



## **A multicentre controlled study of an early intervention parenting programme for young children with behavioural and developmental difficulties**

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**ABSTRACT.** The aim of the experimental study was to evaluate the effectiveness of a parent training intervention for young children with varied difficulties and to examine the differential effects of the intervention for children with and without a developmental difficulty. A quasi-experimental waitlist design was employed and participants were parents of 81 children aged three- to six-years ( $M = 53.30$  months;  $SD = 10.80$  months) with behavioural and/or developmental difficulties, who received parent training ( $n = 46$ ) or 'treatment as usual' services ( $n = 35$ ) over a 12-week period. Assessment took place before and immediately following the 12-week intervention for both groups and five-months later for the parent-training group. Significant changes were found, including improvements in parent reports of behaviour problems, parental stress and independently rated observations. Changes in behavioural difficulties were greater for the parent-training group compared with the treatment as usual group and no differential effects emerged for children with and children without a developmental difficulty. The findings suggest that parent training is equally effective for young children with exclusively behavioural problems and those with associated behavioural and developmental difficulties. This highlights the clinical utility of parent training as a broad tool of intervention for young children referred to frontline mental health settings.

**KEYWORDS.** Behavioural problems. Developmental delay. Parent training. Quasi-experimental study.

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**RESUMEN.** El objetivo del estudio fue evaluar la efectividad de la intervención de escuela de padres para niños pequeños con dificultades y examinar si hay diferentes efectos para los niños con dificultades de desarrollo y los que no las tienen. El estudio tuvo un diseño cuasi-experimental con lista de espera y los participantes fueron padres de 81 niños de tres a seis años ( $M = 53.30$  meses;  $DT = 10.80$  meses) con problemas de conducta y/o desarrollo quienes recibieron entrenamiento de escuela de padres ( $n = 46$ ) o un servicio de «tratamiento habitual» ( $n = 35$ ) durante 12 semanas. Se llevó a cabo una evaluación antes e inmediatamente después de la intervención de 12 semanas para ambos grupos y cinco meses más tarde para el grupo de escuela de padres. Se encontraron cambios significativos, incluyendo mejoras en los problemas de conducta informados por los padres, estrés paternal y observaciones puntuadas independientemente. Los cambios en las dificultades conductuales fueron mayores para el grupo de la escuela de padres que en tratamiento habitual y no se encontraron diferencias entre niños con y sin dificultades de desarrollo. Los hallazgos sugieren que la escuela de padres es igualmente efectiva para niños con dificultades de conducta y aquellos que presentan también dificultades de desarrollo. Esto subraya la utilidad clínica de escuelas de padres como herramienta para la intervención con niños pequeños en el ámbito de salud mental de primera línea.

**PALABRAS CLAVE.** Problemas conductuales. Retraso de desarrollo. Escuela de padres. Estudio cuasi-experimental.

Parent training is the most commonly used mode of intervention for addressing behavioural problems in children (Carr, 1999). This approach has been shown to significantly decrease conduct problems, increase prosocial behaviour, reduce parental stress and improve parent-child interactions (Hutchings *et al.*, 2007; Kazdin, 1997; Lundahl, Risser, and Lovejoy, 2006; Nixon, 2002; Serketich and Dumas, 1996; Taylor and Biglan, 1998). Follow-up studies suggest that such gains are maintained over time from one month to three years post treatment (*e.g.* Long, Forehand, Wierson, and Morgan, 1994; Webster-Stratton, Hollinsworth, and Kolpacoff, 1989). In addition, parent training has been shown to be effective in reducing behavioural problems among children with developmental disabilities (*e.g.* Ducharme, Popynick, Pontes, and Steele, 1996; Hudson *et al.*, 2003; Koegal, Bimbela, and Schriebman, 1996). Overall, the literature on outcomes attests to the clinical utility of parent training as a treatment for children who exhibit externalising behavioural problems. Furthermore, experts believe that parent training is most effective when used as an early intervention for parents of young children (Brestan and Eyberg, 1998).

However, the studies that compile evidence for the effectiveness of parent training for young children tend to employ exclusionary criteria, thus precluding the participation of many families (*e.g.* Sanders, Markie-Dadds, Tully, and Bor, 2000; Scott, Spender, Doolan, Jacobs, and Aspland, 2001; Webster-Stratton and Hammond, 1997). For example, in an impressive frontline study of children referred to mental health services due to anti-social behaviour, Scott *et al.* (2001) reported that out of 430 referrals 124 (28%) were excluded from the study as the child presented with co-morbid difficulties such as developmental delay and other conditions requiring separate treatment. Interestingly

the issue of adapting existing parent training programmes for parents of children with intellectual disabilities has been considered in the literature (*e.g.* McIntyre, 2008).

Therefore, the question remains as to whether parent training in child mental health settings can be effective for a broader range of children, including children who have co-morbid difficulties such as developmental delay or if this group require adapted interventions such as that described by McIntyre (2008). This is an important question as research has documented a strong interrelationship between developmental difficulties and behavioural problems in preschool age children (*e.g.* Baker, Blacher, Crnic, and Edelbrock, 2002; Baker *et al.*, 2003). In addition, given the transient nature of the early years of a child's life, there is considerable debate over the validity of assigning formal diagnoses for behavioural problems (*e.g.* Campbell, 2002) or developmental type problems (*e.g.* Whitehurst and Fischel, 1994).

Kazdin and Weisz (1998) have highlighted the need for studies to explore the issue of comorbidity and to determine whether different disorders might have a differential effect on outcome. Researchers are beginning to explore the relative effectiveness of parent training for children with different disorders/difficulties. For example, Hartman and colleagues investigated the differential effects of parent training on young children (aged four to seven years) with conduct problems and attentional problems and those with conduct problems without attentional problems (Hartman, Stage, and Webster-Stratton, 2003). With a large sample of 81 boys and multiple levels of assessment, the authors found that parent training was equally effective for boys with conduct problems complicated by attentional problems as it is for those without attentional problems. This research draws attention to the potential of parent training to be used for children with and without attentional problems, and by extension other developmental difficulties.

A second issue to be considered is the evidence for the effectiveness of these programmes when applied in real world settings and more specifically community child mental health services. Scott *et al.* (2001) highlight that most treatment outcome research of parenting programmes has taken place in specialised university research clinics thus limiting their external validity for use in a community child mental health settings. Barnes, Stein, and Rosenberg (1999) highlight the need to consider this issue and the limited ecological validity of randomised control trials. They go on to argue that there is a need to use alternative strategies. A small number of studies, such as Taylor, Schmidt, Pepler, and Hodgins (1998) have addressed this issue by using alternative research designs, but this is less common in the UK and Ireland. Scott *et al.* themselves evaluated the impact of a parent training programme in the UK in a group of 141 children aged 3 to 8 years referred to a mental health service for anti-social behaviour. Their findings supported the clinical utility of parent training as an intervention for treating anti-social children in these settings. Indeed, this is one of the few studies that investigates the effectiveness of a mental health intervention for behavioural problems in a frontline mental health setting, which is an important element in identifying empirically supported interventions (Chambless and Hollon, 1998).

### *The present study*

Taking these two arguments together, it would be valuable to know whether parent training could be used effectively for children with and without developmental difficulties who present at community child mental health settings. To our knowledge, no study has yet explored this research question and therefore the current study evaluated the effectiveness of an early intervention parent-training programme in a clinical setting.

The Parents Plus Early Years Programme (PPEY; Sharry, Hampson, and Fanning, 2003) was developed as a broad parent training intervention that could be relevant for both children with behavioural problems and children with a range of mild developmental difficulties (such as developmental delay, autistic spectrum and speech and language disorders) and thus could be adapted as a front line intervention for the majority of pre-school children referred to child mental health services. The focus of the PPEY programme is on developmental and behavioural goals rather than on the specific childhood problems and disorders. The aim is to empower parents to achieve specific goals such as helping their child concentrate, learn or communicate more, or on helping their child cooperate and behave more prosocially.

### *Delivery of PPEY*

The PPEY uses a combination of seven group and five individual sessions, and runs over 12 weeks. The group sessions employed generally involve 8–12 parents meeting with one or two facilitators in a 2-hour session. The session topics are drawn from two teaching DVDs, which consist of over seventy videoed scenes of real parent–child interactions that were filmed both at home and in the clinic. These topics are organized around main themes, which are outlined in Table 1.

**TABLE 1.** Content of the Parents Plus Early Years Programme.

<i>DVD 1 – Building a positive relationship and promoting development</i>	<i>DVD 2 – Building cooperation and responding to misbehavior</i>
- Introduction/ Tuning into your child	- Understanding and responding to misbehaviour
- Child-centred play and communication	- The praise–ignore principle
- Encouraging and supporting your child	- Assertive parenting – taking the lead with children
- Expanding language and teaching new tasks	- Assertive parenting – following through on rules
- Using books and other activities	- Teaching children new skills using rewards and routines

The video input is backed up by group discussion, practice exercises, skills role plays, homework activities and handouts. A key feature of each group session is balance – each week the aim is to introduce one positive parenting idea (*e.g.* play, special time, encouragement, supporting children’s learning and language) and one discipline/ behaviour management idea (*e.g.* clear instructions, distractions, routines, consequence, assertive parenting etc.) thus addressing both the need to make the course positive and preventative, addressing children’s learning and developmental needs, while also tackling the behaviour problems that parents are frequently concerned about. Central to the group sessions are the opportunities for shared learning and mutual support, which can be of great benefit to parents. In addition, the PPEY emphasizes

a collaborative and strengths-based style of working with parents (Sharry, 2007). The emphasis is not on didactic teaching, but on building on parents' strengths empowering them to find their own positive way of communicating to their children and to finding their own solutions to behaviour problems.

The individual sessions, which include parent, child and therapist, are designed to give parents an opportunity to 'try out' the ideas in the course with the support of a coach. They also give time for the therapist to listen to the specific concerns of parents, and to tailor the ideas and input to the individual child's needs. An important feature of the individual sessions in the PPEY is the use of video feedback. During the session, the therapist makes a short video of the parent and child interacting together (usually during child-centred play, but also in parent-directed activities such as tidying up toys or during a home-based routine such as dressing). The video is then replayed and collaboratively analysed by therapist and parent and becomes the basis for helping the parent reflect about their interaction with their child. The emphasis during the video review is on providing strengths-based feedback to the parents thus helping them to identify and build upon their existing skills and strengths.

#### *Previous study*

A previous small-scale uncontrolled study of the PPEY programme (Sharry, Guerin, Griffin, and Drumm, 2005) provided preliminary support for the effectiveness of this programme, with parent report and independent observations indexing an improvement in child behaviour problems, parental stress levels and parent-child interactions. The current study set out to replicate this study in a larger multi-site controlled investigation, and, in particular, aimed to determine whether such an early intervention programme could be equally effective for children with and without a developmental difficulty.

However, it should be noted that the study is framed within the context of Campbell *et al.* (2000) framework for evaluating complex interventions, and is considered to represent an exploratory trial. Within this context the aim of the study is to establish initial evidence for the effectiveness of the PPEY programme compared to treatment as usual in a frontline child and adolescent mental health service.

## **Method**

### *Design*

This study employed a quasi-experimental design (Montero and León, 2007; Ramos-Álvarez, Moreno-Fernández, Valdés-Conroy, and Catena, 2008) which incorporated both a repeated measures design and a comparative group design, evaluating the treatment effects of attending parent training group (PT) over time and then against treatment effects of a Comparison group, which received treatment as usual (TAU). TAU typically consisted of three to five contact sessions at the clinic during a 12 week treatment period including a multidisciplinary assessment and individual therapy appointments. With Time being the central independent variable, assessment of each case took place at either two (TAU) or three (PT) stages, which related to pre-programme, post-programme and follow up (PT only).

### Research context

The current investigation took place over a two-year period in the naturalistic setting of a child mental health service at the Mater Hospital in Dublin, Ireland. Recruitment took place at four different clinics, one at the hospital site, and three in community settings in Dublin. The programme was open to all parents of children who were referred to the multi-disciplinary preschool team for assessment. All of the children underwent multi-disciplinary assessment and no child was excluded on account of their particular difficulties.

### Participants and sampling

Within any given 12-month period two PT groups were run in each setting (March and September). A sequential block design, based on Scott *et al.* (2001), was used to assign participants, with parents being assigned to the PT group or the TAU group depending on the date of referral (see Table 2). The TAU group were offered a place on the next parenting programme after Time 2 data had been collected, however where members of this group did attend a subsequent parenting group, they were not then included in treatment data.

**TABLE 2.** Sequential block design used to allocate parents to the two groups.

<i>Time</i>	<i>0-3 months</i>	<i>3-6 months</i>	<i>6-9 months</i>	<i>9-12 months</i>
PPEY running		Yes		Yes
Recruitment	PT group	TAU group	PT group	TAU group

*Note.* PT = Parent treatment, TAU = Treatment as usual.

Participants recruited at the baseline stage were parents of 117 children aged 36 months (3 years) to 80 months (6 years 8 months). Overall 65 were recruited to the PT group and 52 to the TAU Group. The data collected largely represents mothers' assessments, as the majority of single parents taking part without a marital spouse or partner were mothers. Demographic information and details on the presenting difficulties of the children at the baseline stage is presented in Table 3. Of the 36 (31%) parents who did not complete postassessment, 19 were from the PT Group (PT incomplete) and 17 were from the Comparison Group (TAU incomplete). A series of Univariate ANOVA revealed no significant differences between completers and non-completers of the programme or between the PT Group and the TAU group on parent-reported data at the baseline stage across any measure.

**TABLE 3.** Demographic information for the participants of the study.

<i>Measure</i>	<i>PT group (n = 46)</i>		<i>TAU group (n = 35)</i>		<i>PT incomplete (n = 19)</i>		<i>TAU incomplete (n = 17)</i>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Age of parent (in years)	35	8	33	6	28	6	33	5
Age of child (in months)	53.70	10.70	52.30	11.20	55.20	12.90	52.30	7.90
Gender of child	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Male	37	86	29	83	11	58	14	82
Female	9	14	6	17	8	42	3	18
Type of difficulty	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Behavioural/Emotional	18	39	11	31	7	37	5	29
Developmental	28	61	24	69	12	63	12	71

*Note.* PT = Parent treatment, TAU = Treatment as usual.

In the present study a distinction is made between children with exclusively behavioural or emotional difficulties (behavioural subgroup) and those whose difficulties included a developmental disability (developmental subgroup). The developmental subgroup included children whose presenting difficulty included developmental delay, speech and language delay or other pervasive developmental disorder (including autism). The behavioural subgroup included children whose presenting difficulties involved over activity/inattention, behavioural problems and/or emotional difficulties. This categorisation was made on the basis of an initial multidisciplinary team assessment made during initial intake process. This process always involved psychology and speech and language therapy, and also psychiatry and social work. Assessment of developmental delay was primarily made using formal measures of assessment such as cognitive or IQ-based measures as BAS-II, Griffiths, WPPSI and formal speech and language assessments. In addition developmental checklists, structured observations and semi-structured interviews were also incorporated. Any inconsistencies across the multiple measures were resolved by the team to arrive at a formal assessment of developmental delay or not.

*Dependent measures*

- Strengths and Difficulties Questionnaire – Parent Form, Preschool Version (SDQ 3/4; Goodman, 1997). The SDQ contains descriptions of 25 traits, 10 of which would generally be regarded as strengths, 14 which would be thought of as difficulties, and one of which is neutral. The scale yields a ‘total difficulties’ score (SDQ-TD) and five subscales, *Hyperactivity* (SDQ-HYP), *Conduct problems* (SDQ-CON), *Emotional symptoms* (SDQ-ES), *Peer problems* (SDQ-PP), and *Prosocial behaviour* (SDQ-PRO). Each subscale is scored on a three-point likert scale; not true, somewhat true and certainly true with total subscale scores ranging from 0-10, and total difficulties score from 0-40. The *SDQ-TD* scale demonstrated moderate internal validity in this study (Cronbach’s alpha .70). For

the subscales, internal reliability coefficients varied from below the acceptable level for *SDQ-PP* (.51) to within the acceptable range for *SDQ-HYP* (.69) and *SDQ-ES* (.61) and, to above the acceptable range for *SDQ-CON* (.78) and *SDQ-PRO* (.72). As the *SDQ-PP* scale fell below acceptable levels it was excluded from the analyses. The preschool SDQ measure was used with all children as there are relatively minor differences between the 3/4 years-form and the 4 years plus form.

- Parental Stress Scale (PSS; Berry and Jones, 1995). The PSS is a self-report measure that assesses an individual's subjective feelings of strains, difficulties and dissatisfaction as a parent. Parents are presented with 18 statements that describe feelings and perceptions about the experience of being a parent, having regard to how their relationship with their child typically is. Parents are asked to agree or disagree with items in terms of their typical relationship with their child or children and to rate each item on a five-point likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The scale yields a total score and in the current study this demonstrated a good internal reliability (.85).
- Independently rated video observations. In addition, to the standardised measures above, a seven minute video observation of a «free play and tidy up» session between parent and child was independently analysed for the PT group at time 1 and time 2. The free-play game was selected to have as few rules as possible and include playing with construction bricks. The video data were analysed for frequency counts of the following behaviours: a) alpha commands (clear, constructive parent-child requests), b) beta commands (vague, ineffective parent-child requests), c) parent child questions, d) parent attend (positive comment, description or imitation towards child), and e) reward (verbal or non-verbal positive reinforcement to specific child behaviour). The coding system was based on the work of Mc Mahon and Forehand (Forehand and McMahan 1981; Forehand *et al.*, 1978) and was carried out by four trained observers working in pairs who were blinded to the stage of interaction (*i.e.* pre- or post-programme). In addition, of the four observers one was trained in the delivery of the programme, however the remaining three had not been exposed to the intervention. The observers underwent an intensive training day consisting of reviewing video sequences and discussing the coding frame under the supervision of an experienced observer. In addition, the data were rated by observers working in pairs, and only those behaviours that were agreed by both observers were included, which increased the reliability of the analysis.
- Parent Defined Problems and Goals Form (Sharry *et al.*, 2005). Parents were asked to identify the three main problems they were concerned about and the three goals they had for attending the service. Parents then rated on a visual analogue scale the current severity of the problems somewhere between 'not a problem' and 'couldn't be worse' and how close they were to achieving their goals somewhere between 'very far away from the goal' and 'have reached this goal'. This measure was completed by both the PT and TAU groups, pre and post treatment and an average score was calculated for both parent-reported problems (PRP) and parent-reported goals (PRG) was calculated.



### Procedure

While parents in the PT group attended the PPEY sessions over 12 weeks, parents in the TAU group received routine multidisciplinary child mental health services. The latter services typically consisted of three to five contact sessions at the clinic during the 12 week treatment period. These contact sessions included a multidisciplinary assessment and individual therapy appointments. Appointments included supportive family therapy, family reviews and speech and language therapy. Parents were considered to have successfully completed the PPEY programme if they attended more than half of the 12 possible sessions. Demographic details and informed consent were obtained from all parents, and parent report measures were administered for both PT group and the TAU group participants at baseline (0 weeks – Time 1) and post-programme (12 weeks - Time 2). The PT group participants also completed the parent report measures at five-month follow-up (32 weeks - Time 3).

### Results

Preliminary analyses were conducted to check the comparability of the two treatment groups and the representativeness of the overall data. Of the 117 parents who were assigned to the PT group or the TAU group, 81 (69%) completed post-assessment, 46 from the PT group and 35 from the TAU group. Of the 36 (31%) parents who did not complete post-assessment, 19 were from the PT group and 17 were from the TAU group. A series of two-way ANOVAs examining the age of the child and the parent, and scores at time 1 on the dependent variables revealed no significant differences between completers and non-completers or between the PT group and the TAU group on the child's age and the majority of the dependent variables. However, a significant main effect was identified for the *SDQ-TD* scale between the two groups, with the PT group (including completers and non-completers together) showing higher scores than the TAU group. Finally, a chi-square analysis was used to test the comparability of the groups in terms of the gender of the child and the presenting difficulty. However, the groups did not differ significantly on these characteristics. These results highlight that the sample used was a representative one and that the two groups, for the most part were comparable. Where there was a significant difference between the groups, it was not related to participant attrition but rather reflected that the PT group at time 1 had greater difficulties than the TAU group.

Following this, in order to analyse the impact of the treatment two main analyses were conducted. Firstly, taking the PT group ( $n = 46$ ) and the TAU group ( $n = 35$ ), a series of complex analysis of covariance tests (ANCOVAs) were used to compare outcome immediately following intervention between the two groups, controlling for group scores at time 1. This method of analysis was included in order to allow for some control over the possible influence of the differences between the groups identified above. In this analysis, type of difficulty (behavioural subgroup vs developmental subgroup) was included as an additional variable. Intention to treat principles were applied in the group comparison analysis and parents remained in the group they were originally assigned to whether they successfully attended 50% of the sessions or not.

In addition, two levels of analysis were completed. Firstly, parents who did not complete post-programme data collection were excluded. Following this, the last valid observation was carried forward, which meant that pre-programme scores were used thus assuming that no change occurred for parents that did not complete data collection.

A series of complex ANOVAs were then used to examine the longer term outcomes for members of the PT group ( $n = 41$ ) who were followed up at five months post programme. In this analysis, *type of difficulty* was again included as an additional variable. With all complex ANOVAs, the interactions and main effects were considered and tests of simple effects were used to explore significant interactions. Effect sizes were based on Cohen's  $d$  and were calculated for significant effects using Thalheimer and Cook's (2002) approach.

#### *Analysis of treatment effects: Group comparison*

Descriptive statistics for PT and TAU parent-report data at time 1 and time 2 data collection points are displayed in Table 4, along with the results of the ANCOVA analyses. Mean scores are not reported separately here for the behavioural and developmental subgroups as no significant interactions were observed between the independent variables of *group* (PT vs. TAU) and *type of difficulty* on any of the parent report measures. In addition no main effects of *type of difficulty* were identified. This suggests that there was no evidence of differential outcome immediately following the programme for the behavioural and developmental subgroups.

**TABLE 4.** ANCOVA analyses comparing parent treatment and treatment as usual group overtime.

	PT group		TAU group		ANCOVA results		
	Time 1 Mean (SD)	Time 2 Mean (SD)	Time 1 Mean (SD)	Time 2 Mean (SD)	Group effect	Direction	Effect size
SDQ-TD	18.72 (5.59)	14.71 (5.93)	18.13 (5.46)	17.17 (5.68)	$F_{(1,76)} = 8.66, p < .01$	PT < TAU	.52
SDQ-HYP	6.46 (2.37)	5.14 (2.55)	6.67 (2.47)	6.67 (2.35)	$F_{(1,76)} = 8.46, p < .01$	PT < TAU	.72
SDQ-CON	5.83 (2.89)	4.03 (2.54)	4.89 (2.19)	4.17 (2.24)	$F_{(1,76)} = 3.97, p > .01$	NS	-
SDQ-ES	3.15 (2.22)	2.82 (2.04)	2.84 (2.09)	3.09 (2.48)	$F_{(1,76)} = 3.28, p > .01$	NS	-
SDQ-PRO	6.24 (2.12)	7.09 (2.11)	6.23 (2.18)	6.54 (2.15)	$F_{(1,76)} = 2.26, p > .01$	NS	-
PSS	63.79 (11.84)	56.11 (12.50)	59.49 (11.57)	56.29 (13.32)	$F_{(1,76)} = 1.40, p > .01$	NS	-
PRP	6.63 (1.82)	3.36 (1.92)	6.32 (1.69)	5.11 (1.63)	$F_{(1,69)} = 15.85, p < .01$	PT < TAU	.97
PRG	3.13 (1.65)	6.84 (1.44)	3.51 (1.75)	4.47 (2.15)	$F_{(1,76)} = 23.37, p < .01$	PT > TAU	1.39

*Note.* NS = No significant difference, PT = Parent treatment, TAU = Treatment as usual, SDQ = Strengths and Difficulties Questionnaire, SDQ-TD = SDQ Total Difficulties scale, SDQ-HYP = SDQ Hyperactivity subscale, SDQ-CON = SDQ Conduct Problems subscale, SDQ-ES = SDQ Emotional Symptoms subscale, SDQ-PRO = SDQ Prosocial Behaviour subscale, PSS = Parent Stress Scale, PRP = Parent reported problems, PRG = Parent reported goals.

Moving to the main effects, the analyses revealed significant differences between the PT and TAU groups at time 2 (post-programme) on *SDQ-TD*, *SDQ-HYP*, *PRP* and *PRG*. The PT group showed significantly lower levels of *total difficulties* (mean difference

= 2.46) and *hyperactivity* (mean difference = 1.53) at time 2, with moderate effect sizes. Interestingly the mean level of total difficulties at the end of the programme was in the clinical range for the TAU group, but in the low borderline range for the PT group. Looking at the parent reported problems and goals, parents in the PT group reported less severe problems and significantly closer to reaching their goals after the intervention, with effect sizes in the large range. When an intention to treat analysis was conducted, with the last observed score (In this case the original pre-programme score) carried forward for parents who did not complete Time 2 data collection, the pattern of significance was replicated.

*Analysis of treatment effects at follow-up*

Table 5 reports the descriptive analysis for the analysis of treatment effects over time, extended to the followup period. In addition to the *SDQ* scales, the *PSS*, the *PRP* and the *PRG*, the results of the independent observations are also included. The earlier finding that *type of difficulty* did not impact on outcomes was supported, as no significant interactions were observed between *time* and *type of difficulties* for any of the subscales or observations. As a result mean scores are not reported for the subgroups of behavioural and developmental difficulties.

**TABLE 5.** Analysis of parent treatment group only over time.

	<i>Time 1</i>	<i>Time 2</i>	<i>Time 3</i>	<i>Time Effect</i>	<i>Direction</i>	<i>Effect size</i>
SDQ-TD	18.17 (5.55)	14.48 (6.05)	14.13 (6.27)	$F_{(2, 74)} = 8.82, p < .01$	T1>T2 T1>T3	.81 .89
SDQ-HYP	6.13 (2.41)	5.15 (2.73)	5.17(2.48)	$F_{(2, 74)} = 3.19, p > .01$	NS	-
SDQ-CON	5.56 (2.85)	3.79 (2.42)	3.88 (2.45)	$F_{(2, 74)} = 13.45, p < .01$	T1>T2 T1>T3	1.10 1.05
SDQ-ES	3.13 (2.14)	2.86 (2.06)	2.62 (1.90)	$F_{(2, 74)} = 1.88, p > .01$	NS	-
SDQ-PRO	6.08 (2.18)	7.08 (2.17)	7.15 (1.80)	$F_{(2, 74)} = 7.78, p < .01$	T1<T2 T1<T3	.81 .86
PSS	61.60 (11.03)	54.09 (11.57)	50.33 (12.42)	$F_{(2, 72)} = 28.13, p < .01$	T1>T2 T1>T3	1.15 1.74
PRP	6.63 (1.82)	3.36 (1.92)	-	$F_{(1, 42)} = 79.83, p < .01$	T1>T2	1.94
PRG	3.13 (1.65)	6.84 (1.44)	-	$F_{(1, 42)} = 144.59, p < .01$	T1<T2	2.64
A_Comm	6.12 (4.83)	4.47 (3.05)	-	$F_{(1, 40)} = 4.04, p > .01$	NS	-
B_Comm	7.29 (7.48)	2.38 (2.91)	-	$F_{(1, 40)} = 21.46, p < .01$	T1>T2	.97
Questions	13.98 (8.97)	8.67 (4.91)	-	$F_{(1, 41)} = 17.41, p < .01$	T1>T2	.89
Attends	3.77 (3.11)	10.30 (6.87)	-	$F_{(1, 41)} = 32.81, p < .01$	T1<T2	1.28
Rewards	3.39 (3.55)	4.91 (3.17)	-	$F_{(1, 40)} = 8.55, p < .01$	T1<T2	.65

*Note.* NS = No significant difference, PT = Parent treatment, T1 = Time 1, T2 = Time 2, T3 = Time 3. SDQ = Strengths and Difficulties Questionnaire, SDQ-TD = SDQ Total Difficulties scale, SDQ-HYP = SDQ Hyperactivity subscale, SDQ-CON = SDQ Conduct Problems subscale, SDQ-ES = SDQ Emotional Symptoms subscale, SDQ-PRO = SDQ Prosocial Behaviour subscale, PSS = Parent Stress Scale, PRP = Parent reported problems, PRG = Parent reported goals, A\_Comm = alpha commands, B\_Comm = beta commands.

Significant main effects for change over time were found on *total difficulties*, *conduct problems*, *prosocial behaviour*, and *parental stress*. Post-hoc analyses showed that parents were reporting significantly lower levels of *total difficulties*, *conduct problems* and *parental stress* and higher levels of *prosocial behaviour* immediately after the parent training programme and at follow-up compared with the baseline stage. Each of these differences showed moderate to large effect sizes both post programme and at follow-up. In terms of clinical significance, the scores on *total difficulties* and *conduct problems* moved from the clinical range of difficulty at time 1 to the borderline range at time 2 and time 3. The lack of significant difference on the scales between time 2 and time 3 suggests evidence of a maintenance effect, rather than continued improvement.

Finally, Table 5 also reports the findings for the analysis of the non-standardised measures overtime for the PT group only. The analysis highlighted significant decreases in parent-reported problems and significant increases in parent-related goals, both with large effect sizes, particularly the change in goals. With regards to the independent video observations, significant decreases were noted in beta-commands and questions, and significant increases in attends and rewards, each showing moderate and large effect sizes. These patterns would represent a higher level of child-centred interaction indicating that the parent was attending more positively to their child as well as a reduction in the overall number of parent instructions, particularly those which are not constructive or ineffective. These patterns would be in line with the aims of the PPEY and suggest a significant improvement in the extent to which the parent is focusing on the child and following their lead, which would have positive implications for the quality of parent-child relationship.

### Discussion

The aim of the current investigation was to evaluate the effectiveness of a broad parent-training programme for young children with a range of difficulties including behavioural and developmental difficulties. In particular, the study set out to examine the relative effectiveness of this parent-training programme for children with and without developmental difficulties and to consider effectiveness in a real world setting.

The parents in the PT group reported significant improvements in their children's behaviours (SDQ) and in levels of parental stress (PSS) following the programme. These gains were maintained at follow-up, suggesting the maintenance of these effects in the medium term. Compared to the TAU group the PT Group a greater level of change on the SDQ *total difficulties* and *hyperactivity* scales. It is particularly noteworthy that post intervention, the PT group were rating difficulties in the borderline range compared to the clinical range for the TAU group. These findings were confirmed when a more conservative intention to treat analysis was conducted which assumed no change for parents who did not complete post-programme data collection. Both groups reported similar reductions in *parental stress* (as measured by the PSS) and this is perhaps not surprising as parents in the TAU group were receiving alternative services and as such were making advances in terms of identifying their child's needs, and receiving support. These factors alone may have had a positive impact on parental stress levels.

These findings were complimented by evidence from the analysis of non-standardised data, which showed that parents in the PT group reported significantly higher levels of *goal attainment* and *problem reduction* (on the PRG and PRP) compared to the TAU group. In addition, before and after independent video observation confirmed that on completion of the PT group parents displayed higher rates of child-centred positive behaviours as well as less ineffective parent-child instructions suggesting an improvement in the quality of the parent child relationship. However, these results should be treated with caution as the video measures were not collected with the TAU group (due to the practical difficulties of collecting clinical measures with clients who had not yet started the treatment) and were also not collected at follow up with the PT group (due the practical difficulties of reengaging children who had left the service).

A major finding of the current investigation was that no differential effects were detected for children with and without developmental difficulties attending the PT programme. Generally, children with developmental difficulties are excluded from programmes that are reserved for children with exclusively behavioural problems. Thus, this key finding supports the inclusion of both children with and without developmental difficulty in a video-based parent-training programme.

The study has a number of limitations, which should be considered. First, participants were sequentially rather than randomly assigned to the PT Group or TAU Group conditions. However, while this type of allocation can lead to bias, there was no evidence that the two groups differed systematically at the baseline stage, which minimises any possible negative effect of this method of assignment. Where there was a difference on the *total difficulties* subscale, the PT group were higher. We would be more concerned if the PT group began the study with lower levels of difficulty, which might contribute to a belief that they benefited more. Also the use of ANCOVAs allows for the statistical control of this difference. Nonetheless it would be important in future research to conduct an analysis of the factors that may predict treatment completion. Second, no follow-up assessment was conducted with the TAU group as, for ethical reasons, the PPEY programme was offered to this group. Therefore it is not known whether the longer-term changes in the PT group were due to maturation or intervention alone. However, once they had taken a place on the programme the members of the TAU group were excluded from the study and as such the PT group is not contaminated by those that had received treatment as usual. Finally, while there was no significant difference found between the parents who dropped out and the parents who completed the programme, parents who dropped out did score in the clinical range on a greater number of measures. This raises the issue of whether the target group was a self-selecting one. Therefore the sample may not be fully representative of those who engage in parent-training programme in a frontline mental health setting. However the lack of significant differences between these the completers and the non-completers also addresses some of the concerns around participant attrition, as we can be more confident that the retained sample is not systematically different from the sample lost to attrition.

The study has also a number of strengths in that it took place in the real world setting of a frontline community child and adolescent mental health service. As Scott

*et al.* (2001) have argued, there is a need to evaluate parenting programmes in real world settings, and the present study has added to the literature in this area. It is noteworthy that the programme was open to all parents of children who were referred to the preschool assessment team; there were no exclusion criteria applied and children with the full range of problems including developmental, behavioural and/or emotional problems were included. Children with co-morbid difficulties and families where parents had their own mental health difficulties or social problems were all included. Importantly, the study suggests that parent training can be effective not only with children with exclusively behavioural problems, but also children with co-morbid difficulties such as developmental delay. The availability of broad-based programmes suitable for mixed groups has implications for health equality (O'Hara, 2006). In addition to this general contribution, the present study offers preliminary evidence for the efficacy and effectiveness of the Parents Plus Early Years Programme in particular. Therefore, it can be said that the Parents Plus Early Years programme is an efficient use of resources and funding for early intervention with young children and reinforces the importance of inclusionary parent training programmes in frontline mental health clinics.

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