of above $20K, with only 39% of the sample reporting earning less.

Measures
Measurement for study 1a was taken at four time points – pre-test, baseline (year 1), year 2 of programme delivery and post-test – and included:

- Verbal or physical aggression was measured by the Behaviour Assessment Scale for Children-2 (BASC-2) Aggression Subscale (teacher report).
- Conduct problems was measured using the Behaviour Assessment Scale for Children-2 (BASC-2) Conduct Problems Subscale (teacher report).
- Acting out behaviour problems were measured using the Teacher-Child Rating Scales Acting Out subscale (teacher report).
- Aggression was measured using an adaptation of the Aggression Scale (child report).
- Minor delinquent acts were measured using the Frequency of Delinquent Behaviour Survey (child report).
- Victimization at school was measured using an adaptation from the Victimization Scale (child report).

Findings
This study identified a significant positive impact on a number of child outcomes. At post-test, there were statistically significant differences between the intervention and control groups, favouring the intervention, including:

- Reduced aggressive social problem-solving (child report).
- Reduced hostile attribution bias (child report).
- Reduced aggressive interpersonal negotiation strategies (child report).
- Reduced conduct problems (teacher report).
- Reduced aggressive behaviour (child report).
- Reduced acting out behaviour (teacher report).
Study 1b

**Citation:** Ruby et al., (2010) | **Design:** Cluster RCT

**Country:** United States | **Study rating:** 3

**Sample:** 786 students (mean age = 8.1 years) from 10 schools, ranging from grade 3 to 5

**Timing:** Post-test

**Child outcomes:**
Increased academic competence and motivation

**Other outcomes:**
None measured


Ruby et al., (2010) (study 1b) describes additional outcomes from study 1a described above. In this case, measures were taken at year 1, year 2 and post-test.

Outcomes measured included:

- Social and emotional competence domains including self-efficacy for peer interaction (measured using the child-reported Self-Efficacy for Peer Interaction Scale), normative beliefs about aggression (measured using the child-reported Normative Beliefs About Aggression Scale), and empathy (measured using the child-reported Children’s Empathy Questionnaire).

- Child behaviour domains, including altruistic behaviour (measured using the child-, parent- and teacher-reported versions of the Altruism Scale) prosocial behaviour (measured using parent- and teacher-reported versions of The Social Competence Scale), and ADHD related behaviour (measured using the teacher-reported IOWA Conners Teacher Rating Scale, and 5 items based on the DSM-IV ADHD criteria).

- The academic domain, including engagement with learning (measured using the child-reported Engagement vs. Disaffection with Learning Scale) and academic competence and motivation (measured using the teacher-reported Academic Competence and Motivation Scale).

- Perceptions of school climate was measured using the School-Level Environment Questionnaire, including positive school orientation and negative school orientation (child report). School safety was measured using the Feelings of Safety at School Scale (child- and teacher-report), and victimisation at school was measured using the child-reported Victimization Scale.

This study identified statistically significant impacts for the child, including:

- Increased levels of academic competence and motivation.

Although positive statistically significant findings are observed on several measures for the entire study, it should be noted that at two time-points across the duration of the study, the control group outperform the PATHS intervention group for a short time. Negative findings were observed for the Social and Emotional Competence domain in year 2 and Academics domain in year 3.

### Study 2a

**Citation:** Malti et al., (2011) | **Design:** Cluster RCT

**Country:** Switzerland | **Study rating:** 2+

**Sample:** 1,675 first graders (mean age = 7.45 years) in 56 elementary schools
Timing: 2-year follow-up

Child outcomes:
Reduced aggressive behaviour
Reduced impulsivity/ADHD

Other outcomes:
None measured


Available at http://psycnet.apa.org/record/2011-21731-003
Study design and sample
This study was a cluster RCT, with schools as the unit of randomization.

The study used a randomised block design, for which 14 blocks of four schools (56 in total) were created, such that the schools within each block were similar in size and socioeconomic background. Then, using computer-generated randomization, schools within each block were assigned to one of four groups: a PATHS group (14 schools; 442 children), a Triple P group (14 schools; 422 children), a Triple P + PATHS group (14 schools; 397 children), and a control group (14 schools; 414 children).

This study was conducted in Switzerland, with a sample of 1,675 children entering the first year of a Zurich elementary school. Data was derived from the longitudinal Zurich Project on the Social Development of Children and youths (Z-Proso). At the first timepoint, the mean age of children was 7.45 years. 52% were male; 78% lived with their biological parents, 20% with their biological mother only, and 2% with their biological father or with foster parents. In 25% of cases the primary caregiver had little or no secondary education, 30% had vocational training, 29% had a vocational diploma or a baccalaureate degree, and 16% had a university degree.

Measures
Valid and reliable measures used at post-intervention and 2-years follow-up include:

- Externalising behaviour (including aggressive behaviour, impulsivity/ADHD, and non-aggressive conduct disorders) was measured using the Social Behavioural Questionnaire (SBQ; teacher, parent report, and child report).
- Social competence (including prosocial behaviour and social-cognitive skills) was also measured using the Social Behavioural Questionnaire (SBQ; teacher, parent, and child report).

Findings
This study identified statistically significant positive impact on a number of child outcomes at 2-years follow-up, including:

- Aggressive behaviour (SBQ; teacher and parent report).
- Impulsivity/ADHD (SBQ; teacher report).

Study 2b

Citation: Averdijk et al., (2016) | Design: Cluster RCT

Country: Switzerland | Study rating: 2+

Sample: 1,675 first graders (mean age = 7.45 years) in 56 elementary schools
Timing: 5-year follow-up

Child outcomes:
Reduced prevalence of police contacts

Other outcomes:
None measured


This paper describes additional outcomes from study 2a described above. In this case, follow-up assessments were at 5- and 7-years post-intervention. Outcomes measured included:

- Delinquency was measured using 15 delinquency items (child report).
- Deviance was measured using seven delinquency items (teacher report).
- Police contact was assessed through youth self-reported prevalence of police contact due to each type of delinquency previous reported (child report).
- Substance use was assessed by asking about the past-year’s consumption of tobacco, alcohol, strong liquor, and marijuana (child and teacher report).
- Peer aggression in the past 12 months (including teasing, stealing and destroying possessions, physical violence, and rejection or exclusion) was measured using a peer aggression scale, derived from Olweus, 1994 (child report).
- Prosocial behaviour was measured using the Social Behavioural Questionnaire (SBQ; teacher and child report).
- Conflict resolution was assessed using an 8-item conflict resolution scale, adapted from Wetzels et al., 2001 (child report).
- Non-aggressive conduct disorder was measured using the Social Behaviour Questionnaire (SBQ; teacher report).

At 5-years follow-up, this study identified statistically significant impacts for the child, including:

- Reduced prevalence of self-reported police contacts (child report).

Although positive statistically significant findings were observed on the outcomes stated above, it should be noted that at 5-years follow-up, the control group outperformed the PATHS intervention group on their competency in conflict resolution skills.
Other studies

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


Barnardo’s Organization (2015). PATHS® Programme for Children in Northern Ireland: Executive Summary. Barnardo’s, Inc; Belfast, NI.


Guidebook

The EIF Guidebook provides information about early intervention programmes that have at least preliminary evidence of achieving positive outcomes for children. It provides information based on EIF’s assessment of the strength of evidence for a programme’s effectiveness, and on detail about programmes shared with us by those who design, run and deliver them.

The Guidebook serves an important starting point for commissioners to find out more about effective early interventions, and for programme providers to find out more about what good evidence of impact looks like and how it can be captured. As just one of our key resources for commissioners and practitioners, the Guidebook is an essential part of EIF’s work to support the development of and investment in effective early intervention programmes.

Our assessment of the evidence for a programme’s effectiveness can inform and support certain parts of a commissioning decision, but it is not a substitute for professional judgment. Evidence about what has worked in the past offers no guarantee that an approach will work in all circumstances. Crucially, the Guidebook is not a market comparison website: ratings and other information should not be interpreted as a specific recommendation, kite mark or endorsement for any programme.

How to read the Guidebook

EIF evidence standards

About the EIF Guidebook
The Early Intervention Foundation (EIF) is an independent charity and a member of the What Works network. We support the use of effective early intervention for children, young people and their families: identifying signals of risk, and responding with effective interventions to improve outcomes, reduce hardship and save the public money in the long term.

We work by generating evidence and knowledge of what works in our field, putting this information in the hands of commissioners, practitioners and policymakers, and supporting the adoption of the evidence in local areas and relevant sectors.
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