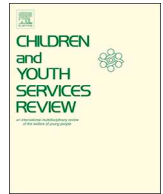




ELSEVIER

Contents lists available at ScienceDirect

Children and Youth Services Review

journal homepage: www.elsevier.com/locate/childyouth

Group-based parenting program to improve parenting and children's behavioral problems in families using special services: A randomized controlled trial in a real-life setting

Piia Karjalainen^{a,*}, Olli Kiviruusu^a, Eeva T. Aronen^{b,c}, Päivi Santalahti^{a,d}

^a Department of Public Health Solutions, Mental Health Unit, National Institute of Health and Welfare, P.O. Box 30, Helsinki 00271, Finland

^b Department of Child Psychiatry, Children's Hospital, Helsinki University Hospital and University of Helsinki, P.O. Box 281, 00029 HUS, Finland

^c Laboratory of Developmental Psychopathology, Child Psychiatry, Helsinki Pediatric Research Center, University of Helsinki and Helsinki University Hospital, Tukholmankatu 8 C 613, Helsinki 00290, Finland

^d Department of Child Psychiatry, University of Turku, P.O. Box 52, Turku 20521, Finland

ARTICLE INFO

Keywords:

Parenting program
Parenting practice
Child behavior problem
Child protection services
Evidence-based program
Incredible Years

ABSTRACT

This randomized controlled trial (RCT) evaluated the effectiveness of the Incredible Years® (IY) Parenting Program in modifying children's behavioral problems, parenting practices and parents' psychological well-being among families under child protection and using other special support services. Participants in the study were 3–7-year-old children with behavioral problems ($n = 102$, intervention group $n = 50$, control group $n = 52$) and their parents ($n = 122$). The results show that parent reported child problem behavior as well as clinical levels of behavioral problems decreased to a greater extent in the intervention group than in the control group. The intervention also increased positive parenting practices. Changes in parental stress or parents' psychological well-being in the intervention did not differ from those in the control group over time. The results suggest some promising evidence that the IY parenting intervention may be effective in the context of child protection and other family support services in real-life conditions.

1. Introduction

Children's behavioral problems are common, especially among families using child protection services. A recent international systematic review (Bronsard et al., 2016) reported that the prevalence of conduct disorders dealt with by child welfare services is as high as 20%, whereas in the normative population it is 5.7% (Canino, Polanczyk, Bauermeister, Rohde, & Frick, 2010). If not intervened effectively, behavioral problems may turn into conduct disorders that are difficult to treat. These problems add substantial burdens to families who already struggle with many issues, and in the worst case will lead to children being taken into custody.

Children's problem behavior causes a considerable burden on the children themselves, their schools, and their families. Behavioral problems in childhood predict poor physical health, antisocial behavior, criminal and violent offences, education, work-related and financial difficulties, substance abuse, and mental disorders in adulthood (Rutter et al., 2010). When behavioral problems develop into conduct disorders, they can be extremely costly. By the time an individual with a

conduct disorder reaches 28 years, they may cost public services, i.e. criminal justice, education, health, fostering, and residential care, and benefit services, 10 times more than those with no problems and 3.5 times more than those with only behavioral problems (Scott, Knapp, Henderson, & Maughan, 2001).

In recent years, several high-quality systematic reviews and meta-analyses have suggested that structured parenting programs based on social learning and cognitive-behavioral and attachment theories are effective in reducing children's behavioral problems and symptoms of conduct disorder (Barth & Liggett-Crel, 2014; Dretzke et al., 2005; Furlong et al., 2012; Gardner & Leijten, 2017; Gardner, Montgomery, & Knerr, 2016; Karjalainen, Santalahti, & Sihvo, 2016; Menting, Orobio De Castro, & Matthys, 2013; Moran, Ghate, & Merwe, 2004; NICE, 2014). However, high quality studies of these programs in families using child protection services (CPS) are scarce, and present somewhat contradictory results (Barlow, Johnston, Kendrick, Polnay, & Stewart-Brown, 2006; Montgomery, Gardner, Ramchandani, & Bjornstad, 2009).

The most recent meta-analysis of parenting programs for child

* Corresponding author.

E-mail address: piia.m.karjalainen@thl.fi (P. Karjalainen).

<https://doi.org/10.1016/j.childyouth.2018.12.004>

Received 23 August 2018; Received in revised form 3 December 2018; Accepted 3 December 2018

Available online 05 December 2018

0190-7409/ © 2018 Elsevier Ltd. All rights reserved.

maltreatment prevention (Chen & Chan, 2016) revealed that these programs are an effective intervention for preventing child maltreatment. Also two meta-analyses of parent training interventions in families with child physical abuse and neglect show some encouraging evidence that structured group-based parenting programs can be effective in reducing the risk factors associated with physically abusive parenting (Barlow et al., 2006), and that the programs use promising approaches in handling maltreated children and their problem behavior (Montgomery et al., 2009).

Trials in the child welfare context that were not included in these meta-analysis showed that these programs reduced child problem behavior (Hurlburt, Nguyenb, Reid, Webster-Stratton, & Zhang, 2013; Kjellgren, Svedin, & Nilsson, 2013; Kleve et al., 2010; Letarte, Normandeau, & Allard, 2010; Zhou et al., 2017), increased positive parenting practices (Zhou et al., 2017), reduced harsh discipline (Kjellgren et al., 2013; Letarte et al., 2010) and physical punishment (Letarte et al., 2010), and reduced parental depression (Kjellgren et al., 2013) and stress and distress (Marcynyszyn, Maher, & Corwin, 2011). Moreover, in the same study, parents' perception of their child being difficult decreased (Marcynyszyn et al., 2011).

Four of these child welfare-related studies (Hurlburt et al., 2013; Kleve et al., 2010; Letarte et al., 2010; Marcynyszyn et al., 2011) used the Incredible Years® (IY) Parenting Program, which is based on social learning theory (Webster-Stratton, 2011). It has been widely researched in different cultures, countries, and settings and has shown consistent reduction of child behavioral problems (Buchanan-Pascall, Gray, Gordon, & Melvin, 2018; Furlong et al., 2012; Gardner et al., 2016; Gardner & Leijten, 2017; Leijten et al., 2018; Menting et al., 2013; NICE, 2006). Letarte et al. (2010) and Marcynyszyn et al. (2011) studied the IY Parenting Program in the child welfare setting, and Letarte et al. (2010) more specifically in child protection services. Marcynyszyn et al.'s (2011) study focused on negative parenting behaviors and stress, both of which decreased after the intervention. Letarte et al.'s (2010) study showed a reduction in child problem behavior, as did Kleve et al. (2010) among families with social service contacts. Hurlburt et al.'s (2013) study of families' self-reporting histories of child maltreatment also found a reduction in negative parenting. However, these previous studies had some major limitations. Two of them had no control group (Kleve et al., 2010; Marcynyszyn et al., 2011), and none used a randomized controlled design.

This type of program can be expected to affect outcomes such as child behavioral problems, negative parenting practices, parental stress, and parents' psychological well-being since the program was designed to specifically modify child behavior and parenting practices (Webster-Stratton, 2011). A meta-analytic review of components associated with parent training program effectiveness (Kaminski, Valle, Filene, & Boyle, 2008) reported that components found in the IY Parenting Program are the ones consistently associated with larger effects on parenting behaviors and children's externalizing behavior. Those components include increasing positive parent-child interactions and emotional communication skills, teaching parents to use time-out, and highlighting the importance of consistency in parenting and practicing new skills at home with their children. The same kinds of components (theory-based child rearing practices, family communication and interaction, regulating emotions) were also found in a recent study conducted by Temcheff, Letarte, Boutin, and Marciel (2018), which examined common components of evidence-based parenting programs for preventing maltreatment. The study also noted that long duration of the program improves effectiveness, as does the program having an explanatory manual, high educational level of practitioners delivering the program (Bachelors or Master's degree), practitioner training, and fidelity evaluation. Moreover, a review of Core Implementation Components by Fixsen, Blase, Naoom, and Wallace (2009) suggested that if certain implementation components are in place (e.g. staff selection, in-service training, coaching, staff evaluation), the effectiveness of the intervention is likely to improve.

Since there is a lack of high-quality studies and therefore only limited evidence of the effectiveness of parent training programs among the most vulnerable children and families in real-life settings, this issue must be further explored. The aim of this study was to investigate the effectiveness of the Incredible IY Program in modifying children's behavioral problems, parenting practices, and parents' psychological well-being in families in child protection and other family support services in Finland.

2. Materials and methods

2.1. Study design

This randomized controlled trial (RCT) was conducted in seven municipalities across Finland, representatives of which were invited to participate due to their experience and knowledge of the IY parent training intervention (Webster-Stratton, 2011). Data were collected at baseline (T0), before randomization, and after the intervention (T1), and will also be collected 12 months after the intervention from the same participants. The intervention was the IY Preschool BASIC Parenting Program, with 19–20 parent group meetings and four additional home visits. The intervention was delivered in local family counselling centers, in collaboration with child protection services.

2.2. Ethics approval

The study was approved by the Intermunicipal Hospital District of Helsinki-Uusimaa Ethics Committee in February 2016, and the trial is registered in the [ClinicalTrials.gov](https://www.clinicaltrials.gov) registry (NCT03239990).

2.3. Participants

The participants were 3–7-year-old children ($N = 102$) with behavioral problems and their parents, from seven municipalities in Finland. Families were currently clients of child protection services (CPS) ($N = 72$; of these 10 in preventive CPS) or clients of social services indicated to need support in parenting ($N = 21$ family counselling centers, $N = 9$ other).

In Finland, CPS include preventive CPS (e.g. strengthened in-home family help, family counselling, and parenting groups), non-institutional care (child living at home), and institutional care (emergency placement of the child or child living e.g. in foster home or children's home). Of the families within CPS we included only families who received preventive CPS and non-institutional care in this study.

2.4. Inclusion and exclusion criteria

The inclusion criteria for the participants were as follows: a) the child was aged between three and seven years when entering the study, b) the child lived at home, c) the child had behavioral problems, d) social and family workers had assessed that the parents may benefit from parenting support, and e) the parents were motivated and able to attend the intervention.

Children were excluded from the study if an acute child protection issue was unresolved (child's basic needs and safety not met) or if the parents had a mental health or substance abuse problem that prevented them from attending the intervention.

2.5. Control group

The control group received services to which they were entitled, except for the IY Parenting Program, and were able to access the next available parent group in the community.

Fig. 1 presents the participant flowchart.

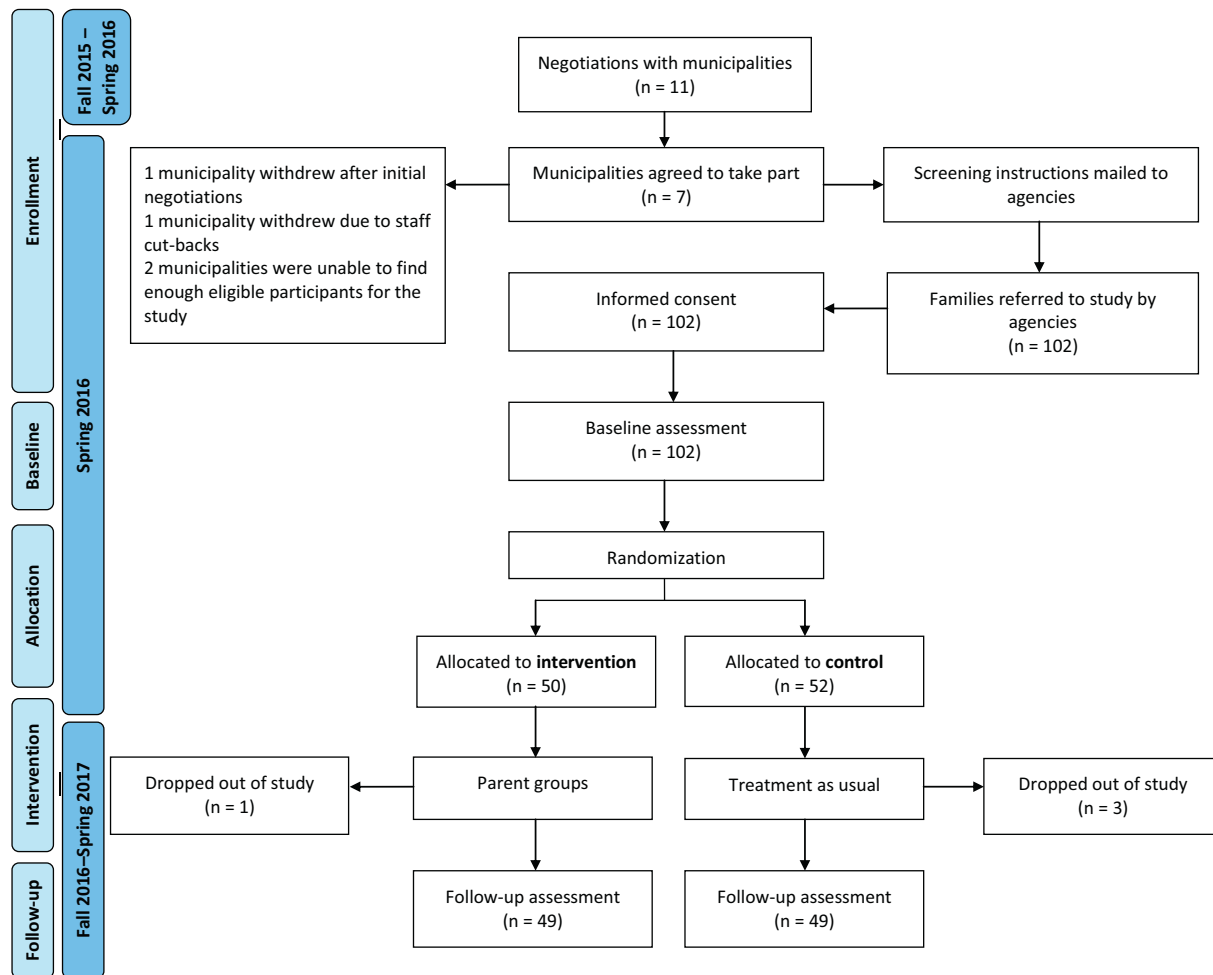


Fig. 1. Flow chart.

2.6. Procedure

The study was conducted from September 2015 to June 2017. The intervention groups began in fall 2016 or winter 2017.

The initial negotiations for participation in the study were conducted in 11 municipalities throughout Finland. The municipalities were chosen on the basis of their earlier experience in delivering the intervention or because they had workers who had been trained to deliver the intervention. The aim was to recruit 24 families from each municipality. One municipality left the study at an early stage. Just before the start of recruitment of families, another municipality withdrew due to personnel cut-backs. Two cities declined because they were unable to find eligible participants for the study. In the end, seven municipalities, mainly from southern Finland, took part. The number of families participating in the study ranged from 8 to 18 per municipality. One IY Parent Group was organized in each participating city for the research.

The families were recruited for the study through the existing service systems, including child protection services, community-based family guidance centers, daycares, and schools. The researchers had informed the local employees of the research, the intervention, and the procedures.

The workers from different agencies in these municipalities chose families who were eligible for the study from among their clients. They informed these families of the study and the intervention, and gave them an information letter regarding the program and the aims of the study. They also asked the parents to sign a written informed consent and scheduled a time for the first round of data collection. The parents

were informed of the voluntary nature of participation in the data collection, and of the option to withdraw from the study at any point.

Baseline assessments were conducted during three months prior to the intervention. The parents were randomized into intervention and control groups after this assessment. After randomization, the IY group leaders contacted the parents in the intervention group and met with them to fully explain the intervention. The researchers contacted the parents of the control group, reminding them of their right to access all the other services, the support to which they were entitled, and the possibility to participate in the next possible IY group organized in their area. The post-assessments were conducted within three months after the intervention.

For their participation in the study, the participants received after both the baseline assessment and the post-assessment a gift certificate to a swimming pool, cinema, or activity park.

2.7. Intervention

Participants attended the manualized IY Preschool BASIC Parenting Program (Webster-Stratton, 2011), which consisted of 19–20 group meetings supported by four additional, structured home visits, not usually included in the program. While the program is usually 14–16 sessions, in this longer version more time is used in building positive relationships between children and parents. In the present study we decided to use this longer version, since the parents and children were from high-risk population likely to benefit especially from the extra sessions focusing on positive relation building.

The goal of the intervention was to enhance and support parenting

skills, increase knowledge of child development, and improve children's positive behavior and parent-child interaction. Parents are taught to use more positive, consistent strategies for reducing child misbehavior by watching DVDs, rehearsing, and having group discussions in a highly collaborative and interactive way. The goal of the home visits is to enhance IY group learning and provide additional vignettes and practice exercises at home on an individual basis. The visits were conducted in accordance with the IY Home Coaching Program.

The groups consisted of 10–12 parents who met weekly for about two hours at a time. Since in one city the number of participants would have been too low ($N = 4$), also parents from outside of this study were allowed to participate. Four 1- to 1.5-h home visits were added to the program to help parents practice new skills and to provide individual practical consultation. Home visits occurred approximately every four weeks. Weekly phone calls were also made to the parents to further support learning, as part of the normal procedure of the program.

Each group had three trained group leaders, two of whom were from family counselling services and the third was a family worker from CPS, who also conducted the family visits. All had undergone IY BASIC Group Leader and IY Home Coach training.

2.8. Program fidelity

The group leaders followed the structured manual and filled out self-evaluations and checklists after each group meeting to keep records of the activities of each session and to ensure that the key activities and concepts were covered. Evaluations from the parents after each group meeting were also gathered.

The group leaders received supervision and reviewed the video tapes of their group sessions with a certified IY peer coach on average every three weeks throughout the intervention. They also attended one full-day coaching session run by a certified IY trainer.

Some of the group leaders were highly experienced in leading IY parent groups, but others were leading these groups for the first time. Only one group leader was a certified IY Group Leader.

2.9. Program attendance

Of the 62 parents allocated to the intervention, 60 participated: for 36 children, only the mother, for 11 children, both the mother and father ($N = 22$); and in two cases, only the father. Of the participated parents, 84% attended nine or more of the 19 sessions, while 40% attended 15 sessions or more. The overall mean attendance was 12.9 sessions (SD 4.5).

2.10. Measures

The *Family Basic Demographic questions* included background information on the children, the mothers and fathers (age, marital status, education), and their family circumstances, i.e. unemployment, financial worries and major incidents affecting the family.

2.10.1. Child behavior measures

We used the *Eyberg Child Behavior Inventory* (ECBI) to measure child problem behavior (Eyberg & Pincus, 1999). The ECBI is a widely used parent rating scale that assesses behavioral problems among children aged 2–16 years; it has good validity and reliability (Eyberg & Pincus, 1999). It consists of two scales, the *Intensity Scale* and the *Problem scale*, which elicit parents' perceptions of 36 problem behaviors. The *Intensity Scale* consists of a seven-point Likert-type scale (never to always) that measures the frequency of the problem behaviors, while the *Problem scale* measures whether or not the parent sees the particular behavior as a problem, by eliciting a yes-no answer. Internal consistency (alpha) of the 36 items was 0.91 and 0.87 for the *Intensity Scale* and the *Problem scale*, respectively.

The *Child Behavior Checklist (CBCL) – Parent Report Form* was used to

measure disruptive behavior (Achenbach & Rescorla, 2000). The CBCL is a widely used age-normed measure with good reliability and validity (Achenbach & Rescorla, 2000). It consists of 99 emotional and behavioral statements rated by parents. In this study, we used the CBCL's 25-item *Externalizing Subscale* and its subscales of *Attention Problems* (five items) and *Aggressive Behavior* (20 items) for 1.5–5-year-old children. The items are rated on a three-point Likert-type scale (not true to very true/often true). Internal consistency for the 25-item *Externalizing Scale* was 0.89.

2.10.2. Parenting measures

We used the *Parent Practices Interview* (PPI) parent-rated questionnaire to assess the disciplinary style of the parent or caregiver (Webster-Stratton, Reid, & Hammond, 2004). This PPI comprises seven subscales: *Appropriate Discipline*, *Harsh and Inconsistent Discipline*, *Positive Verbal Discipline*, *Monitoring*, *Physical Punishment*, *Praise and Incentives*, and *Clear Expectations*, and is rated on a seven-point scale ranging from 1 (never) to 7 (always). The PPI has not been validated in a Finnish sample and the measure was translated from English to Finnish for the purposes of this study. After careful inspection of each scale and its items (inter-item and item-total correlations and the internal consistencies of the scales) we made some modifications to the scales. In this study, we used the *Appropriate* (12 items, baseline Cronbach's $\alpha = 0.79$), *Inappropriate* (nine items, $\alpha = 0.75$), *Harsh* (six items, $\alpha = 0.78$), *Inconsistent Discipline* (12 items, $\alpha = 0.83$), *Praise* (seven items, $\alpha = 0.66$) and *Incentives* (eight items $\alpha = 0.63$) scales. We abandoned the *Monitoring* (nine items, $\alpha = 0.57$) and *Clear expectations* (three items, $\alpha = 0.55$) scales due to low reliability. The *Physical punishment* scale (six items) was excluded from the analysis due to lack of variance. These reliabilities are comparable with other international studies, reporting alphas for the subscales (e.g. harsh, inconsistent discipline and positive parenting) ranging from $\alpha = 0.66$ to 0.79 (Enebrink, Högström, Forster, & Ghaderi, 2012; Webster-Stratton et al., 2004; Webster-Stratton, Reid, & Hammond, 2001).

The *Parenting Stress Index – Short Form* (PSI-SF-4) is a 36-item questionnaire (Abidin, 2012) that consists of three subscales: *Parental Distress*, *Dysfunctional Parent-Child Interactions*, and *Difficult Child*, each with 12 items. The Total Stress Score is also calculated. Each item is rated by parents on a five-point scale and higher scores on this scale reflect greater difficulty. The PSI-SF provides clinical cut-offs for each scale. The PSI-SF was translated into Finnish for this study. The scale has good validity and reliability (Abidin, 2012). Internal consistency of the Total Stress Score in this study was good ($\alpha = 0.89$).

2.10.3. Parent psychological well-being measures

The *General Health Questionnaire (GHQ-12)* is a self-administered questionnaire for identifying minor psychiatric disturbances in the general population. It focuses on the inability to carry out normal functions and the appearance of new and distressing phenomena. It assesses the respondent's current state and elicits whether it differs from their usual state. The GHQ-12 version is widely used and has shown to have good psychometric properties (Goldberg et al., 1997).

We used the short version of the *Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS)* to evaluate the mental well-being of parents. The WEMWBS is validated for use in populations aged 13+ years. The short version of the measure consists of seven items rated on a five-point Likert scale, ranging from never to all the time. The items are stated in a positive way. (Stewart-Brown et al., 2009).

2.11. Power analysis

Before participant recruitment, we carried out a power analysis. In line with previous studies (Whitaker & Bywater, 2011), a 25-point difference in the mean score of the ECBI Intensity subscale of the groups was considered clinically significant. This corresponds to an effect size of 0.455, assuming a standard deviation of 55. Using conventional

assumptions of alpha 0.05 and power 0.80, the effect of this size can be detected when the sample size is $N = 152$. Allowing for a 20% drop-out rate, we set the targeted initial sample size to 190 participants.

2.12. Randomization

The children were allocated into an IY parent training intervention group or a wait list control group, using a sequential balancing method (Borm, Hoogendoorn, den Heijer, & Zielhuis, 2005). This method minimizes imbalances in allocation while retaining the theoretical benefits of randomization. The factors that were taken into account in the balancing were child gender, number of parents participating, and customership of social services (child protection services vs. other). The allocation procedure was carried out separately for each city as soon as the baseline assessments of all participants in the city had been conducted. Randomization/treatment allocation was carried out by an independent statistician, who was not involved in the data collection. After randomization, the intervention group contained 50 children (with 62 participating parents), and the wait list control condition 52 children (with 60 participating parents).

2.13. Statistical methods

The unit of analysis was a child (or a reporting parent). If two parents participated and reported data, we used the answers of the mother.

In addition to the intent-to-treat analyses, we carried out per protocol analyses. In these, the intervention group included only the children of the parents who had attended the intervention group nine times or more.

To analyze intervention effectiveness, we used repeated measures ANOVA to determine whether the changes in study groups' outcome measurement differed from each other. Effect sizes for the continuous outcome variables were presented using Cohen's d , which were calculated from difference scores (pre-intervention value subtracted from the post-intervention value) in order to account for baseline differences between the study groups.

As we reported several outcomes, the risk of false-positive findings due to multiple testing (type I error) was increased. We therefore used an alpha level of 0.01 (instead of the conventional 0.05) for p -values to indicate a significant finding when reporting intervention effectiveness (Tables 2 and 3).

2.14. Missing data

Scale scores were excluded from the analysis if at least one-third of items were missing. If less items were missing, the missing values were replaced by the respondents' mean value of the items present in that scale.

3. Results

The mean age of participating children was 5.3 years, and the majority were boys ($n = 65/102$) (Table 1). Almost all were Finnish speaking and slightly under one-half were from single-parent families. Of the participating mothers, 17.3% had no vocational education, and 50% were not currently employed. Both mothers and fathers were most frequently aged between 30 and 39 years. The sociodemographic characteristics of the intervention and control groups did not differ significantly at baseline.

In the total study sample at baseline, the mean on the *ECBI Problem Scale* was 19.3 ($SD = 7.9$; cut-off for clinical significance ≥ 15) and on the *ECBI Intensity Scale* 148.6 ($SD = 24.0$; cut-off ≥ 131). The mean on the *CBCL Total Externalizing Symptoms* scale was 23.1 ($SD = 7.9$; cut-off ≥ 32) and the mean on the *PSI-SF Total Stress* scale 97.9 ($SD = 18.3$; cut-off ≥ 114).

The intent-to-treat analyses of parent-reported child problem behavior in the intervention group showed a significantly larger reduction on the *ECBI Problem Scale* scores than that in the control group, the effect being in the medium to large range ($d = 0.76$) (Table 2). The *ECBI Intensity Scale* scores also decreased, but we found no significant difference in these between the study groups. The reduced scores on the *CBCL Total Externalizing Symptoms Scale* and its *Aggression* subscale seemed more pronounced in the intervention group than in the control group, while the differences were not statistically significant. We found no significant differences between the changes over time in the intervention and control groups on the *CBCL Attention Problem subscale*.

The proportion of children in the intervention group with clinical levels of behavioral problems on the *ECBI Problem Scale* decreased by 49.2 percentage points from baseline (77.8%, $n = 33$) to follow-up (28.6%, $n = 12$) (Table 3). In the control group, the corresponding reduction was 4.0 percentage points. The figures were of similar magnitude for the *ECBI Intensity Scale*, although the difference between study groups was smaller.

On the *CBCL* scales, the frequencies of those above the clinically relevant thresholds in the intervention group at baseline ranged from 10.2% (attention problems) to 28.6% (aggressive behavior), but these decreased by more than half in the follow-up (Table 3). Among the control group we found practically no reductions in the frequencies of those with clinical levels of behavioral problems on the *CBCL* scales.

Regarding self-reported parenting practices, the intervention had positive effects on reducing *Harsh Discipline*, and on increasing *Praise* and *Incentives*, the effect sizes ranging from 0.56 (*Praise*) to 0.83 (*Harsh Discipline*) (Table 2). On *Inconsistent Discipline* there was only a trend level finding in favor of the intervention group ($d = 0.45$). On the *Appropriate Discipline* scale the effect ($d = -0.45$) was in favor of the control group, while the result ($p = .030$) did not quite reach the chosen level for statistical significance ($p < .01$). In *Inappropriate Discipline* there were no differences in changes from baseline to follow-up between the groups.

The *PSI-SF* or measures of parent's psychological well-being (*GHQ*, *SWEMWBS*) showed no differences between intervention and control groups' changes over time (Table 2).

The results of the per protocol analyses remained essentially the same, whereas the effects of the intervention were (for the most part) somewhat more pronounced (Table 2).

4. Discussion

The purpose of this study was to investigate the effectiveness of the structured, group-based parenting program (IY) on children's behavioral problems and parenting practices in families involved with child protection (CPS) and other family support services. The results suggest that the IY parent training intervention increased positive parenting and reduced child behavioral problems in these families with special needs.

The results regarding the effects on child externalizing behavioral problems are in line with a systematic review of interventions following physical abuse (Montgomery et al., 2009). IY intervention studies conducted in child welfare services (Letarte et al., 2010), social services (Kleve et al., 2010), families reporting a history of child maltreatment (Hurlburt et al., 2013) and families in child welfare services receiving Triple-P intervention (Zhou et al., 2017) have also all shown a reduction in children's externalizing behavior when measured by ECBI. In a study of families with child physical abuse and receiving combined parent-child cognitive behavioral therapy, children's externalizing behavioral problems decreased when measured by CBCL (Kjellgren et al., 2013). In this study, the children in the intervention group demonstrated significant positive changes on the *ECBI Problem Scale*. On the *ECBI Intensity Scale* and *CBCL* scales the changes seemed to be in favor of the intervention group, however, these changes were not statistically significant.

Table 1
Socio-demographic characteristics of participants at baseline.

Variable	Total (N = 102)		Intervention (N = 50)		Control (N = 52)		p ¹
	n	%	n	%	n	%	
Child's age (years) (M, SD)	5	1.2	5	1.2	5	1.3	0.857
Boys	65	63.7	32	64.0	33	63.5	0.955
Finnish speaking	99	97.1	47	94.0	52	100.0	0.114
Single parent	47	46.1	27	54.0	20	38.5	0.116
Customership							0.458
CPS clients	72	70.6	37	74.0	35	67.3	
non-CPS clients	30	29.4	13	26.0	17	32.7	
Ability to cover expenses with current income							0.076
Easy	15	14.7	9	18.4	6	11.8	
Moderate	64	62.7	26	53.1	38	74.5	
Difficult	21	20.6	14	28.6	7	13.7	
Life events (> 2)	31	30.4	16	32.0	15	28.8	0.830
Mother (N = 98)							
Age (years)							0.191
20–29	27	27.6	11	22.9	16	32.0	
30–39	48	49.0	28	58.3	20	40.0	
40–	23	23.5	9	18.8	14	28.0	
Education							0.172
No professional training	17	17.3	5	10.4	12	24.0	
Intermediate vocational	56	57.1	31	64.6	25	50.0	
University of applied sciences or higher	25	25.5	12	25.0	13	26.0	
Employment, mother							0.406
Employed	49	50.0	23	48.9	26	53.1	
Not employed	21	21.4	13	27.1	8	16.0	
At home	20	20.4	10	20.8	10	20.0	
Other	8	8.2	2	4.2	2	4.0	
Father (N = 24)							
Age (years)							0.076
20–29	3	12.5	0	0.0	3	27.3	
30–39	11	45.8	8	61.5	3	27.3	
40–	10	41.7	5	38.5	5	45.5	
Education							0.092
No professional training	2	8.3	2	16.7	0	0.0	
Intermediate vocational	17	70.8	6	50.0	10	90.0	
University of applied sciences or higher	5	20.8	4	33.3	1	9.1	
Employment							0.103
Employed	19	79.2	12	92.3	7	63.6	
Not employed	3	12.5	0	0.0	3	27.3	
At home	1	4.2	1	7.7	0	0.0	
Other	1	4.2	0	0.0	1	9.1	

¹ Test for differences between intervention and control groups; t-test for continuous measures and Chi-square test for categorical measures.

The parents of almost half of the children rated as having clinical levels of behavioral problems on the ECBI Problem Scale rated the children as having behavioral problems below clinical levels after the intervention. According to the CBCL's *Total Externalizing Symptoms Scale* and its *Aggression* and *Attention* subscales, over half of the children dropped from above to below clinical level after the intervention. This result has a significant clinical value. Webster-Stratton and Shoecraft (2009) reported similar findings regarding ECBI in their Washington State Child Welfare report. At pre-assessment, 31% of mothers reported that their children were in the clinical range, compared with only 8% at post-assessment. However, there are still a considerable number of children who do not move from the clinical range to a normal range. Scott and Dadds (2009) stated in their paper that one-quarter to one-third of parents and their children do not benefit from parenting programs. Several studies have tried to find explanations for this (Gardner, Hutchings, Bywater, & Whitaker, 2010; Leijten et al., 2017; Leijten et al., 2018; Weeland et al., 2017), but thus far have been unable to do so. In line with these results, when we looked at the group of children above clinical cut-off at baseline, we did not find any baseline characteristics (intervention attendance, single parenthood, employment, education, child's gender, child age) that would differentiate those that moved or didn't move to normal range by the follow-up (results not shown).

The intervention increased positive parenting practices. Use of

harsh and inconsistent discipline declined in the intervention group after attending the IY Parenting Program. Parents in the intervention group used more praise, incentives and consistent discipline than parents in the control group after the intervention. This finding is consistent with other studies in the child welfare context (Kjellgren et al., 2013; Letarte et al., 2010; Zhou et al., 2017). An earlier study in families with neglectful parenting revealed that the program had a positive impact on parenting practices (harsh discipline, physical punishment, praise/incentives, appropriate discipline, and positive verbal discipline) (Letarte et al., 2010). A reduction in harsh discipline also occurred in studies of parents involved with child welfare services (Letarte et al., 2010) and parents with a reported history of prior maltreatment (Hurlburt et al., 2013). In the latter study, nurturing/supportive parenting practices and discipline competence also increased (Hurlburt et al., 2013). The study by Letarte et al. (2010) showed a reduction of physical punishment in the intervention group, although spanking did not decrease. A Cochrane Review by Barlow et al. (2006) of individual and group-based programs for the treatment of physical child abuse and neglect concluded that the group-based parenting program “appears to have a role in treating outcomes that are associated with abusive parenting”.

In our study, we did not note changes in some of the parenting practices, and in appropriate discipline the results (while not significant) suggest that the control group actually seemed to benefit more

Table 2
Means of child and parent outcomes pre- and post-intervention by study group and intervention effectiveness tests.

Measure	Intent-to-treat analysis						Per protocol analysis Intervention n = 36 Control group n = 52			
	Total n pre/ post	Intervention group		Control group		ANOVA p	Effect size d	ANOVA p	Effect size d	
		pre n = 50	post n = 49	pre n = 52	post n = 49					
		M (SD)	M (SD)	M (SD)	M (SD)					
ECBI										
Intensity	97/96	145.0 (24.7)	125.7 (30.0)	152.4 (23.0)	139.2 (34.5)	0.220	0.26	0.134	0.33	
Problem	85/83	19.1 (7.5)	10.2 (7.1)	19.5 (8.4)	16.0 (9.6)	0.001*	0.76	0.002*	0.74	
CBCL										
Externalizing total	98/96	22.6 (8.1)	17.2 (7.7)	23.5 (7.8)	21.0 (9.9)	0.091	0.35	0.076	0.40	
Attention problems	98/96	4.1 (1.8)	3.2 (1.8)	4.4 (1.9)	3.8 (2.2)	0.584	0.11	0.612	0.11	
Aggressive behavior	98/96	18.0 (6.6)	13.6 (6.3)	18.5 (6.3)	16.6 (8.2)	0.101	0.34	0.088	0.39	
PPI										
Appropriate Discipline	97/96	5.1 (0.7)	4.7 (0.9)	4.9 (1.0)	5.0 (1.0)	0.030	-0.45	0.056	-0.43	
Inappropriate Discipline	97/96	1.8 (0.7)	1.7 (0.8)	2.1 (0.9)	2.1 (1.0)	0.733	0.07	0.206	0.28	
Harsh Discipline	97/96	4.3 (1.1)	3.5 (1.2)	4.0 (1.1)	4.0 (1.2)	< 0.001*	0.83	< 0.001*	0.94	
Inconsistent Discipline	97/96	2.7 (0.9)	2.3 (0.7)	2.7 (0.9)	2.6 (0.7)	0.027	0.45	0.005*	0.61	
Praise	97/96	5.1 (0.7)	5.7 (0.8)	5.4 (0.8)	5.5 (0.8)	0.006*	0.56	0.011	0.57	
Incentives	97/96	3.4 (0.8)	4.0 (0.9)	3.9 (0.7)	3.9 (0.8)	0.006*	0.57	< 0.001*	0.80	
PSI-SF										
Parental Distress	98/96	31.5 (8.5)	30.4 (7.8)	32.2 (8.2)	31.4 (10.0)	0.553	0.12	0.381	0.20	
Parent-Child Dysfunctional Interaction	98/96	30.2 (7.6)	28.6 (7.8)	29.8 (7.0)	29.1 (8.1)	0.562	0.12	0.486	0.16	
Difficult Child	98/95	35.7 (6.0)	32.4 (7.6)	36.3 (6.7)	34.0 (8.9)	0.564	0.12	0.316	0.11	
Total Stress	98/96	97.5 (19.1)	91.4 (19.4)	98.2 (17.6)	94.2 (22.9)	0.503	0.14	0.413	0.19	
GHQ-12	101/96	17.3 (4.2)	16.3 (4.7)	17.2 (4.5)	16.0 (4.7)	0.858	0.04	0.755	0.07	
SWEMBWBS	101/96	24.3 (4.4)	24.3 (4.1)	25.2 (3.9)	24.8 (3.8)	0.638	0.10	0.791	0.06	

Note: ECBI = Eyberg Child Behavior Inventory, CBCL = Child Behavior Checklist, PPI = Parenting Practices Scale, PSI-SF = Parenting Stress Index – Short Form, GHQ-12 = General Health Questionnaire with 12 items, SWEMBWBS = Warwick Edinburgh Mental Wellbeing Scale, Short Form.

Effect sizes (Cohen's d) 0.2 = small, 0.5 = medium, 0.8 = large effect.

* Statistically significant (p < .01) result.

Table 3
Frequencies of children with clinically significant levels of behavioral problems pre- and post-intervention by study group.

	Threshold of clinical significance	Intervention group		Control group		p ^a
		pre	post	pre	post	
		% (n)	% (n)	% (n)	% (n)	
ECBI						
Intensity	≥ 131	73.5 (36)	41.7 (20)	79.2 (38)	60.4 (29)	0.103
Problem	≥ 15	73.3 (33)	28.6 (12)	62.5 (25)	58.5 (24)	0.001*
CBCL						
Externalizing total	≥ 32	18.4 (9)	8.2 (4)	28.6 (14)	29.8 (14)	0.023
Attention problems	≥ 7	10.2 (5)	2.0 (1)	10.2 (5)	8.5 (4)	0.194
Aggressive behavior	≥ 25	28.6 (14)	14.3 (7)	30.6 (15)	29.8 (14)	0.057

^a Statistical significance from logistic regression analysis of treatment group predicting dichotomized outcome (post) adjusting for the same dichotomized variable at baseline.

* Statistically significant (p < 0.01) result.

than the intervention group. We found no good explanation to this, but one possibility could be that the parents in the intervention group became more aware of their parenting practices and therefore rated their own use of appropriate discipline practices more critically.

Even though families in child protection and special support services have multiple problems and can be difficult to influence and work with, it seems that structured parenting intervention can change parenting habits. The positive effect likely arises from the parents setting individual goals to work towards, the collaborative nature of working with other parents in the group, highlighting and celebrating successes, rehearsing new ways of dealing with children's problem behavior, and

support for rehearsing new skills at home. Moreover, the long duration of the program ensures that parents not only learn what they should do, but have a chance to practice and change their ways of parenting.

The effectiveness of the intervention is likely to be associated with the context of the intervention. As Kaminski et al. (2008) suggested in their meta-analysis of components associated with parent training program effectiveness, programs that require parents to practice learned skills with their own children teach the parents emotional communication skills (active listening, reduced negative communication, etc.) and positive interaction and consistent discipline with their children. They also reported larger effects on parenting outcomes and

children's externalizing behaviors with these programs than without them. Since the IY Parenting Program contains the above mentioned components, this might be one reason that it is also effective among the child welfare population.

Although many studies have presented convincing proof that parenting programs effectively influence parental mental health (Barlow, Smailagic, Huband, Roloff, & Bennett, 2014; Furlong et al., 2012; Hutchings et al., 2007; Hutchings, Bywater, Williams, Lane, & Whitaker, 2012), some recent studies have failed to confirm this effect. For example, a meta-analysis by NICE (2006) reported a statistically non-significant result in relation to parental mental health. Another very recent meta-analysis of 14 RCTs also suggested that the IY Parenting Program did not improve parental mental health (Leijten et al., 2017). Chen and Chan (2016) came to the same conclusion in their meta-analysis of parenting programs for prevention of child maltreatment. Several moderators might affect these results, including the level of mental health scores at baseline. For example, in the Leijten et al. (2017) meta-analysis, there was a large variance between studies in baseline depression rates and quite a few reported only small numbers of mental health problems.

We found no effect of the intervention on parental mental health in our study. This might be due to fairly good initial levels in both the intervention and control groups, and the control group had access to all the social and health services to which they were entitled during the study. Adult mental health services in Finland are of high quality and fairly accessible. However, other studies carried out in the child welfare or child protection context have shown parent management training to reduce parental stress (Marcynyszyn et al., 2011), depression (Kjellgren et al., 2013), distress (Marcynyszyn et al., 2011), and self-efficacy (Letarte et al., 2010). In one study, parental perception of their child as being difficult also diminished (Marcynyszyn et al., 2011).

4.1. Strengths and limitations

Our study has several strengths. It is an RCT and also one of the first conducted among families involved with child protection services focusing on children living at home. Another strength is that we were able to reach almost all of the participants in both the intervention and control groups at post-measurement. Third, we used reliable, validated, or internationally widely used measures in the field. Fourth, the study was conducted in a real-life setting in a multicenter environment. The retention rate of participants (96.1%) was good, indicating that this kind of study is possible to carry out in this context.

A limitation of the study was the sample size, which was smaller than planned. The loss of power affected our ability to find significant differences, however, those found indicate relatively strong effects. The reduced number of participants was due to the fact that some agencies were unable to find eligible participants for the study. The child protection service agencies in two cities claimed that they had no clients with preschool-aged children exhibiting behavioral problems, although they had clients with school-aged children with these problems. This raises many questions: How well do workers in these agencies recognize behavioral problem issues and the effect they have on families and children? How well do they know the services available for different problems in families? Is the information on certain problems (i.e. behavior) efficiently shared between different agencies (e.g. between day-care and social services)? Does the Finnish day-care system support children with behavioral problems so well that these problems only emerge when the child goes to school, i.e. when there is less personnel per group of children?

Other limitations of the study are that parents were the only informants and no observational evaluation of parenting practices and children behavior was reported. Parents' reports are not blind to condition and may be biased. On the other hand, effect sizes in, for example, The Dyadic Parent-Child Interaction Coding System (DPICS), an observational measure of parent-child social interactions, have been

found to be slightly higher than those in PPI, suggesting that parental reports could produce relatively reliable and unbiased estimates of true effects (Rosanbalm & Christopoulos, 2011).

In Finland, the quality of services is good. For this reason, parents in the wait list control condition received good care and services from health and social services for their various problems during the study period. This means that any further interventions in addition to normal services should have specific, strong effects if significant differences are to be found between intervention and control groups. Furthermore, some of the workers who worked with the families in the control group were also trained IY Group Leaders. In a survey carried out among Finnish IY Group Leaders (Karjalainen et al., 2016), 90% of the workers stated that their whole way of working had changed after IY group leader training. It became more empathic and client-focused, and they were able to support parenting more broadly and concretely. Despite the high-quality of care in the wait list control condition, this study indicated that structured parenting interventions can reduce child problem behavior and improve parenting skills.

The study sample was heterogeneous, including also non-CPS clients. This warrants caution when comparing our results to studies with exclusively CPS clients. However, when we compared CPS and non-CPS clients we found no differences regarding primary outcome measures (ECBI, CBCL) at baseline (results not shown).

Implementation fidelity also affects results. Some evidence shows that higher levels of implementation fidelity can achieve more positive results (Furlong et al., 2012; Menting et al., 2013). We did not have any data to analyze the level of fidelity. However, the group leaders in this study were all trained and followed the protocols and filled in process check-lists from each session. They also received supervision and consultation, but not as much as recommended by the program developer. However, considering that the intervention was done in real-life context, the level of supervision can be regarded quite good. Also, in conflict with the developer's firm recommendation to have accredited group leaders conducting studies to ensure high fidelity of implementation, we were only able to have one accredited group leader and for some this was their first time running a group.

5. Conclusion

In many countries, policymakers have acknowledged the dilemma of using programs in child welfare that lack evidence of efficacy. National and international guidelines that promote evidence-based parenting programs and their use for preventing and reducing violence and maltreatment of children have been published, increasing the use of evidence-based practices (Axford, Elliot, & Little, 2012; Berliner et al., 2015; Luke, Sinclair, Woolgar, & Sebba, 2014; United Nations Office on Drugs and Crime, 2009; Wessels, Mikton, Ward, Kilbane, & Alves, 2013; World Health Organization, 2010).

This RCT study on the IY Parenting Program in the context of child protection services showed significant result in treating child externalizing behavioral problems: it was able to reduce child's behavior perceived as problematic by the parents. Out of six studied parenting practices, the program showed significant results in three: compared to the waiting list control condition the use of praise and incentives increased, and the use of harsh discipline decreased in the intervention group. The intervention did not affect parent's stress of parenting nor parent's psychological well-being. No significant adverse effects were found.

All in all, the results give some promising support for using these types of evidence-based parenting interventions in CPS.

Acknowledgements

This work was supported by the Alli Paasikivi Fund, the Jalmari ja Rauha Ahokas Fund, the MLL Research Fund, the Emil Aaltonen Fund and the Marjaniemi Lions Club Ladies.

Conflict of interest statement

Authors Olli Kiviruusu, Eeva Aronen and Päivi Santalahti have no conflicts to be declared.

Author Piia Karjalainen gets paid in training occasionally daycare and school personnel in Incredible Years Teacher Classroom Management Program.

References

- Abidin, R. R. (2012). *Parenting stress Index*. Odessa, FL: Psychological Assessment Resources.
- Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA Preschool Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families.
- Axford, N., Elliot, D. S., & Little, M. (2012). Blueprints for Europe: Promoting Evidence-based Programmes in Children's Services. *Psychosocial Intervention*, 21(2), 205–214.
- Barlow, J., Johnston, I., Kendrick, D., Polnay, L., & Stewart-Brown, S. (2006). Individual and group-based parenting programmes for the treatment of physical child abuse and neglect. *Cochrane Database of Systematic Reviews*, 19(3), <https://doi.org/10.1002/14651858.CD005463.pub2> CD005463.
- Barlow, J., Smailagic, N., Huband, N., Roloff, V., & Bennett, C. (2014). Group-based parent training programmes for improving parental psychosocial health. *Cochrane Database Systematic Review*, 17(5), CD002020.
- Barth, R. P., & Liggett-Crel, K. (2014). Common components of parenting programs for children birth to eight years of age involved with child welfare services. *Children and Youth Services Review*, 40, 6–12. <https://doi.org/10.1016/j.chilcyouth.2014.02.004>.
- Berliner, L., Fitzgerald, M. M., Dorsey, S., Chaffin, M., Ondersma, S. J., & Wilson, C. (2015). Report of the APSAC task force on evidence-based service planning. Guidelines for Child Welfare. *Child Maltreatment*, 20(1), 6–16.
- Borm, G. F., Hoogendoorn, E. H., den Heijer, M., & Zielhuis, G. A. (2005). Sequential balancing: A simple method for treatment allocation in clinical trials. *Contemporary Clinical Trials*, 26(6), 637–645.
- Bronsard, G., Alessandrini, M., Fond, G., Loundou, A., Auquier, P., Tordjman, S., & Boyer, L. (2016). The Prevalence of Mental Disorders among Children and Adolescents in the Child Welfare System: A Systematic Review and Meta-Analysis. *Medicine*, 95(7), e2622.
- Buchanan-Pascall, S., Gray, K. M., Gordon, M., & Melvin, G. A. (2018). Systematic Review and Meta-analysis of Parent Group Interventions for primary School Children Aged 4–12 years with Externalizing and/or Internalizing Problems. *Child Psychiatry and Human Development*, 49(2), 244–267. <https://doi.org/10.1007/s10578-017-0745-9>.
- Canino, G., Polanczyk, G., Bauermeister, J. J., Rohde, L. A., & Frick, P. J. (2010). Does the prevalence of CD and ODD vary across cultures? *Social Psychiatry & Psychiatric Epidemiology*, 45(7), 695–704. <https://doi.org/10.1007/s00127-010-0242-y>.
- Chen, M., & Chan, K. L. (2016). Effects of Parenting Programs on Child Maltreatment Prevention: A Meta-Analysis. *Trauma, violence & abuse*, 17(1), 88–104. <https://doi.org/10.1177/1524838014566718>.
- Dretzke, J., Frew, E., Davenport, C., Barlow, J., Stewart-Brown, S., Sandercock, J., ... Taylor, R. (2005). The effectiveness and cost-effectiveness of parent training/education programmes for the treatment of conduct disorder, including oppositional defiant disorder, in children. *Health Technology Assessment*, 9(50), 1–233.
- Enebrink, P., Höglström, J., Forster, M., & Ghaderi, A. (2012). Internet-based parent management training: A randomized controlled study. *Behaviour Research and Therapy*, 50, 240–249.
- Eyberg, S. M., & Pincus, D. (1999). *Eyberg Child Behavior Inventory and Sutter-Eyberg Student Behavior Inventory-Revised: Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Fixsen, D. L., Blase, K. A., Naoom, S. F., & Wallace, F. (2009). Core implementation components. *Research on Social Work Practice*, 19(5), 531–540.
- Furlong, M., McGilloway, S., Bywater, T., Hutchings, J., Smith, S. M., & Donnelly, M. (2012). Behavioural and cognitive-behavioural group-based parenting programmes for early-onset conduct problems in children aged 3 to 12 years. *Cochrane Database of Systematic Reviews*, 8(2).
- Gardner, F., Hutchings, J., Bywater, T., & Whitaker, C. (2010). Who Benefits and how does it work? Moderators and Mediators of Outcome in an Effectiveness Trial of a Parenting intervention. *Journal of Clinical Child & Adolescent Psychology*, 39(4), 568–580. <https://doi.org/10.1080/15374416.2010.486315>.
- Gardner, F., & Leijten, T. P. (2017). Incredible Years parenting interventions: Current effectiveness research and future directions. *Current Opinion in Psychology*, 15, 99–104. <https://doi.org/10.1016/j.copsyc.2017.02.023>.
- Gardner, F., Montgomery, P., & Knerr, W. (2016). Transporting evidence-based parenting programs for child problem behavior (age 3–10) between countries: Systematic review and meta-analysis. *Journal of Clinical Child & Adolescent Psychology*, 45, 749–762.
- Goldberg, D. P., Gater, R., Sartorius, N., Ustun, T. B., Piccinelli, M., Gureje, O., & Rutter, C. (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine*, 27(1), 191–197.
- Hurlburt, M. S., Nguyen, K., Reid, J., Webster-Stratton, C., & Zhang, J. (2013). Efficacy of the Incredible Years group parent program with families in Head Start who self-reported a history of child maltreatment. *Child Abuse & Neglect*, 37, 531–543.
- Hutchings, J., Bywater, T., Daley, D., Gardner, F., Whitaker, C., Jones, K., ... Edwards, R. T. (2007). Parenting intervention in Sure Start services for children at risk of developing conduct disorder: pragmatic randomised controlled trial. *British Medical Journal*, 31, 67.
- Hutchings, J., Bywater, T., Williams, M. E., Lane, E., & Whitaker, S. J. (2012). Improvements in maternal depression as a mediator of child behaviour change. *Scientific Research*, 3, 795–801. <https://doi.org/10.4236/psych.2012.329120>.
- Kaminski, J. W., Valle, L. A., Filene, J. H., & Boyle, C. L. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology*, 36(4), 567–589. <https://doi.org/10.1007/s10802-007-9201-9>.
- Karjalainen, P., Santalahti, P., & Sihvo, S. (2016). Vaikuttavatko vanhemmuustaitoja tukevat ohjelmat lapsen käyttäytymisen ja -ongelmien ehkäisyssä ja vähentämissä? *Duodecim*, 132(10), 967–974.
- Kjellgren, C., Svedin, C. G., & Nilsson, D. (2013). Child Physical Abuse - Experiences of combined Treatment for Children and their parents: A pilot Study. *Child Care in Practice*, 19(3), 275–290. <https://doi.org/10.1080/13575279.2013.785934>.
- Kleve, L., Crimlisk, S., Shoebridge, P., Greenwood, R., Baker, B., & Mead, B. (2010). Is the Incredible Years programme effective for children with neuro-developmental disorders and for families with Social Services involvement in the “real world” of community CAMHS? *Clinical Child Psychology and Psychiatry*, 16(2), 253–264. <https://doi.org/10.1177/1359104510366280>.
- Leijten, P., Gardner, F., Landau, S., Harris, V., Mann, J., Hutchings, J., ... Scott, S. (2017). Research review: Harnessing the power of individual participant data in a meta-analysis of the benefits and harms of the Incredible Years parenting program. *Journal of Child Psychology and Psychiatry*, 59(2), 99–109. <https://doi.org/10.1111/jcpp.12781>.
- Leijten, P., Gardner, F., Landau, S., Harris, V., Mann, J., Hutchings, J., ... Scott, S. (2018). Research Review: Harnessing the power of individual participant data in a meta-analysis of the benefits and harms of the Incredible Years parenting program. *Journal of Child Psychology and Psychiatry*, 59(2), 99–109. <https://doi.org/10.1111/jcpp.12781>.
- Letarte, M. J., Normandeau, S., & Allard, J. (2010). Effectiveness of a parent training program “Incredible Years” in a child protection service. *Child Abuse and Neglect*, 34(4), 253–261. <https://doi.org/10.1016/j.chiabu.2009.06.003>.
- Luke, N., Sinclair, I., Woolgar, M., & Sebba, J. (2014). *What works in preventing and treating poor mental health in looked after children*. London: NSPCC.
- Marcynyszyn, L. A., Maher, E. J., & Corwin, T. W. (2011). Getting with the (evidence-based) program: An evaluation of the Incredible Years Parenting Training Program in child welfare. *Children and Youth Services Review*, 33, 747–757. <https://doi.org/10.1016/j.chilcyouth.2010.11.021>.
- Menting, A. T. A., Orobio De Castro, B., & Matthys, W. (2013). Effectiveness of the Incredible Years parent training to modify disruptive and prosocial child behavior: A meta-analytic review. *Clinical Psychology Review*, 33, 901–913.
- Montgomery, P., Gardner, R., Ramchandani, P., & Bjornstad, G. (2009). Systematic reviews of interventions following physical abuse: Helping practitioners and expert witnesses improve the outcomes of child abuse. *Centre for Evidence-Based Intervention Department of Social Policy and Social Work & Section of Child and Adolescent Psychiatry*. University of Oxford.
- Moran, P., Gbate, D., & Van der Merwe, A. (2004). What Works in Parenting Support? A Review of the International Evidence. Institute of Education, University of London: Digital Education Resource Archive (DERA). DOI: <http://dera.ioe.ac.uk/5024/>
- NICE (2014). *Antisocial Behaviour and conduct disorders in children and young people*. London: NICE quality standard [QS59]. National Institute of Health and Care Excellence (NICE). <http://www.nice.org.uk/guidance/qs59>.
- NICE (2006). *Parent-training/education programmes in the management of children with conduct disorders: NICE Technology Appraisal Guidance 102*. London: National Institute of Health and Care Excellence (NICE).
- Rosanbalm, K., & Christopoulos, C. (2011). *Incredible years: Expected Effects and Recommendations for monitoring Outcomes (review)*. Center for Child and Family Policy, Duke University.
- Rutter, M., Bishop, D., Pine, D., Scott, S., Stevenson, J. S., Taylor, E., & Thapar, A. (2010). *Rutter's Child and Adolescent Psychiatry* (5th ed.). Wiley-Blackwell.
- Scott, S., & Dadds, M. R. (2009). Practitioner Review: When parent training doesn't work: Theory-driven clinical strategies. *Journal of Child Psychology and Psychiatry*, 50(12), 1441–1450. <https://doi.org/10.1111/j.1469-7610.2009.02161.x>.
- Scott, S., Knapp, M., Henderson, J., & Maughan, B. (2001). Financial cost of social exclusion: Follow up study of antisocial children into adulthood. *British Medical Journal*, 323(7306), 191–194. <https://doi.org/10.1136/bmj.323.7306-919>.
- Stewart-Brown, S., Tennant, A., Tennant, R., Platt, S., Parkinson, J., & Weich, S. (2009). Internal construct validity of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS): A Rasch analysis using data from the Scottish Health Education Population Survey. *Health and Quality of Life Outcomes*, 7(1), 1–8. <https://doi.org/10.1186/1477-7525-7-15>.
- Temcheff, C. E., Letarte, M.-J., Boutin, S., & Marcil, K. (2018). Common components of evidence-based parenting programs for preventing maltreatment of school-age children. *Child Abuse & Neglect*, 80, 226–237.
- United Nations Office on Drugs and Crime (2009). *Guide to implementing family skills training programmes for drug abuse prevention*. New York, NY: United Nations.
- Webster-Stratton, C. (2011). *The Incredible Years parents, teachers, and children's training series: Program content, methods, research and dissemination 1980–2011*. Seattle, WA: Incredible Years Inc.
- Webster-Stratton, C., Reid, J., & Hammond, M. (2004). Treating children with early-onset conduct problems: Intervention outcomes for parent, child, and teacher training. *Journal of Clinical Child & Adolescent Psychology*, 33(1), 105–124. https://doi.org/10.1207/S15374424JCCP3301_11.
- Webster-Stratton, C., Reid, M. J., & Hammond, M. (2001). Preventing conduct problems, promoting social competence: A parent and teacher training partnership in head start. *Journal of Clinical Child Psychology*, 30(3), 283–302.

- Webster-Stratton, C., & Shoecraft, K. (2009). Washington State Child Welfare Report Delivering of Incredible Years Parenting Program. http://www.incredibleyears.com/wp-content/uploads/washington-state-child-welfare-report_6-25-09%20.pdf.
- Weeland, J., Chhangur, R. R., van der Giessen, D., Matthys, W., Castro, B. O., & Overbeek, G. (2017). Intervention Effectiveness of the Incredible years: New Insights into Sociodemographic and Intervention-based Moderators. *Behavior Therapy*, *48*, 1–18.
- Wessels, I. I., Mikton, C., Ward, C., Kilbane, T., & Alves, R. (2013). *Preventing violence: Evaluating outcomes of parenting programmes. Technical Report*. Geneva, Switzerland: World Health Organization. <http://eprints.uwe.ac.uk/30118>.
- Whitaker, C., & Bywater, T. (2011). Interpreting Translational Research Findings. *Incredible Years Conference, Cardiff*.
- World Health Organization (2010). *Violence prevention: the evidence*. Geneva, Switzerland: WHO.
- Zhou, Y. Q., Chew, Q. R. C., Lee, M., Zhou, J., Chong, D., Quah, S. H., ... Tan, L. J. (2017). Evaluation of positive Parenting Programme (Triple P) in Singapore: Improving parenting practices and preventing risks for recurrence of maltreatment. *Children and Youth Services Review*, *83*, 274–284. <https://doi.org/10.1016/j.childyouth.2017.10.029>.