Incredible Years Child Training (Dinosaur School)

Review: September 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.

Incredible Years Child Training (Dinosaur School) is a group-based programme for children with behavioural difficulties between the ages of 4 and 8.

The programme teaches children self-regulation and problem-solving skills in small groups with developmentally-appropriate materials. Parents and teachers are updated on session goals and are asked to help reinforce target behaviours.

The full name of the programme is 'Incredible Years Dina Dinosaur's Social Skills and Problem Solving Curriculum (Dinosaur School)'.

Evidence rating: **3+**

Cost rating: **2**

EIF Programme Assessment

Incredible Years Child Training (Dinosaur School) 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.

Cost rating

A rating of 2 indicates that a programme has a medium-low cost to set up and deliver, compared with other interventions reviewed by EIF. This is equivalent to an estimated unit cost of £100–£499.

Cost rating: **2**

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

1.56-point improvement on the Wally Child Social Problem-Solving Detective Game (object acquisition categories: number of different positive solutions)

Improvement index: **+36**

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 86% and worse outcomes than 14% of their peers, if they had received the intervention.

Immediately after the intervention

0.8-point improvement on the Wally Child Social Problem-Solving Detective Game

Improvement index: **+29**

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 79% and worse outcomes than 21% of their peers, if they had received the intervention.

Immediately after the intervention

0.16-point improvement on the Wally Child Social Problem-Solving Detective Game

Improvement index: **+27**

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 77% and worse outcomes than 23% of their peers, if they had received the intervention.

Immediately after the intervention

Improved peer interactions

Based on study 1

4.5-point improvement on the Peer Problem-Solving-Interaction Communication-Affect Rating Coding System (total negative conflict management)

Improvement index: **+26**

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 76% and worse outcomes than 24% of their peers, if they had received the intervention.

Immediately after the intervention

0.27-point improvement on the Peer Problem-Solving-Interaction Communication-Affect Rating Coding System (ratio of positive conflict management to negative)

Improvement index: **+33**

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 83% and worse outcomes than 17% of their peers, if they had received the intervention.

Immediately after the intervention

Improved social competence with peers

Based on study 2a

5.89-point improvement on a child social competence with peers composite score (including the Teacher Assessment of Social Behaviour measure, the Social Health Profile, and the Dyadic Peer Interaction Scale)

Improvement index: **+14**

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 64% and worse outcomes than 36% of their peers, if they had received the intervention.

Immediately after the intervention

Based on study 2b

Preventing crime, violence and antisocial behaviour

Improved child behaviour

Based on study 1

33.87-point improvement on the Eyberg Child Behaviour Inventory (Intensity scale)

Improvement index: **+41**

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 91% and worse outcomes than 9% of their peers, if they had received the intervention.

Immediately after the intervention

Reduced stress resulting from child behaviour

Based on study 1

10.97-point improvement on the Parent Stress Index (Child Domain Score)

Improvement index: **+19**

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 69% and worse outcomes than 31% of their peers, if they had received the intervention.

Immediately after the intervention

Improved behaviour at home

Based on study 2b

Based on study 2a

7.09-point improvement on a child conduct problems at home composite score (including the Eyberg Child Behaviour Inventory, the Coders Impressions Inventory for Children, and the Dyadic Parent-Child Interaction Coding System)

Improvement index: **+16**

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 66% and worse outcomes than 34% of their peers, if they had received the intervention.

Immediately after the intervention

Improved behaviour at school

Based on study 2b

Based on study 2a

7.32-point improvement on a child conduct problems at school composite score (including the Teacher Assessment of Social Behaviour scale, and the MOOSES classroom observation coding system)

Improvement index: **+16**

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 66% and worse outcomes than 34% of their peers, if they had received the intervention.

Immediately after the intervention

Reduced negative behaviours

Based on study 1

3.15-point improvement Parent Daily Report (Number of Target Negative Behaviours)

Improvement index: **+40**

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 90% and worse outcomes than 10% of their peers, if they had received the intervention.

Immediately after the intervention

1.5-point improvement on the Parent Daily Report (Number of negative behaviours per 24 hours)

Improvement index: **+23**

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 73% and worse outcomes than 27% of their peers, if they had received the intervention.

Immediately after the intervention

Improved positive behaviours

Based on study 1

2.07-point improvement on the Parent Daily Report (Number of Target Positive Behaviours)

Improvement index: **+22**

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 72% and worse outcomes than 28% of their peers, if they had received the intervention.

Immediately after the intervention

2.15-point improvement on the Parent Daily Report (Number of positive behaviours per 24 hours)

Improvement index: **+26**

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 76% and worse outcomes than 24% 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

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:

- Out-patient health setting

The programme may also be delivered in these settings:

- Children's centre or early-years setting
- Primary school
- In-patient health setting
- Out-patient health setting

How is it targeted?

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

- Targeted indicated

Where has it been implemented?

Denmark, Norway, United Kingdom, United States, Ireland

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 includes this programme in the following Spotlight sets:

- school based social emotional learning
  programmes for children with recognised or possible special education needs

About the programme

What happens during delivery?

How is it delivered?

- Incredible Years Child Training (Dinosaur School) is delivered in 18-20 sessions of 2 hours' duration each by 2 practitioners to groups of around 6 children.

What happens during the intervention?

- The sessions include coached play, puppet interactions, video vignettes, games, activities, and circle time. Children receive 'chips' for positive behaviours that are tailored to each child's treatment goals.
- Children are given weekly homework assignments to complete with their parents. Parents are also updated regularly on session goals (in personal meetings or letters or phone calls) and given suggestions for specific behaviours to praise and reward at home.
- Teachers are updated regularly on session goals (through behaviour planning conferences, letters or phone calls) and invited to participate in behaviour planning.

What are the implementation requirements?

Who can deliver it?

- The practitioners who delivers this programme are two therapists, counsellors, psychologists, school psychologists, or teachers, one with QCF-7/8 and one with QCF-6 level qualifications.

What are the training requirements?

- The practitioners receive 18 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 supervisors qualified to QCF-7/8 level.

What are the systems for maintaining fidelity?

Programme fidelity is maintained through the following processes:

- Training Manual
- Other printed material
- Video or DVD training
- Face-to-face training
- Fidelity monitoring
- Review of therapy sessions via video
- Skype consultation

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?

- Strong emotion-regulation and problem-solving skills help children to cope with peer conflict, reduce aggressive responses, increase prosocial responses and be academically ready to learn.
- Ability to identify and recognize emotions in self and others helps children to develop emotional literacy, to problem solve and to understand and respond appropriately to social interactions with peers and adults.
- Increased problem solving skills reduce children's use of aggressive and antisocial responses to peers and adults and improve the use of prosocial solutions to problems.
- Increased school readiness skills (following directions, listening, paying attention) improve compliance and attention in school settings.

Intended outcomes

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

Contact details

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About the evidence

Incredible Years Child Training (Dinosaur School)'s most rigorous evidence comes from two RCTs which were conducted in the USA.

Both studies are rigorously conducted RCTs; these studies identified statistically significant positive impact on a number of child outcomes.

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

Although EIF identified two studies that were conducted in the UK, these were pilot studies whose methodology precluded them from contributing to the programme rating.

Study 1

Citation:	Webster -Stratton & Hammond, (1997)
Design:	RCT
Country:	United States
Sample:	97 families, with children with conduct problems between 4 and 8 years old
Timing:	Post-test and 12 month follow up

Child outcomes:

- Improved social problem solving
- Improved peer interactions
- Improved child behaviour
- Reduced stress resulting from child behaviour
- Reduced negative behaviours
- Improved positive behaviours

Other outcomes:

- Improved parenting

Study rating: 3

Webster-Stratton, C., & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. Journal of Consulting and Clinical Psychology, 65, 93-109

Available at http://psycnet.apa.org/record/1997-03014-011

Study design and sample

The first study is a rigorously conducted RCT.
This study involved random assignment of children to an Incredible Years Child Training (Dinosaur School) treatment group (CT), an Incredible Years Parent Training treatment group (PT), a combined Child and Parent Training treatment group (CT&PT) and a wait-list control (WLC).
This study was conducted in the US with a sample of children between the ages of 4 and 8 who had met diagnostic criteria for oppositional defiant disorder and conduct disorder. Of the 49 families assigned to the CT condition (n=27) or to the WLC (n=22), 51% had an annual income of $40,000 or more. 71.4% of the children were male and 87.8% were Caucasian.

Measures

Child behaviour was measured using:
Parent report
Child Behaviour Checklist (CBCL), Eyberg Child Behaviour Index (ECBI) – intensity score, Parent daily report (mother report), Parent Stress Index Child Domain
Teacher report
Behar Preschool Behavior Questionnaire (PBQ)
Observational measures
WALLY child Social Problem-Solving Detective Game (WALLY), Dyadic Parent-child interactive Coding System– Revised (DPICS-R), The Peer Problem-Solving-Interaction Communication-Affect Rating System (PPS-I CARE) coding system
Findings

This study identified statistically significant positive impact on a number of child outcomes.
This includes:
Mother report
Eyberg Child Behaviour Inventory Score, Parent Stress Index, PDR (target negative behaviours, no negative per 24 hours, target positive behaviour, no positive per 24 hours)
Observational measures
WALLY (Object Acquisition: no of different solutions, Friendship Categories: no of different positive solutions & proportion of positive to negative solutions), PPSI-CARE (Total negative conflict management, Ratio of positive conflict management to negative)

Study 2a

Citation:	Webster-Stratton et al, (2004)
Design:	RCT
Country:	United States
Sample:	159 families with children with conduct problems between 4-8 years old
Timing:	Post-test and 12 month follow up

Child outcomes:

- Improved social competence with peers
- Improved behaviour at home
- Improved behaviour at school

Other outcomes:

- Improved mothers' parenting Improved teachers' classroom management and class atmosphere

Study rating: 3

Webster-Stratton, C., Reid, M. J., & Hammond, M. (2004). Treating children with early-onset conduct problems: intervention outcomes for parent, child, and teacher training. Journal of Clinical Child and Adolescent Psychology, 33(1), 105-124.
Available at http://www.tandfonline.com/doi/abs/10.1207/S15374424JCCP3301_11

Study design and sample

The second study is a rigorously conducted RCT.
This study involved random assignment of children to an Incredible Years Child Training (Dinosaur School) group (CT); an Incredible Years parent training treatment group (PT); a parent plus teacher training group (PT+TT); a child training plus teacher training group (CT+TT); a parent, child, plus teacher training group (PT+CT+TT); and a waitlist control (WLC).
This study was conducted in the U.S. with a sample of children between the ages of 4 and 8 who had met the diagnostic criteria for oppositional defiant disorder. There were 30 families in the CT group and 26 in the control group. The average social class of these families was 'minor professional'. 91% of the children were male and 83% were Euro-American.
Measures

Child behaviour and social competencies were measured using composite scores from subscales of a variety of different validated measures. This included:

- Child Conduct Problems at Home Composite Score
- Child Conduct Problems at School and With Peers Composite Score
- Child Social Competence With Peers Composite Score

Findings

This study identified statistically significant positive impact on a number of child outcomes. These improvements included the Child Conduct Problems at Home Composite Score, Child Conduct Problems at School and With Peers Composite Score, Child Social Competence With Peers Composite Score.

Study 2b

Citation: Reid et al, (2003)

Design: RCT

Country: United States

Sample: 159 families with children with conduct problems between 4-8 years old

Timing: 2 years follow up

Child outcomes:

- Improved social competence with peers
- Improved behaviour at home
- Improved behaviour at school

Other outcomes:

- Improved mothers' parenting Improved teachers' classroom management and class atmosphere

Study rating: 2

Reid, M. J., Webster-Stratton, C., & Hammond, M. (2003). Follow-up of children who received the Incredible Years intervention for oppositional defiant disorder: Maintenance and prediction of 2-year outcome. Behavior Therapy, 34, 471-491.

Reid et al (2003) describes a follow-up paper to study 2a described above.

Families were assessed 2 years later with the same measures as study 2a. There was no active control group as the original wait-list control had received treatment. Comparisons with original pre-test scores revealed that all significant results had been maintained in the treatment group at 2 year follow up.

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.

Webster?Stratton, C., Reid, J., & Hammond, M. (2001). Social skills and problem?solving training for children with early?onset conduct problems: Who benefits?. Journal of Child Psychology and Psychiatry, 42(7), 943-952 - **This reference refers to a randomised control trial, conducted in the USA.**
Drugli, M. B., & Larsson, B. (2006). Children aged 4-8 years treated with parent training and child therapy because of conduct problems: Generalizing effects to day-care and school settings. European Child and Adolescent Psychiatry, 15(7), 392-399 - **This reference refers to a randomised control trial, conducted in Norway.**
Larsson, B., Fossum, S., Clifford, G., Drugli, M., Handegard, B., & Morch, W. (2009). Treatment of oppositional defiant and conduct problems in young Norwegian children. European Child Adolescent Psychiatry, 18, 42-52 - **This reference refers to a randomised control trial, conducted in Norway.**
Drugli, M. B., Larsson, B., Fossum, S., & Morch, W. T. (2010). Five- to six-year outcome and its prediction for children with ODD/CD treated with parent training. The Journal of Child Psychology and Psychiatry, 51(5), 559-566 - **This reference refers to a randomised control trial, conducted in Norway.**
Webster-Stratton, C. H., Reid, M. J., & Beauchaine, T. (2011). Combining parent and child training for young children with ADHD. Journal of Clinical Child and Adolescent Psychology, 40(2), 191-203 - **This reference refers to a randomised control trial, conducted in the USA.**
Webster-Stratton, C., M.J. Reid, and T.P. Beauchaine, One-Year Follow-Up of Combined Parent and Child Intervention for Young Children with ADHD. Journal of Clinical Child and Adolescent Psychology, 2013. 42(2): p. 251-261 - **This reference refers to a randomised control trial, conducted in the USA.**
Linares, L. O., Li, M., & Shrout, P. E. (2012). Child training for physical aggression?: Lessons from foster care. Children and Youth Services Review, 34(12), 2416-2422 - **This reference refers to a randomised control trial, conducted in the USA.**
Hutchings, J., Bywater, T., Gridley, N., Whitaker, C. J., Martin-Forbes, P., & Gruffydd, S. (2012). The incredible years therapeutic social and emotional skills programme: A pilot study. School Psychology International, 33(3), 285-293 - **This reference refers to a quasi-experimental design, conducted in the UK.**
Hutchings, J., Bywater, T., Daley, D., & Lane, E. (2007, February). A pilot study of the webster-stratton incredible years therapeutic dinosaur school programme. In Clinical Psychology Forum New Series (Vol. 170, p. 21). British Psychological Society - **This reference refers to a pre-post study, conducted in the UK.**
Venter, J., MD; Cardinal, A., LCSW; Shaw, M., LPC; Wiskerchen, L., LCSW; DeSimone, S., LCSW and Ledesma, A., LPC. 2012. PowerPoint Presentation. Authors: Venter, Cardinal, Shaw, Wiskerchen, DeSimon

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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