

## CBT PARENT TRAINING PROGRAM FOR THE MANAGEMENT OF YOUNG CHILDREN WITH BEHAVIOR PROBLEMS: A PILOT STUDY

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**Abstract:** Efficacious parenting group interventions are not routinely available in public child mental health services in Greece. The present study aims to provide a pilot evaluation of a manualised group-based parent training (PT) program developed for use with Greek parents of young children with behavior problems presenting to clinics. The efficacy of an 8-session and an extended 10-session PT program were evaluated with 38 parents of 24 children, aged 4-7 years old. The results revealed significant reductions in parent reported child behavior problems and significant improvement in child psychosocial functioning for both PT programs, though with better intervention effects for the extended 10-session program. The acceptability of the format and the content of PT program as well as limitations and future research are discussed.

**Keywords:** Behavior problems, Parent training, Young children.

### INTRODUCTION

Preschool and early-school children with behavior problems pose an ongoing challenge to child mental health services, as they are at an increased risk of poor long term prognosis and of persistence of symptoms throughout childhood and adolescence (Campbell, 1995; Moffit, Caspi, Dickson, Silva, Stanton, et al., 1996; Moffit, 2006; Piquero, Farrington, Welsh, Tremblay, & Jennings, 2009). A wide range of treatment modalities have been evaluated, some in controlled clinical

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trials, and significant positive effects have been found for parent training (PT) as a treatment option for young children with conduct or oppositional problems (Barlow & Stewart-Brown, 2000; Bishop, Brestan, & Eyberg, 1998; Brestan & Eyberg, 1998; Forehand & McMahon, 1981; Furlong, McGilloway, Bywater, Hutchings, Smith, & Donnelly, 2013; Piquero, Farrington, Welsh, Tremblay, & Jennings, 2009; Richardson & Joughin, 2002; Scott & Dadds, 2009). Although PT programs founded on the theoretical models of behavioral and social learning theory have been widely recognized as the most successful intervention in addressing early-onset conduct problems (World Health Organization, 2009), only a minority of young children with disruptive behavior problems are likely to receive the recommended evidence-based treatment within mainstream child and adolescent mental health services (Eyberg, Nelson, & Boggs, 2008). To date, a variety of PT programs are available, but the most empirically supported parenting interventions are: (a) Helping the Noncompliant Child delivered in individual families (with parent/-s and the child) rather than in groups (McMahon & Forehand, 2003), (b) the Incredible Years (IY) parenting program delivered in group sessions (Webster-Stratton & Hancock, 1998; Webster-Stratton, 1991), (c) the Parent Management Training-Oregon Model (PMTO) delivered in single families or group sessions (Forgatch & Patterson, 2010), (d) the Parent-Child Interaction Therapy (PCIT), in which parent and child are seen together (Eyberg & Bussing, 2010; Eyberg & Funderburk, 2011), and (e) the Triple P-Positive Parenting Program, which includes a multilevel structure to provide parents with varying degrees of intervention (Sanders, 2012; Sanders, Markie-Dadds, & Turner, 2003). All the above PT programs share a common theoretical basis in social learning theory and incorporate behavioral, cognitive, and developmental principles and concepts, as well as relationship-based approaches. The efficacy of some of the existing group-based PT programs has been evaluated cross-culturally, mainly in Anglo-Saxon countries (e.g., Connolly, Sharry, & Fitzpatrick, 2012; Scott, Spender, Doolan, Jacobs, & Aspland, 2001; Taylor, Schmidt, Pepler, & Hodgins, 1998) and Scandinavian countries (e.g., Axberg & Broberg, 2012; Larsson, Fossum, Clifford, Drugli, Handegård, & Mørch, 2009).

A recent evidence-based review of behavioral and cognitive-behavioral group-based parenting interventions for early-onset conduct problems in children, aged 3 to 12 years, concludes that these interventions appear to be effective in improving clinically significant behavior problems, parental mental health and parenting practices, with most outcomes achieving a moderate effect size (Furlong, McGilloway, Bywater, Hutchings, Smith, & Donnelly, 2013). The authors urge that a faithful implementation of an evidence-based PT program appears to be an important component of clinical effectiveness and, thus, practitioners should

consider whether their organization is willing to provide sufficient resources so that they can deliver the intervention with fidelity.

Group-based PT interventions despite being highly effective are not available as a treatment option within child and adolescents mental health services in Greece. Employing evidence-based packaged program in different cultural and linguistic settings requires, besides the certified training, adaptation that comes from cross-cultural differences in child rearing practices, norms and values (Weisz, Sandler, Durlak, & Anton, 2005). Taking into account Greece's economic crisis, with rapidly and drastically decreasing public health expenditure affecting seriously mental health services, as well as the scarcity of funding (Kentikelenis, Karanikolos, Reeves, McKee, & Stuckler, 2014), a replication study of an existing evidence-based PT program, in order to examine its feasibility, acceptability and effectiveness with a Greek population was not considered a viable option. Under the circumstances of constrained capacity of our service (NHS Community Mental Health Centre of Peristeri with a catchment area of approximately 200,000 young people, under the age of 18) to cope with the steadily increasing number of parents seeking help for their young children with behavior problems, we acknowledged a pressing need to design a group-based PT program for use in the clinics, so that more parents can access counseling services within a reasonable time-frame. Thereof, drawing on existing literature from the parent training field (Jenner, 1999; Patterson, 1982; Sanders 2012; Webster-Stratton, 1991) and the empirical evidence of content and delivery components that are important for better child and parent outcomes (CDC, 2009), we developed a manualised PT program for Greek parents with the aim of reducing children's conduct/ oppositional behavior problems.

The present study constitutes a preliminary report of the efficacy of implementing, in a real-world Greek clinical setting, an 8-session PT program as opposed to an extended 10-session program. We hypothesized that: (a) both interventions will produce decrease in parent reported child disruptive behaviors, (b) the Greek parents will find the group-format and the content of the intervention acceptable and helpful, (c) the extended 10-session program will produce more significant reductions in parent-reported child behavior problems as compared to the 8-session PT, through addressing the identified needs and limitations of the latter by both parents and group facilitators, and (d) the changes gained at post-intervention would be maintained at 1-month follow up.

## METHOD

### *Participants*

The sample included consecutively clinic-self-referred parents of 27 children, aged 4-7 years old, who met the study criteria (based on intake clinical interview with the parent and child examination) and signed an informed consent to participate in group-based parenting intervention and in evaluation of its effectiveness.

The foci of the interview were: (a) current problem behavior, (b) child developmental history, (c) everyday family life, (d) family relationships and network, and (e) parenting practices. The inclusion criteria were: (a) the primary referral problem was child misconduct (e.g., temper tantrums, defiance, disobedience, destructiveness, and aggression) that had been occurring for at least 6 months; (b) the child had no debilitating physical impairment, or intellectual deficit, or history of organic brain disorder (e.g., epilepsy, cerebral palsy), or developmental disorder (i.e. autistic spectrum disorder) or severe developmental delay; (c) parents had to have reported a clinically significant number of child behavior problems on SDQ (score 6 and above on Conduct subscale); (d) children with hyperactivity and attention problems were included because of the high comorbidity of these problems; (e) children met the ICD-10 (WHO, 1992) diagnostic criteria for ODD or CD; (f) absence of intra-familial violence (i.e., physical violence between parents, absence of physical abuse, though some parents admitted to occasionally smacking the child).

The parent-group intervention was held in the clinic (one afternoon per week) and no payment was provided to participants.

During the first phase of this study, an 8-session PT intervention (Group 1), called *Eight stairs to a better behavior*, was piloted with 16 parents (6 couples and 4 mothers) of 10 children (all boys), with a mean age 5 years ( $SD = 0.76$ ). Following the completion of the intervention, and having taken into account the needs identified by the participants during the qualitative feedback discussion, we revised the manual and extended the number of PT sessions from 8 to 10.

During the second phase of this study, the 10-session PT program, called *Ten stairs to a better behavior*, was implemented in two groups: Group 2 comprised 13 parents (4 couples, 1 father and 4 mothers) of 9 children (7 boys and 2 girls), with a mean age 5 years ( $SD = 0.76$ ), who self-referred to the service and were meeting the inclusion criteria for the study and waited from 1 to 3 weeks prior to commencing treatment, and Group 3 comprised of 12 parents (4 couples and 4 mothers) of 8 children (6 boys and 2 girls), with a mean age 5.3 years ( $SD = 1.04$ ), who self-referred to the service during the running period of PT program for Group 2, and had to wait

from 10 to 12 weeks prior to entering treatment. All children and parents were of Greek origin. Table 1 presents the demographic characteristics of the three intervention groups.

*Table 1. Sociodemographic characteristics*

	Group 1	Group 2	Group 3
Child's age ( <i>M, SD</i> )	5.0 (0.76)	5.0 (0.76)	5.3 (1.04)
Child's gender			
Male (%)	8 (100%)	7 (87.5%)	6 (75%)
Maternal age	34.4 (1.9)	35.9 (2.0)	35.9 (1.6)
Paternal age	39.6 (1.6)	40.4 (2.0)	39.5 (2.0)
Mother not working	6 (75%)	6 (75%)	5 (62.5%)
Birth order			
Only child	4 (50%)	4 (50%)	3 (37.5%)
First born	4 (50%)	3 (37.5%)	5 (62.5%)
Middle	1 (12.5%)	—	—

**Attendance.** Dropout rate, once parents started the program was low – 11.5% (2 mothers from Group 1, and 1 mother from Group 2). These cases were excluded from further analysis, leaving 3 intervention groups, comprising 8 children each. The remaining mothers in all groups attended > 80% of the sessions, whereas the fathers attended >60% of the sessions.

#### **Manual-based treatment protocol**

The group-based intervention was presented to parents as a “tool-kit” of acquired skills and strategies, aiming at: (a) improving parent-child relationship through developing positive parent-child interactions by teaching parents how to play with their children and how to use effectively praise, rewards and positive attention in order to encourage child's desirable behaviors, (b) understanding children's developmental needs, and teaching them to observe and understand the function of the child's misbehavior, and (c) managing effectively child's maladaptive behaviors through using behavioral techniques.

Each session introduced new parenting skill/s, forming the basis for the next session, and had a fairly tight schedule, packed with a range of activities to explore each skill, to practice it within the session, and prepare to practice it at home in the week ahead. The intervention was delivered in a structured way, providing clear information about how to apply strategies, along with using active skills training

methods involving brain-storming, modeling, role play, feedback, discussions of prepared scenarios, and the use of specific homework. At the end of each session, parents were given hand-outs (tip sheets), so that they could have a clear idea and gain a good grasp of the skills they were introduced to during the session and were going to practice at home. The intervention applies the principles of social learning theory to effect change, and includes behavioral approaches along with cognitive elements since parenting behavior is influenced by the way parents come to see the child. Perceptions and attributions, inappropriate expectations of the parents are challenged if they seem unhelpful (e.g., “He is doing it just to upset me”).

During the implementation of the 8-session program, a contentious aspect of group discussion was parents’ concern about the nature and effectiveness of time out (perceived by Greek parents as a more punitive strategy than smacking or shouting) and rewards (perceived by Greek parents as bribing the child in order to gain his/her compliance). These two parenting strategies needed to be carefully addressed so that parents would gain an understanding of why, when and how to use them. Spending “special play time” with the child during which the parent is asked to practice child-centered behaviors, such as letting the child lead an activity and showing approval, was another parenting strategy that needed to be carefully addressed; Greek parents, usually see play time with their child as an opportunity to quiz and teach them rather than attend to and engage in child’s play activities, as children’s education and academic success constitutes a high priority child rearing value in our society.

Although the 8-session PT program is seeking to foster positive parent-child interactions it was realized that it did not specifically address teaching parenting strategies for helping children to regulate their emotions. Thereof, we decided to expand the PT into a 10-session program (see Table 2) by including additional themes around managing sibling rivalry (need identified by parents during sessions) and around communication skills, learning to model problem solving for children, and managing parental stress – engaging in modeling and regulating their own negative emotions (need identified by the authors). More specifically, the added themes addressed: (a) enhancing further parental awareness of the way they communicate their emotions through verbal and non verbal means; (b) providing acceptance and understanding of the child’s emotion (reflective listening, validating emotions); (c) aiding the child to recognize emotions through labeling (expressing) their feelings; (d) parents verbalizing and regulating their own negative emotions; (e) parents managing their thoughts and emotions, and maintaining self-control. In addition, the duration of each session was extended from 2 to 2 ½ hours (need identified by parents and group facilitators) in the 10-session PT program.

**Table 2. Content of the sessions**

Session	Themes in 8-week training intervention	Themes in 10-week training intervention
1	Understanding children's behavior (ABC). Non-directive play - "special time"	Understanding children's behavior from a developmental perspective. Understanding functional behavior analysis (ABC)
2	Positive attention, giving effective praise. Using effective ignoring to change behavior.	Communication skills: validating, accepting, and expressing feelings, reflective listening, I-messages. Positive attention, giving effective praise. Remembering what it was like being a child. Child-directed interaction skills - "special play time"
3	Giving instructions	Self-control: parent-directed interaction skills, giving commands/ instructions, using effective ignoring
4	Family rules. Child rules. Setting effective limits.	Family rules. Child rules. Setting effective limits.
5	Rewards, reward charts, token economy	Rewards, reward charts, token economy
6	Positive discipline: using natural and logical consequences	Positive discipline: using age-appropriate natural and logical consequences
7	Using time-out	Using time - out Managing challenging behaviors in public places
8	Managing challenging behaviors in public places	Parental problem-solving strategies
9		Managing sibling rivalry, modeling problem solving for children (siblings)
10		Parents coping with stress: managing feelings and thoughts, practicing positive self-talk and anger management strategies.

**Structure of the sessions**

**An opening round.** Overview of what parents have learned and of the aims of the day's session.

**Feedback on home practice.** The main focus is to find out how parents have got on at home with the skills that they have been using, and discussing in explorative ways any difficulty they faced with a particular skill or strategy. Group members are encouraged to think through alternative ways of coping with the child or situations and what they could have done differently.

**Introduction of new skill or strategy.** The new topic or skill is introduced through a variety of different activities, including discussion (brain-storming), thinking about own experiences as a child, small and large group exercises, and role play. Facilitators provide background theoretical information and clear guidance on how to use the new skill or strategy, with examples and through modeling or role play of specific scenarios.

Preparing the use of new skill at home: Parents are prepared for the work they are going to do at home in the coming week, making sure that the tasks are manageable and that they feel equipped to do it and understand what they are trying to achieve.

**Closing round.** Parents are given a hand-out about what they have learnt in the session.

### **Therapists**

Two clinical psychologists with master's degree, who completed a 4-year training course in Cognitive Behavior Therapy (CBT) accredited by the European Association for Behavioural and Cognitive Therapies (EABCT), and a supervisor (CBT trained senior child psychiatrist), were involved in developing the PT program and writing up the manual. The aims and objectives of each session, as well as the structure and the content were specified in detail (i.e. questions to be explored, the vignettes to be discussed, recommended role plays, small and large group activities, preparation for home practice). The groups were co-led by two therapists (2nd and 3rd author) and supervision (1st author) consisted of observation of groups (in vivo), weekly meetings to discuss issues relating to participants and the group, and to adhering to the objectives of each session.

### **Outcome measures**

For the purpose of evaluating the intervention, the following instruments were administered at pre- (T1), mid- (after the 4th session) (T2), post-intervention (T3), and at 1-month follow up (T4).

**The Strengths and Difficulties Questionnaire** (SDQ-Hel; Goodman, 1997, 2001). The SDQ is a brief measure questionnaire that asks parents to rate their child behaviors/symptoms and positive attributes. It comprises 25 items, with answers being rated on a 3-point severity scale. The SDQ provides total difficulties score (TDS), as well as five individual subscale scores: conduct problems, Emotional symptoms, Hyperactivity, Peer problems and Prosocial behaviors. With the exception of the Prosocial subscale, the sum of the other subscales generates the TDS. Because of this, the Prosocial scale was not included in the statistical analysis.



The psychometric properties of the SDQ-Hel (Greek version of SDQ) are good, as have been reported in various studies with Greek samples (Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2001; Papageorgiou, Kalyva, Dafoulis, & Vostanis, 2008; Kaparis & Giannopoulou, 2006). In the present study the SDQ presented satisfactory internal consistency, as calculated using Cronbach's alpha (0.85 for the total Difficulties scale and 0.88 for the total impact scale). The lowest value was found for the subscale measuring peer Problems (0.67) and the highest alpha coefficient was found for Hyperactivity/ inattention subscale (0.94). Conduct and emotional problems subscales had also adequate reliability (0.81 and 0.78 Respectively).

*The follow-up versions of the SDQ* include not only the 25 basic items and the impact question, but also two additional follow-up questions for use after an intervention. Has the intervention reduced problems? (made them *much worse; a bit worse; about the same; a bit better; much better*). Has the intervention helped in other ways, e.g., making the problems more bearable? (*not at all; only a little; quite a lot; a great deal*). To increase the chance of detecting change, the follow-up versions of the SDQ ask about 'the last month', as opposed to 'the last six months or this school year', which is the reference period for the standard version.

*The Impact Measure of the Strengths and Difficulties Questionnaire* (SDQ; Goodman, 1997, 2001). This includes a question about distress and social impairment in four domains: home life, friendships, classroom learning, and leisure activities. Each of these items is rated on a 4-point scale (not at all, only a little, quite a lot, a great deal), scored 0, 1, 2, 3. The total score indicates the impact of child's difficulties on his/her everyday functioning and ranges from 0 to 15.

*Qualitative feedback* was sought by the group facilitators from the participants at the end of the intervention, in the form of semi-structured discussion led by co-leaders who posed questions with regards to: (a) their satisfaction with the PT program (What have you liked most and what least about the parent-group intervention?); (b) the acceptability, usefulness or helpfulness of the ideas and strategies learned during the course (Which ideas and strategies you found most helpful or useful?, Which strategies did you find not that acceptable or not useful?); (c) the impact of the training on their parenting practices (Has the intervention made any impact on your parenting practices? If yes, in what ways?); and (d) the perceived changes in their child's (or their own) behavior. (Has the intervention changed your child's (or own) behavior? If yes, in what ways?).

*Statistical analysis*

Pretreatment differences between the Group 2 and Group 3 in mean outcome were measured using unpaired sample t-tests. A series of mixed between-within subject ANOVAs were conducted in order to explore the impact of PT program (8-session versus 10-session intervention) on change in the TDS, the SDQ subscale scores, and SDQ impact score from pre-, to mid-, post-, and 1-month follow up. Pairwise differences were measured using paired t-tests with a Bonferroni correction to control for type I error. The adjusted alpha was  $0.05/3 = 0.017$ .

**RESULTS**

Pairwise comparisons for the Group 3 indicated no significant change in SDQ total difficulties scores from the beginning to the end of the waiting period,  $t(1) = -1.82, p = 0.11; M = 23.63, SD = 2.26$  and  $M = 24.38, SD = 2.20$ , as well as in the SDQ Impact scores,  $t(1) = 0.36, p = 0.73; M = 9.25, SD = 0.70$  and  $M = 9.13, SD = 0.83$ . Given that Group 2 and Group 3 did not significantly differ in the primary outcome

*Table 3. Repeated - measures multivariate analysis of variance (MANOVA)*

Measure	T1		T2		T3		T4		Time (F)	Group(F)
	M		M		M		M			
	(SD)		(SD)		(SD)		(SD)			
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B		
SDQ TDS	25.00 (2.20)	24.94 (2.69)	18.13 (1.64)	16.25 (1.98)	15.00 (1.31)	13.13 (1.89)	12.63 (1.69)	10.88 (1.31)	618.28***	3.54
<b>Conduct problem score</b>	<b>9.88</b> (0.35)	<b>9.75</b> (0.58)	<b>6.13</b> (0.83)	<b>4.88</b> (0.72)	<b>4.88</b> (0.64)	<b>3.75</b> (0.77)	<b>3.50</b> (0.53)	<b>2.94</b> (0.57)	<b>712.75***</b>	<b>13.21***#</b>
Hyperactivity score	7.50 (1.60)	7.81 (1.38)	6.38 (1.06)	6.19 (1.22)	5.50 (1.31)	5.44 (0.89)	4.88 (0.99)	4.75 (0.68)	144.96***	0.01
Emotional symptoms score	3.75 (1.04)	3.63 (1.20)	2.38 (0.74)	2.31 (0.79)	2.00 (0.76)	2.06 (0.68)	1.63 (0.74)	1.44 (0.51)	51.06***	0.79
<b>Peer problems score#</b>	<b>3.88</b> (0.83)	<b>3.75</b> (0.68)	<b>3.25</b> (0.70)	<b>2.88</b> (0.62)	<b>2.63</b> (0.52)	<b>1.88</b> (0.62)	<b>2.63</b> (0.52)	<b>1.75</b> (0.58)	<b>66.91***</b>	<b>5.71*#</b>
<b>SDQ Impact</b>	<b>9.50</b> (1.41)	<b>9.50</b> (1.15)	<b>5.25</b> (1.67)	<b>4.19</b> (0.91)	<b>3.25</b> (0.89)	<b>2.75</b> (0.68)	<b>3.00</b> (0.76)	<b>2.56</b> (0.51)	<b>417.61***</b>	<b>2.19</b>

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .016$

# Time x Group interaction significant at the levels  $p < .017$

pre-treatment measures,  $t(2) = 0.74, p = 0.47$ ; Group 2: TDS  $M = 25.33, SD = 2.96$ ; Group 3: TDS  $M = 24.38, SD = 2.20$ , and  $t(2) = 1.46, p = 0.17$ ; Group 2: Impact score  $M = 9.89, SD = 1.27$ ; Group 3: Impact score  $M = 9.13, SD = 0.83$ , and that both received the 10-session PT intervention, for the purpose of the analysis of data we combined both groups into one treatment group (Group B).

Table 3 presents mean raw scores for the primary outcome measures at pre- (T1), mid- (T2), post-treatment (T3), and 1-month follow up for the Group A (8-session PT program) and Group B (10-session program). A mixed analysis of variance (ANOVA), with Time as the within subjects factor and Group Membership as the between subjects factor, showed a significant overall time effect for all outcome measures (decrease in scores) after completion of PT ( $p < 0.001$ ). A significant group membership effect was found for SDQ conduct and peer problems scores, with the Group B receiving significantly lower scores than Group A. In addition, a significant Group  $\times$  Time interaction was found for conduct problems score,  $F(3, 22) = 5.80, p < 0.01$ , and for peer problems score,  $F(3, 22) = 3.36, p < 0.05$ , which was accounted for by greater over time reduction in conduct and peer problems scores for the Group B. No other significant group  $\times$  time interaction effects was found.

Table 4. Pairwise comparisons of outcome measures

Measure	Pretreatment-Mid-treatment		Mid-treatment-Post-treatment		Post-treatment-Follow up	
	Mean Difference $\pm$ SE		Mean Difference $\pm$ SE		Mean Difference $\pm$ SE	
	Group A	Group B	Group A	Group B	Group A	Group B
<b>SDQ TDS</b>	<b>6.88 <math>\pm</math> .35***</b>	<b>8.53 <math>\pm</math> .30***</b>	<b>3.12 <math>\pm</math> .35***</b>	<b>3.13 <math>\pm</math> .35***</b>	<b>2.38 <math>\pm</math> .39***</b>	<b>2.25 <math>\pm</math> .30***</b>
Conduct	3.75 $\pm$ .37***	4.82 $\pm$ .15***	1.25 $\pm$ .16***	1.13 $\pm$ .15***	1.38 $\pm$ .26**	.81 $\pm$ .16***
Hyperactivity/Inattention	1.13 $\pm$ .23**	1.59 $\pm$ .12***	.88 $\pm$ .35***	.75 $\pm$ .11***	.63 $\pm$ .52	.69 $\pm$ .12**
Emotional difficulties	1.38 $\pm$ .18***	1.29 $\pm$ .14***	.38 $\pm$ .26	.25 $\pm$ .17	.38 $\pm$ .26	.63 $\pm$ .18**
Peer difficulties	.63 $\pm$ .52*	.82 $\pm$ .15***	.63 $\pm$ .18	1.00 $\pm$ .16***	.00 $\pm$ .19	.13 $\pm$ .09
<b>SDQ Impact</b>	<b>4.25 <math>\pm</math> .16***</b>	<b>5.35 <math>\pm</math> .86***</b>	<b>2.00 <math>\pm</math> .57*</b>	<b>1.44 <math>\pm</math> .35***</b>	<b>.25 <math>\pm</math> .16</b>	<b>.19 <math>\pm</math> .66</b>

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$  (adjusted Bonferroni correction  $p < 0.016$ )

Pairwise comparisons indicated that both, 8-session and 10-session, interventions produced significant reduction in mean TDS, conduct, hyperactivity, emotional, peer problems scores in the middle of intervention (T2). Further significant reduction in TDS, conduct and hyperactivity scores was found for the Group A and for all but emotional symptoms score for Group B after completion of the PT program (T3). Table 4 shows that at 1-month follow up (T4) a further significant reduction in conduct scores was found for both intervention groups, whereas significantly lower hyperactivity and emotional difficulties scores were noted only for the Group B.

Likewise, the intervention produced a significant improvement in children's psychosocial functioning after the completion of intervention, as indicated by significant reduction in their mean impact scores, as measured by parent ratings on the Impact Supplement of the SDQ. In addition, the majority of the parents (75%) reported that the intervention helped "a great deal", whereas the 25% stated that it helped "quite a lot".

With regards to the qualitative feedback, at the completion of the 10-session PT program, the following themes were identified: (a) satisfaction with the quality of service provided by the program (well organized, structured, interactive, active nature of role play exercises, helpful hand-outs, free of charge), (b) satisfaction with the group-format, which offered an opportunity to normalize parenting experience, to get support and feedback on helpful ideas and strategies from other parents, (c) better understanding of child's developmental issues and factors involved in maintaining child's misbehavior, (d) improved parent-child relationship (parents found very useful "special play time"), (e) improved confidence in setting effective limits, (f) gaining a range of useful parenting skills, particularly the skills of "planned ignoring", "descriptive praise", "giving instructions/commands", "setting up reward systems".

## **DISCUSSION**

To the best of our knowledge, this is the first manualised group-based PT program that has been developed and piloted in a clinical setting in Greece with parents of young children with behavior problems. The first hypothesis, predicting a significant program effects at post-intervention, was supported by the significantly lower scores of the SDQ across the four symptom clusters (i.e., conduct, hyperactivity, emotional, and peer relationships problems), and improved child's adjustment, as measured by the SDQ Impact score, irrespective of whether parents attended the 8-session or 10-session PT program. Although the results of the present study are consistent with those of previous studies which also implemented group based PT programs (e.g., Leung, Sanders, Leung, Mark, & Lau, 2003; Wiggins, Sofronoff, & Sanders, 2009), nevertheless they are compromised by the absence of a control group. The second hypothesis predicting the acceptability of the group-format and the content of the intervention was supported by good attendance and completion rates and the verbal feedback given by the participants at the end of the intervention. Parents reported satisfaction with the quality of service provided by the program (well organized, structured, interactive, active nature of role play exercises, helpful hand-outs, free of charge) and perceived the group format as an opportunity to normalize parenting

experience, to get support and feedback on helpful ideas and strategies from other parents. Previous research has shown that parental subjective perceptions of the usefulness of parenting programs are associated with changes in children's behavior problems and the parenting sense of competence (Graf, Grumm, Hein, & Fingerle, 2014). Common themes identified from the qualitative feedback were: a better understanding of child's developmental issues and the factors involved in precipitating and perpetuating child's misbehavior, an improved parent-child relationship, and an improved confidence in their parenting. The third hypothesis predicting that the extended 10-session program will produce better effects as compared to the 8-session PT program was supported by the significant time x group interaction found in the current study, suggesting that Group B (10-session program) evidenced a greater reduction in conduct and peer problems scores than Group A (8-session program). Also, a significant reduction in children's hyperactivity, conduct and peer problems scores and improvement in psychosocial functioning was found only for the Group B between T2 (mid-intervention) and T3 (post-intervention), whereas Group A showed a significant reduction in conduct and hyperactivity scores only. The fourth hypothesis predicting that the changes gained at post-intervention would be maintained at 1-month follow up was supported. Interestingly enough, a further significant reduction in conduct scores was found for both intervention groups, whereas significantly lower hyperactivity and emotional difficulties scores were noted only for the Group B at 1-month follow up. These findings might be interpreted in the light of having incorporated into the extended 10-session program parenting skills aiming at regulating child's emotions (i.e., validating, accepting, and expressing feelings, reflective listening, I-messages, and problem solving skills, modeling problem solving for children, and managing parental negative thoughts and emotions).

As this is a report of clinical practice, it has inevitably a number of methodological limitations that deserve comment. First, the absence of no treatment control group or comparison treatment condition group and the small sample size inevitably constitute major weaknesses of the present study that do certainly restrict our conclusions about the intervention's effectiveness and the generalisability of the findings. The possibility that confounding variables, such as 'placebo' effect, maturation and/ or historical effects contributed to the outcome cannot be excluded. Second, it is impossible to know the active components of the intervention's efficacy, as we did not use any measures during the course of the treatment, except after mid-intervention, to allow us to track the changes in parent reported child symptoms, as different treatment components were provided. Third, despite the positive change in children's behavior as measured by parent's ratings, the study would have been strengthened by the inclusion of teacher's ratings of children's behavior as an additional measure of

behavior change. However, not all children were enrolled in education facilities. The parents, as participants in the intervention, may have shown some bias. Therefore, future studies should employ objective measures of child's behavior and specific measures of parenting stress, as change in its levels could affect the way they perceive but also manage their children's maladaptive behaviors. Finally, the absence of follow-up over a longer period (e.g., 6 month, 12 months) limits the ability of the study to determine whether initial and at 1 month follow up changes have been sustained.

In conclusion, although the present-study did not systematically evaluate the outcome of the 10-session PT program delivered in our clinical service, mainly due to the absence of a control group, its findings provide some tentative evidence that this program might hold some promise as a treatment option for helping Greek parents in managing young children's behavior problems. It could prove a cost-effective approach for use with parents of young children with behavior disorders presenting to "busy" clinical settings in Greece. The pilot work as described in this paper helped to identify areas of promise and issues of improvement. The present findings encourage further experimental evaluation of the effectiveness of the 10-session PT program through using randomized control trials with larger samples and incorporating additional outcome and ongoing measures of child's behavior problems, the quality of parent-child interaction, and change in parenting practices as well as in levels of parental stress. Evaluation by participants of each session, using both quantitative and qualitative measures, as well as, completing fidelity checklists by the group facilitators would ensure the quality and adherence to the PT program.

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