



Engagement and Effectiveness of Parent Management Training for Solo High Risk Mothers: A Multiple Baseline Evaluation

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Abstract

Assessed the effectiveness of *The Incredible Years* parent training program with a small sample of four high risk solo mothers in a public clinic setting. All families had a number of risk factors for early drop-out and poor outcomes. Mindful of resource limitations in the public setting, economical strategies were used to enhance attendance rates and engagement. For the outcome evaluation, a multiple baseline across participants design was used. Participants were part of a group of 9 parents. They attended a 2-hour group treatment session weekly for twenty weeks, with booster sessions at 2 and 4 months following treatment. Participants had sons aged between 6 and 9 years diagnosed with ADHD. Family functioning was assessed from a pre-treatment interview schedule, measures of child behaviour and parent and family functioning. Participants also completed program satisfaction and program evaluation measures. Results showed (a) all mothers engaged with and finished the program, (b) improvement in family functioning, (c) improvements in some teacher and parent reports of child behaviour, (d) increased parenting confidence, (e) reduced stress and depression levels for most parent participants, and (f) reports of better parent-child relationships. Additionally, participants all reported being highly satisfied with the program. Findings overall support the use of easy to do engagement strategies and the use of the *Incredible Years* parent training program as an effective, low cost and early step intervention for families at higher risk in a day-to-day practice setting.

Introduction

Parenting is a difficult and challenging task, made more so in the case of solo parenting (Cairney, Boyle, Offord, & Racine, 2003; Herbert, 1995; Mash & Johnston, 1990). Pertinent to this study, mothers of children with ADHD are generally more depressed, isolated, and restricted in their parenting role (Mash & Johnston, 1990). Parents experiencing stress are more likely to make negative appraisals of their child's behaviour, become overly directive, and see themselves as less knowledgeable about parenting practices (Mash & Johnston, 1990; see also Treacy et al., 2005). A recent study found that maternal depression longitudinally predicted onset of conduct problems in ADHD children whereas positive parenting practices predicted a reduced level of conduct-related disturbance (Chronis, Lahey, Pelham et al. 2007).

Parent training is a model that has been extensively researched in terms of its efficacy (Kazdin, 1997; Mash & Johnston, 1990; Reyno & McGrath, 2006; Treacy, 2002). This includes Webster-Stratton's The Incredible Years parent training program, designed to help parents avoid the development of serious child behaviour problems before they result in peer rejection, well established negative reputations, school problems, and academic failure (Webster-Stratton & Handcock, 1998). It is also designed to be cost effective. However, as risk factors accumulate in families with a disruptive child, there is an increased potential for both early drop-out and attenuated outcomes (Ronan & Curtis, 2008), in child and family mental health settings (Nock & Kazdin, 2005). Consequently, to capitalize on an evidence-based model of practice in a day-to-day setting, a major prerequisite is ensuring attendance and participation in high risk groupings. In terms of risk for drop-out and reduced treatment effectiveness, families in the current study all had a number of risk factors present (e.g., solo parenting, low socio-economic status (SES), low level of education, negative life events/stresses, maternal depression, more severe child disruption).

The present study had two main aims. The first was to motivate participants to attend, participate, and finish the program, in light of the evidence indicating risk of drop out in parent training programs (Reyno & McGrath, 2006). The second and overall aim was to assess the impact the Incredible Years parent training program had on the functioning of these parents, their child with ADHD, and their families.

Method

A single participant design was chosen because it allows for the assessment of change in each participant's behaviour over time by repeated measure of dependent variables over the course of the treatment program: "For parents, teacher, therapist, and others charged with changing behaviour, change makes itself known only through multiple measures taken over prolonged observational periods" (Morgan & Morgan, 2001, p. 122). Participants serve as their own controls and this is viewed as the most relevant comparison because behaviour change is measured against his or her own baseline (Morgan & Morgan, 2001). In this way, single case designs are compatible with clinic care setting needs and a "local science" model of service delivery (e.g., Blampied, 1999, 2000; Stricker & Trierweiler, 2006).

Additionally, a multiple baseline across participants design was used to assess further the controlling effects of intervention (Barlow & Hersen, 1984). Multiple baseline designs are designed to be user-friendly in practice contexts (Hayes, 1981; see also Feather & Ronan, 2006). They are able to demonstrate experimentally that the effects of treatment are likely not a function of other influences, including a number of threats to internal validity (Blampied, 1999). Successive replications demonstrate support for the intervention being responsible for any changes observed (Kazdin, 2003). Participants had varied baseline periods prior to commencement of treatment that ranged from 4 to 24 days.

Pre-treatment assessment included a battery of measures (see accompanying manuscript for more detail). It also included a pre-treatment interview to explain the research project and obtain consent, establish goals for treatment, and identify any barriers to attending the program (e.g., Nock & Kazdin, 2005). Daily and weekly baseline measures provided information on family and child functioning prior to intervention. Child behaviours were collected daily during baseline, across the twenty week treatment period, and again for a 2-week period at 4-month follow-up.

Figures and Tables

Table 1
Participants' Response on Parent Satisfaction Questionnaire

Level of satisfaction with overall program

Item	A	B	C	D
1	5	6	7	6
2	4	6	6	4
3	4	6	6	4
4	6	6	6	6
5	7	6	6	6
6	7	6	6	6
7	7	7	7	7
8	7	7	7	7
9	7	7	7	7
10	6	6	6	7
11	7	6	6	6
Average item score	6	6	6	6

Also Rating scale 1 2 3 4 5 6 7

Least satisfied Most satisfied

*Items included for reader convenience

1. The more problems that originally prompted me to begin treatment for my child are at this point
2. My child's problems which I've been treated with since we've been in this program
3. My child's problems which I've been treated with since we've been in this program
4. As far as my child's behavior is concerned, my child's behavior is better now than when we first began treatment
5. The more I know about the treatment program, the more I know about the general principles in family problems and how to solve them
6. As far as my child's behavior is concerned, my child's behavior is better now than when we first began treatment
7. I feel that the approach used to treat my child's behavior problems in this program
8. I would recommend this program to a friend or relative
9. How confident are you in managing (controlling) behavior problems in the future on your own?
10. How confident are you in your ability to manage future behavior problems in the future using what you learned from this program?
11. My overall feeling about the treatment program for my child's behavior

Table 2
Parent Scores on Strengths and Difficulties Questionnaire

Score	Participant	Pre-treatment	Post-treatment	Follow-up
Difficulties	A	26	37	35
Strengths		7	7	7
Impact		7	10	5
Difficulties	B	19	27	15
Strengths		7	6	10
Impact		2	6	6
Difficulties	C	23	24	20
Strengths		4	5	4
Impact		6	5	5
Difficulties	D	16	13	16
Strengths		8	9	4
Impact		2	2	0

Note. Total Difficulties Score (17-41 abnormal, 14-16 borderline, 9-13 normal);
Pre-social Score 0-10; Impact score 0-10 7-12 abnormal, 1-6 borderline, 0-normal;
SDQ = Strengths and Difficulties Questionnaire; Total Strengths = Pre-social Behavior Score;
Total Difficulties = Hyperactivity/Inattention/Emotional Symptoms Scale + Conduct Problems Scale + Peer Problems Score.

Table 3
Owners' Parent and Teacher Rating Scale

Measure	Participant	Pre-treatment	Post-treatment	Follow-up			
Conners		Parent Teacher	Parent Teacher	Parent Teacher			
Total Z	A	87	61	83	61	81 (50)*	62
Total Z	B	70	77	82	69	66	71
Total Z	C	87	74	84	64	85	61
Total Z	D	72	66	61	60	64	56

Note. Conners' Total T clinically significant at T1 67;
(*) Z = Father's scores for child D

Table 4
Parent Functioning Scores on PSI and BDI

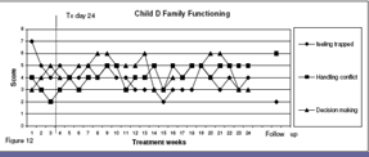
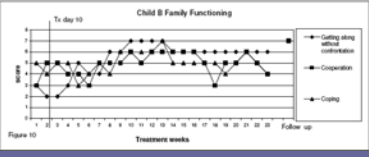
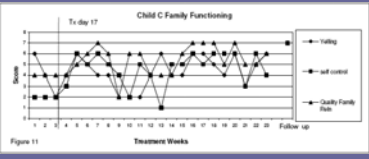
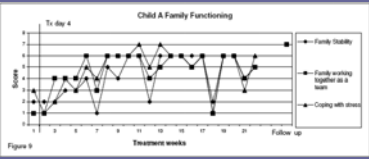
Measure	Participant	Pre-treatment		Post-treatment		Follow-up	
		Score	Percentile	Score	Percentile	Score	Percentile
PSI	A	166	99	139	99	92	90
	B	82	80	90	90	53	10
	C	95	90	94	90	147	99
	D	110	99	121	99	72	55
	BDI		Score		Score		Score
	A	2		7		8	
	B	11		14		7	
	C	14		20		34	
	D	21		1		9	

Note. PSI=Parental Stress Index; Total Stress 150+ normal range, 7-100 percentile = clinically significant level of stress
BDI=Beck Depression Inventory; BDI < 10 = none or minimal depression, 11-18 = mild to moderate depression, 19-20 = moderate to severe, 21-43 = severe depression.

Table 5
Participant Scores on Group Goals

Participant	Mid-Treatment	Post-Treatment	Follow-up
Number of items scored >5			
A	7	8	16
B	13	14	17
C	9	13	10
D	1	5	13

Note. There were 17 goals in total.



Method

Family functioning scores were collected weekly beginning at baseline and continuing during treatment, and again at 4-month follow-up. All child behaviour and parent functioning measures were collected again at post-treatment and at 4-month follow-up. Other data were collected at pre-treatment, post-treatment, and follow-up. At post-treatment, evaluations also included additional satisfaction and program evaluation measures.

Recent meta-analyses of parent training programs identified a number of factors that mitigate outcomes and predict drop-out (Lundahl et al., 2006; Reyno & McGrath, 2006). Each family in the current study had multiple risk factors for drop-out and poor outcomes (e.g. solo parenting, low SES, maternal depression, severe child behaviour).

Thus, in addition to an assessment of the effectiveness of parent training for high risk families, a first aim of the current study was to assess whether mothers would attend regularly, complete, and be satisfied with the program. To assist with motivation, but mindful of keeping costs low, a variety of strategies were used to increase engagement as well as assist with improving outcomes (Ronan & Curtis, in press):

1. assessing for obstacles to attendance (Kazdin, 1997; Nock & Kazdin, 2005);
2. weekly phone check in, and ongoing assessment of progress (Dishion & Kavanagh, 2003);
3. a planned home visit known to improve attendance (Dishion & Kavanagh, 2003);
4. weekly goal setting and evaluation of previous week's homework and goals;
5. planned booster sessions.

Results

In terms of engagement, there was a relatively high rate of attendance with all participants attending at least sixteen of the twenty sessions (range = 16-19). All parents completed the program and all attended scheduled booster sessions. The Parent Satisfaction Questionnaire completed at the conclusion of the training program rated items on a 1-7 Likert scale (1 = least satisfied, 7 = most satisfied). As seen in Table 1, items related to levels of satisfaction with the program were all rated at 4 and above indicating a general level of satisfaction. Items relating to parenting confidence were all rated above 5 indicating above average levels of confidence in managing challenging behaviour. All participants scored a high level of satisfaction with the course with regard to recommending the program to a friend (all rated a 7) and overall feeling about the value of the treatment program for their child and family (one rated a 6; the others, 7). Finally, all parents attended all planned booster sessions.

In terms of outcomes, figures and tables are provided to reflect outcomes of (a) ongoing evaluation, (b) pre-post-follow-up evaluation and (c) outcomes related to program satisfaction. See the accompanying manuscript for more detailed information.

Discussion

The results of this study provide evidence to support the Incredible Years parent training as having a number of beneficial effects on the functioning of families of solo mothers with children diagnosed with ADHD. The improvement in (a) targeted family functioning problems, (b) teacher reports of child behaviours, (c) number of goals achieved related to child behaviours, and (d) the improvement in stress and depression scores for most participants provides support for the effectiveness of this program as carried out in a public health setting. Additionally, all participants reported (a) improvement in parent-child relationships, and (b) increased confidence in parenting ability.

Findings demonstrated that these mothers all engaged with the program in the sense that they attended most sessions, they all completed training and booster sessions, and they all reported high levels of satisfaction with the program. Thus, despite the absence of universal change on all indicators (e.g., daily behaviour ratings; parent reports), overall findings support the inclusion of low cost parent training for solo mothers in a public mental health setting as part of an overall continuum of universal through targeted and intensive services.

In terms of improvements, family functioning showed improvement across treatment. In particular, targeted areas of family functioning, explicit treatment goals, and general levels of maternal stress and depression improved in most cases. This is consistent with other studies showing that parent functioning can be improved with parent training (Kazdin, 1997; Renyo & McGrath 2006; Treacy et al., 2005). A number of factors could account for some equivalent parent report findings. For example, families were all selected from the wait list of referrals to this clinic which, based on referral criteria, puts them in the top 3% of families in terms of dysfunction; and the single case study design magnifies individual cases. In addition, parental psychopathology has been found to increase negative ratings of child behaviour (Breen & Barkley, 1988; Marsh & Johnston, 1990; Treacy et al., 2005). The fact that Parent C reported increased levels of stress and depression may have influenced her ratings on various indicators. An alternative explanation to the pattern of parent reports is that children may not have improved where indicated. Nevertheless, the strength of this explanation is attenuated by the fact that daily and weekly reports tended to reflect improvements, at least for some behaviours.

Teacher ratings provided some evidence supportive of parent training effectiveness in three of four cases. While parents reported feeling better about their parenting skills and more positive about specific features of their child's daily problems and family factors, their perceptions of overall child behaviour as reflected on the Conners' rating scales was not as positive overall as teachers, including prior to parent training. Parents often lack the opportunity to compare their child's behaviour with a number of other age related peers, whereas teachers have ready comparisons in the classroom and may have more realistic and perhaps more objective expectations of age appropriate behaviour.

Given recent meta-analytic findings reflecting poorer outcomes as a function of solo parenting, low SES, more severe forms of child behaviour, and a number of other relevant risk factors (Reyno & McGrath, 2006), these findings are encouraging, particularly in supporting such an intervention as a cost-effective first line approach in an overall continuum of care. Additionally, raising the profile of engagement strategies in practice settings has merit. One question for future research includes what strategy, or combination of strategies, maximizes participation for high risk families while keeping costs contained.