



A Shortened Version of The Basic Incredible Years Program, Effects Four Years After Parent Training

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Våren 2010

PSY-2901: Hovedoppgave i psykologi

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Forord

Vi vil gjerne uttrykke vår takknemlighet til veilederne, Charlotte Reedtz og Monica Martinussen, som har vært svært behjelpelig med gode råd og innspill i en *langvarig* prosess. En ekstra takk til Charlotte, vår hovedveileder, som har bidratt til å holde oss oppdatert med nytt fagstoff, samt alltid funnet tid til å veilede oss gjennom litt over ett år.

Noen ord om arbeidsfordelingen. Ettersom dette er en longitudinell studie, var vi ikke involvert planleggingen, utformingen og utførelsen det forkortede programmet som blir beskrevet. Dette var gjennomført av Charlotte Reedtz ved RBUP Nord i samarbeid med Carolyn Webster-Stratton på et tidligere tidspunkt. Vi ble involvert i prosjektet ved 4-års oppfølging av familiene som deltok i prosjektet, og måtte i denne sammenheng gjennomføre administrativt arbeid relatert til datainnsamlingen, samt organisering og gjennomføring av hele datainnsamlingen for 4-års oppfølging av familiene. Etter datainnsamlingen plottet vi alle returnerte spørreskjema, samt gjennomførte nødvendige analyser ifht til å beskrive resultatene tilfredsstillende. For å sammenligne data over tid, noe som er nødvendig i denne typer studier, ble datamaterialet fra tidligere tidspunkter gjort tilgjengelig for oss.

Selv om det er to artikkelforfattere, er alle deler av artikkelen utformet sammen, og skal derfor vurderes likt.

Abstract

Background: To test whether the effects of a shortened version of the Basic Incredible Years program, aimed at preventing child behavior problems, were sustained 4 years after the initial intervention. **Method:** Data were obtained from parents in a randomized controlled trial for children aged 6 to 12 ($N = 117$). **Results:** Significant increases on positive parenting and parents' sense of competence, and significant decreases of harsh parenting were observed. No significant difference between groups on child behavior problems as measured by ECBI Intensity scores were detected. **Conclusion:** This shortened version of the Incredible Years program appear efficient at sustaining changes on positive parenting, harsh discipline and parents sense of efficacy over a 4 year period.

KEYWORDS: parent training, parenting, child behavior problems, risk factors, prevention, and community service.

Childhood conduct problems are one of the main reasons for children referrals to mental health care (Webster-Stratton, 1997). It is one of the most harmful categories of childhood psychiatric conditions (Rutter, Giller, & Hagell, 1998) and early onset tends to predict more severe and long-lasting problems such as anti-social behavior, depression, substance abuse, academic deficiencies and juvenile delinquency (Burke, Loeber, & Birmaher, 2002; Odgers et al., 2008). Studies indicate that 7-20% of children meet the diagnostic criteria for conduct disorder or oppositional defiant disorder (Webster-Stratton, Reid & Hammod, 2001). In Norway the prevalence of behavior problems is about 2-3 % among children from 4-12 years (Heiervang et al., 2007; Reedtz et al., 2008) and if moderate behavioral problems are taken into account the number is 4-5% (see www.deutroligearene.no) We will use the term child behavior problems in reference to children who are noncompliant, aggressive, impulsive and who generally exhibit a considerable amount of externalizing problems (Webster-Stratton, 1997). Oppositional defiant disorder (ODD) and conduct disorder (CD) is used in reference to the formal diagnosis from DSM-IV.

Family factors are especially important for the development of conduct disorders (Heiervang et al., 2007) and parent-child interactions are regarded as the most important proximal cause of conduct problems (Webster-Stratton, 1997). Parenting practices such as harsh and inconsistent parenting styles are well established as risk factors for the development of conduct problems (Bauer & Webster-Stratton, 2006; Pettit, Bates & Dodge, 1997; Gardner, Sonuga-Barke & Sayal, 1999; Gardner, Burton & Klimes, 2006) and positive parenting have been found to prevent the development of such problems (Pettit et al., 1997; Gardner et al., 2006). In a study of children with behavior problems, Gardner et al. (2006) found that positive parenting skills appeared to partially and significantly mediate change in observed child problem behavior and that there might be a causal effect between positive parenting and children's conduct problems. In addition, positive parenting has been found to enhance children's social competence (Bauer & Webster-Stratton, 2006).

It is also important to consider parental sense of competence in order to understand the determinants of parenting behavior (Mendez-Baldwin & Busch-Rossnagel, 2003). In their study of Head Start children Mendez-Baldwin & Busch-

Rossnagel (2003) found that interventions which improve parental sense of competence may contribute to healthier parent-child interactions and reduce the potential for unhealthy parenting. Ohan, Leung and Johnston (2000) found that externalizing child behavior problems were negatively related to parents reports of satisfaction with the parenting role.

The continuity of conduct problems and the extent to which early onset predicts more severe, long-lasting problems for the child point to the importance of effective prevention and intervention programs. Prevention is regarded by many as more effective than later treatment (Burke et al., 2002; Hutchings & Lane, 2005). Failing to take early preventive action makes treatment at later stages difficult, since chronic behavioral difficulties become more resistant to treatment as time passes (Hutchings & Lane, 2005). Central to prevention and early intervention is to reduce risk factors and enhance protective factors. The goal is not merely to prevent the development of child behavior and emotional problems, but also to promote necessary conditions for a child's healthy development in other areas. Intervening early in life is important as children's health, wellbeing and attainment of competence are affected by early childhood experiences (Watson, White, Taplin, & Huntsman, 2005). Early intervention has also been found to counter biological and environmental risk factors, enabling a more positive developmental trajectory than one would otherwise expect (Watson et al., 2005). Failing to intervene at early stages in life would place young people at risk for a multitude of later problems, including school exclusion, delinquency and mental illness (Gardner et al., 2006). Given the enormous costs associated with children's behavioral and emotional problems (Foster, Prinz, Sanders, & Shapiro, 2008), the savings stemming from effective preventive intervention is potentially quite large.

Parent training programs (based on cognitive-social learning-theory) have presented the most promising and effective treatment for families of young preschool children with conduct problems (Webster-Stratton, 1997; Fossum, Handegård, Martinussen, & Mørch, 2008). Eyberg, Nelson and Boggs (2008) reviewed the literature from 1996 to 2007 on evidence-based psychosocial treatments for child and adolescent disruptive behavior, and on the basis of this research they recommend clinicians to consider parent training as the preferred community approach for young children. Parent training programs primarily involve teaching parents to modify their

interactions with their children. Parents learn more effective skills, including how to encourage appropriate behavior, enhance play and interact supporting with the child, employ more positive discipline and reduce harsh and negative parenting (Gardner et al., 2006). The goal is to enhance the child's social skills, emotional self-regulatory skills and problem-solving ability (Bauer & Webster-Stratton, 2006).

Although the literature on the effectiveness of evidence-based parenting programs are growing (Hutchings and Lane, 2005), few studies have investigated the long-term effects of these programs in community samples beyond two years (Webster-Stratton, 1990; Drugli, Larsson, Fossum & Mørch, 2009). And while a substantial body of research have been conducted on the efficacy of parent training programs as treatment or as intervention for high risk groups (Bauer & Webster-Stratton, 2006; Eyberg et al., 2008; Fossum et al., 2008), few studies have investigated how a universal preventive intervention program works for young children from a non-clinical community sample (Reedtz, Handegård & Mørch, 2010). This is of great concern since research have found dysfunctional parenting to be related to a wide range of health, social and educational problems (Sanders, Turner & Markie-Dadds, 2002), and since parenting seems to be the single most important risk factor to mediate the development of behavior problems (Burke et al., 2002). In addition, parent training programs are usually expensive, "time demanding" and not accessible to most of the population. Although these parenting programs are the most effective available, they are applied to groups who already exhibit symptoms of conduct disorders, and therefore make little impact on the prevalence of conduct disorders in children (Sanders et al., 2002).

The IY program is based on cognitive social learning theory (Webster-Stratton, 1997), is an identified Blueprint program and possibly one of the best evidence-based program to date (Hutchings & Lane, 2005). The literature on the effectiveness of the program for children between two and eight years with conduct problems are well-documented (see www.incredibleyears.com). The Incredible Years Program consists of three empirically validated and integrated programs for parents, teachers and children (Webster-Stratton, 2001). In the IY Basic program, parents learn about child-directed play, how to increase positive behavior and nonviolent discipline techniques. To promote a strong and positive parent-child relationship is a central tenet in the program and sets the foundation for effective

discipline (Hutchings & Lane, 2005). Parents improve their parenting skills through practice with their child, paralleled by role play and discussion in groups of parents who meet at weekly basis for 12-14 weeks.

The different IY programs available today primarily focus on treatment and prevention of high-risk groups through rather time-demanding and intensive parent training regimes, and is therefore not very suitable for broad implementation in a public health preventive strategy. The shortened version of the Webster-Stratton IY Basic program was developed in collaboration between RBUP Nord and Carolyn Webster-Stratton to address the need for a shorter program to be utilized in a public health approach to promotion of positive parenting and reduction of risk factors related to disruptive behavior problems among young children. This “experimental” version was designed to enhance aspects of parenting regarded as risk factors, and the aim was early intervention in a non-clinical group for promotion of positive parenting rather than treatment. The shortened intervention program focuses on pro-social behavior, child-directed interactive play skills and positive parent-child interaction. As a parenting program designed for preventive use should be less extensive and more cost effective than treatment programs, components were selected to enhance positive parenting and reduce harsh discipline in the parents, thus reducing the risk factors strongest associated with behavioral disorders among children (Bauer & Webster-Stratton, 2006). Program components not essential to influence these factors were excluded. These modifications allowed the program to be conducted in six meeting rather than 12, thus making it less time demanding. All relevant material related to the Norwegian version of *The Incredible Years* was used.

In the initial study, Reedtz et al. (2010) found that parents who received the shortened version of the BASIC IY program increased significantly in positive parenting and sense of competence, in addition to a significant reduction of parental use of harsh discipline and reported problem behavior among the children. With the exception of problem behavior and parents sense of efficacy, these changes were maintained at one year follow up, though with a reduction of effect sizes.

The purpose of this study was to extend the earlier study (Reedtz et al., 2010), and to follow up the families 4 years after the initial intervention. The objectives were to determine whether there were long-term differences among treatment groups on (1) parents level of positive and harsh parenting and (2) parents sense of

competence. (3) We do not expect any differences between the groups on child behavior problems, this because children with high problems behavior scores were excluded and since there was no difference between the groups at one year follow up.

Method

Participants

A total of 269 families volunteered to participate in the study. Due to ECBI Intensity scores above the 90th percentile 58 children (22%) were excluded from the study. This procedure was used for ethical reasons, and families excluded from the study were offered the full 12 to 14 weeks Basic IY program. Of the remaining 211 families a total of 22 families (10%) terminated their participation in the initial phase.

Based on ECBI scores reported by parents, 189 children between 2-8 years met the inclusion criteria for this study. Both the mother and father responded in 112 cases (59%), only the mother responded in 74 cases (39%), and only the father responded in 3 cases (2%). Mothers and fathers mean age at baseline was 35 and 37 years respectively.

At baseline, families were randomly assigned to the intervention (n=92) and control group (n=97). The two groups were similar in demographic characteristics. As can be seen in table 1, most parents at baseline and four year follow up (both mothers and fathers) represented two-parent families, had an academic education and worked full time. At four year follow up there was still no significant differences between the intervention (n=65) and control group (n=49) on demographic characteristics.

At baseline there were 112 boys (59%) and 77 girls (41%) between two and eight years, with a mean age of almost four years. Overall, the children in our sample lived in families with high socio-economic status. Their ECBI scores were higher than the Norwegian mean scores. At four years follow up there were 66 boys (58%) and 48 girls (42%) with a mean age of seven and a half years.

The response rate for post-test, one year follow up and four year follow up were 75.3%, 75.3% and 73% respectively for the intervention group and 53.6%, 47.4% and 51% for the control group. The final sample at four year follow up was 111 mothers and 60 fathers of 114 children. Both the mother and father responded in 57 cases (50%), only the mother responded in 54 cases (47%), and only the father

responded in 3 cases (3%). We intended to use data from both fathers and mothers, but because so few fathers responded, only data from mothers were used in the analysis. In three cases, the fathers were the only respondents, these were included to incorporate all the children. Hence, the term parents will be used, although the analyses mainly are based on mothers' responses. Flow chart of participants over four years is represented in Figure 1.

Table 1 Demographic characteristics of sample

		Characteristics of participants			
		<u>Baseline</u>		<u>Four year follow up</u>	
		<u>Intervention</u>	<u>Control</u>	<u>Intervention</u>	<u>Control</u>
Mother					
	Academic education	80.4%	75%	82.3%	85.7%
	Full time work	59.8%	62.9%	74.2%	89.2%
	Married or live together	84.8%	76.3%	85.5%	69.4%
Father					
	Academic education	66.7%	66.7%	81%	79%
	Full time work	90%	90.7%	78%	70%
	Married or live together	91.7%	98.1%	94.6%	100%

Measures

Participants were asked to fill out a questionnaire at pre, post, one year follow up and four year follow up. The questionnaire consisted of three different assessment instruments (Eyberg Child Behavior Inventory, Parenting Practices Interview and Parenting Sense of Competence) in addition to questions about the child's gender, age, how many children the parents have, the selected child's birth order, and parents' birth age, marital status, employment status, education and information about who completed the questionnaire.

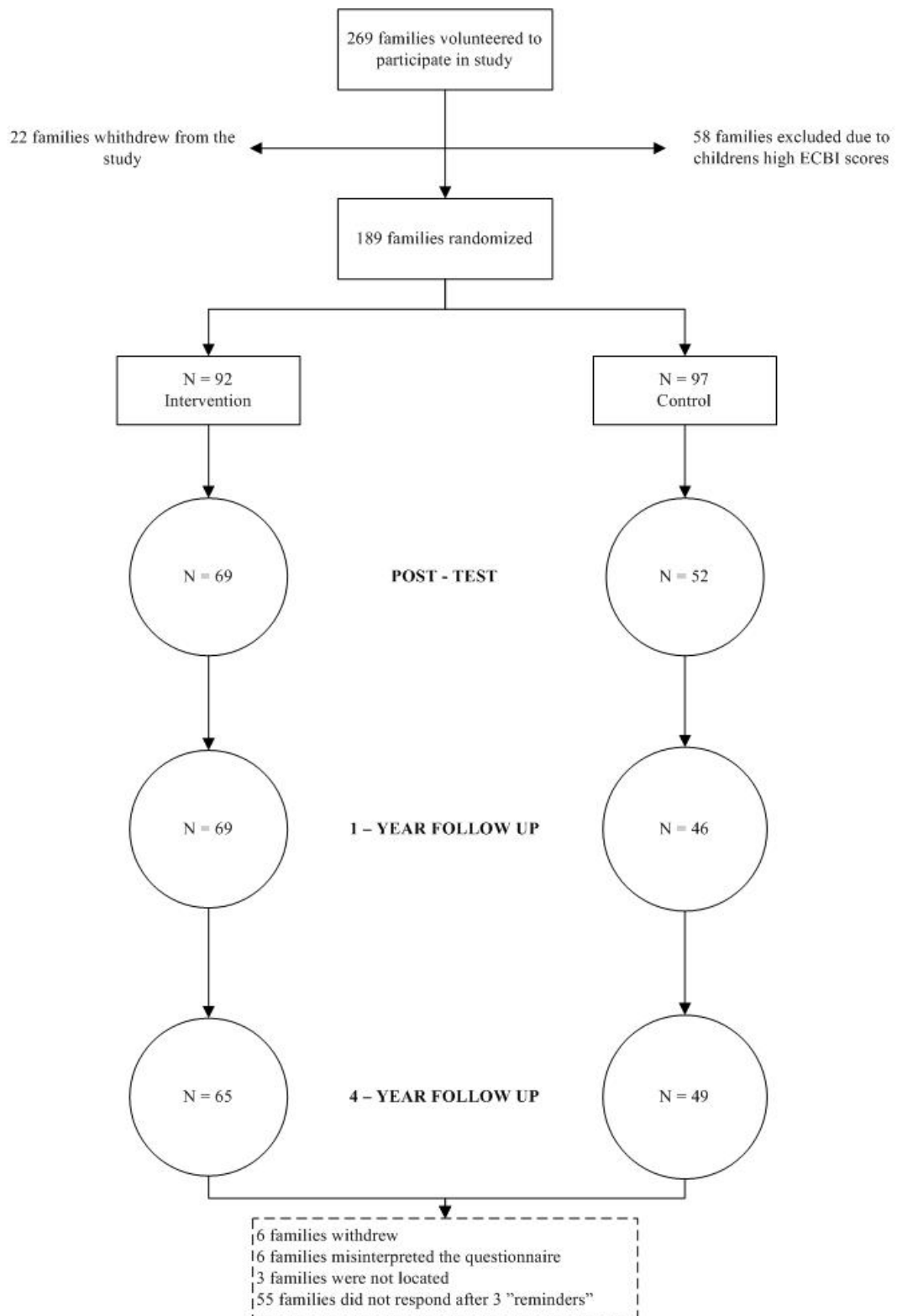


Figure 1 Flow chart for participants over four year

Eyberg Child Behavior Inventory (Robinson, Eyberg & Ross, 1980). The ECBI is a parent rating scale (Cronbach's Alpha = .82) consisting of 36 items designed to measure childhood conduct problems (e.g., "is overactive or restless", "lies", and "hits parents"). The inventory assess problem behavior on two dimensions, the frequency of the behavior (from 1 = never, to 7 = always) and its identification as a problem for the parent (yes or no). The ECBI is one of few standardized parent rating scales for assessing conduct problems in children aged from 2 to 17 years (Goodman, 1999; Webster-Stratton & Herbert, 1994) and the only standardized assessment tool for the same purpose in Norway (Reedtz et al., 2008).

Parenting Practices Interview (Webster-Stratton, Reid & Hadmmond, 2001). The Parenting Practices Interview (PPI) was adapted from the Oregon Social Learning Centre's Discipline Questionnaire. Two subscales were used; Harsh Discipline (Cronbach's Alpha = .79) and Positive Parenting (Cronbach's Alpha = .67). The subscale "Harsh Discipline" include 14 questions about parents disciplinary practices, such as parent force through verbal and physical aggression (e.g. "If your child hits another child, how probable is it that you would raise your voice?"). The subscale Positive Parenting includes 15 questions about how parents praise, reinforce and reward their children (e.g., "During an ordinary week, how often do you praise or reward your child for good behavior at home or at school?"). Parents report on a 7-point scale the probability (from 1 = not probable, to 7 = very probable) and the frequency (from 1 = never, to 7 = always) with which they use the different strategies.

Parenting Sense of Competence (PSOC). The PSOC is a 16-item scale to assess distinct aspects of parenting self-esteem (Johnston & Mash, 1989). It was developed by Gibaud-Wialliston and Wandersman in 1978 and has two subscales. The first subscale measure efficacy (e.g. "Being a parent is manageable, and my problems are easily solved") and the second subscale measure satisfaction (e.g. "Being a parent makes me tense and anxious"). Internal consistency was found to be .69 and .77 respectively. Each item is answered on a 6-point scale ranging from 1 = strongly agree, to 6 = strongly disagree.

Procedure and Design

The study was launched in Tromsø 2004 – 2006, where parents of children between three and five years (3000 families) received a postal mail invitation to participate in a short parenting program to prevent childhood behavior problems. In addition, families of children between two and eight years were recruited through posters in kindergartens, schools and advertisements in newspapers. When a family contacted the project coordinator, the study was briefly explained. Parents were asked to independently fill out one questionnaire each containing the previously described inventories, and return it in a pre-paid envelope with a signed letter of informed consent. All participants agreed to answer the same questionnaire 6 times in the following ten years. If there was more than one child between 2 and 8 years in the household, the youngest was selected as the target child in the study. The study was approved by the Regional Committee for Ethics in Medical Research, University of Tromsø.

A randomized controlled between-group design with two conditions (intervention and control group) was used in this study. The questionnaire was filled out at four time points: before and after the intervention (pre- and post-test), then again one- and four years after intervention (one year follow up and four year follow up). Families assigned to the control condition did not receive any intervention, but filled out the questionnaire at the same time as the intervention group.

The intervention. The intervention group took part in a shortened version of Webster-Stratton's "Preschool Basic Parent Program" from "the Incredible Years". This modified version was approved by Carolyn Webster-Stratton. Parents of 6 to 8 children met at weekly basis during six sessions at a health care center. Each session were led by two group leaders and lasted for two hours. In the shortened version parents were taught positive disciplinary strategies (play, praise and rewards) through group discussion, role-play, home practice activities and through watching video vignettes. The aim of the Basic IY program was to strengthen families and promote parent competencies by increasing positive parenting and self-confidence.

Group leaders. Altogether 15 trained nurses specialized in public health care administered the S-IY groups. They had all experience in clinical work and were trained according to certification procedures established by The Incredible Years

program. The group leaders received continuous supervision through observations, role play and video reviews from a certified trainer and two mentors.

Intervention integrity. The group leaders followed the treatment manual, completed standard check-lists after each session, and tracked group activities (number of vignettes showed, role-plays and parent home-tasks). All parent sessions were videotaped for evaluation by a mentor. Selected tapes were reviewed at weekly peer and self-evaluation meetings.

Four year follow up. Four years after intervention, all participants were once more asked to fill out the questionnaire. We used the address list from one year follow up to send the questionnaire out by postal mail, a pre-paid envelope and a letter that explained the project was included. Some letters were returned because of incorrect address. We either contacted these persons by telephone or located them on the internet in order to get the new address. Only three families could not be located. Up to three reminders were sent to those that did not respond. The first reminder contained a letter that asked participants to fill out and send the form, the second reminder contained the questionnaire and a pre-paid envelope, and the third reminder once more contained the questionnaire in addition to a lottery ticket. In July 2009, 114 families had correctly answered the questionnaire and returned it.

Statistics

For the purpose of statistical analysis, data from the 16 parental training groups were pooled to form the intervention group. An analysis of covariance (ANCOVA) was computed to test the significance of the difference between the experimental group and the control group on the adjusted means for each inventory. The pre-test scores were applied as covariate in all analyses (Rausch, Maxwell, & Kelley, 2003). Partial eta square (η^2) were used to provide a measure of effect size. Cohen (1988) denotes a typical small effect to be around $\eta^2 = 0.01$, a typical medium effect to be approximately $\eta^2 = 0.06$, and a large effect to be about $\eta^2 = 0.14$. ANCOVA was used to adjust the group means on the basis of the pretest, thus statistically equating the control and the experimental groups.

Results

Main Findings at Four Year Follow Up.

Group differences in change from pre-test to four-year follow up.

Parenting (PPI). At four year follow up there was still a significant difference between the groups on PPI – Positive Parenting $F(1, 107) = 19.60, p < .001, \eta^2 = .155$, the intervention group displayed a larger positive change than the control group. Both groups also changed significantly different on PPI – Harsh Discipline $F(1, 107) = 5.54, p < .05, \eta^2 = .049$, where the intervention group showed a larger drop in harsh discipline from pre to four year follow up than the control group. These changes are presented in Figure 2, while results from all years combined are presented in Table 2.

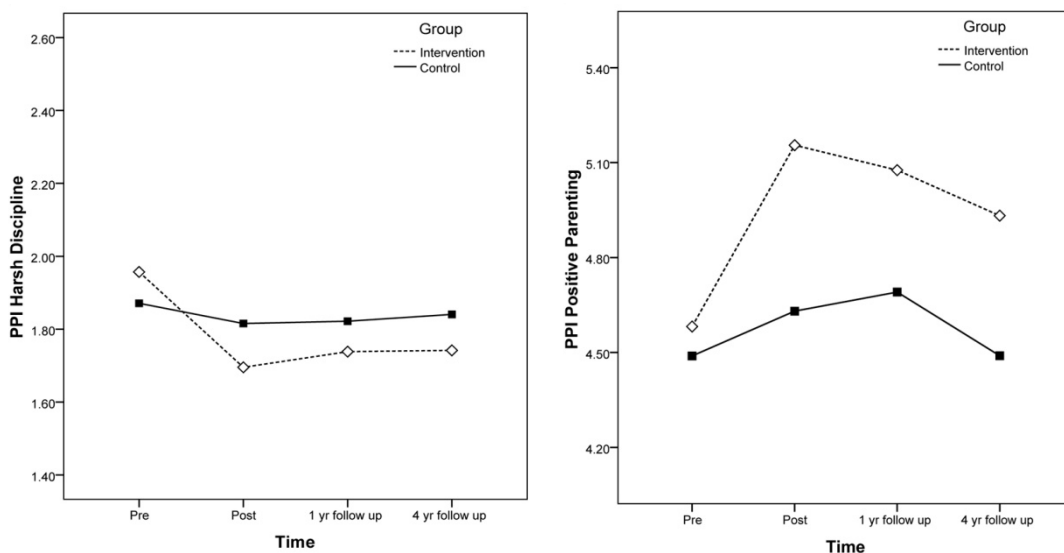


Fig. 2 Changes in harsh discipline and positive parenting from pre test to four year follow up

Parent characteristics (PSOC). The two groups changed significantly different from pre to four year follow up on PSOC – Efficacy $F(1, 107) = 4.27, p < .05, \eta^2 = .038$. The intervention group displayed higher efficacy change than the control group. The difference in change on PSOC – Satisfaction between the two groups found at one year follow up was no longer present after four years.

Child behavior (ECBI). There was no significant difference between the intervention group and the control group on behavior problems at four year follow up.

Table 2 Group differences from pre to post, pre to one year follow up, pre to four year follow up and post to four year follow up

	Intervention				Control				Pre-post	Pre-1 yr	Pre- 4 yr	Post - 4 yr
	Pre	Post	1 year	4 years	Pre	Post	1 year	4 years				
	M	M	M	M	M	M	M	M	F _{1,183}	F _{1,183}	F _{1,107}	F _{1,107}
	(SD)	(SD)	(SD)	(SD)	(SD)	(SD)	(SD)	(SD)	(η^2)	(η^2)	(η^2)	(η^2)
ECBI intensity	104.2 (18.6)	98.2 (17.6)	98.1 (19.8)	92.81 (21.27)	102.0 (14.4)	100.2 (17.4)	98.2 (16.5)	89.27 (17.81)	4.00* (0.02)	0.79 (0.004)	1.63 (0.006)	4.22* (0.038)
PPI Positive Parenting	4.56 (0.49)	5.13 (0.52)	5.05 (0.47)	4.92 (0.43)	4.49 (0.57)	4.67 (0.58)	4.75 (0.53)	4.49 (0.48)	45.9*** (0.20)	24.8*** (0.12)	19.60*** (0.155)	0.36 (0.003)
PPI Harsh Discipline	1.96 (0.47)	1.71 (0.40)	1.76 (0.40)	1.74 (0.41)	1.93 (0.38)	1.87 (0.42)	1.86 (0.39)	1.83 (0.41)	18.3*** (0.09)	9.9** (0.05)	5.54* (0.049)	0.37 (0.003)
PSOC efficacy	31.4 (3.6)	33.6 (3.6)	33.8 (3.6)	34.35 (3.86)	31.8 (3.8)	32.9 (3.9)	33.6 (3.9)	33.29 (4.35)	9.91** (0.05)	2.45 (0.01)	4.27* (0.038)	0.03 (0.000)
PSOC satisfaction	39.4 (6.6)	42.6 (6.1)	43.0 (5.6)	43.92 (5.44)	40.1 (6.0)	41.7 (6.5)	42.5 (6.4)	42.79 (5.92)	7.84** (0.04)	4.07* (0.02)	1.36 (0.013)	0.29 (0.003)

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Group differences in change from post – test to four year follow up.

To test whether the magnitude of the intervention effects are the same at post-test and four year follow up, an ANCOVA was performed on the difference score covarying the pre test (Rausch et al., 2003).

Parenting (PPI). The two groups did not change significantly different from post-test to four year follow up on PPI Positive Parenting. From this we can infer that the intervention group still showed more positive parenting than the control group at four year follow up. In addition, the two groups did not change significantly different on PPI – Harsh Discipline. Hence, the intervention group still showed a larger drop in harsh discipline than the control group at four year follow up.

Parent characteristics (PSOC). The two groups did not change significantly different from post to four year follow up on PSOC – Efficacy. Hence, the intervention groups still showed higher efficacy than the control group at four year follow up.

Child behavior (ECBI). The two groups changed significantly different from post to four year follow up on ECBI – intensity $F(1, 107) = 4.22, P < .05, \eta^2 = .038$, and the control group displayed a larger reduction of behavior problems post to four year follow up than the intervention group.

Discussion

In the initial study, Reedtz et al. (2010) examined the effectiveness of a shortened version of the Basic IY program in increasing positive parenting and parents' sense of competence, as well as reducing harsh discipline and child behavior problems in families from a normal population. At the initial phase of the study, an intervention group of parents received parent training, while a control group received no such training. Both groups were assessed before the intervention, after the intervention, one year after the intervention and four years after. In this study (Reedtz et al., 2010) they found significant changes on all variables after parent training. The primary aim of this study was to assess whether these initial changes were present four years after the intervention.

From pre-test to post-test the intervention group changed significantly different on all variables related to positive parenting (PPI), parents' sense of competence (PSOC) and child behavior problems (ECBI). With the exception of

parents rating of efficacy and child behavior problems, the changes from pre-test to post-test lasted through one year follow up.

At four year follow up, the intervention group was still significant different from the control group on variables related to positive parenting and parents' sense of competence. More specifically, parents show increased positive parenting (large effect), increased sense of efficacy (small effect), and a reduction in harsh discipline (medium effect). There was no significant difference on child behavior problems or sense of competence (satisfaction) among parents at four year follow up.

Considering the significant increase of positive parenting and the reduction of harsh discipline, the results clearly emphasizes how effective this shortened Basic IY parent training program is at modifying parents' behavior. The effect is rather robust, as parents still score significantly higher than the control group on positive parenting four years after training. Taking into account the substantial body of research that supports positive parenting to be one of the most important predictors for child behavior (Webster-Stratton, 1997; Pettit et al., 1997; Gardner et al., 2006), this short parent training program has the potential to reduce important risk factors associated with the development of behavior problems.

The magnitude of the intervention effect can be seen in relation to the characteristics of our sample. Overall, parents in our sample represented two-parent families (80%), where many worked full time (61%) and had a very high educational level (49% Master or Ph.D degree). Reyno and McGrath (2006) found that low educational or occupational level predicted moderate treatment effects in parent training, whereas parents with more social resources showed stronger treatment effects. In contrast, demographic variables, such as maternal age, maternal level of education, and single-parent families has been shown to *not* predict treatment outcomes in the US (Beauchaine et al., 2005), in the United Kingdom (Scott, 2005), and in Norway (Fossum et al., 2008). Although the contribution of demographic variables to treatment effects is still unclear, further knowledge on this subject may help us to understand the results in universal mental health promotion and prevention trials and who will profit from participating in such interventions.

Parents sense of competence in this project show inconsistent results, where PSOC initially showed a significant increase on both subscales, whereas this effect alternates between satisfaction and efficacy between one and four years follow up.

The effect sizes are marginal, thus making it difficult to interpret the findings. Other studies have found stronger effects of parent training on parents sense of competence (Ohan et al., 2000), but these were parents of clinically referred children. Parents' perceived competence in the parenting role (efficacy) have been found to not be related to child behavior, while reports of parents' liking of the parenting role (satisfaction) have been found to be negatively related to externalizing child behavior (Ohan et al., 2000). In community samples, where the level of child problems is generally low, parents, particularly mothers, do not use this absence of problems as a basis by which to judge their effectiveness (Ohan et al., 2000). Rather, they may rely on other aspects of child behavior, such as child competencies or academic achievements, which were not measured in this sample. Gardner et al. (2006) tested the effectiveness of a parenting intervention delivered to a community-based voluntary-sector organization and found, in contrast to some prior studies (Mendez-Baldwin & Busch-Rossnagel, 2003), that changes in parents sense of competence did not contribute to child outcome, whereas change in positive parenting skills did.

To our knowledge, there are few studies investigating the effects of a parent training program on child behavior problems in non-clinical samples. As this is a non-clinical sample, there were some interesting differences that emerged between the intervention and control group regarding child behavior problems (ECBI). There is an immediate effect of parent training in reducing child behavior problems, but this effect is small, and not sustained one and four years after the intervention. From post test to four year follow up, the control group shows a significant larger drop in ECBI scores compared to the intervention group (small effect). In addition, the control group shows a lower ECBI mean after four years compared to the intervention group. The Basic IY program has been shown to significantly reduce problem behavior among children in a number of studies (Gardner et al., 2006, Webster-Stratton, 1998; Webster –Stratton, & Hammond, 2001), both short term and long term. These studies have focused on clinical samples diagnosed with oppositional and conduct problems, where the potential for reduction of problem behavior is large. The current sample was non-clinical, where children with high ECBI scores were excluded to ensure that the parent training was used in relation to normal children. Because the children were all in the normal range of child behavior, we did not expect large changes as a result of the parent training. In addition,

problem behavior naturally declines with increasing age, resulting in a negative correlation between ECBI scores and age (Reedtz et al., 2008). This might account for the significant reduction from post to four year follow up on ECBI scores in the control group, as they show a more gradual decline in ECBI scores. The intervention group showed a large drop initially, but then declines in smaller increments at follow up. As this group has little room for improvement past post test, the potential for reduction in ECBI scores are larger in the control group. In longitudinal studies on problem behavior among children, this poses a challenge where the attribution of treatment effects becomes increasingly difficult over a long time span.

Lower ECBI scores would be a crucial factor in a parent training program primarily aimed at *treatment* of behavior problems or conduct disorders, while a public prevention approach should shift the focus towards risk factors. It is these known risk factors that are addressed in effective mental health promotion programs (Sturgeon, 2007). A public health approach to the promotion of parenting skills is crucial, and in addition to treatment, efforts should be made to support parenting practices that have been shown to promote mental health and address the factors that constitute risk factors for mental disorders (Herrman, Sazena, & Moodie, 2005).

As dysfunctional parenting is related to a wide range of health, social and educational problems in children and young people, Sanders et al. (2002) propose a population approach that seek to improve parental competencies in the community is needed. While there already exists a number of different IY programs, the shortest available intervention still represents a rather extensive parent training regime (12-14 weeks). Although effective, a program such as this is not accessible to many. With the addition of the shortened version of the Basic IY program, intervention can be tailored to the families specific needs, in line with the principle of minimal sufficiency. It represents a brief parenting intervention that requires little therapeutic input and a small time commitment from parents, but can have a significant impact on parenting style and competence; risk factors known to mediate child behavior or misbehavior. In addition, the limited scale of this shortened Basic IY program makes it cost effective in a broad implementation at community level. A study on the costs of a public health infrastructure for delivering parenting and family support (Foster et al., 2007) concludes that a population-wide system of efficacious parenting programs aimed at reducing child behavioral and emotional problems and promoting effective

parenting is quite feasible. Their estimates suggest that these costs could be recovered in a single year by as little as a 10% reduction in the rate of abuse and neglect. A preventive strategy towards reducing child behavior problems would therefore be more economical than treatment alone. One central aspect of prevention and intervention is; what are the most appropriate services to be delivered to whom and when? Should future studies of this shortened version provide additional support to its preventive purpose, we would have a multitude of IY programs available, easily scaled to each families needs.

Limitations

The most important limitation is that we have only examined child behavior based on parents' perceptions, not other informants. This also applies to the behavior of the parents, which are self report measures. There is evidence to suggest a correlation between self report measures of parents and that of observers (Zubrick et al., 2005). These correlations are by no means perfect, but give us some degree of confidence in parents self reports. Unbiased observations of parents and children are needed to further increase our confidence in the results.

In Norway, the prevalence of behavioral problems among children is rather low. As a result of this, the majority of children need the program less and so change very little as a result of them. Changes in child behavior problems would only be modest across the population, as most children do not change, while a few change a lot.

This becomes apparent in our study, where the families with children who had high ECBI scores, and therefore a potential to change a lot, were excluded. It therefore makes it hard to make any inferences as to the effect this program would have in a "true" universal population. Based on the low prevalence of behavior disorders among children in Norway, preventive interventions needs to be applied to a much larger sample in order to assess whether the intervention actually *prevents* the development of such disorders, including in those children who already exhibit high levels of problem behavior. The exclusion was done because of ethical reasons, and children in the clinical range were offered the already implemented and evidence-based Basic IY program. These are ethical challenges that need to be addressed in order to properly conduct prevention studies in a universal population on child behavior problems.

In addition, our sample was based on self-recruitment by the parents and is very homogenous. We can therefore only infer the effects an intervention would have on a population similar to our sample; two-parent families, where many worked full time and had a very high educational level, in short a high socioeconomic level.

All analysis is based on the responses of mothers and three fathers, as there was not enough data to run statistics on fathers. Acquiring enough data from fathers and reducing the attrition rate are challenges that need to be addressed.

Conclusion

The results clearly emphasize the effectiveness of the shortened BASIC IY program in enhancing positive parenting and parental sense of efficacy, changes that are sustained over a four year period. These are parental characteristics known to mediate child behavior problems, and therefore the main goal of this parent training program focusing on prevention. The enhancement of positive parenting skills and parents sense of competence indicate that the program is suitable for this purpose. However, it does not result in any long term changes on parents' reports of child behavior problems, but considering the non-clinical sample, where children who score high on this attribute were excluded, this was as expected.

The results must be interpreted in relation to our sample, which represented two- parent families, had an academic education and worked full time. As the sample was skewed towards high socioeconomic status, we cannot conclude as to the effect the parenting program would have on a more normally distributed sample.

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