A new parenting-based group intervention for young anxious children: results of a randomized controlled trial

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A New Parenting-Based Group Intervention for Young Anxious Children: Results of a Randomized Controlled Trial

Abstract

Objective: Despite recent advances, there are still no interventions that have been developed for the specific treatment of young children who have anxiety disorders. This study examined the impact on anxiety symptoms, of a new cognitive-behaviourally based parenting intervention.

Method: Families of 74 anxious children (aged 9 years or below) took part in a randomised controlled trial, which compared the new 10-session, group-format intervention with a wait-list control condition. Outcome measures included blinded diagnostic interview, and self-reports from parents and children..

Results: Intention to treat analyses indicated that children whose parent(s) received the intervention were significantly less anxious at the end of the study than those in the control condition. Specifically, 57% of those receiving the new intervention were free of their primary disorder, compared to 15% in the control condition. Moreover, 32% of treated children were free of any anxiety diagnosis at the end of the treatment period, compared to 6% of those in the control group. Treatment gains were maintained at 12-month follow-up.

Conclusions: This new parenting-based intervention may represent an advance in the treatment of this previously neglected group.

Keywords: Child, Anxiety, Parenting, RCT.

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Introduction

Anxiety disorders in pre-adolescent children are common. According to a review[1], they are more prevalent in pre-adolescent children than either depression or behavioural disorders. Conservative estimates indicate that at least 3% of pre-adolescents have an anxiety disorder at any time[2]. Some studies have reported substantially higher figures[1].

Despite the prevalence and consequences of anxiety disorders[3 4, 5], there are few evidence-based approaches to their treatment in younger children. According to a systematic review, Cognitive Behaviour Therapy (CBT) is quite effective for older children and adolescents, but there is little evidence that it is as effective for younger children[6]. Most studies examining CBT in the pre-adult population have either excluded children, or have reported results for children and adolescents combined. To our knowledge, no study has attempted CBT with a child younger than six years. Given the intellectual demands of CBT, it might be less effective for children than for adolescents, and less effective still for young children.

As an alternative to using CBT with young children who may struggle with this, some groups have evaluated the impact of delivering CBT-based material to parents. Rapee and colleagues[7] examined a brief preventative intervention for pre-school behavioural inhibition. This 9-hour intervention was focussed on anxiety education, teaching parents to cognitively restructure their own anxiety and to implement graded-exposure techniques. Although the intervention did not reduce symptoms of behavioural inhibition, it did reduce anxiety in those with anxiety disorders. Although coming from a preventative perspective, this indicates that a parent-focussed intervention for younger children may have utility.

Similarly, Thienemann and colleagues[8] piloted an approach where parents of anxious 7-16 year olds were trained to be 'lay therapists', with promising results. Finally, Waters and colleagues'[9] trial of

CBT for anxiety in children aged 4 to 8 found that a 'parent-only' condition produced results similar to those where parents and children attended. These studies indicate that an exclusively parent-based approach to managing anxiety can be fruitful.

Cognitive models of psychological disorders propose that difficulties arise as a consequence of schemata that are acquired early in life, as a result of the child's experiences[10]. Once acquired, these schemata influence information processing in a manner that confirms the schemata, and maintains psychological disorders. Although there is considerable evidence that adults with psychological disorders do hold dysfunctional schema, research exploring their provenance is lacking. However, the assumption that schemata arise in childhood, particularly as a consequence of unhelpful parenting, is plausible and widely-accepted.

Indeed, there is increasing evidence that early parenting plays a role in anxiety disorders. In one review[11], parenting characterised by low warmth, high rejection, and high overprotection was associated with childhood anxiety. Additionally, there is growing evidence that the behaviour management style of parents of anxious children may be sub-optimal. One study[12] showed that a self-reported over-reactive discipline style (anger, harsh punishment) was associated with preschoolers' internalising symptoms. Similarly, retrospective reports of receiving over-reactive parenting were associated with increased anxiety in young adults[13]. Moreover, the variance in anxiety explained by parental discipline style eclipsed that explained by parental warmth and overcontrol. It seems, therefore, that a sub-optimal behaviour management style may be associated with childhood anxiety. This is unsurprising: harsh punishment, shouting and anger are likely to produce fear reactions in most children. This effect will probably be compounded if the parenting style also lacks consistency and if parents do not use more positive techniques to encourage confident behaviours in their children.

All children are likely to find frequent displays of ineffective discipline distressing. However, some authors (in particular Belsky[14]) suggest that anxious children might be *more* vulnerable to parenting influences than less anxious children. For instance, Kochanska[15] reports that maternal discipline style was more predictive of outcomes for children previously identified as fearful than for average children, for whom it had little impact. This research was correlational, as manipulating parenting is a complex

issue with manifold ethical and practical concerns. However, research with primates produces similar effects in more controlled experimental paradigms[16]. These studies give an indication that, whilst for many, the quality of parenting may not be of primary importance, for young with an anxious/inhibited temperament, it may be crucial, with those receiving poor parenting doing disproportionately badly, and those receiving good parenting doing disproportionately well. In other words, it is possible that anxious children are *particularly* sensitive to the effects of parenting.

If this hypothesis is correct, then anxious children represent a group for whom parenting-based interventions might be particularly useful. This would suggest that a broad-based parenting intervention, focussing on gentle, predictable child-management, in addition to anxiety-specific material, might be advantageous. Accordingly, Cartwright-Hatton and colleagues[17] examined the impact of a standard behavioural parent training (BPT) programme on the internalising symptoms of a group of children aged 3-8 years, who, although referred primarily with externalising difficulties, also experienced substantial internalising difficulties. After receiving standard BPT, internalising symptoms reduced significantly, and to the same degree as externalising symptoms. Subsequently, Cartwright-Hatton and colleagues[18] recruited six children aged 3-9 years with primary anxiety difficulties, and gave their parents a modified BPT programme, covering a standard behaviour management syllabus, but encouraging parents to employ their new skills to promote both good behaviour and *confident* behaviour. Parents also learnt cognitive-behavioural techniques for managing children's anxiety. After treatment, internalising symptoms fell to a statistically significant degree. Clearly, the studies reported here were preliminary, and further research into a parenting-based approach to anxiety in young children is needed. The aim of the present study, therefore, was to conduct an RCT of an intervention aimed at developing parents' behaviour management skills, emphasising calm, clear, consistent parenting, and teaching cognitive-behavioural techniques for managing children's anxiety.

Method

This study was approved by an NHS Research Ethics Committee.

Power

Assuming a correlation between baseline and follow-up of .5 the study has 80% power to detect a difference between conditions of 0.65 standard deviations at p =.05 (2-sided).

Participants

See CONSORT Diagram (Figure 1).

Participants were 74 children (42 female) aged 2.7-9 years (mean 6.6) and their carers. Children aged nine and younger were targeted, as the literature provides less support for the efficacy of standard anxiety interventions in this age group, and it is the age for which parenting programmes have proven most useful for other disorders[19]. Mean caregiver age was 35 years. Parents identified the ethnicity of most children (55) as 'white'; one as 'pakistani'; eight as 'other'. Ten gave no details. Ten families were referred from Mental Health Services, 64 were self-referrals in response to media releases. The trial took place in Manchester, England.

Recruitment took place between January 2006 and January 2008.

Inclusion criteria: At or above clinical cutoff on CBCL Internalising Scale or Preschool Behavior Checklist Internalising Scale; appeared likely to have an anxiety disorder upon preliminary interview with a clinical psychologist.

Exclusion criteria: Parent / child had moderate-severe learning difficulties; child had moderate-severe autistic spectrum disorder as assessed at preliminary interview with a clinical psychologist. Other comorbid disorders, (e.g. ODD, depression) were not excluded.

Demographic details are outlined in table 1 and diagnoses in table 2.

Tables 1 and 2.

Randomization

Participants were randomised to the new intervention, or to wait-list for treatment-as-usual (control). Telephone randomisation (with concealed allocation) was conducted by an independent agency. Randomisation was according to planned 1:1 allocation ratio. The allocation method was minimization with random element using three factors: source of referral (self/health services); child's age (under seven/seven and older); child's gender. There was a run-in of ten cases, during which allocation was random. Thereafter, allocation was made to the arm that would yield a lower imbalance score with a probability of 0.67.

Measures

Parent Report:

Child Behaviour Checklist (CBCL)[20, 21]

A well-standardised, parent-report inventory of behavioural and emotional problems. It yields a total problem score and several subscales. Internalising score and DSM Anxiety score were used in this study. It has excellent internal consistency, test-retest reliability, and validity. Two versions of the instrument were used, as appropriate: The CBCL for children aged 6-18 years; or for children aged 1.5-5.11 years.

Screen for Child Anxiety Related Disorders (SCARED) – Parent Version[22]

In planning this study, we could identify no parent-report measures of anxiety for children aged below eight years. Therefore, the SCARED– Parent Version, was employed. This instrument is primarily designed for children aged eight years and over, and its psychometric properties in younger groups are unknown. However, its psychometric properties when used in children aged eight and over are strong. It yields a total anxiety score, which was employed here.

Teacher Report:

Teachers were invited to complete the Child Behaviour Checklist-Teacher Report Form[20, 21]. However, insufficient complete sets were returned for meaningful analysis.

Child Report:

Multidimensional Anxiety Scale for Children (MASC)[23]

Since there are no self-report measures designed for children aged under eight, the MASC was employed. Pilot work indicated that it was inappropriate for use with children aged below six. Therefore, it was administered only to children aged six or older and was generally read aloud. The MASC is designed for children aged eight and over, and its psychometric properties with younger children are unknown. However, its psychometric properties when used with older children are reported to be strong. The MASC yields a total anxiety score, plus a number of subscales. Total score was employed here.

Diagnostic Interview (ADIS-PV)[24]

Parents were interviewed using the Anxiety Disorders Interview Schedule for Children and Parents–IV (parent-version). This assesses for DSM-IV childhood anxiety diagnoses, and screens for other common diagnoses. It is designed for use by trained research assistants and is highly reliable and valid. Interviews were conducted by research assistants who were trained by a clinical psychologist and blind to group allocation. Children were usually present, and although the parent was the primary informant, children's responses were taken into account where this provided new information. Diagnoses were only assigned if significant interference (parent rating of 4+ on a 0-8 scale) was reported. Interviews were tape-recorded, and an independent researcher re-rated a random 20%. Inter-rater agreement was 96.6%, therefore, the first rater's diagnoses were employed in analyses.

Interventions

"Timid to Tiger"

Parents were offered a course of 10 group sessions. Each manualized session lasted two hours. Children did not attend. In total, six courses were run, each delivered in its entirety by two of a team of

four clinical psychologists. Three to seven families attended each course. Each session began with feedback on home practice of material delivered in previous sessions. The second hour covered new material. Two over-arching goals guided the intervention: The first was to enable parents to provide their children with a warm, calm, predictable home environment, in which gentle, positive, discipline was employed to manage difficult behaviour and encourage confident behaviour; The second goal was to help parents manage children's anxiety using cognitive-behavioural skills (particularly graded exposure, problem solving, behavioural experiments). Table 3 provides an overview of material. Detailed session content is available online in table S1. Treatment took place in a research hospital. Participants were reimbursed £15 (approximately $20) towards expenses for each session. .

Table 3.

Protocol adherence.

After each session, clinicians completed a checklist of session material. Responses indicated that, on average, 98% of the expected material was covered. Additionally, sessions were video-recorded, and a pseudo-random selection (representing each of the ten sessions, and each therapist) of 10 tapes were rated by two independent observers (an advanced graduate student and a qualified clinical psychologist) against a checklist of expected content. The average session covered 90% of the expected material (intra-class correlation .82.).

Control condition

Control families remained on a wait-list for ten weeks, after which the main outcome assessment was made. Subsequently, participants were seen by their referrer, or given help finding appropriate support.

Procedure

Initially, participants were screened by telephone, using the CBCL. Those who met clinical cut-off on the internalising scale were offered an intake interview, where they were further assessed against inclusion/exclusion criteria by a clinical psychologist, the study was explained in detail and consent taken.

After randomisation, families participated in pre-participation assessment, where they completed the instruments described above, plus two experimental tasks (results not discussed here). Participants were reimbursed £25 (approximately $35) against expenses.

After completion of the intervention, or ten weeks wait-list, participants attended a post-participation assessment. This was identical to the pre-participation assessment.

Figure 1

Protocol Deviations

One family, who were randomised to receive the new intervention, were withdrawn because all other participants who were randomised in the same period were randomised to wait-list control, meaning that this family was the only one randomised to the new intervention by the start date of the next group. The family were given individual treatment, but since this is a group intervention, their data were withdrawn.

Attendance

Where parents were unable to attend a session, a catch-up session was offered (maximum of three per family). Attendance was excellent: excluding the five families who attended no sessions, average attendance was 88% of sessions.

Results

Treatment of Data

Most CBCL and SCARED scores were significantly non-normal in the treatment condition. There was also evidence of non-normality in the MASC. Together with the unequal group sizes this will bias the *F*-ratio in ANOVA [25]. Therefore, data were analysed using tests based on a robust estimate of location (an M-estimator) and, where possible, 500 bootstrap samples [26]. The bootstrap procedure was chosen

because in situations where the distribution of scores differs across groups, it should be most effective because parameters are empirically derived from the actual data [26]. These robust analyses were conducted using functions *tsplit* and *tsplitbt* from Wilcox [26] implemented in R version 2.9.2 [27].

All analyses were 'intention to treat'[1] .

Demographics

Table 1 shows sample demographics and demonstrates that the conditions did not differ significantly.

Initial Outcome

Diagnosis (ADIS)

In the intervention condition, 21 of 37 children were free from their primary diagnosis at post-intervention, compared to 5 of 33 control children. Chi-square analysis indicated a significant association with condition, $\chi^2(1, N= 70) = 12.93, p < .001$. The odds ratio was 7.35, 95% Bootstrapped bias corrected CI (2.55, 35.61), meaning the odds of being free of primary diagnosis were 7.35 times higher in the intervention condition than the control condition.

Freedom from any ADIS anxiety diagnosis was also computed. In the intervention condition, 12 of 37 children were free from all anxiety diagnosis, compared to 2 of 33 control children. Chi-square analysis revealed a significant association with condition, $\chi^2(1, N= 70) = 7.58, p < .05$. The odds ratio was 7.44, 95% bias corrected bootstrap CI (1.72, 24.98), meaning the odds of being free of all anxiety diagnoses were 7.44 times higher in the intervention condition than the control condition.

Self Report Measures

CBCL

[1] A 'last observation carried forward' approach to missing data was employed, except where no suitable value was available, wherein the subsequent observation was carried back. Note that three participants did not meet ADIS diagnosis at pre-participation assessment, and were excluded from ADIS analyses, but were included in self-report analyses. Six participants had no SCARED data and three no CBCL data, so imputation of these missing data was not possible. However, their data were included in other analyses.

Internalising score and DSM Anxiety score were converted to T-scores so that data from younger and older children could be included. Table 4 shows means of these before and after intervention. Relative change in the intervention compared to the control condition is shown as Cohen's *d* (using a pooled sd) and d_c (using only the control group *SD*), the former indicates the effect of the intervention relative to overall variation, whereas the latter shows it relative to the control condition. A positive value of *d* indicates more change in the intervention condition compared to the control condition.

Table 4

DSM anxiety scores had a two-way 2(condition: WL vs. intervention)×2(time: pre-vs-post-intervention) design, with time as repeated measures variable, and were analysed with a robust test based on 20% trimmed means and 500 bootstrap samples (*tsplitbt* in Wilcox, 2005). In this test, the test statistic, Q, is compared against a critical value, Q_{Crit}, which is computed at $\alpha = .05$. If $Q > Q_{Crit}$ then the effect is significant at $p < .05$. The main effects of condition, $Q = 8.62$ (Critical value at $\alpha = .05$, $Q_{Crit} = 4.46$), and time $Q = 23.97$ ($Q_{Crit} = 3.83$) and the crucial intervention×time interaction, $Q = 5.21$ ($Q_{Crit} = 3.90$) were all significant at $p < .05$. This shows that the decrease in DSM anxiety caused by the intervention was significantly stronger than in the control condition.

Internalising scores were analysed as above. The main effects of condition, $Q = 10.65$ ($Q_{Crit} = 4.42$), and time $Q = 33.40$ ($Q_{Crit} = 3.72$) and the crucial intervention×time interaction, $Q = 4.81$ ($Q_{Crit} = 3.65$) were all greater than their critical values and so were significant at $p < .05$. This shows that the decrease in internalising caused by the intervention was significantly stronger than in the control condition.

For both CBCL scales, the intervention showed about half a standard deviation improvement over the control condition.

SCARED

Table 4 shows SCARED means. Total scores were analysed using the same design and test as for CBCL scores (above) but the intended bootstrap failed to compute so a robust test based on a 20% trimmed mean was used instead (*tsplit* in Wilcox, 2005). The main effects of condition, $Q = 1.14$ (Critical value $p < .05$, $Q_{Crit} = 4.46$), and time, $Q = 38.04$, $p < .001$, and the condition×time interaction, $Q = 11.14$, $p < .01$ were all significant. This shows that the decrease in total SCARED scores caused by the intervention was significantly stronger than in the control condition.

MASC

Table 4 shows MASC means. The total T-scores were analysed using the same design as for CBCL scores using *tsplitbt* (Wilcox, 2005). The main effects of condition, $Q = 1.14$ (Critical value at $\alpha = .05$, $Q_{Crit} = 3.96$), and time, $Q = 2.01$ ($Q_{Crit} = 4.75$) and the condition×time interaction, $Q = 4.01$ ($Q_{Crit} = 4.77$) were all not significant at $p < .05$. The indicates that the decrease in total MASC in the treatment condition was not significantly different to the control group.

12-Month Follow-Up

At follow-up, 38% of the control group reported having received additional intervention for their child's anxiety (compared to 7% of the intervention group). Therefore, the 12-month follow-up data should be treated cautiously.

Diagnosis

In the intervention condition, 20 of 37 children were free from their primary diagnosis at follow-up, compared to 8 of 33 in the control condition. A significant association with condition was found, $\chi^2(1, N = 70) = 6.46$, $p < .05$, with an odds ratio of 3.68, 95% bias corrected bootstrap CI (1.24, 17.33); the odds of being free of primary diagnoses were, therefore, 3.68 times higher in the intervention condition than the control condition.

Freedom from any anxiety diagnosis was computed as above. In the intervention condition, 17 of 37 children were free from all anxiety diagnosis at follow-up, compared to 3 of 33 in the control condition. A significant association with condition was found, $\chi^2(1, N = 70) = 11.61$, $p < .01$, with an odds ratio of

8.50, 95% bias corrected bootstrap CI (2.55, 33.29); the odds of being free of primary diagnoses were, therefore, 8.5 times higher in the intervention condition than the control condition.

Self Report

At follow-up, self-report scores of both groups continued to decline, demonstrating a reduction in symptoms for both those in the intervention condition and the control condition (see Table 4)

CBCL

The DSM Anxiety analyses employed a two-way 2(condition: WL vs. intervention)×2(time: pre-vs. follow-up) design, with time as repeated measures variable, and were analysed with a robust test based on 20% trimmed means and 500 bootstrap samples (*tsplitbt* in Wilcox, 2005). The main effects of condition, Q = 7.40 (Critical value at α = .05, Q_{Crit} = 3.83), and time Q = 42.00 (Q_{Crit} = 3.94) were significant but the crucial intervention×time interaction, Q = 2.78 (Q_{Crit} = 4.28) was not. In a similar analysis on Internalising scores, main effects of condition, Q = 5.95 (Q_{Crit} = 3.33), and time Q = 37.36 (Q_{Crit} = 4.25) were significant but the crucial intervention×time interaction, Q = 0.00 (Q_{Crit} = 3.93) was not. This shows that the decrease in DSM anxiety and internalising caused by the intervention was not significantly stronger than in the control condition at follow-up.

SCARED

Total SCARED scores were analysed using the same design and test (*tsplit* in Wilcox, 2005) as for the earlier analysis of SCARED scores. The main effect of time, Q = 56.13, p < .001 was significant but the main effect of condition, Q = 3.60, p = .07 and the crucial intervention×time interaction, Q = 1.67, p = .20, were not. This shows that the decrease in total SCARED scores caused by the intervention was not significantly stronger than in the control condition at follow-up.

MASC

Total T-scores were analysed using the same design and test as for the analysis of pre-post MASC scores. The main effect of time, Q = 18.51 (Critical value at α = .05, Q_{Crit} = 4.07) was significant; however, the main effect of condition, Q = 2.51 (Q_{Crit} = 3.81), and the condition×time interaction, Q =

1.94 (Q_{Crit} = 3.86) were not significant at $p < .05$. This indicates that the decrease in total MASC in the treatment condition was not significantly different to the control group.

Discussion

The results indicate that a cognitive-behaviourally-based parenting intervention for anxiety in young children may be effective in the treatment of this neglected population.

After treatment, those receiving treatment were over seven times more likely to be primary diagnosis-free than controls. A similar picture emerged for presence of any anxiety diagnosis.

At follow-up, the number of treated children free of primary diagnosis remained fairly stable, whilst those free of any diagnosis increased. In the control group, those free of diagnoses also rose slightly. However, despite the fact that 38% of control children received further treatment in the follow-up period (7% in the intervention group) the intervention group were still significantly less likely to have anxiety disorders.

A similar picture emerges from parental post-treatment self-report data. CBCL and SCARED scores fell significantly further for treated children than for controls, with substantial effect sizes. At follow-up, there were further reductions in symptoms across all measures for the intervention group, but improvements in the control group meant that significant group differences disappeared. However, since almost two-fifths of controls had received other treatment during follow-up, these data must be treated with caution.

The picture for parent self-report, and for diagnostic interview data, suggests that the intervention was more effective at reducing anxiety than the control condition. However, children's MASC scores did not show this effect. The reasons for this are unclear: it is possible that the intervention was ineffective, and that MASC scores reflect this. This seems unlikely, given the magnitude of change reported by parents; however, this possibility should be considered. Second, it is possible that it was inappropriate to use the MASC. The MASC was developed for children aged 8 and above, but was

used here for children aged as young as six. Furthermore, great efforts were made to put the children at their ease. A range of interesting toys were available for play, and a research assistant was on-hand to entertain the child during assessment. Given these efforts, it is possible that children felt relaxed whilst completing the questionnaire, and that their scores may have reflected this. This is particularly likely for younger children who are less able to look beyond their current emotional state when reporting. This hypothesis fits with the MASC data in this study. At study entry, the mean score was just 58, whilst the instrument's authors recommend that suspicion of clinical anxiety should begin in the mid 70s. It is possible that many of the children entering the study simply were not very anxious, and had little to gain from the intervention. However, this seems unlikely, given the levels of symptoms reported by parents. Other trials employing child-report measures, including the MASC, have reported similar difficulties with socially-desirable responding.[8, 28]

As well as indicating a potential new avenue for the treatment of young anxious children, this study casts some tentative light on the mechanisms that might be involved in the maintenance of anxiety in this population. As outlined above, there is evidence that parenting characterised by harsh or inconsistent discipline and low levels of positive reinforcement might provide a setting in which temperamentally pre-disposed children can become anxious. This study adds weight to this theory by demonstrating that when children are provided with a warm, calm, consistent parenting environment, with positive reinforcement of desirable and confident behaviours, anxiety is alleviated. Further research examining change in parenting as a result of the intervention, and the mediating effect of this on outcomes is underway.

Whilst little research has been directed at the treatment of younger anxious children, the results are comparable to trials of CBT for older children. A systematic review of trials comparing CBT for anxious youth to wait-list[6] reported that 56.5% of treated participants were free of their primary anxiety, with an odds ratio of 3.3. This compares to 57% of participants in this study, and an odds ratio of 7.35. Most of these studies included children older than in the present study, and few have had the power to examine the specific effects of treatment for younger participants. However, Shortt, Barrett & Fox [29] examined group-based family CBT for children aged 6-10 years, and reported that 69% of children were diagnosis-free after treatment. Rapee, Kennedy & Ingram[7] examined the impact of a

parent-based intervention targeting behavioural inhibition in 3-5 year olds, and reported that 50% were diagnosis-free after treatment, (although not all had anxiety diagnoses at intake).

Whilst the results of this trial are interesting, the study was not without limitations. First, as an early test of this intervention, the sample size was modest. Second, whilst attempts were made to incorporate outcome assessments from a range of sources, this met with limited success. As reported by other authors, obtaining a sufficient sample of teacher reports proved challenging. Similarly, pilot work forced us to abandon attempts to capture self-ratings from any children aged younger than six, and as described above, there are doubts over the accuracy of the reports given by older children. Where appropriate, children's opinions were incorporated into ADIS scores, but in most cases these were of little consequence. Consequently, the key results of this study relate to parent report, and it is not possible to conclude much about changes in children's subjective experience of anxiety. Finally, as is the case for most research in the area, this trial did not employ a placebo condition. Therefore, it is difficult to establish whether the positive results were due specifically to the new intervention, or to the non-specific aspects of therapy. However, since this was a previously untested intervention and was targeted at a relatively unexplored group, it was felt that comparison with a wait-list control was appropriate.

In conclusion, young anxious children are a neglected group, for whom a new, parenting-based intervention may have utility.

Table 1. Participant Demographics.

	Intervention N=38	**Control N=36**	**Comparison**
Mean age of child (*SD*)	6.66 (2.06)	6.47 (1.95)	$t(72) = 0.40$, $p = .59$
Gender of child (Female:Male)	20:18	22:14	$\chi^2(N = 74) = 0.54$, $p = .49$
Ethnicity of child (White: Other)	29:9	26:10	$\chi^2(N = 74) = .16$, $p = .79$
Financial situation parent: (comfortable:managing:struggling)	13:13:9	11:13:4	$\chi^2(N = 63) = 1.32$, $p = .52$
Parent's qualifications (postgraduate:bachelors:completed high school:some high school:no qualifications)	10:6:9:7:1	5:9:5:5:2	$\chi^2(N = 59) = 3.29$, $p = .51$

Table 2. Participant diagnoses at trial entry.

Diagnosis	Primary	Comorbid
Separation Anxiety Disorder	5	40
Social Anxiety Disorder	19	48
Specific Phobia	30	53
Panic Disorder	1	7
Panic Disorder with Agoraphobia	0	6
Agoraphobia without Panic	0	3
Generalised Anxiety Disorder	11	42
Obsessive Compulsive Disorder	2	9
Post Traumatic Stress Disorder	1	3
No diagnosis	4	
Selective Mutism		8
Dysthymia		12
Major Depressive Disorder		5
Oppositional Defiant Disorder		20

Note that only 69 primary diagnoses are shown as data for one participant were withdrawn owing to protocol deviation.

Table 3. Core material in each session

Session	Core Material
1	Introductions: Role of parental attention in childhood behaviour; causes of anxiety disorders; introduction to Cognitive Behaviour Therapy–Thoughts, Feelings & Behaviour and The Seven Confident Thoughts; tips on diet, caffeine, routines.
2	Play: Building parent-child relationship and self-esteem using child-centred play, which parents are encouraged to engage in for 5-10 minutes each day.
3	Anxiety education: Fight-flight response; avoidance; Thoughts, Feelings & Behaviour in anxiety; parental modelling of anxiety.
4	Praise and fear hierarchies: Praise for encouraging both good and brave behaviours. Tips on using praise effectively; Using fear hierarchies to tackle children's fears.
5	Rewards: Using rewards and star charts for encouraging good and brave behaviours.
6	Limit Setting: Using clear, calm commands to manage difficult behaviour.
7	Ignoring: Withdrawal of attention to extinguish mild unwanted behaviour and anxious reassurance seeking.
8	Managing Worry: listening; problem solving; behavioural experiments; distraction; scheduled worry time.
9	Using consequences and time out with an anxious child.
10	Round Up: Revision; relapse prevention; helping school to manage your child; certificates; celebration.

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Table 4. Means (*SD*s) and effect sizes of outcome measures pre and post intervention and at follow-up.

	CBCL (DSM)			CBCL (Internalizing)			SCARED			MASC		
	M	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*	*N*
Pre-Intervention												
Intervention	73.56	8.44	34	66.59	7.61	34	31.88	13.30	34	57.57	9.85	23
Control	76.42	8.62	36	70.95	7.52	36	34.36	14.61	33	61.39	11.06	23
Post-Intervention												
Intervention	65.15	9.40	34	59.42	6.55	34	20.24	12.47	34	57.96	12.29	23
Control	71.78	9.91	36	67.03	9.35	36	30.85	15.04	33	58.13	12.92	23
Effect Size, *d* (d_c)	0.41 (0.46)			0.48 (0.45)			1.01 (1.42)			-0.42 (-0.34)		
Follow-Up												
Intervention	62.65	10.11	34	58.88	7.34	34	17.88	15.67	34	52.52	11.99	23
Control	67.56	9.58	36	64.12	9.47	36	24.94	15.45	33	54.48	11.18	23
Effect Size, *d* (d_c)	0.19 (0.23)			0.10 (0.10)			0.35 (0.38)			-0.17 (-0.19)		

Effect size computed relative to pre-intervention means; *d* is based on pooled variance, whereas d_c is based on variance in control group
CBCL (DSM) = Child Behavior Checklist Internalising Scale
CBCL (DSM) = Child Behavior Checklist DSM Anxiety Disorders score.
SCARED = Screen for Child Anxiety Related Disorders (Parent version)
MASC = Multidimensional Anxiety Scale for Children

Figure Captions

Figure 1. Consort Diagram

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