

PATHS

Preschool/Kindergarten curriculum

Review: March 2017

Note on provider involvement: This provider has agreed to EIF's terms of reference, and the assessment has been conducted and published with the full cooperation of the programme provider.

The PATHS® Preschool/Kindergarten curriculum promotes emotional and social competencies and reduces aggression and behaviour problems in preschool/kindergarten-aged children, while simultaneously enhancing the educational process in the classroom.

Evidence
rating: **3+**

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.

Cost rating: **1**

The *PATHS* Preschool/Kindergarten curriculum assists educators and counsellors in early education to create an environment that helps young children between the ages of three and six years. The curriculum provides preschool and 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.

EIF Programme Assessment

PATHS Preschool/Kindergarten curriculum has evidence of a **short-term positive impact** on child outcomes from at least one rigorous evaluation.

Evidence
rating: **3+**

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.

Note: This rating is based on the findings of evaluations from the USA. A study from the UK is included in this report for information (study 3). The findings of this study are mixed; however, it does not actively inform the EIF assessment as other evidence is more robust.

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.

Cost rating: **1**

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

Improved social problem-solving

Based on study 1

0.16 point improvement on the competence response subscale of the Challenging Situations Task (direct assessment)

Improvement index: **+6**

This means we would expect the average participant in the comparison group who did not receive the intervention (ie, someone for whom 50% of their peers have better outcomes and 50% have worse outcomes), to improve to the point where they would have better outcomes than 56% and worse outcomes than 44% of their peers, if they had received the intervention.

Immediately after the intervention

Improved social and emotional skills relating to interpersonal relationships and emotion regulation (parent-report)

Based on study 2

Improved social skills (teacher-report)

Based on study 2

Reduced social withdrawal (teacher-report)

Based on study 2

Improved knowledge of emotions

Based on study 1

0.06 point improvement on the Facial Emotions Identification task (direct assessment)

Improvement index: **+11**

This means we would expect the average participant in the comparison group who did not receive the intervention (ie, someone for whom 50% of their peers have better outcomes and 50% have worse outcomes), to improve to the point where they would have better outcomes than 61% and worse outcomes than 39% of their peers, if they had received the intervention.

Immediately after the intervention

0.04 point improvement Emotions Situations Identification task (direct assessment)

Improvement index: **+8**

This means we would expect the average participant in the comparison group who did not receive the intervention (ie, someone for whom 50% of their peers have better outcomes and 50% have worse outcomes), to improve to the point where they would have better outcomes than 58% and worse outcomes than 42% of their peers, if they had received the intervention.

Immediately after the intervention

Improved receptive emotion vocabulary (direct assessment)

Based on study 2

Improved emotion expression knowledge and anger bias (direct assessment)

Based on study 2

Enhancing school achievement & employment

Improved work-related skills

Based on study 1

0.20-point improvement on the Work-related skills subscale of the Cooper-Farran Behavioral Rating Scale (teacher report)

Improvement index: **+8**

This means we would expect the average participant in the comparison group who did not receive the intervention (ie, someone for whom 50% of their peers have better outcomes and 50% have worse outcomes), to improve to the point where they would have better outcomes than 58% and worse outcomes than 42% of their peers, if they had received the intervention.

Immediately after the intervention

This programme also has evidence of supporting positive outcomes for couples, parents or families that may be relevant to a commissioning decision. Please see the 'About the evidence' section for more detail.

Key programme characteristics

Who is it for?

The best available evidence for this programme relates to the following age-groups:

- Preschool
- Primary school

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:

- Children's centre or early-years setting

The programme may also be delivered in these settings:

- Children's centre or early-years setting
- Primary school

How is it targeted?

The best available evidence for this programme relates to its implementation as:

- Targeted selective
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Where has it been implemented?

England, Northern Ireland, Scotland, United Kingdom, 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.

Spotlight sets

EIF does not currently include this programme within any Spotlight set.

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About the programme

What happens during delivery?

How is it delivered?

- The *PATHS* Preschool/Kindergarten curriculum is delivered over two years in 44 sessions of 20-30 minutes' duration each by preschool or primary school teachers to groups/classes of children.

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 role plays, 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 one 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, have improved abilities to describe interpersonal problems and generate and carry out effective solutions, and 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

PATHS Preschool/Kindergarten curriculum's most rigorous evidence comes from a number of RCTs that were conducted in the USA.

The first study is a rigorously conducted RCT. This study identified statistically significant positive impact on a number of child outcomes.

The second study is an RCT. This study identified statistically significant positive impact on a number of child outcomes. The conclusions that can be drawn from this study are limited by methodological issues pertaining to unclear baseline equivalence on outcome variables, a lack of clarity in terms of attrition, and the treatment condition not being modelled at the level of assignment, which is why a higher rating is not achieved.

This programme has evidence from at least one rigorously conducted RCT along with evidence from an additional comparison group study, and so it receives a 3+ rating overall.

Note: This rating is based on the findings of evaluations from the USA. A study from the UK is included in this report for information (study 3). The findings of this study are mixed; however, it does not actively inform the EIF assessment as other evidence is more robust.

Study 1

Citation: Morris et al (2014)

Design: RCT

Country: United States

Sample: 1,088 children between four and five years old (average 4.42 years old), recruited from Head Start centres

Timing: Post-intervention

Child outcomes:

- Improved social problem-solving
 - Improved knowledge of emotions
 - Improved work-related skills
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Other outcomes:

- None measured
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Study rating: 3

Morris, P., Mattera, S. K., 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*. MDRC.

Available at <https://eric.ed.gov/?id=ED546649>

Study design and sample

The first study is a rigorously conducted RCT. The study was a cluster RCT, with randomisation at the level of Head Start centre. Centres were randomly to one of four groups – Incredible Years, *PATHS* Preschool/Kindergarten curriculum, Tools of the Mind, and a business-as-usual control.

The study was conducted in preschool settings across the USA. Children were between four and five years old (average 4.42). The majority of the sample was Hispanic or African American, with the average monthly household income at approximately \$1,800 and with 59% of the sample families receiving food stamps.

Measures

Children were assessed in terms of their executive functioning (direct assessment measures – head-to-toes task and pencil tap task), their behaviour regulation (teacher and parent-reports on the Behaviour Problems Index, and teacher-reports of work-related skills on the Cooper-Farran Behavioral Rating Scales) and their emotion knowledge/social problem-solving skills (direct assessment measures including the facial emotions identification task, the emotions situations task and the challenging situations task; teacher and parent reports on the Social Skills Rating Scale, and teacher-reports on the Cooper-Farran Behavioral Rating Scales).

Finally, children's pre-academic skills were measured using a series of direct assessments (the Woodcock-Johnson III Letter-word Identification Subscale, the Woodcock-Johnson III Applied Problems Subscale and the Expressive One-Word Picture Vocabulary Test); in addition the teacher-reported Academic Rating Scale was also used to assess early literacy, math and general knowledge skills. In addition, Head Start teachers were assessed in terms of their attitudes and practices.

Findings

This study identified statistically 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 group on children's knowledge of emotions (the facial emotions identification task and the emotions situation task – direct assessment measures), and children's social problem-solving skills (the challenging situations task – a direct assessment measure). Finally, improvements are identified on the Cooper-Farran Behavioral Rating Scale work-related skills subscale (teacher report).

In terms of teacher outcomes, there were statistically significant differences between the intervention and control groups, favouring the intervention group on positive behaviour management and social-emotional instruction in terms of emotion modelling, emotion expression, emotion regulation, social awareness, social problem-solving and provision of interpersonal support (Adapted Teaching Style Rating Scale – expert observation). In addition, significant effects were found on teacher's instructional support, including concept development and quality of feedback (Classroom Assessment Scoring System Preschool Version – expert observation).

Study 2

Citation: Domitrovich et al (2007)

Design: RCT

Country: United States

Sample: 292 children between three and four years old (average age 4.2 years)

Timing: Post-intervention

Child outcomes:

- Improved social and emotional skills relating to interpersonal relationships and emotion regulation (parent-report)
 - Improved social skills (teacher-report)
 - Reduced social withdrawal (teacher-report)
 - Improved receptive emotion vocabulary (direct assessment)
 - Improved emotion expression knowledge and anger bias (direct assessment)
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Other outcomes:

- None measured
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Study rating: 2

Domitrovich, C. E., Cortes, R. C., & Greenberg, M. T. (2007). Improving young children's social and emotional competence: A randomized trial of the Preschool PATHS Curriculum. *Journal of Primary Prevention*, 28(2), 67–91.

Available at <https://link.springer.com/article/10.1007/s10935-007-0081-0>

Study design and sample

The second study was a cluster RCT with randomisation at the level of preschool classroom. Classrooms were randomly assigned to *PATHS* Preschool/Kindergarten curriculum or to a wait-list control. The study was conducted in preschool settings across the USA. Children were between four and five years old (average 4.2). The majority of the sample was African American and European-American. All children were accessing Head Start early education services.

Measures

Child receptive emotion vocabulary was measured using the Kusche Emotional Inventory (direct assessment). Children's emotion expression and anger bias were assessed using the Assessment of Children's Emotions Scales (direct assessment). Children's affective perspective-taking skills were assessed using the Denham Puppet Interview (direct assessment). Inhibitory control was measured using the day/night task and the Tapping test (direct assessments). Children's visual-spatial memory and attention were assessed using the Leiter-Revised Assessment Battery (direct assessment).

Children's behaviour and social skills were assessed using the challenging situations task (direct assessment) and the Preschool and Kindergarten Behaviour Scales (teacher-report). The Head Start Competence Scale (parent report) was used to assess children's social and emotional skills that reflect interpersonal relationships and emotion regulation.

Findings

This study identified statistically 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 group on receptive emotion vocabulary, emotion expression knowledge and anger bias, social and emotional skills relating to interpersonal relationships and emotion regulation, improved social skills, and reduced social withdrawal.

Study 3a

Citation: Little et al (2012)

Design: RCT

Country: United Kingdom

Sample: 5,397 primary school children between the ages of four and six

Timing: Post-intervention

Child outcomes:

Other outcomes:

- None measured

Little, M., Berry, V., Morpath, L., Blower, S., Axford, N., Taylor, R., Bywater, T., Tobin, K. (2012). The impact of three evidence-based programmes delivered in public systems in Birmingham, UK. *International Journal of Conflict and Violence*, 6(2), 260–272.

Available at <http://ubijcv.ub.uni-bielefeld.de/index.php/ijcv/article/view/263>

Study design and sample

The third study is a rigorously conducted RCT. The study was a cluster RCT, with randomisation at the level of the school. Schools were randomly assigned to an intervention (Family Nurse Partnership, Incredible Years, Triple P, or *PATHS* Preschool/Kindergarten curriculum) or a wait-list control group.

This study was conducted in Birmingham, UK. Children in the sample were between the ages of four and six at baseline.

Measures

Behavioural difficulties were assessed using the Strengths and Difficulties Questionnaire (teacher-report). In addition, the *PATHS* Teacher Rating Survey was used to assess a range of behavioural problems (teacher-report).

Findings

Data were collected after 12 months (after the first year of *PATHS* Preschool/Kindergarten curriculum), and then again at 24 months, after a second year of the *PATHS* curriculum. Note that for the assessment of *PATHS* Preschool/Kindergarten curriculum, we are primarily interested in the 12-month post-baseline results.

This study identified statistically 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 group on 6 out of 11 subscales of the *PATHS* Teacher Rating Survey, namely: social competence, aggression, inattention-hyperactivity, impulsivity-hyperactivity, peer problems, and learning behaviours.

Study 3b

Citation: Berry et al (2016)

Design: RCT

Country: United Kingdom

Sample: 5,397 primary school children between the ages of four and six

Timing: Post-intervention

Child outcomes:

Other outcomes:

- None measured

Berry, V., Axford, N., Blower, S., Taylor, R. S., Edwards, R. T., Tobin, K., Bywater, T. (2016). 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.

Available at <https://link.springer.com/article/10.1007/s12310-015-9160-1>

This paper describes additional outcomes from study 3a described above. In this case:

- During the first year of *PATHS* Preschool/Kindergarten curriculum (ie six-months after pre-intervention measurement), the teacher-pupil relationship was measured using the Teacher-Pupil Observation Tool.
- At six-month post-baseline, significant differences favouring the intervention group were identified on teacher positive behaviours, negative class behaviour to teacher and off-task class behaviour.

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.

Little, M., Berry, V., Morpath, L., Blower, S., Axford, N., Taylor, R., ... Tobin, K. (2012). The impact of three evidence-based programmes delivered in public systems in Birmingham, UK. *International Journal of Conflict and Violence*, 6(2), 260–272 - **This reference refers to a randomised control trial, conducted in the UK.**

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](#)

EIF

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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