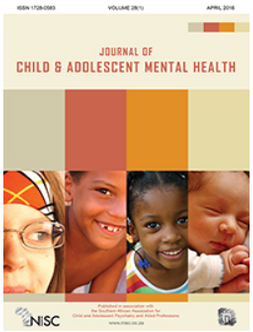

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A first-level evaluation of a family intervention for adolescent social, emotional and behavioural difficulties in Child and Adolescent Mental Health Services

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This study is a first-level evaluation of a family intervention targeted at adolescents with social, emotional and behavioural difficulties (SEBD) attending Child and Adolescent Mental Health Services (CAMHS) in Ireland. It is a combined implementation of the Working Things Out adolescent programme and the Parents Plus Adolescent Programme (WTOPPAP).
Method: **A total of 93 adolescents aged 11–17 years (*M* = 14.64, SD = 1.31; 39% male) and their parents took part in the study. The study used a quasi-experimental One-Group Pretest-Posttest design to assess change from pre- to post-intervention using the Strengths and Difficulties Questionnaire, the McMaster General Functioning Scale, Goal Attainment, Parent Stress Scale and the Kansas Parenting Satisfaction Scale. Both parent- and adolescent-rated goal attainment and general family functioning improved from pre- to post-intervention. Parents also rated their satisfaction with parenting as having significantly improved. Adolescent-rated emotional difficulties significantly improved for the overall sample and parent-rated child total difficulties for female adolescents significantly improved from pre-test to post-test. Parents of female adolescents also reported a significant drop in parental stress. These findings indicate that the WTOPPAP may be an effective intervention for adolescents with SEBD, particularly females, and their parents. Further implications are discussed.**

Introduction

Social, emotional and behavioural difficulties (SEBD) are a relatively common problem for adolescents, and the prevalence of psychiatric disorders in this age group is the highest across the lifespan (Herpertz-Dahlmann, Bühren, & Remschmidt, 2013). SEBD can lead to serious functional impairment for adolescents within their individual, family, peer and educational spheres that can persist into later life (see Rickard et al., 2015). Furthermore, Bloom et al. (2011) have estimated that adolescent mental illness poses the greatest threat to gross domestic product (GDP) over the next 20 years. Yet adolescents, across all age groups, have the worst access to mental health services (McGorry, Bates, & Birchwood, 2013). This is due to several historical, cultural and structural factors outlined by McGorry (2015). For example, Child and Adolescent Mental Health Services (CAMHS) tend to provide most access to people with severe and complex conditions. However, this access is often delayed and restricted due to lack of resources and rarely provides them with a say in how their care is provided or entails a holistic approach to their needs. Moreover, young people in the early stages of a mental illness or who do not fit the existing diagnostic criteria are often excluded from care by the current system due to the lack of preventative approaches available.

Thus, the provision of evidence-based preventative and treatment focused programmes that are deliverable within low resource mental health settings, applicable to a wide range of adolescent problems, holistic, and acceptable to young people with SEBD is crucial. The most up-to-date empirically supported interventions for improving adolescent SEBD include Cognitive Behaviour

Therapy (CBT) and Parent Management Training (PMT). However, CBT may be most effective at improving internalising problems (Chorpita et al., 2011), while PMT has consistently shown to improve behaviour difficulties (see Carr, 2014). Although not the focus during intervention, PMT has also shown to improve parental functioning and mental health (Barlow et al., 2012).

Research suggests that family interventions targeting parents and children, rather than young people or parents alone, may be more effective at improving SEBD, but in particular behavioural problems (see Carr, 2014). Carr's (2014) review of meta-analyses, systematic literature reviews and controlled trials on the effectiveness of family interventions on youth mental health difficulties and disorders, indicates that such interventions are more effective at improving SEBD than treatment as usual with young people (e.g., Kaslow et al., 2012; Woolfenden, Williams, & Peat, 2002). Moreover, the review identified one study which showed that the combination of group PMT and CBT for young people with SEBD is more effective than either treatment alone (Kazdin, 2010).

Group-based manualised family interventions targeting parents and children are not only effective for a wide range of adolescent problems varying in severity and complexity, but they are also well structured and can be flexibly used by a range of professionals who can tailor the programme to inclusively and holistically meet the needs of families (Carr, 2014). In addition, these interventions are brief and can be cost-effective especially in low resource settings (e.g., Bonin et al., 2011; Dretzke et al., 2005). Parents Plus has developed and demonstrated the efficacy and effectiveness of several group-based manualised family interventions targeting different age groups, which include the Parents Plus Adolescents Programme (PPAP) — a solution-focused positive PMT programme for parents of adolescents aged 11–16 years (Beattie et al., 2007; Nitsch et al., 2015; Sharry & Fitzpatrick, 2012) and the Working Things Out (WTO) programme — a CBT-based intervention for adolescents that promotes their positive mental health and supports them in overcoming specific problems (Brosnan et al., 2011; Brosnan, 2015; Fitzpatrick, Brosnan, & Sharry, 2009). More recently, Parents Plus has sought to implement a combined version (WTOPPAP) of the PPAP, and the WTO in school and adolescent mental health settings. While these programmes have shown promise as stand-alone interventions, combining them to target parents and adolescents simultaneously may be a more effective means of improving mental health outcome for young people, in line with the findings of the review by Carr (2014).

The purpose of this study was to evaluate the impact of simultaneously running the WTO and PPAP group programmes together as a family intervention with adolescents and their parents in eight CAMHS throughout Ireland. As gender is well documented as a salient factor in youth mental health, with female adolescents reporting higher levels of internalising symptoms (Bask, 2015; Dooley, Fitzgerald, & Giollabhui, 2015; Rushton, Forcier, & Schectman, 2002) and recent research indicating that quality of family relationships may be an important risk factor for mental health difficulties in female adolescents specifically (Lewis et al., 2015), it was included as an independent variable in our study. It was expected that participants would report improved outcomes in terms of parent- and adolescent-rated goal attainment, SEBD, family general functioning and communication, parent stress, and satisfaction with parenting.

Method

Study design

Randomised controlled trials (RCTs), where participants are randomly assigned to an intervention or control condition, are often cited as the "gold standard" in inferring causality in intervention-based studies (Akobeng, 2005). However, when conducting research in applied settings, RCTs can often be infeasible to conduct for varying reasons such as resource constraints or limited available sample size (Harris et al., 2006). In such cases quasi-experimental designs are considered an acceptable alternative and indeed have several practical advantages over RCT designs. These include requiring a smaller number of participants, not disturbing the natural course of events by assigning individuals to specifically contrived conditions, not necessitating the withholding of a potentially efficacious intervention to a group of individuals who may need it and being significantly less resource and cost intensive; important practical considerations in applied research settings where limited service funding is available (Scriven, 2008). In our study, the provision of

a comparison group was initially pursued during the research design stage, however, due to the complexity involved in the multi-location roll-out of the intervention, it was not possible to secure a comparison group which would have been of a size sufficient to conduct robust statistical analyses. Thus, this study used a quasi-experimental one-group pretest-posttest design (Harris et al., 2006) to assess participant changes over time. Participants were offered the intervention between October 2014 and February 2015, and were assessed pre- (Time 1) and post-intervention (Time 2). Several dependent variables were examined. These were adolescent SEBD, participant's goal attainment, family general functioning and communication, parent stress, and satisfaction with parenting. In using this research design, the researchers recognised from the outset that this was a preliminary first-level evaluation, the results of which would need to corroborated in future studies.

Participants

A convenience sample of 93 adolescents (2 adolescents were siblings, but the parents reported on the child they were most concerned about) accessing CAMHS in the Republic of Ireland, and their 106 parents/guardians, were recruited by professionals who received training in the Parents Plus programmes between September 2014 and February 2015. These professionals were multidisciplinary team (MDT) members working in CAMHS, which included social workers, psychologists, occupational therapists, speech and language therapists, psychiatrists and nurses. To be considered for inclusion the young person had to be aged between 11 and 17 years and had to present to 1 of 8 CAMHS sites in the Republic of Ireland. Families who may benefit from the intervention were identified by MDT members and were screened before taking part in the intervention. Families were excluded if the young person was deemed by the MDT to be too unwell to take part. The parents of 3 adolescents did not wish to attend the group, 4 parents attended but their children did not, and 27 adolescents had 2 parents attending the group, but not all parents were taking part in the research.

Participating adolescents were aged 11–17 years ($M = 14.64$, $SD = 1.31$), and 36 (39%) were male. Parents were aged 33–64 years ($M = 45.3$, $SD = 6.5$); 82 (77%) were mothers and 24 (23%) were fathers. Attrition was 15% of adolescents attending the WTO group and 22% of parents attending the PPAP group. Analyses were conducted for all participants who provided pre- and post-data regardless of whether their corresponding parent/child dropped out. Ethical approval was granted by the Research Ethics Committees of University College Dublin and the Health Service Executive in Ireland. Parents/guardians provided written informed consent for themselves and their children to participate, and informed assent was obtained from adolescents on the day.

Procedure

A range of CAMHS professionals, which included social workers, psychologists, occupational therapists, speech and language therapists, psychiatrists and nurses, attended three days of training in the delivery of the WTO and PPAP. Facilitators referred young people accessing CAMHS to the WTO and provided families with information about the WTOPPAP intervention. Families were invited to attend an individual screening meeting to obtain further information and to complete the assessment measures outlined in detail below. Both WTO and PPAP groups were run in parallel over eight weeks, with the young person attending the WTO sessions and their parent(s) attending the PPAP session. Two joint family sessions were held after session 3 and session 6, which were attended by the young person together with their parent(s). The goal of these family sessions was to make links between parents and adolescents and to help families put the ideas promoted by the intervention into action. Topics covered in the two courses (see Table 1) were integrated to ensure that the intervention reflected a whole-family approach. To maintain fidelity in the implementation of the programmes across sites, facilitators were required to attend the pre-programme training, to follow detailed guidelines and session plans in the programme manual, to complete integrity checklists after each session and to attend regular supervision with programme developers throughout the delivery of the groups. Upon completion of the two programmes, adolescents and parents completed the assessment measures again.

Table 1: List of topics covered over eight weekly sessions in the PPAP and WTO programmes

Topic	PPAP	WTO
1	Positive Communication	Getting Started
2	Getting along with your Teenager	How we Think Affects what we Feel and Do
3	Encouraging your Teenager	Managing Feeling Down
4	Listening to your Teenager	New Ways of Thinking
5	Establishing Rules	Stop and Think—The Key to Solving Problems
6	Using Consequences/having a Discipline Plan	Dealing with Anger and Conflict
7	Dealing with Conflict	Communicating Well and Building Relationships
8	Problem Solving	Planning for the Future and Making Positive Choices

Assessment measures

The Strengths and Difficulties Questionnaire (SDQ) is a 25-item questionnaire that assesses young people's behaviours, emotions and relationships (Goodman, 2001). The 25 items are divided into 5 scales: emotional symptoms (ESS), conduct problems (CPS), hyperactivity (HS), peer problems (PPS) and pro-social behaviour (PS), with 5 items in each scale. The scores from these scales, excluding the pro-social scale, are summed to generate a total difficulties score. Both versions of the SDQ — the parent- and self-rated versions — were used in this study. Scores greater than 13 for parents and 15 for children indicate levels of difficulty falling within the borderline or clinical range. The reliability and validity of the SDQ has been demonstrated across a variety of settings, both cross-sectionally and longitudinally (see Stone et al., 2010) and its sensitivity to change has been demonstrated in trials involving children and adolescents (Wolpert et al., 2015). The Cronbach's alpha of the parent- and self-rated versions in our study were 0.62 and 0.70 respectively which is considered acceptable (Peterson, 1994).

The McMaster Family Assessment Device (FAD) is made up of seven subscales which measure problem solving, communication, roles, affective responsiveness, affective involvement, behaviour control and general functioning in families (Epstein, Baldwin, & Bishop, 1983). The General Functioning (McMaster GF) scale used in this study assesses the overall health/pathology of the family. An average score of 1.5 or over indicates an abnormal level of stress within the family. The Communication (McMaster C) scale assesses the exchange of information among family members in terms of clarity of content and directedness in the sense that the person spoken to is the person for whom the message is intended. An average score greater than 1.9, indicates an unhealthy level of communication within the family. Parents and adolescents rated their agreement with how well an item describes their families. Higher scores indicate poorer functioning. The validity and reliability of the FAD is supported by several studies (e.g. Barney & Max, 2005; Georgiades et al., 2008) and the General Functioning and Communication subscales have shown sensitivity to change in parent training programmes (Adams, 2001). Cronbach's alpha was satisfactorily over 0.88 for both the parent- and adolescent self-report versions.

The Kansas Parental Satisfaction Scale (KPS) is a three item self-report scale that measures parental satisfaction with their child's behaviour, parenting role and relationship with their child (Schumm & Hall, 1994). The three questions are scored on a seven-point Likert scale and summed to give an overall satisfaction score. Higher scores on the scale indicate greater satisfaction. The KPS shows good reliability and validity (Chang et al., 1994; James et al., 1985) and has previously demonstrated sensitivity to change in parenting trials (Keating et al., 2015; Rickard et al., 2015). Cronbach's alpha was satisfactory at 0.72.

The Parental Stress Scale (PSS) is a self-report scale that contains 18 items representing positive themes of parenthood (emotional benefits, self-enrichment, personal development) and negative (demands on resources, opportunity costs and restrictions) (Berry & Jones, 1995). Respondents are asked to report their agreement with items along a five-point Likert scale: Strongly Disagree (1), Disagree (2), Undecided (3), Agree (4) and Strongly Agree (5). The 8 positive items are reverse scored so that possible scores on the scale can range between 18 and 90. The PSS demonstrates high reliability and validity (Berry & Jones, 1995) and has

demonstrated sensitivity to change in parenting trials (Rickard et al., 2015). Cronbach's alpha in the present study was good at 0.86.

The Revised Child Anxiety and Depression Scale-25 (RCADS) is a 25-item self- and parent-report questionnaire of anxiety (15 items) and depression (10 items) in young people aged 7–18 years (Ebesutani et al., 2012). It was developed upon the RCADS-47 (Chorpita et al., 2000). Total scores are transformed into *t*-scores ($x = 50$, SD = 10) and scores of 65 or over indicate levels of anxiety and depression bordering on or within the clinical threshold. Both the RCADS-47 and 25 have demonstrated good reliability and validity in community and clinical samples (e.g., Ebesutani et al., 2012) and have shown sensitivity to change in trials with children and adolescents (Muris, Meesters, & van Melick, 2002; Wolpert, Cheng, & Deighton, 2015). Cronbach's alpha was satisfactorily over 0.91 for the parent- and self-report.

The Depression Anxiety and Stress Scale-21 (DASS) is a set of 21 statements designed to assess depression, anxiety and stress (7 items each) (Lovibond & Lovibond, 1995). Participants rate how well each statement describes them along a four-point Likert scale ranging from "did not apply to me at all" to "applied to me most of the time". Total scores range from 0–21 and higher scores indicate greater symptom severity. To assess the degree of distress experienced, participants' total subscale scores are multiplied by 2 and resulting scores of over 9 (for depression), 7 (for anxiety) and 14 (for stress), indicate a level of distress above that which would be considered normal. The DASS-21 has been shown to have excellent psychometric properties for adults in clinical and non-clinical populations (Daza et al., 2002; de Beurs et al., 2001) and for both Irish and international general adolescent samples (Dooley et al., 2015; Tully, Zajac, & Venning, 2009). The scale has also shown sensitivity to change when used with adolescents in pre-post intervention research designs (Raes et al., 2014; Sethi Campbell, & Ellis, 2010). Cronbach's alpha values in our study were over 0.8 for all subscales.

The Goal Attainment Measure (GAM) used in this study has been used in several previous Parents Plus studies (e.g., Keating et al., 2015; Nitsch et al., 2015: Rickard et al, 2015) and is designed as a client-centred measure of progress. The GAM requires parents to pick two goals for their child and two personal goals, and adolescents to pick two goals for their family and two personal goals that they would work towards during the intervention. Participants rated them using a visual analogue scale (i.e., 0 = not very close to achieving goal and 10 = have reached the goal).

Statistical strategy

Data were analysed using SPSS (version 20). Initially, to obtain an overall picture of the data, descriptive statistics were run and a series of two-tailed Pearson's correlations and independent *t*-tests were used to explore potential associations between key outcome variables and child age, parental age and parental gender. McNemar's tests were carried out exploring the association between time of testing and cut-off scores on key variables. Bonferroni correction (Tabachnick & Fidell, 2007) was used in these analyses to control for increased Type 1 error associated with carrying out multiple statistical tests, by adjusting the significance value using the formula $1 - (1 - 0.05)/n$, where n is the number of tests. Two-way mixed measures analyses of variance (ANOVAs) were conducted to assess differences in key outcome variables, where time of testing and child gender were the independent variables. Where an interaction was observed, Test of Simple Effects (TOSE) was carried out as a post hoc analysis.

Results

Descriptive statistics

Table 2 details participants' mean scores, standard deviations and range of scores at baseline on the assessment measures completed, along with Pearson's correlation coefficients exploring potential relationships between child and parental age and scores at baseline. Using the Bonferroni Correction (Tabachnick & Fidell, 2007), the significance value was set at 0.001 ($n = 34$ tests). Child's age was positively correlated with adolescents' self-rated scores on the RCADS, $r(90) = 0.348$, $p = 0.001$. A series of independent *t*-tests revealed no differences in parent or

Table 2: Descriptives of assessment total scores at baseline

Parent measures	*n*	Minimum score	Maximum score	*M* (SD)	*r* (parental age)	*r* (child age)_
SDQ	103	7	34	20.04 (6.02)	0.061	−0.047
RCADS	98	35.39	116.87	54.99 (13.71)	0.009	0.143
PSS	96	21	71	43.61 (10.81)	0.033	−0.020
KPS	97	5	19	12.57 (3.47)	0.029	0.153
McMaster GF	77	1.00	3.00	2.09 (.48)	−0.076	0.003
McMaster C	93	1.17	3.33	2.27 (.38)	−0.135	0.009
Personal goal	102	0	9	2.99 (1.93)	0.077	0.085
Child goal	102	0	7	2.64 (1.69)	0.056	0.044
Adolescent Measures						
SDQ	93	3	29	18.14 (5.69)	0.082	0.304
RCADS	90	27.22	99.95	60.64 (17.28)	−0.024	0.348*
DASS Depression	87	0	21	9.53 (6.54)	−0.071	0.283
DASS Anxiety	88	0	21	7.86 (5.72)	−0.040	0.245
DASS Stress	87	0	21	10.2 (5.1)	−0.037	0.305
McMaster GF	78	1.08	3.67	2.26 (.60)	−0.039	0.088
McMaster C	77	1.50	3.67	2.42 (.49)	−0.006	0.120
Personal goal	82	0	8	2.83 (1.97)	0.043	−0.142
Family goal	73	0	9	3.0 (2.18)	−0.039	0.012

SDQ = Strengths and Difficulties Questionnaire; RCADS = Revised Child Anxiety and Depression Scale; DASS = Depression, Anxiety and Stress Scale; PSS = Parent Stress Scale; KPS = Kansas Parenting Satisfaction; McMaster GF = McMaster General Functioning; McMaster C = McMaster Communication
*significant at the 0.001 level

adolescent outcomes based on parent gender (significance value set at 0.003 based on the Bonferonni correction, $n = 17$ tests).

Pre- and post-test analyses

Table 3 presents the results of McNemar's tests examining differences between pre-test and post-test in the proportion of participants reporting scores above the cut-off values indicating abnormal functioning on key outcome measures (significance value set at 0.005 based on the Bonferonni correction). A significant drop (22%) in the percentage of adolescents falling into the clinical range on the parent-rated SDQ was observed from Time 1 to Time 2. A notable drop (14%) was also observed in adolescent-rated general family functioning (McMaster GF) from Time 1 to Time 2, however, this was not statistically significant when the Bonferonni correction was applied.

To examine pre- and post-tests differences in more depth, a series of two-way mixed measures ANOVAs were conducted, taking into account the potential interaction effects of gender by including child gender as an independent variable. Results of these are presented in Table 4 and graphs of significant effects are presented in Figure 1.

SDQ: In terms of parental-rated total difficulties, a significant interaction effect was observed between time of testing and gender. TOSE revealed a significant drop in SDQ scores of parents with female children from pre-test to post-test, $F(1,71) = 36.91$, $p < 0.01$, indicating better adolescent functioning at post-test. A significant gender difference was observed at post-test, with parents of female children reporting lowers scores than parents of male children, $F(1,71) = 17.323$, $p < 0.01$.

Looking to the parent-rated SDQ subscales revealed a significant main effect for gender was observed for the HS, with parents of male children reporting higher levels of hyperactivity. Significant interactions between gender and time of testing were also observed for the ESS, CPS and PPS. TOSE revealed a significant drop in scores for parents with female children from pre-test to post-test on the ESS $F(1,72) = 39.31$, $p < 0.001$, CPS $F(1,72) = 20.11$, $p < 0.001$ and PPS $F(1,71) = 9.92$, $p < 0.01$. Parents of female children also reported significantly higher levels of emotional symptoms,

Table 3: Results of McNemar's Tests examining numbers of participants above the cut-off range indicating abnormal functioning on outcome measures at baseline and post-intervention

Parent measures	T1	T2	McNemar's significance value	
SDQ	Abnormal	66 (90%)	50 (68%)	0.001*
	Normal	7 (10%)	23 (32%)	
RCADS	Abnormal	12 (17%)	15 (21%)	0.607
	Normal	59 (83%)	56 (79%)	
McMaster GF	Abnormal	34 (68%)	30 (60%)	0.424
	Normal	16 (32%)	20 (40%)	
McMaster C	Abnormal	35 (53%)	29 (44%)	0.362
	Normal	31 (47%)	37 (56%)	
Adolescent measures				
SDQ	Abnormal	43 (68%)	40 (64%)	0.648
	Normal	20 (32%)	23 (36%)	
RCADS	Abnormal	21 (34%)	22 (36%)	1.00
	Normal	41 (66%)	40 (64%)	
DASS Depression	Abnormal	44 (75%)	37 (67%)	0.143
	Normal	15 (25%)	22 (33%)	
DASS Anxiety	Abnormal	42 (76%)	37 (67%)	0.332
	Normal	13 (24%)	18 (33%)	
DASS Stress	Abnormal	41 (75%)	34 (69%)	0.092
	Normal	14 (25%)	21 (38%)	
McMaster GF	Abnormal	33 (75%)	27 (61%)	0.031
	Normal	11 (25%)	17 (39%)	
McMaster C	Abnormal	30 (65%)	32 (70%)	0.804
	Normal	16 (35%)	14 (30%)	

*significant at the 0.001 level

$F(1,72) = 27.62$, $p < 0.001$ at Time 1, and significantly lower levels of conduct problems at Time 2 $F(1,72) = 20.69$, $p < 0.001$.

No significant effects were observed for adolescent-rated total SDQ scores, however, main effects were observed for adolescent-rated ESS scores whereby levels of emotional symptoms decreased from Time 1 to Time 2 and females were observed to report higher levels of symptoms overall than males did. A main gender effect was also observed for PS scores, with females reporting higher overall levels of pro-social behaviour than males.

RCADS: A significant interaction effect was observed for the parental-rated version of the RCADS. TOSE observed a significant drop in scores for parents of female adolescents from Time 1 to Time 2, $F(1,69) = 13.49$, $p < 0.01$, and a significant gender difference between males and females at pre-test $F(1,69) = 10.16$, $p < 0.01$, whereby parents of female children reported higher scores than parents of males. No effects were observed for adolescent-rated SDQ. This non-significant effect held constant when child's age was added into the model as a covariate, $F(1,59) = 3.029$, $p > 0.05$.

DASS: No significant interaction or time effects were observed for any of the DASS subscales. However, a significant gender effect was observed for the depression and anxiety subscales, *whereby females reported higher scores than males.*

McMaster general functioning: A significant time effect was observed for both parent and adolescent-rated functioning whereby scores were lower at Time 2, indicating more positive family functioning. A significant gender effect was observed for parental-rated functioning whereby parents of female children reported more positive family functioning than parents of male children.

McMaster communication: No time effects were observed for family communication. However, there was a gender effect for adolescent-rated family communication whereby females reported more positive family communication than males.

PSS: A significant interaction effect was observed for the PSS. TOSE revealed a significant drop in scores for parents of female adolescents from Time 1 to Time 2, $F(1,60) = 130.13$, $p < 0.01$, and

Table 4: ANOVA comparing assessment total scores at baseline and post-intervention

	Time 1	Time 2	Male children	Female children	F_{time}	F_{gender}	$F_{interaction}$
	M	*M*	*M*	*M*			
Parent measures							
SDQ Total	20.36	17.15	19.83	18.16	15.16***	1.5	11.35**
SDQ ESS	6.54	5.3	5.29	6.26	14.31***	2.61	13.2**
SDQ CP	4.05	3.22	4.25	3.31	9.5**	2.98	4.94*
SDQ HS	5.78	5.23	6.46	4.99	3.82	6.97*	1.7
SDQ PPS	3.95	3.4	3.83	3.59	3.69	0.233	4.4*
SDQ PS	6.64	6.85	6.2	7.04	1.11	2.54	0.003
RCADS	55.65	53.4	53.68	55.02	1.33	0.674	10.88**
McMaster GF	2.12	1.93	2.21	1.9	12.45**	7.56**	0.002
McMaster C	2.29	2.2	2.33	2.2	3.11	3.79	0.382
PSS	43.42	38.79	45.57	38.65	10.04**	8.94**	11.37**
KPS	12.57	15.29	12.65	14.6	33.63***	7.84**	2.67
Personal Goal	3.03	7.25	4.89	5.28	212.83***	0.858	3.9
Child Goal	2.87	6.78	4.94	4.62	174.18***	0.608	9.93**
Adolescent-rated measures							
SDQ Total	18.4	17.37	17.13	18.31	1.56	.671	0.577
SDQ ESS	5.76	4.95	4.11	6.08	8.36**	9.15**	0.646
SDQ CP	3.32	3.59	3.89	3.2	1.45	2.09	0.037
SDQ HS	6.0	5.79	5.87	5.92	0.210	0.006	1.2
SDQ PPS	3.32	3.03	3.26	3.13	1.52	0.074	0.626
SDQ PS	7.52	7.19	6.61	7.79	3.26	6.25*	0.165
RCADS	60.93	58.5	55.02	62.49	2.91	2.69	0.147
McMaster GF	2.34	2.15	2.42	2.15	6.59*	1.98	0.061
McMaster C	2.54	2.4	2.71	2.35	3.21	8.9*	0.017
DASS Depression	10.39	9.44	7.93	11.1	0.736	4.03*	0.675
DASS Anxiety	8.11	7.84	5.67	9.4	0.18	5.78*	0.65
DASS Stress	10.45	9.95	8.91	11.0	0.513	2.23	1.7
Personal Goal	2.58	6.10	4.34	4.31	144.64***	0.006	0.294
Family Goal	2.48	5.85	3.8	4.43	83.87***	2.08	0.584

SDQ ESS = Strengths and Difficulties Questionnaire Emotional Symptoms Scale; CP = Conduct Problems Scale; HS = Hyperactivity Scale; PPS = Peer Problems Scale; PS = Prosocal Scale
*Significant at the 0.05 level; ** Significant at the 0.01 level; ***Significant at the 0.001 level

a significant gender difference at post-test $F(1,60) = 45.77$, $p < 0.01$, whereby parents of female children reported lower scores than parents of males**.**

KPS: Main effects for time and gender effects were observed for the KPS. Scores at Time 2 were significantly higher than at Time 1 indicating higher levels of parental satisfaction at post-test. Scores were also significantly higher for parents of female children than for parents of male children.

Goal attainment: Results showed that adolescents made significant improvements towards their personal and family goals at post-test. Parents also reported significant improvements towards their personal goals at Time 2. In terms of parents' child related goals, an interaction effects was observed. There was a significant increase in scores for both parents of male adolescents $F(1,61) = 38.7$, $p < 0.01$, and parents of females, $F(1,61) = 192.02$, $p < 0.01$, from Time 1 to Time 2. There was also a significant gender effect at Tine 2, $F(1,61) = 9.45$, $p < 0.01$, with parents of females reporting higher goal attainment scores than parents of male children.

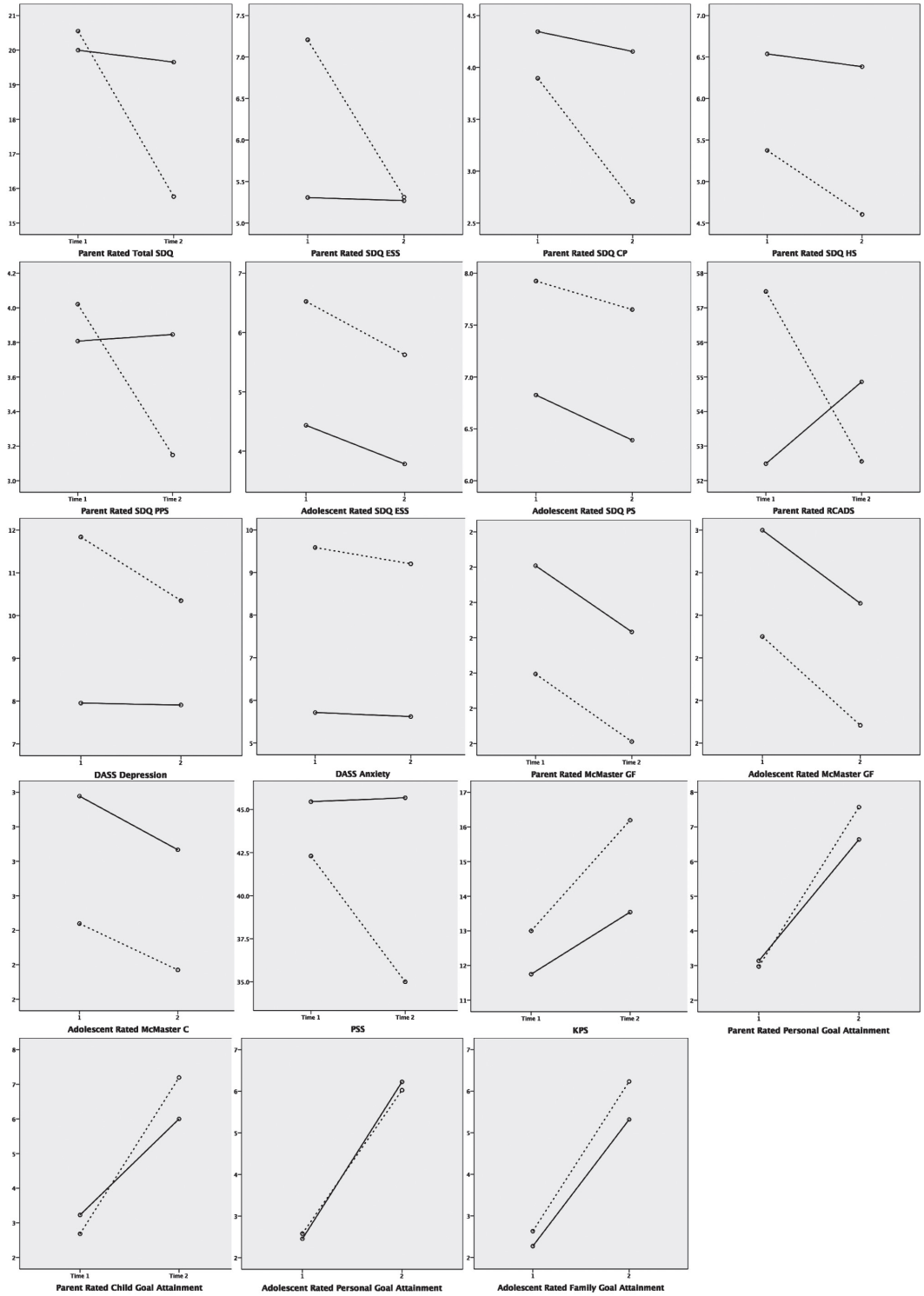

Figure 1: Graphs displaying significant ANOVA effects

Discussion

This study revealed that both parent- and adolescent-rated goal attainment and family general functioning improved from pre- to post-WTOPPAP intervention. Parent-rated child total and emotional difficulties for female adolescents significantly improved from pre- to post-test and adolescent-rated emotional difficulties significantly improved for both males and females. Parents rated their satisfaction with parenting as having significantly improved over the course of the intervention and parents of female adolescents reported a significant drop in parental stress from pre-test to post-test.

These findings in relation to improvements from pre- to post-intervention are consistent with outcomes from a range of group family interventions delivered in clinical and community settings (e.g., Kazdin, 2010; Stark et al., 2012), and with previous investigations of the PPAP and WTO programmes (e.g., Beattie et al., 2007; Brosnan, 2015; Nitsch et al., 2015; Rickard et al., 2015). For example, findings from evaluations of the PPAP and WTO programmes in CAMHS revealed that parents who completed the PPAP ($n = 38$) reported significant improvements in their children's total difficulties when compared to the routine clinical care group ($n = 17$; Beattie et al., 2007).

Research shows that family interventions facilitating PMT can strengthen parenting skills, and in turn, improve family general functioning and reduce the parental stress and parenting dissatisfaction associated with the changes that occur in a family's social life when a child develops SEBD (e.g., Adams, 2001; Van Ryzin, Stormshak, & Dishion, 2012). Low parental stress and high confidence in parenting can further facilitate the effective implementation of parenting strategies (e.g., responsiveness, good communication, rule setting and monitoring) which in turn has been shown to reduce the risk of SEBD in adolescents (Gonzales et al., 2004; Jones & Prinz, 2005; Morawska, Winter, & Sanders, 2009).

A key finding of interest in our study is the interaction of child gender with improvements over time, which suggests this type of intervention may be more effective for female adolescents than for male adolescents. This may be linked to the fact parents reported higher levels of internalised distress in females than in males, which is consistent with the literature (Bask, 2015; Dooley et al., 2015; Rushton et al., 2002) and suggests they had greater need of the intervention to begin with. It may also be linked to the challenges of engaging males in adolescent mental health services (Grace, Richardson, & Carroll, 2014); if males are less engaged with the intervention, then it is likely they will consequently obtain less positive outcomes from it. However, the study found that adolescent-rated emotional symptoms improved for the overall samples, suggesting the intervention may have been of some benefit to males in terms of emotional difficulties.

Strengths and limitations

The main strength of the present research is how it demonstrated that a manualised family intervention with a parent and child component can be effectively rolled-out and evaluated by frontline multi-disciplinary professionals in CAMHS settings. This study was conducted across several different CAMHS sites, thus suggesting the findings are more readily generalisable. As previous research has shown the efficacy of the PPAP and WTO programmes run individually in clinical and community settings (e.g., Beattie et al., 2007; Nitsch 2011), our study was concerned more with the effective concurrent delivery of WTOPPAP in CAMHS, and so the positive findings in relation to adolescent and parent outcomes are encouraging. It has previously been stated that good implementation of an intervention is predictive of better outcomes (Wilson & Lipsey, 2007) and that this can be achieved from adequate training of facilitators, fidelity to a manualised programme, and close and receptive supervision during the intervention (Gottfredson & Gottfredson, 2002). Another strength of this research was the adherence to these factors in the roll-out of WTOPPAP. Moreover, this study involved real-world research where the WTOPPAP became fully integrated into the service and front line clinicians collected the research measures as part of the clinical audit.

While the results of our study indicate the WTOPPAP shows promise as an effective intervention for use with parents and adolescents, the lack of a comparison group is a significant weakness in terms of attributing outcome gains directly to participation in the intervention. As such future research should prioritise the use of such a comparison group in evaluating the effectiveness of the WTOPPAP. Additionally, due to resource constraints the data were collected by the same clinicians who carried out the intervention. This has the potential to introduce biases to the findings, thus future studies should strive to use an independent researcher to collect the data.

Furthermore, in cases where both parents reside together, the implementation of parenting strategies can be more effective when they are consistently applied (Kaminski et al., 2008), which is facilitated by both parents attending parenting courses together. As this was a first-level intervention and the fidelity of implementation was prioritised, it was not possible to focus on recruiting parent dyads across the different settings in this study. However, future implementation of the WTOPPAP could place greater emphasis on facilitators recruiting both parents, where possible, as this could potentially result in greater improvements and maintenance of improvement in outcomes.

Implications

Given the adverse consequences associated with youth SEBD and the challenges faced by CAMHS in providing services, the results of this study speak to the value of involving both adolescents and their parents in early, brief and well-structured concurrent group interventions. Such interventions delivered through low-resourced CAMHS have the potential to reduce waiting times for children needing support, numbers who do not attend their initial appointment, and the number of sessions a family requires, and to increase the number of appropriate referrals made (e.g., Clemente et al., 2006; Heywood et al., 2003; York Anderson, & Zwi, 2004).

Whilst this was a first-level evaluation of changes in outcomes from pre- to post-intervention, a follow-up support session was provided, and future research could explore if this helps to maintain treatment effects after the conclusion of the intervention. Future research could also clarify the mechanisms by which WTOPPAP evokes lasting change in adolescents and parents. For example, researchers could explore if improved general family functioning mediates the effect that the WTOPPAP has on adolescent difficulties.

Conclusions

The findings of this first-level evaluation of the delivery of the combined WTO and PPAP in CAMHS broadly supported the effectiveness of the intervention. They also demonstrated that it is possible to effectively deliver a multi-modal family intervention in Irish CAMHS, and for CAMHS staff to conduct a valid evaluation of the intervention. These findings are encouragingly positive, and support the further roll-out and evaluation of the WTOPPAP programme.

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