Evaluation of the Parent Gym Programme

Final Report 2

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Contents

Executive Summary

- Parents who took part in the Parent Gym programme showed significant improvements in Emotion & Affect and Parenting Pressures from pre- to post-intervention.
- Parents who took part in the Parent Gym programme showed improvements in Parental Involvement, Play & Enjoyment and Empathy & Understanding from pre- to post-intervention.
- Children of Parent Gym parents improved in their Conduct Problems from pre- to post-intervention.
- At baseline, parents who participated in the Parent Gym programme differed from Comparison parents on many parenting indicators.
- At baseline children of Parent Gym parents scored higher than children of Comparison Parents on Conduct Problems and Hyperactivity, and scored lower than children of Comparison Parents on Prosocial Behaviour.
- To demonstrate the impact of the Parent Gym programme more clearly it is advisable to design a metric that specifically taps into the parenting areas targeted by the Parent Gym programme.

Introduction

Parent Gym is a parenting training programme grounded in academic research and funded by Mind Gym. The first Parent Gym sessions ran in London and Belfast in spring 2010. Initially, the Parent Gym programme consisted of nine 2-hour face-to-face sessions for up to 20 parents and covered topics such as health, arguments, love and rules. Meanwhile, a shorter five week face-to-face course and online courses exist and 50 schools in London and Belfast have adopted the programme. The data presented in this report refer to all nine week face-to-face Parent Gym training courses which ran between September and December 2011.

Each face-to-face Parent Gym course is facilitated by volunteer parenting coaches, who must be parents themselves and who undergo rigorous selection and training by Parent Gym. In this way, Parent Gym has so far successfully trained approximately 500 parents of circa 860 children (Parent Gym, 2012). Parent Gym is strongly committed to evaluate the parenting programme rigorously and to follow up on matters flagged up by researchers as well as practitioners such as the parenting coaches, parents and teachers.

Background of this Evaluation

Parent Gym approached the research team at Canterbury Christ Church University (CCCU), in December 2011 and commissioned us to conduct a mixed-methods evaluation of their parenting training programme.

The CCCU research team consists of five academics with a wide range of relevant subject expertise and includes Dr Claire Tupling (Early Childhood Studies & Sociology), Mary Andall-Stanberry (Social Work), Dr Maria Summerson (Social Work & Sociology) and Dr Manuela Thomae (Psychology & Statistics). Dr Patricia Driscoll (Education & Teacher training) led the team and managed the project.

Parent Gym had previously commissioned Professor Derek Moore and Chris Pawson from the Institute for Research in Child Development, University of East London, to advise on suitable evaluation measures, analyse existing data and review the evaluation process. The current evaluation builds on this work but relies on newly collected data collected by Parent Gym.

Our team undertook to:

- Collect, analyse and report on interview and observational data of the Parent Gym programmes run in early 2012 (please see Report 1 from CCCU)

- Analyse and report on the questionnaire data from the Parent Gym programmes run between September and December 2011 (in this report)

- Advise on how to shorten and/or improve the questionnaires and methodology adopted by Parent Gym, particularly with reference to the quantitative evaluation mechanism (please see CCCU Report 1 along with this report)

Various members of our research team were involved in the recruitment of participants for the interview and observation data presented in the CCCU Report 1. However, we were not involved in recruiting parents to complete the questionnaire data presented in this report. Parent Gym coaches and staff at the involved schools had already recruited the Parent Gym and Comparison parents prior to the involvement of the CCCU research team. They had entered some of this data into SPSS which they forwarded to the research team via email. CCCU received further raw data by courier, which we added to this existing SPSS data file. The analysis strategy adopted in this report follows and extends the analysis strategy adopted by Moore and Pawson (2011) from the University of East London.

Methods

Participants

A sample of 465 parents across 25 primary schools was included in the quantitative element of this evaluation either at baseline (pre-intervention) or at the first follow-up (post-intervention) or at both time points. Of these parents 324 (70%) had undergone the Parent Gym intervention and 141 (30%) were comparison parents.

The Response Rate

These parents have children ranging in age between two and 16 years (M = 7.03, SD = 2.74).

Gender of Children

Gender	No.	Percentage
Male	226	49%
Female	180	39%
Not known	59	12%

Ethnic origin of children

Ethnicity	No.	Percentage
White British	140	30%
Black	109	23%
Asian	28	6%
Mixed race, Chinese, other	41	9%
No ethnicity disclosed	147	32%

Measures

In order to assess changes in the parents' parenting behaviour and efficacy as well as changes in children's behaviour between the beginning of the Parent Gym intervention (pre-intervention) and the last session of the Parent Gym intervention (9 weeks later; post-intervention), questionnaires were administered to parents and teachers at both time points.

During an earlier impact evaluation, a team of researchers from the Institute for Research in Child Development, University of East London (UEL), suggested the use of three different established metrics to measure the impact of the Parent Gym training. The research team from Canterbury Christ Church University and representatives of Parent Gym agreed to continue using the metrics suggested by the UEL team. These metrics are:

The Alabama Parenting Questionnaire (APQ; Shelton, Frick & Wootton, 1996)

The APQ is a 42-item parenting practices measure. Parents self-report on the frequency of six parenting practices on a 5-point Likert scale. The APQ consists of six subscales: Involvement (10 items), Positive Parenting (6 items), Poor Monitoring/Supervision (10 items), Inconsistent Discipline (6 items), Corporal Punishment (3 items) and Other Discipline Practices (7 items).

The Tool of Parenting Self Efficacy (TOPSE; Kendall & Bloomfield, 2005; Bloomfield & Kendall, 2007)

The TOPSE consists of 48 self-report items; parents rate their parenting self-efficacy on an 11-point Likert scale. The 48 items of the TOPSE are arranged in eight subscales, consisting of six items each. These subscales are: Emotion & Affection, Play & Enjoyment, Empathy & Understanding, Control, Discipline & Setting Boundaries, Pressures, Self-Acceptance and Learning & Knowledge.

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997)

The SDQ is a short behavioural screening tool for 4 to 16-year olds and exists in several different versions. The SDQ can be administered by parents or teachers and consists of 25 items, which belong to five subscales relating to positive and negative psychological attributes. The five subscales consist of five items each, the subscales are: Emotional Symptoms, Conduct Problems, Hyperactivity/ Inattention, Peer Problems and Prosocial Behaviour.

Design

The quantitative element of this impact evaluation features a non-randomised longitudinal pre-test – post-test design with a comparison group. This design was chosen to allow for an assessment of the changes in parenting behaviour and self-efficacy as well as the changes in child behaviour after parents had undergone the parenting training offered by Parent Gym.

This report presents data from parents and children who attended and completed the Parent Gym training between September and December 2011. The comparison group data were collected during the same time period and in the same primary schools in which the Parent Gym training was run.

In the future, we hope to obtain further data from this cohort of parents and children for further follow-up analyses (i.e. 3 months after completion of the Parent Gym training). However, it is important to keep in mind the already low sample size in the comparison group as well as the high rate of non-returned questionnaires (attrition).

Procedure

The data collection for the Parent Gym parents took place during the first and last sessions of the Parent Gym training programme and was overseen by the respective Parent Gym coach. The parents in the comparison group were usually approached by school-family liaison officers or another member of staff at the schools in which the Parent Gym programmes run. These comparison parents received a sealed envelope containing the questionnaires and completed these questionnaires in their own time at home. All questionnaires were then collated at the Parent Gym offices. The research team from CCCU received the hard copies of the completed questionnaires for this quantitative element of the evaluation via courier from Parent Gym. A researcher from the CCCU research team entered all data into SPSS 17.

The parents were asked to include the name, age and ethnicity of their child who attended the respective primary school. This procedure was necessary in order to enable matching the data from the baseline (pre-intervention) with data from the follow-up (post-intervention). The parents completed the APQ and the TOPSE. The SDQ was usually completed by the children's class teachers.

Results

The sample sizes for the treatment and comparison groups with pre- and post-intervention measurements for each of the questionnaires are:

- Alabama Parenting Questionnaire (APQ):
  - Treatment N = 125
  - Comparison N = 21

- Tool to Measure Parental Efficacy (TOPSE):
  - Treatment N = 105
  - Comparison N = 17

- Strengths & Difficulties Questionnaire (SDQ):
  - Treatment N = 110
  - Comparison N = 83

Thus, the sample size in the comparison group is only sufficiently large for the SDQ (teacher assessment of child behaviour).

Alabama Parenting Questionnaire (APQ)

Of the APQ sub-scales, Parental Involvement (F (6, 139) = 1.93, p = .167, η^2 = .01) and Other Discipline Practices (F (6, 139) = 2.00, p = .160, η^2 = .01) demonstrate some impact of the Parent Gym intervention but do not reach the conventional $p < .05$ significance level. The trend for Parental Involvement goes towards the Parent Gym parents catching up with the involvement levels of the comparison parents following the intervention. The trend for Other Discipline Practices, however, is less clear since both groups of parents increase their discipline practices but the Parent Gym parents increase them more strongly. There are no further statistically significant effects of the intervention on the parenting practices measured by the APQ. In summary, Parental Involvement and Discipline Practices improve somewhat for Parent Gym parents following the Parent Gym training.

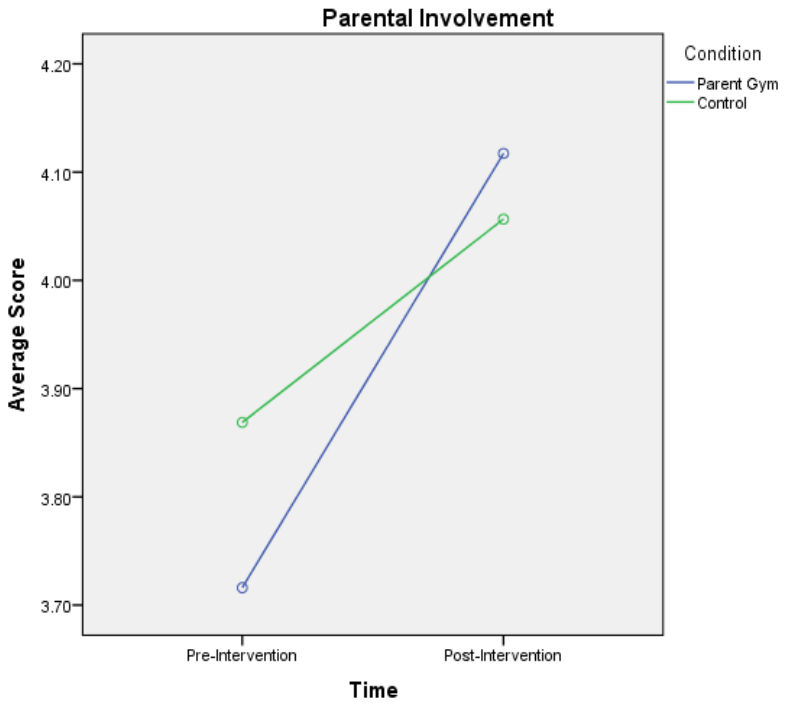

Figure 1. Change in parental involvement from pre- to post-intervention for Parent Gym versus Comparison participants.

Further statistical analyses for the APQ indicate that the Parent Gym parents score generally lower than the Comparison parents on monitoring their children ($t(345) = 2.18$, $p = .030$) and on consistency of disciplining their children ($t(349) = 3.13$, $p = .002$), indicating that there are some initial differences between the two groups of parents. The means and standard deviations for all analyses are available in Table 1.

Table 1. Descriptive Statistics for the frequency of parenting practices reported at Time 1 and Time 2 over each of the dimensions by the APQ[1]

		Time 1 (Pre Intervention)		**Time 2 (Post Intervention)**		
		Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**N**
Parental Involvement	Parent Gym	3.71	0.67	4.12	0.52	125
	Comparison	3.87	0.88	4.06	0.57	21
Positive Parenting	Parent Gym	4.29	0.64	4.56	0.45	125
	Comparison	4.19	0.83	4.47	0.50	21
Poor Monitoring	Parent Gym	1.40	0.42	1.39	0.55	125
	Comparison	1.19	0.31	1.13	0.22	21
Inconsistent Discipline	Parent Gym	2.21	0.65	2.44	0.68	125
	Comparison	1.61	0.40	1.85	0.51	21
Corporal Punishment	Parent Gym	1.42	0.44	1.59	0.67	125
	Comparison	1.31	0.37	1.40	0.48	21
Other Discipline	Parent Gym	2.40	0.52	2.85	0.51	125
	Comparison	2.26	0.43	2.54	0.48	21

We calculated the percentages of improvement separately for the Parent Gym and comparison parents on five of the APQ scales. These percentages are presented in Table 2.

[1] Parental Involvement and Other Discipline Practices are highlighted as the intervention seems to have some impact on these APQ subscales.

Table 2. Percentage of parents in the Parent Gym versus Comparison group who improve across the dimensions of the APQ from pre to post intervention.

	% of Parents improved	
	Parent Gym	**Comparison**
Parental Involvement	68%	66%
Positive Parenting	45%	65%
Poor Monitoring	43%	33%
Inconsistent Discipline	34%	33%
Corporal Punishment	19%	17%
Other Discipline	77%	67%

Finally, we matched the 21 children/parents with complete data in the comparison group with 21 children/parents with complete data in the treatment group in order to make the two groups more equal. This matching was conducted based on demographic features of the included children. In order to be matched, children had to be from the same school, of the same sex and ethnicity and of similar age as the relevant comparison child.

Despite the small sample size, the Other Discipline Practices scale again reaches statistical significance ($F(6, 35) = 5.70$, $p = .022$, $\eta^2 = .13$), indicating that Parent Gym parents in comparison to comparison parents increase their discipline practices. Yet, this result needs to be interpreted with caution since the Other Discipline Practices scale is a very unreliable metric (see Recommendations).

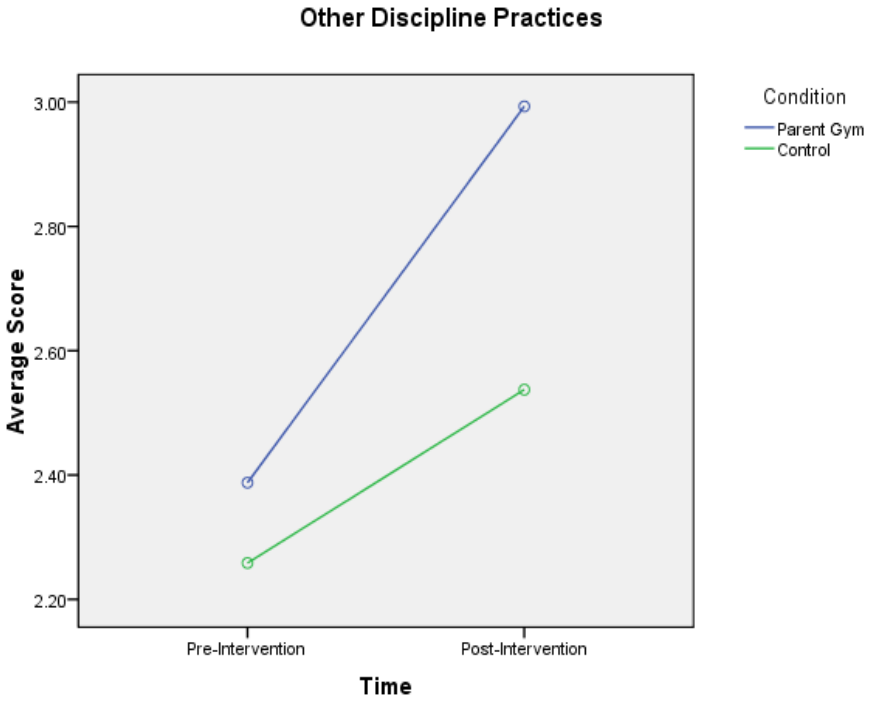

Figure 2. Change in Other Discipline Practices from pre- to post-intervention for Parent Gym versus Comparison participants.

Tool to Measure Parenting Self Efficacy (TOPSE)

Two TOPSE sub-scales show statistically significant impact of the intervention on the measured outcomes. The time by condition interaction for the Emotion & Affect scale reaches statistical significance (F (1, 120) = 6.22, p = .014, η^2 = .05; Figure 3) and so does the interaction for the Parenting Pressures scale (F (1, 120) = 4.09, p = .045, η^2 = .03; Figure 4). The interaction on the Emotion & Affect scale indicates that Parent Gym parents improve their Emotion & Affect scores following Parent Gym training and relative to Comparison parents. A similar but weaker pattern emerges for Dealing with Pressures.

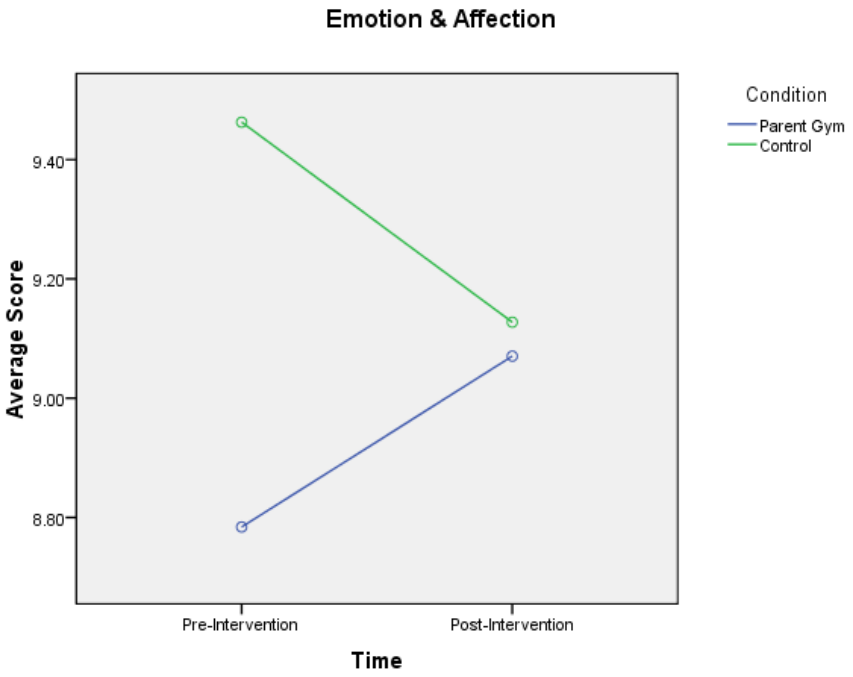

Figure 3. Change in Emotion & Affection for the Parent Gym versus Comparison parents from pre- to post-intervention

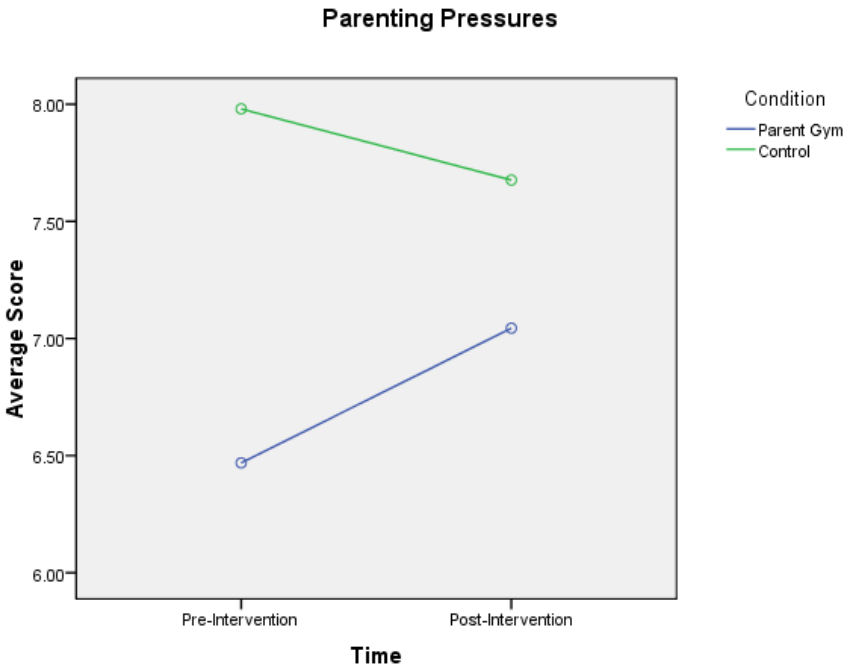

Figure 4. Change in Dealing with Pressures for the Parent Gym versus Comparison parents from pre- to post-intervention

There are also marginally significant interaction effects for Play & Enjoyment (F (1, 120) = 2.84, p = .094, η^2 = .02) and Empathy & Understanding (F (1, 120) = 2.90, p = .091, η^2 = .02). These effects indicate that Parent Gym parents' levels of Play & Enjoyment and Empathy & Understanding rise into the direction of the comparison parents' level.

Table 3. Descriptive Statistics for the parental efficacy reported by participants at Time 1 and Time 2 over each of the dimensions of the TOPSE[2].

		Time 1 (Pre Intervention)		Time 2 (Post Intervention)		
		Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**N**
Emotion & Affect	Parent Gym	8.78	1.22	9.07	0.85	105
	Comparison	9.46	0.70	9.13	0.94	17
Play & Enjoyment	Parent Gym	8.52	1.56	8.93	1.05	105
	Comparison	9.49	0.68	9.51	0.72	17
Empathy & Understanding	Parent Gym	8.23	1.41	8.81	1.01	105
	Comparison	9.22	0.85	9.34	0.68	17
Control	Parent Gym	6.77	1.71	7.39	1.37	105
	Comparison	8.03	1.33	8.20	1.10	17
Discipline	Parent Gym	7.02	1.89	7.91	1.35	105
	Comparison	8.33	1.21	8.80	0.98	17
Dealing with Pressures	Parent Gym	6.47	1.94	7.04	1.75	105
	Comparison	7.98	2.02	7.68	2.10	17
Self-Acceptance	Parent Gym	8.21	1.35	8.49	1.11	105
	Comparison	8.86	1.19	9.10	0.85	17
Learning & Knowledge	Parent Gym	8.91	1.09	9.10	0.90	105
	Comparison	9.02	1.06	9.06	0.81	17

However, Parent Gym and Comparison parents differ in their initial scores on all TOPSE subscales except for Learning & Knowledge (see Table 3). Parent Gym parents score lower on Emotion & Affect, Play & Enjoyment, Empathy & Understanding, Control, Discipline & Setting Boundaries, Dealing with Pressures and Self-Acceptance than Comparison parents.

We calculated the percentages of improvement separately for the Parent Gym and comparison parents on the TOPSE scales. These percentages are presented in Table 4 below.

Table 4. Percentage of parents in the Parent Gym versus Comparison group who improve across the dimensions of the TOPSE from pre to post intervention.

	% of Parents improved	
	Parent Gym	**Comparison**
Emotion & Affect	48%	29%
Play & Enjoyment	52%	22%
Empathy & Understanding	61%	43%
Control	62%	36%
Discipline	67%	50%
Dealing with Pressures	63%	43%
Self-Acceptance	50%	38%
Learning & Knowledge	42%	33%

[2] Emotion & Affect and Dealing with Pressures are highlighted in blue as the intervention has a significant impact on these TOPSE subscales. The intervention also has a (weaker) impact on Play & Enjoyment and Empathy & Understanding (green).

Finally, we matched the 17 children/parents with complete data in the comparison group with 17 children/parents with complete data in the treatment group in order to make the two groups more equal. Again, this matching was conducted based on demographic features of the included children (see description above).

Despite the low sample size, Emotion & Affection ($F(8, 25) = 2.76$, $p = .107$, $\eta^2 = .08$) and Play & Enjoyment ($F(8, 25) = 2.22$, $p = .146$, $\eta^2 = .07$) show some intervention impact, indicating that the scores of the Parent Gym parents improve following the intervention. Unfortunately, with this low sample size, we are unable to draw any strong conclusions from these findings.

Strengths & Difficulties Questionnaire (SDQ)

Of the SDQ scales, the Conduct Problems scale showed some improvement for children of Parent Gym parents compared to children of Comparison parents ($F(5,187) = 3.66$, $p = .057$, $\eta^2 = .02$; Figure 5), indicating that following the intervention, the children of Parent Gym parents approached the (lower) level of conduct problems of children of comparison parents.

In general, the findings indicate that children of parents who attended the Parent Gym programme scored significantly higher in their initial scores for conduct problems ($t(331) = 3.42$, $p = .001$) and hyperactivity ($t(331) = 2.25$, $p = .025$) than children of comparison parents. In addition, children of Parent Gym parents scored consistently lower than comparison children on Prosocial Behaviour ($t(331) = -4.41$, $p < .001$). The means and standard deviations for the SDQ analysis are available in Table 5.

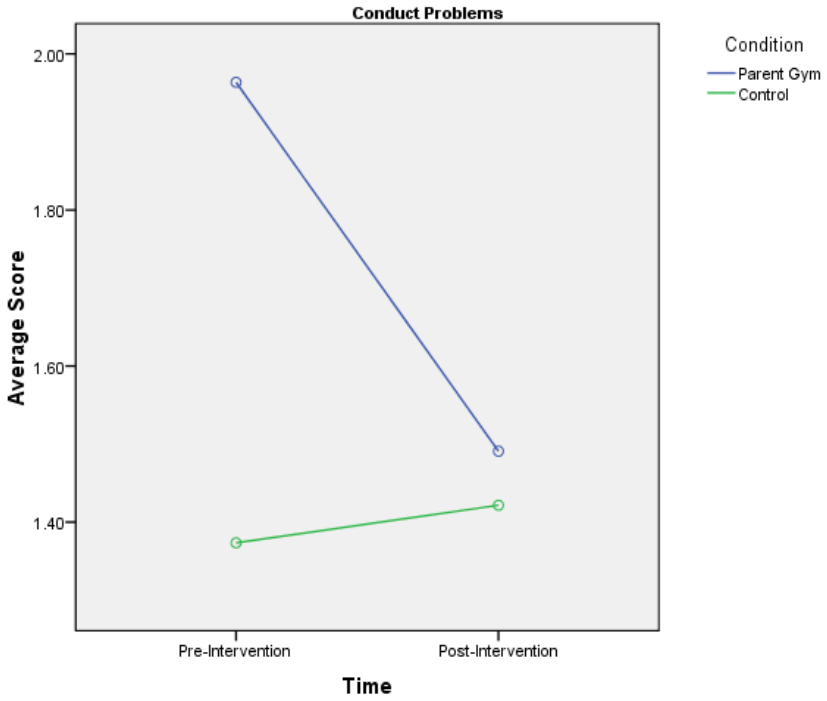

Figure 5. Change in Conduct Problems for the children of Parent Gym versus Comparison parents from pre- to post-intervention.

Table 5. Descriptive Statistics for children's strengths and difficulties at Time 1 and Time 2 over each of the dimensions of the SDQ[3,4].

		Time 1 (Pre Intervention)		Time 2 (Post Intervention)		
		Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**N**
Emotional Problems	Parent Gym	1.72	2.02	1.93	2.25	110
	Comparison	1.82	1.99	1.75	2.23	83
Conduct Problems	Parent Gym	1.96	2.11	1.49	1.88	110
	Comparison	1.37	1.63	1.42	1.68	83
Hyperactivity	Parent Gym	3.88	3.28	3.49	2.82	110
	Comparison	3.78	3.17	3.39	2.65	83
Peer Problems	Parent Gym	1.51	1.69	1.65	1.80	110
	Comparison	1.51	1.98	1.98	2.04	83
Prosocial Behaviour	Parent Gym	6.99	2.48	7.29	2.33	110
	Comparison	7.77	2.20	7.96	2.16	83

We calculated the percentages of improvement separately for the children of Parent Gym and comparison parents on the SDQ scales. These percentages are presented in Table 6 below.

Table 6. Percentage of children of parents in the Parent Gym versus Comparison group who improve across the dimensions of the SDQ from pre to post intervention.

	% of Children improved	
	Parent Gym	**Comparison**
Emotional Problems	36%	44%
Conduct Problems	42%	39%
Hyperactivity	48%	41%
Peer Problems	29%	32%
Prosocial Behaviour	21%	14%

We did not match the 83 comparison children with complete data with 83 Parent Gym children since the sample size for the analysis of the SDQ is sufficiently large, which also precluded meaningful matching of these data by child demographics.

[3] The Conduct Problems scale is highlighted as the intervention seemed to have an impact on this dimension of the SDQ

[4] Improvements in children's Emotional Problems, Conduct Problems, Hyperactivity and Peer Problems are indicated by decreases in the mean scores over time. Improvements in children's Prosocial Behaviour are indicated by increases in the mean scores over time.

Recommendations

Since the completion particularly of the APQ and TOPSE takes up a long time during the first and last Parent Gym training sessions, Parent Gym asked the research team from CCCU to make recommendations on how to shorten these questionnaires and the time it takes to complete them during the training sessions.

In order to give informed advice, we conducted reliability analyses (Cronbach's Alpha; Cronbach, 1951) on the subscales of all the included questionnaires. The findings of these analyses are available in Table 7.

The conventional cut-off criterion in the social sciences for the coefficient Cronbach's Alpha is .70 (see Cortina, 1993). Based on this cut-off criterion, we recommend the exclusion of the following subscales from the questionnaires:

Two of the **APQ subscales** show particularly low Cronbach's Alpha and could be included from future evaluations on this basis:

- Corporal Punishment
- Other Discipline Practices

Based on low sub-scale performance (low Cronbach's Alpha) the following **TOPSE subscale** could be excluded:

- Emotion & Affection

Finally, two of the **SDQ subscales** appear to be problematic in terms of their scale reliability and could be considered for exclusion:

- Conduct Problems
- Peer Problems

Yet, given the very few significant findings discussed in the results section, it may be a more suitable approach for Parent Gym to consider developing purpose-made questionnaires. Such questionnaires should closely reflect the topics covered in the Parent Gym training programme. With already established metrics such as the APQ, TOPSE and SDQ, Parent Gym may be in danger of making significant investments into programme evaluation while assessing parenting of involved parents on dimensions not directly targeted by the Parent Gym training and thus continuing to obtain unsatisfactory evidence for the effectiveness of the programme.

Table 7. Cronbach's Alpha for the subscales of the APQ, TOPSE and SDQ pre- and post-intervention[5].

Scale	Subscale	Cronbach's Alpha Time 1	Cronbach's Alpha Time 2
Alabama Parenting Questionnaire (APQ)	Involvement	.76	.78
	Positive Parenting	.73	.75
	Poor Monitoring/ Supervision	.58	.77
	Inconsistent Discipline	.69	.69
	Corporal Punishment	.60	.64
	Other Discipline Practices	.41	.39
Tool to Measure Parenting Self Efficacy (TOPSE)	Emotion & Affection	.67	.47
	Play & Enjoyment	.88	.85
	Empathy & Understanding	.61	.83
	Control	.75	.68
	Discipline & Setting Boundaries	.90	.87
	Pressures	.70	.44
	Self-Acceptance	.77	.72
	Learning & Knowledge	.80	.77
Strengths and Difficulties Questionnaire (SDQ)	Emotional Symptoms	.75	.77
	Conduct Problems	.67	.58
	Hyperactivity/Inattention	.90	.79
	Peer Problems	.68	.55
	Prosocial Behaviour	.83	.83

[5] The highlighted scales show Cronbach's Alpha considerably below .70 and therefore might be excluded from further evaluations.

Summary & Discussion

The data suggest that the Parent Gym programme has an effect on parents' Emotion & Affect and Parenting Pressures and children's Conduct Problems. The data also suggest that the Parent Gym programme has some impact on parents' Parental Involvement, Discipline Practices, Play & Enjoyment and Empathy & Understanding.

These findings are consistent with what would be expected from parents' participation in the Parent Gym programme but the reader needs to keep in mind that the sample of comparison parents was very small and that the allocation to the Parent Gym versus Comparison group was not randomised. Randomisation into treatment versus comparison group would also address the problem of non-comparable baseline scores between the two groups. It would therefore be desirable (although difficult to implement in practice) to address the low return rate for comparison parents and the problem of randomisation in future evaluations.

Similar to the evaluation report provided to Parent Gym by the Institute for Research in Child Development, University of East London (Moore & Pawson, 2011), the current findings demonstrate change that is limited to the Parent Gym intervention group and consistent with expectations for an effective parenting programme. However, to enable firmer conclusions, future evaluations should consider the development and utilisation of a questionnaire metric that clearly reflects the areas of parenting on which the programme aims to impact.

Another problem may lie within the lacking anonymity of the questionnaire data. This approach may cause problems with the extent to which parents feel free to honestly respond to the questions within the questionnaires, particularly given the sensitive nature of some of the included questions.

Based on these points, we make the following recommendations:

- Either exclude the poorly performing subscales of the APQ, TOPSE and SDQ based on the discussion of Cronbach's Alpha above or develop a metric that closely overlaps with the content of the Parent Gym training sessions.

- Anonymise the questionnaires by using a code that the parents know (see example below) but which leaves their anonymity intact.

    - Example code:
        - 2nd letter of child's mother's name (e.g. A for M<u>a</u>ry): ___
        - 2nd letter of child's father's name (e.g. R for T<u>r</u>evor): ___
        - 2nd letter of oldest child's name (e.g. H for C<u>h</u>loe): ___
        - Oldest child's month of birth (e.g. 3 for March): ___

- Either randomise research participants into treatment and comparison groups or, if that is not practically feasible, carefully consider the costs and benefits of having a comparison group at all.

Finally, given the evidence of positive change in parents attending the programme, we agree with the research team from the University of East London that the findings clearly justify the continuation of the programme in its current form. In addition, from what the accompanying qualitative element of our evaluation shows, the programme is extremely popular with parents and schools and is perceived to make a positive impact, which was reflected in many of the interviews conducted by our research team.

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