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RUNNING HEAD: Intensive Group-Based CBT for Child Social Phobia

Intensive Group-Based CBT for Child Social Phobia: A Pilot Study

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Abstract

Objective: Although CBT has proven efficacious in the treatment of child social phobia (SP), most children do not present for treatment and child SP may be less responsive to treatment than other anxiety disorders. Intensive, group-based, SP-specific CBT may improve the efficacy of, and access to, treatment for child SP. The aim of this study was to provide a preliminary examination of such a program. **Method:** Forty Australian children aged 7-12 years (15 male and 25 female) were allocated into treatment and waitlist groups. Clinical interviews to determine diagnostic status were conducted prior to treatment, following treatment and at 6-month follow-up. Parent and child questionnaire measures of child anxiety symptoms, internalising symptoms, depression, social skills, social competence, and parental social anxiety were administered at the same time points. Treatment was delivered in four separate 3-hour sessions conducted over three consecutive weekends. **Results:** At post-assessment, 52.4% of children in the treatment group and 15.8% of children in the waitlist group were free of their SP diagnosis. At post-assessment, compared to waitlist children, treatment group children demonstrated a greater drop in clinical severity, a greater increase in overall functioning, and held fewer clinical diagnoses. Treatment group children also reported a greater reduction in SP symptoms compared to waitlist children, and treatment group parents reported a greater reduction in child internalising and anxiety symptoms, a greater increase in child social competence, and a greater decrease in parental SP symptoms, compared to parents of children in the waitlist group. By 6-month follow-up, 76.9% of the treatment group were free of their SP diagnosis and gains on all other measures were maintained. **Conclusions:** The results of this study are encouraging, and suggest that brief, intensive, group CBT for children with social anxiety is beneficial for many youngsters.

Social Phobia (SP) or Social Anxiety Disorder, is an anxiety disorder where the individual demonstrates a marked fear or anxiety about one or more social situations where they are exposed to possible scrutiny by others (American Psychiatric Association, 2013). It is one of the most common childhood anxiety disorders (Costello, Egger, & Angold, 2005), is associated with a myriad of deleterious short- and long-term consequences (Beidel, Turner, & Morris, 1999), and follows a chronic course if left untreated (Weissman et al., 1999). Fortunately, there have now been a number of studies confirming that cognitive behaviour therapy (CBT) is efficacious in treating childhood SP.

Beidel and colleagues (Beidel & Turner, 2007; Beidel, Turner, & Morris, 2000; Beidel, Turner, & Young, 2006) conducted a series of studies demonstrating the efficacy of their behaviourally oriented Social Effectiveness Therapy for Children (SET-C). In the original randomized control trial of the SET-C program (Beidel, Turner, & Morris, 2000), it was found that 67% of children treated with SET-C compared to 5% of the active control group, were free of their SP diagnosis at post-treatment. For those receiving treatment, this figure rose to 85% at 6-month follow-up (Beidel, Turner, & Morris, 2000), with treatment effects being maintained five years later (Beidel et al., 2006). Similarly, Spence, Donovan & Brechman-Touissant (2000) found that CBT with a very strong emphasis on social skills training, was efficacious in treating child SP, with 87.5% of children in the parent-involved (PI) group, 58% of children in the parent-not-involved (PNI) group, and 4% of the waitlist control group being free of their primary diagnosis at post-treatment. At 12-month follow-up, these effects were largely maintained, with 81% of children in the PI group and 53% of children in the PNI group being free of their SP diagnosis. Placing greater emphasis on the cognitive therapy component of CBT, Melfsen et al. (2011) investigated the efficacy of a 20-session program for young people with SP aged 8-14 years. The authors found that, at post-treatment, children in the treatment condition demonstrated significantly greater reductions in

anxiety compared to those in the waitlist group, and that significantly more children in the treatment group (33%) lost their primary diagnosis of SP compared to those in the waitlist group (0%). However, there was no investigation of whether these effects were maintained over time.

From the above discussion, it is clear that CBT programs for youth SP have demonstrated efficacy in alleviating SP symptoms and diagnoses. However, despite their efficacy, the majority of anxious children do not receive psychological assistance for their problems (Merikangas et al., 2011; Sawyer et al., 2001). A number of potential barriers preventing children from attending therapy have been put forward including a lack of access to mental health services and difficulties associated with the opening times of clinics that often coincide with school and parent work hours (Booth et al., 2004). Furthermore, existing programs targeting childhood SP require children to attend 10-24 weekly, one-hour sessions. For many families, treatments of this length are not only costly, but are difficult to organise within busy family schedules.

One strategy that may circumvent these barriers to treatment is to deliver therapy intensively. That is, to deliver equivalent face-to-face contact time, but to do so over fewer days or weeks. Within the paediatric anxiety literature, such intensive interventions have been effectively developed for disorders such as OCD (e.g. Fernandez, Storch, Lewin, Murphy & Geffken, 2006; Lewin et al., 2005; Savva & Rees, 2006; Whiteside, Brown & Abramowitz, 2008), specific phobia (e.g. Davis, Ollendick & Öst, 2009; Flatt & King, 2010; Öst, Svensson, Hellström & Lindwall, 2001), school refusal (Moffitt, Chorpita & Fernandez, 2004) and panic disorder with agoraphobia (Angelosante, Pincus, Whitton, Cheron & Pian, 2009). To date, only one study has investigated the potential usefulness of this approach with childhood SP. Gallagher, Rabian and McCloskey (2004) randomly assigned 23 children diagnosed with SP to either a treatment or control condition. Treatment was conducted with groups of 5-7

children during three sessions, each of approximately three hours duration. Treatment components included psychoeducation, recognition of the physiological, cognitive and behavioural aspects of anxiety, cognitive work and exposure. Results at post-test and three-week follow-up suggested that the treatment was useful in reducing child anxiety, with 50% of treatment children compared to 9.1% of waitlist children losing their diagnosis of SP. Thus, the results of the Gallagher et al. (2004) study are encouraging for the usefulness of an intensive treatment for SP in children. Although encouraging, the rates of children free of their primary SP diagnosis in the Gallagher et al., (2004) study are somewhat small compared to other studies treating child SP over a longer time period. There are a number of reasons why this may have been the case. The sample size used in the Gallagher et al., (2004) study was somewhat small (n = 23), and the intervention did not involve either parents or a social skills training (SST) component. Furthermore, the three-week follow-up period did not allow determination of whether or not treatment effects were maintained or enhanced over the longer term. Indeed, remission rates may well have been improved upon if a longer-term follow-up period was included.

The present study aimed to draw upon the key features and findings of the handful of studies conducted to date, in order to assess an intensive, group-based, CBT treatment comprising four separate 3-hour sessions conducted over three consecutive weekends with a sample of 40 children with SP. Therapy was conducted in a group format with approximately 4-6 children per group. There are positive and negative aspects of group-based therapy for child SP. On the one hand, it is difficult to tailor therapy in response to a functional analysis of each individual child, and group members receive less individual attention. There are also fewer opportunities for individual in-session exposures, and the group can at times mutually confirm negative beliefs (Aderka, 2009; Mortberg, Clark, SundinWistedt, 2007; Spence et al., 2000; Stangier, Heidenreich, Peitz, Lauterback and Clark, 2003). On the other hand,

group-based therapy for child SP has the advantage of allowing regular exposure to peer social situations and opportunities to practice social skills within a protected environment. Furthermore, the within session exposures may be more anxiety provoking and therefore more effective, group members may provide support and encouragement to each other, and the group format has the potential to be more cost effective for therapists and clients (Aderka, 2009; Mortberg et al, 2007; Spence et al., 2000; Stangier et al., 2003). Thus, the benefits of group therapy may well outweigh the potential problems (Spence et al., 2000) and group-based therapy for SP has been suggested as representing the 'gold standard' (Hofmann and Bogels, 2006).

In addition to being group-based, the therapy program tested in this study capitalised on previous findings highlighting the clinical benefits of parent involvement (Spence et al., 2000) and social skills training (Beidel & Turner, 2007; Beidel, Turner, Hamlin, & Morris, 2000; Beidel et al., 2006; Spence et al., 2000) by incorporating concurrent child and parent sessions as well as sessions dedicated to the training of social skills. With respect to the inclusion of parents in therapy, there is some evidence not only for a genetic contribution to child anxiety, but also for the impact of other parental characteristics such as parenting style (over-involvement, over-control and negative interactions), parental assumptions and beliefs (around their anxious child and their own ability to assist their child), and the modelling and reinforcement of anxious child behaviour (Breinholst, Esbjorn, Reinholdt-Nunne and Stallard, 2012). Thus, it was deemed important to a) include parents in therapy so that they might learn more helpful parenting behaviours and challenge their own assumptions and beliefs and b) measure parental anxiety (and in particular, parental social anxiety) to investigate whether parental anxiety may be reduced as a function of parental involvement in child therapy.

The present study also built on previous research by including 12-week and 6-month follow-up assessment points to ascertain whether treatment was efficacious and whether

treatment effects were maintained over time. A 12-week follow-up was chosen for two reasons. First, it allowed the results to be compared with the majority of previous studies that were of 10-12 weeks duration. Second, it was deemed important to allow children and parents sufficient time to practice the skills taught in the program and to subsequently demonstrate improvement. The 6-month follow-up time point was chosen to assess whether treatment effects demonstrated at 12-weeks were maintained over a longer period.

It was hypothesised that at 12-week follow-up, compared to the waitlist children, children in the treatment condition were more likely to be free of their SP diagnosis, would show a greater reduction in diagnostic severity and anxiety symptoms, and would show greater enhancement of social skills and social competence. It was further hypothesised that these treatment gains would be maintained or further enhanced at 6-month follow-up.

Method

Participants

Participants were 40 children (15 male, 25 female) aged 7 to 12 years (M = 9.43, SD = 1.48) with a primary clinical diagnosis of SP, and at least one of their parents. Eighty-five percent of children were born in Australia, 7.5% in the United Kingdom, 2.5% in France, 2.5% in Hong Kong, and 2.5% in the United States of America. The majority of children (80%) lived with both biological parents, 12.5% lived with their mother, 5% with their mother and step-father, and 2.5% reported other living arrangements. Over half (55.3%) of participants' households had an annual income of greater than AUD $100 000, and therefore the sample was of relatively high socioeconomic status.

All children had a primary, clinical-level diagnosis of SP prior to treatment, 77.5% had a secondary anxiety diagnosis, 40% presented with three anxiety diagnoses, 20% were found to have a fourth diagnosis, and 5% presented with five diagnoses. Table 1 provides details of the

comorbidity present. Overall, the participants presented with a mean of 2.43 diagnoses (SD=1.15).

Children were included in the study if they were aged between 7-12 years and were found to have a clinical-level diagnosis of SP as determined by a clinical severity rating (CSR) of 4 or more on the Anxiety Disorders Interview Schedule-Child Version (ADIS-C/P; Silverman & Albano, 1996; see below). Secondary anxiety disorder diagnoses were permissible as long as SP was considered the primary diagnosis (i.e., most severe and interfering). Children receiving a secondary major depressive disorder diagnosis with a CSR of 5 or greater according to the ADIS-C/P were referred elsewhere for ethical reasons. Children were also excluded from participating in the study if they were diagnosed with a pervasive developmental disorder or learning disorder, or if they were found to have high-level behavioural problems, substance abuse issues, self-harming behaviour or suicidal ideation.

A diagram of the flow of participants through the study is provided in Figure 1. As is evident from Figure 1, 40 families were allocated to either the treatment (N=21) or waitlist (N=19) groups. At post-treatment, all waitlist participants completed both primary and secondary outcome measures (see below). For the treatment group, all participants completed the primary outcome measures while N=16 completed the secondary outcome measures. Differential completion of primary (interview-report) versus secondary (questionnaire-report) measures by the treatment group was largely the result of a reluctance to complete the somewhat long (and perhaps burdensome) questionnaire battery following the similarly lengthy ADIS-C/P interview. Although assessors were often able to 'catch' families due to the telephone administration of the interview (primary assessment), the secondary measures required participants to complete a pencil and paper questionnaire battery and to return it. At 6-month follow-up, N=13 participants completed the primary outcome measures and N=12 completed the secondary outcome measures. Again, it seemed that participants 'opted out' of the study largely due to a reluctance to engage in

another rather burdensome assessment procedure. Six-month data was not available for the waitlist group, as it was considered unethical to withhold treatment for longer than the post-treatment period.

Measures

Primary outcome measures.

Anxiety Disorders Interview Schedule for DSM-IV: child and parent versions (ADIS-C/P). A telephone administration of the ADIS-C/P (Silverman & Albano, 1996), was conducted with both the child and parent by Clinical Psychology Postgraduate students who were trained in its use for a minimum of six hours and who received ongoing weekly supervision by the first author. Conducting the ADIS-C/P over the telephone has been found to be equally reliable as the more traditional face-to-face administration (Cobham, Dadds, & Spence, 1998; Lyneham & Rapee, 2005). Each diagnosis attained was given a clincial severity rating (CSR) between 0 (absent) and 8 (very severely distrubing / disabling), with 4 being the level at which clinical severity was indicated. Parent and child diagnoses were combined according to the ADIS-C/P instructions and as noted above, only those children who received a primary CSR rating of 4 or greater for SP were eligible for the study. A random sample of 10% of interviews were audiotaped and listened to by a second interviewer who was also a Clinical Psychology Postgraduate student and who was blind to diagnostic status, diagnostic severity and group allocation. A kappa value of 1 was found for the primary diagnosis, and a Pearson correlation of .98 was found for the CSR ratings, suggesting a high level of inter-assessor agreement.

The Children's Global Assessment Scale (CGAS). The CGAS (Shaffer et al., 1983) was used to provide a measure of child overall functioning and was given by the Clinical Psychology Postgraduate student administering the ADIS-C/P. The CGAS requires the rater to provide a rating from 0-100, where higher scores indicate higher-level functioning. Scores between 81 and 100 on the CGAS represent normal levels of functioning, scores of 61-80

indicate slight disability, scores between 41 and 60 are indicative of moderate disability, and scores between 1-40 indicate serious disability (Shaffer et al., 1983). The psychometric properties of the CGAS have been found to be strong, with good inter-rater reliability (r = .84) and test-retest reliability (r = .85) (Dyrborg et al., 2000; Rey et al., 1997; Shaffer et al., 1983). A Pearson correlation of .92 was found for the present study between the CGAS score provided by the original interviewer, and a blind independent assessor who listened to a random sample of 10% of ADIS-C/P interview audiotapes.

Secondary outcome measures. Secondary outcome measures were posted out to families and completed at home. They included the following child- and parent-report measures:

Social Phobia Anxiety Inventory for Children (SPAI-C). Social phobia symptoms were assessed using the SPAI-C (Beidel, Turner and Morris, 1995), a 26-item, child-report measure addressing various situations that are anxiety-provoking for a child with SP. Typically, a score of 18 or over is considered indicative of SP in the clinical range (Beidel et al., 1999). The SPAI-C has been found to be psychometrically strong, with high internal consistency (Beidel et al., 1995; Storch, Masia-Warner, Dent, Roberti & Fisher, 2004), strong 2-week test-retest reliability (Beidel et al., 1995), strong concurrent and external validity (Beidel, Turner, Hamlin, et al., 2000; Beidel et al., 1995), and good discriminant validity (Beidel, Turner, Hamlin, et al., 2000; Beidel et al., 1995). The Chronbach's alpha of the SPAI-C in the current study was .98.

The Spence Children's Anxiety Scale – child and parent versions (SCAS-C/P). Child anxiety symptoms were assessed using the total scores on both child (SCAS-C; Spence, 1998) and parent (SCAS-P; Nauta et al., 2004) reports of the SCAS. The SCAS-C/P comprise 6 subscales consistent with DSM-IV criteria for panic/agoraphobia, SP, separation anxiety, generalized anxiety disorder, obsessions/compulsions and fear of physical injury. The

psychometric properties of the SCAS have been found to be strong, with internal consistency reported at .89 for the total SCAS-P score and .92 for the total SCAS-C score (Muris, Luermans, Merckelbach & Mayer, 2000; Nauta et al., 2004; Spence, 1998; Spence, Barrett & Turner, 2003). Chronbach's alphas for the SCAS-C and SCAS-P in the present study were .92 and .93 respectively.

The Child Behaviour Checklist – Internalising Subscale (CBCL-Int). Child internalising symptoms were assessed using the internalising subscale of the CBCL (Achenbach & Rescorla, 2001). The CBCL-Int requires the parent to rate on a scale from 0 (never) through 1 (sometimes) to 2 (often), the frequency with which each symptom occurs for their child, with higher scores indicative of greater internalising difficulties. The CBCL-Int has demonstrated sound psychometric properties, with its component subscales showing moderate to good reliability (.60-.80) (Siu, 2008). The CBCL has been found to discriminate between clinically referred and non-referred children (Achenbach, 1991), between youth with and without anxiety disorders, between youth with anxiety diagnoses and externalizing disorders (Seligman, Ollendick, Langely, & Bechtoldt Baldacci, 2004), and between youth of inpatient and outpatient status (Pauschardt, Remschmidt, & Mattejat, 2010). The Chronbach's alpha for the CBCL-Int in the current study was .90.

Social Skills Questionnaire and Social Competence with Peers Questionnaire – child and parent versions (SSQ-C/P & SCPQ-C/P). Child social skill and social competence with peers were measured using child and parent report versions of the SSQ (Spence, 1995) and SCPQ (Spence, 1995). Each of these measures require the respondent to rate on a 3-point scale from 0 (not true) through 1 (sometimes true) to 2 (mostly true), the extent to which each item is true for the child. The child and parent versions of the SSQ contain 10 and 9 items respectively, while both the child and parent versions of the SCPQ contain 30 items. The psychometric properties of the SSQ and SCPQ have been found to be sound, with coefficient

alphas of .81 and .75 being found for the parent and child versions of the SCPQ respectively and alphas of .92 and .85 being found for the parent and child versions of the SSQ respectively (Spence, 1995). In the present study, the Chronbach's alphas for the parent and child versions of the SSQ were .93 and .88 respectively, while the Chronbach's alphas for the parent and child report of the SCPQ were .93 and .82 respectively.

The Children's Depression Inventory (CDI). The CDI (Kovacs, 1992) is a 27-item, self-report inventory designed to assess symptoms associated with depression in 7-17 year old youngsters. For each item, children are required to choose a statement they consider most descriptive of them over the last two weeks, from three alternative statements corresponding to mild (scored as 0), moderate (scored as 1) and severe (scored as 2) depressive symptomatology. The psychometric properties of the CDI are well established, with the instrument demonstrating strong internal consistency, the ability to discriminate between depressed and non-depressed children, and strong convergent validity (Kovacs, 1992; Helsel and Matson, 1984; Saylor, Finch, Spirito and Bennett, 1984). The Chronbach's alpha of the CDI in the current study was .85.

Social Phobia & Anxiety Inventory (SPAI). Parental social anxiety symptoms were assessed using the SPAI (Turner, Beidel & Dancu, 1996), a 45-item questionnaire with two subscales assessing agoraphobia and SP. The 32-item SP subscale used in this study assesses cognitive, behavioural and somatic aspects of social anxiety. Parents were required to indicate the frequency with which they experience each item on a 7-point Likert scale from 0 (never) to 6 (always). The SP subscale has demonstrated a very high internal consistency of .96 and a high two-week test-retest reliability of .85. It has also demonstrated good discriminant validity (Beidel, Turner, Stanley, & Dancu, 1989), external validity (Beidel, Turner, et al., 1989), concurrent validity (Beidel, Turner, & Cooley, 1993), predictive validity (Beidel, Borden, Turner, & Jacob, 1989) and convergent validity (Herbert, Bellack, & Hope, 1991).

Suggested cut-off scores on the SPAI are 34 for students and 60 for treatment-seeking samples (Turner, et al 1996). The Chronbach's alpha for the SPAI in the present study was .99.

Satisfaction with treatment. Children and parents completed an 8-item, author-developed, self-report questionnaire that was designed for the purposes of this study, and which measured satisfaction with the treatment program. Parents and children were required to rate their degree of satisfaction with the program (e.g., "How helpful was the program?) from 1 (not at all) to 5 (very much). Items were averaged to produce a mean treatment satisfaction score. Reliability was high for both parents (a=.97) and children (a=.95) in the current study.

Procedure

This study was conducted in accordance with the Griffith University & University of Queensland Human Ethics Committees. Participants were recruited through guidance officer networks, school newsletters, child and youth mental health services, and general practitioners. Interested families were invited to contact the researchers, and a short telephone screening interview was conducted to determine broad inclusion and exclusion criteria. If it was felt that the family might be eligible to participate in the study, the family was then invited to complete the ADIS-C/P interviews and questionnaire measures. If the child met all inclusion criteria for the study following assessment, he/she was allocated into either the treatment or waitlist groups.

Although true randomization would have been preferable, the pilot nature of this research, the group nature of the treatment, and the slower than expected recruitment rate, meant that children were assigned to conditions in blocks. It was essential that children assigned to the treatment condition began treatment as soon as possible to ensure comparable time lags between pre- and post-assessments for the treatment and control groups. In order to

ensure that this occurred, the first 4-6 children were assigned to the treatment group. The next 4-6 children were assigned to the waitlist group, and so on. Treatment was conducted in groups of 4-6 children over the course of three weekends. On the first weekend, families attended the clinic for three hours on Saturday and three hours on Sunday. On the second and third weekends, children and parents attended the clinic for three hours on Saturday. Thus, treatment was conducted in its entirety over a 15-day period.

As noted above, the second assessment time-point was conducted at 12-weeks post-baseline assessment so that the results could be compared with other child SP studies. At the 12-week assessment point, the ADIS-C/P, CGAS ratings and questionnaire measures were re-administered. After the 12-week assessment, the waitlist group received treatment and ceased to be part of the study. The treatment group was then re-assessed at 6-month follow-up using the ADIS-C/P, CGAS and questionnaire measures.

Content of the intervention.

The intervention, SHY (Cobham, Donovan, & Waters, 2009), comprised a series of four separate 3-hour group sessions conducted over the course of three consecutive weekends. Each three-hour session involved 45 minutes of therapy followed by a 15-minute break so that the children did not become fatigued. Parents and children attended some sessions together, while other sessions were conducted separately for parents and children. The child sessions were facilitated by two clinicians who were either registered Clinical Psychologists or Clinical Psychology Postgraduate students, and the parent sessions were facilitated by one Clinical Psychology Postgraduate student. All facilitators were trained for a minimum of six hours in the program and received weekly supervision from the first author for the duration of the course. The treatment program itself consisted of a number of different components that are outlined in Table 2. All sessions were videotaped, and a random 10% of videotapes were rated by an independent therapist to determine treatment fidelity. The independent therapist

used a checklist to assess whether each activity that was supposed to be covered during the session was actually completed. It was found that 99.14% of activities were completed according to the SHY manual.

Results

Pretreatment Comparisons

In order to assess for any pre-existing differences between the treatment and waitlist groups, ANOVAs were used to compare the groups on age and number of anxiety disorders, a chi-square analysis was used to assess for gender differences, and a series of three MANOVAs were used to assess for potential group differences on 1) clinical severity rating (CSR) and CGAS, 2) child questionnaire measures and 3) parent questionnaire measures. No significant differences between conditions were found for child age $F(1,38)=1.63$, $p=.210$, $\eta^2=.041$, gender $\chi^2(1, N=40)=.007$, $p=.935$, or number of anxiety diagnoses, $F(1,38)= 3.26$, $p=.079$, $\eta^2=.079$. Similarly, significant multivariate group differences were not found for CSR and CGAS, Pillai's $F(2, 37)=1.33$, $p=.277$, $\eta^2=.067$, the child questionnaires, Pillai's $F(5,34)=1.24$, $p=.311$, $\eta^2=.155$, or the parent questionnaires Pillai's $F(5,34)=.440$, $p=.817$, $\eta^2=.061$.

Given the significant drop-out over time in the treatment group, analyses were also conducted to assess for any pre-treatment differences between those in the treatment group with data at all time points and those without. There were no significant differences between groups on child age $F(1,19)=3.25$, $p=.087$, $\eta^2=.146$, gender $\chi^2(1, N=21)=.777$, $p=.378$, or number of anxiety diagnoses, $F(1,19)= 2.75$, $p=.114$, $\eta^2=.126$. Similarly, significant multivariate group differences were not found for the CSR and CGAS, Pillai's $F(2, 18)=.530$, $p=.598$, $\eta^2=.056$, the child questionnaires, Pillai's $F(5, 15)=0.73$, $p=.614$, $\eta^2=.195$, or the parent questionnaires, Pillai's $F(5, 13)=0.57$, $p=.723$, $\eta^2=.179$.

Treatment Completion and Satisfaction

Program completion rate was particularly high, with 100% of participants finishing the treatment program. Satisfaction with treatment was computed using the mean item rating for both parents and children. The results suggested that satisfaction with the treatment program was high for both parents (M=3.83, SD=0.91) and children (M=3.67, SD= 0.91), as a rating of 3 indicated 'quite a bit' satisfied and a rating of 4 indicated 'a lot' of satisfaction.

Statistical Analyses

Chi-square analyses were used to assess the effects of treatment on the categorical primary outcomes of 'loss of SP diagnosis' and 'loss of all anxiety diagnoses'. With respect to all other (continuous) outcomes, efficacy of the intervention was evaluated using mixed effects modelling to account for the effects of assigning participants to treatment groups that were then maintained for the treatment period. As there was no missing data on primary outcomes at post-assessment, treatment effects were assessed as the group difference at post-assessment while controlling for pre-assessment responses. Next, for the treatment condition only, maintenance effects were examined by fitting a three-level mixed model per outcome regressing each outcome on time (i.e., pre, post and follow-up) and in which time was level 1, participant was level 2 and therapy group was level 3. This analysis was performed on the treatment condition participants only. Using direct maximum likelihood estimation, these procedures represent true intent-to-treat analyses that draw upon all available assessments for each participant. Table 3 outlines the means and standard deviations for each outcome variable for the treatment and waitlist groups.

Post-Assessment Results

Primary outcome measures.

At post-assessment, significantly more children in the treatment condition compared to the waitlist condition were free of their primary SP diagnosis, $\chi^2(1, N=40)=5.87$, p=.015,

Cramer's V = .383 and were free of *any* anxiety diagnosis $\chi^2(1, N=40)=5.87$, p=.015, Cramer's V = .383. In fact, when a child lost their primary SP diagnosis, they lost *all* anxiety diagnoses in *every* case. Specifically, at the post-assessment time-point, 11 out of 21 (52.4%) children in the treatment condition, compared to 3 of the 19 (15.8%) children in the waitlist condition, were free of their SP diagnosis and any anxiety diagnosis.

With respect to the number of anxiety diagnoses, the treatment group demonstrated a greater reduction in the number of anxiety diagnoses from pre- to post-assessment compared to the waitlist group (b = -1.14, SE = .31, p <.001, d = 1.31). In terms of clinical severity rating (CSR), again the treatment group demonstrated a greater reduction in CSR over time compared to the waitlist group (b = -2.04, SE = .56, p <.001. d = .39). Furthermore, at post-assessment, the treatment group had fallen into the non-clinical CSR range (M=2.76, SD=1.81) while the waitlist group remained in the clinical range (M=4.89, SD=2.23). Finally, significant effects were found at post-assessment on the CGAS. It would seem that compared to the waitlist group, the treatment group showed a significantly greater increase in their overall level of functioning from pre- to post-assessment (b = 10.45, SE = 3.33, p = 0.002, d = -3.96).

Secondary outcome measures – child questionnaires. A series of mixed models were conducted to assess the effects of treatment on child-rated secondary outcome measures at post-assessment, controlling for pre-assessment measures and adjusted for therapy group. Significant group differences, (b = -4.62 , SE = 2.26, p=0.041, d = 1.04) were found on the SPAI-C, suggesting that SP symptoms decreased significantly more over time for the treatment group compared to the control group. As evident from Table 3, time effects were demonstrated for both groups on the SCAS-C, SCPQ-C, and CDI. However, no post-assessment differences reached significance for these. Similarly, for the social skills questionnaire (SSQ-C), no group effects were evidenced.

Secondary outcome measures – parent questionnaires. A further series of mixed models were conducted to assess the effects of treatment on parent-rated secondary outcome measures at post-assessment, controlling for pre-assessment measures and adjusted for therapy group. Significant group effects were found for the CBCL-Int (b = -5.47, SE = 1.94, p = 0.005, d = .82), the SCAS-P (b = -8.31, SE = 2.64, p = 0.002, d = .70), the SCPQ-P, (b = 3.32883, SE = 1.18, p = 0.005, d = -.75), and the SPAI (b = -8.31, SE = 2.64, p = 0.002, d = .64), suggesting that, compared to parents of children in the waitlist group from pre- to post-treatment, parents of children in the treatment group reported a significantly greater reduction in internalizing behaviour, child anxiety symptoms, and *parental* social anxiety symptoms, and a greater increase in child social competence. There were no significant differences for parent-reported child social skills (SSQ-P). However, as is evident from Table 3, parents of children in both conditions reported an improvement in their child's social skills from pre- to post-assessment.

Follow-up Results

At 6-month follow-up, only the treatment group was involved in the analyses as the waitlist group ceased to be part of the study after the post-assessment time point. Again, chi-square analyses were conducted to assess the effects of treatment on the primary outcomes of 'loss of SP diagnosis' and 'loss of all diagnoses'. For all other primary and secondary outcome (continuous) measures, longitudinal mixed effects analyses were conducted across the three time points for all families who had commenced the program. The time effect was tested by including dummy codes that compared post-test and pre-test scores to the follow-up scores, respectively. As the comparison of post-test to pre-test scores echoes the analyses presented above, for reasons of brevity, only the comparisons of follow-up to post-test and pre-test are presented in this section. For the secondary outcome measures, some families

were available at post assessment but not at 6 month-follow-up and others completed the questionnaires at 6-months follow-up but not post-assessment.

Primary outcome measures. At 6-month follow-up, the percentage of children in the treatment group who were free of their SP diagnosis had risen to 76.9%. Furthermore, as was the case at post-assessment, every child who lost their SP diagnosis by 6-month follow-up was also free of *any* diagnosis. With respect to the number of diagnoses, at follow-up there was a significant drop in the number of diagnoses held by children from pre-test (b = 1.80, SE = .26, p <.001, d = 1.78) but not from post- assessment. A similar effect was found for CSR (pre-assessment to follow-up: b = 3.58, SE = .48, p = 0.000, d =4.77; post-assessment to follow-up, *ns*). Thus, it would seem that improvements made from pre- to post-assessment in terms of number of diagnoses and severity, were maintained at 6-month follow-up but were not improved upon. Finally, a significant effect for time was found for the CGAS (b = -23.43, SE = 2.24, p <.001). However, here the difference from post-assessment to follow-up was significant (b = -7.43, SE = 2.24, p = 0.001, d = .95), suggesting that children continued to improve from post-assessment to 6-month follow-up in terms of their overall functioning.

Child secondary outcome measures. Significant improvements were found from pre-assessment to 6-month follow-up for child SP symptoms (SPAI-C; b = 14.38, SE = 2.56, p <.001, d = 1.41), and anxiety symptoms (SCAS-C; b = 13.35, SE = 3.07, p <.001, d = 1.01), but not for social competence (SCPQ-C), social skill (SSQ-C) or depression symptoms (CDI). No significant differences were found on any of the child-rated measures from post-assessment to 6-month follow-up.

Parent secondary outcome measures. Significant improvements were found for child internalising symptoms (CBCL-Int: b = 9.20, SE = 1.74, p <.001, d = 1.02), child social skill (SSQ-P: b = -9. 01, SE = 1.91, p <.001, d = -.88), and *parental* social anxiety symptoms (SPAI: b = 30.00, SE = 3.60, p <.001, d = .93) from pre-assessment to 6-month follow-up.

However, time effects were not found from pre-assessment to 6-month follow-up on parent reported child anxiety symptoms (SCAS-P) or parent-rated child social competence (SCPQ-P). The only significant effect from post-assessment to 6-month follow-up was for *parental* ratings of their own social anxiety symptoms (SPAI: b = 8.33, SE = 3.78, p = 0.028, d = .31), suggesting that the significant reduction in parental SP symptoms evidenced from pre- to post-assessment was further enhanced at 6-month follow-up.

Subsidiary Analyses: Responders versus Non-responders

Supplementary analyses examined whether there were any pre-treatment differences between children who responded to the program (i.e., lost their primary diagnosis of social phobia following treatment) versus those who did not respond to the program (i.e., retained their primary diagnosis of social phobia). A series of ANOVAs were conducted on all pre-treatment outcome measure scores with responders versus non-responders as the between groups variable. Given the many analyses conducted, the more stringent criteria of $p<.01$ was applied to determine significance. Examining both post-treatment and 6-month follow-up treatment response, responders and non-responders were not found to differ on any of the outcome measures prior to treatment.

Discussion

This study sought to investigate the efficacy of an intensive CBT group treatment for child SP comprising a series of four separate 3-hour group sessions conducted over 15 days. The results for the primary outcome measures supported the hypotheses. At 12 weeks post-baseline assessment, significantly more children in the treatment compared to the waitlist group had lost their SP diagnosis and all anxiety diagnoses. Indeed, 52.4% of the treatment group compared to 15.8% of the waitlist group were free of their SP diagnosis at post-assessment. It was found that in every case, those who lost their SP diagnosis at post-assessment, also lost additional anxiety diagnoses. Thus, 52.4% of treatment children and

15.8% of waitlist children were free of all anxiety diagnoses at post-treatment. By 6-month follow-up, the number of treatment children free of their SP diagnosis had risen to 76.9% and again, in every case where the SP diagnosis was lost, additional anxiety diagnoses were also lost. Thus, 76.9% of children in the treatment group were free of all anxiety diagnoses by 6-month follow-up.

The post-assessment results for loss of primary SP diagnosis are consistent with those found by Gallagher et al. (2004), who, in the only other intensive CBT program for youth SP conducted to date, found a remission rate of 50%. Similarly, the results are consistent with those found by Spence et al. (2000) for their parent-not-involved (PNI) condition, where 58% of children were SP-free at post-assessment. The results of the present study also compare favourably to those found for the cognitive-based SP program conducted by Melfson et al (2011), where only 33% of children lost their primary SP diagnosis following treatment. However, the more traditional SP programs conducted by Spence et al., (2000; for the parent-involved (PI) group) and Beidel and colleagues (Beidel & Turner, 2007; Beidel, Turner, Hamlin, et al., 2000; Beidel, Turner, & Morris, 2000) have demonstrated higher remission rates of 87.5% and 67% respectively at post-treatment, suggesting that longer-term therapy based on multi-component CBT strategies, may be more efficacious, at least in the short-term.

By 6-month follow-up, the percentage of children in the current study free of their SP diagnosis and any anxiety diagnosis (76.9%) was more in line with, although still somewhat lower than, studies examining the efficacy of more traditional delivery of treatment for child SP. For instance, Spence et al. (2000) found that by 12-month follow-up (a 6-month diagnostic interview was not conducted), 81% of children in the PI group and 53% of children in the PNI group were free of their SP diagnosis. Similarly, Beidel, Turner and Morris (2000) found that 85% of children were SP-free at 6-month follow-up. It may be that the effects of intensive programs take longer to emerge, perhaps because therapists are not present to

provide guidance and support after the two-week treatment period. This may be particularly problematic for exposure, where therapist support is often required.

Despite slightly lower remission rates at post-assessment than those observed from more traditional modes of CBT for socially anxious children, one encouraging finding from the present study was that 100% of treatment children completed the program. In contrast, treatment dropout rates have ranged from 8% (Beidel et al., 2000) to 28.6% (Melfson et al., 2011) in previous SP-specific treatment programs of longer duration. Another positive finding was that when a child lost their diagnosis of SP they also lost *all* additional anxiety diagnoses. Together, these results suggest that intensive treatment of SP is a positive way forward for improving treatment efficiency and reach. Therefore, the next important step is to determine which children are likely to have a positive response to intensive treatment. Preliminary analyses conducted in this study between those who responded to treatment and those who did not, suggested that there was no difference on any of the variables tested. However, the analyses were significantly underpowered and hence should be interpreted with caution. Studies with larger sample sizes would enable researchers to better assess predictors of outcome and determine the characteristics of children (and perhaps families) who a) respond versus do not respond to this intensive mode of treatment and b) may respond better to intensive versus traditional treatment.

Treatment efficacy was also largely supported by results on the parent-reported secondary outcome measures. Compared to parents of children in the waitlist group, parents of children in the treatment group reported significantly greater improvement in child internalising problems, anxiety symptoms, and social competence, as well as improvements in their own social anxiety symptoms, with effects being maintained at 6-month follow-up. Of note is the finding that parental SP symptoms were significantly reduced from pre- to post-assessment and further reduced at 6-month follow-up. The genetic and environmental

transmission of anxiety from parent to offspring is well documented (e.g. Cooper, Fearn, Willetts, Seabrook, & Parkinson, 2006). It has been shown that parental anxiety is a predictor of poorer child treatment outcome (Creswell & Cartwright-Hatton, 2007), and it has been demonstrated that assisting parents with their own anxiety can lead to better child outcomes (Cobham et al., 1998; Cobham, Dadds, Spence, & McDermott, 2010). Given that parental anxiety per se was not targeted in treatment, it would seem that parents were able to generalise and apply the information learned during parent sessions to their own anxiety issues. Indeed, other studies have also documented a reduction in parental anxiety following parental involvement in their child's anxiety treatment (e.g. Crawford & Manassis, 2001; Creswell, Schniering, & Rapee, 2005). Unfortunately, the pilot nature of this study meant that the small sample size did not allow us to investigate whether or not parental social anxiety, or drop in parental social anxiety, predicted treatment outcome for the child. This topic is worthy of future investigation to ensure that the content of parent sessions is structured for optimal child outcomes.

The results for the child-reported secondary outcome measures were considerably weaker. Indeed, only social anxiety symptoms were found to improve following treatment according to child report. A number of researchers have raised concerns about the self-report of child anxiety symptoms, including social anxiety symptoms, citing issues such as cognitive immaturity and social desirability bias (Dadds, Perrin, & Yule, 1998; DiBartolo, Albano, Barlow, & Heimberg, 1998; Schniering, Hudson, & Rapee, 2000). Thus, it may be that children provide less accurate and reliable information about their anxiety, thus leading to non-significant effects on child-report measures. Some support for this supposition is provided from the results of the current study, given that significant treatment effects were evident on both clinician and parent report measures, but not child measures.

Strengths and limitations, and suggestions for future research

This study had several strengths. It was the first to investigate an intensive CBT program for child social anxiety over a 15-day period with a 6-month follow-up. In addition, the post-assessment time-point was set at 12-weeks post-baseline to enable comparison with prior studies. Furthermore, multiple informants including clinicians, parents and children were utilised, and measures with strong psychometric properties were employed. Finally, the intervention evaluated was found to be highly acceptable to parents and children.

Despite its strengths however, this study was not without its limitations. The biggest downfall of this study was that true randomisation of participants to condition was not conducted. Although randomisation would have been preferable, this study was conducted with few resources as a pilot to determine feasibility and procedures. Particularly problematic was the very slow recruitment rate, which meant that children were allocated into groups as they presented to the program so as to ensure that the time lag between pre- and post-assessments was comparable between the treatment and waitlist groups. Future research should conduct a RCT of this program to ensure a more thorough and stringent methodological test of the program.

Although only a pilot study in nature, and although it improved upon the sample size used in the Gallagher et al. (2004) study, the current investigation would have benefited from a larger sample size and less attrition. At 6-month follow-up particularly, there was a relatively high level of attrition, especially for the secondary outcome measures. Although considerable attempts were made to retain participants, additional steps to lower attrition levels were clearly required. Low power may have been at least partially responsible for some of the non-significant results. Future researchers should work to ensure lower levels of attrition and a larger sample size. Finally, the relatively high socioeconomic status of the sample used in this study, limits the generalizability of the results.

In addition to the suggestions for future research alluded to above, there are a number of other avenues worthy of investigation. First, variations on the timing of sessions could be tested. It would be interesting to ascertain whether remission rates at post-treatment might be improved if, for example, three-hour sessions were conducted across four consecutive weekends, or two-hour sessions were conducted across six consecutive weekends. In this way, therapist support would be available across a longer time-span and exposure tasks in particular, might be better supported. An alternative way to provide longer-term therapist support is to retain the same intensive format as that presented in the current study, but to include brief, weekly follow-up telephone calls. In this way, continued yet brief support could be provided without families having to come into the clinic for therapy. In their investigation of the usefulness of bibliotherapy for anxious children, Lyneham & Rapee (2005) found that the addition of follow-up telephone sessions improved treatment efficacy. Future research should investigate the efficacy of such an approach as an adjunct to intensive CBT for children with SP.

Another potential avenue for future research is to test a briefer version of the program. The treatment program utilised in this study was intensive, but still involved 12 hours of treatment. It would be particularly useful to investigate whether, for example, similar results could be achieved without relaxation training or cognitive restructuring. Such research is yet to be conducted even in the more traditional child anxiety treatment literature, but the results would be of particular importance to intensive modes of therapy. Finally, it would be interesting to conduct this research with different age groups (teenagers and parents of preschool children) as well as with different anxiety disorders.

The results of this study are encouraging, and suggest that brief, intensive CBT for children with social anxiety is beneficial for many youngsters. It is hoped that the results of

this study, and future others that will extend and improve upon it, will help to alleviate the suffering of children with SP and their families.

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Figure 1: Flow of participants through the study

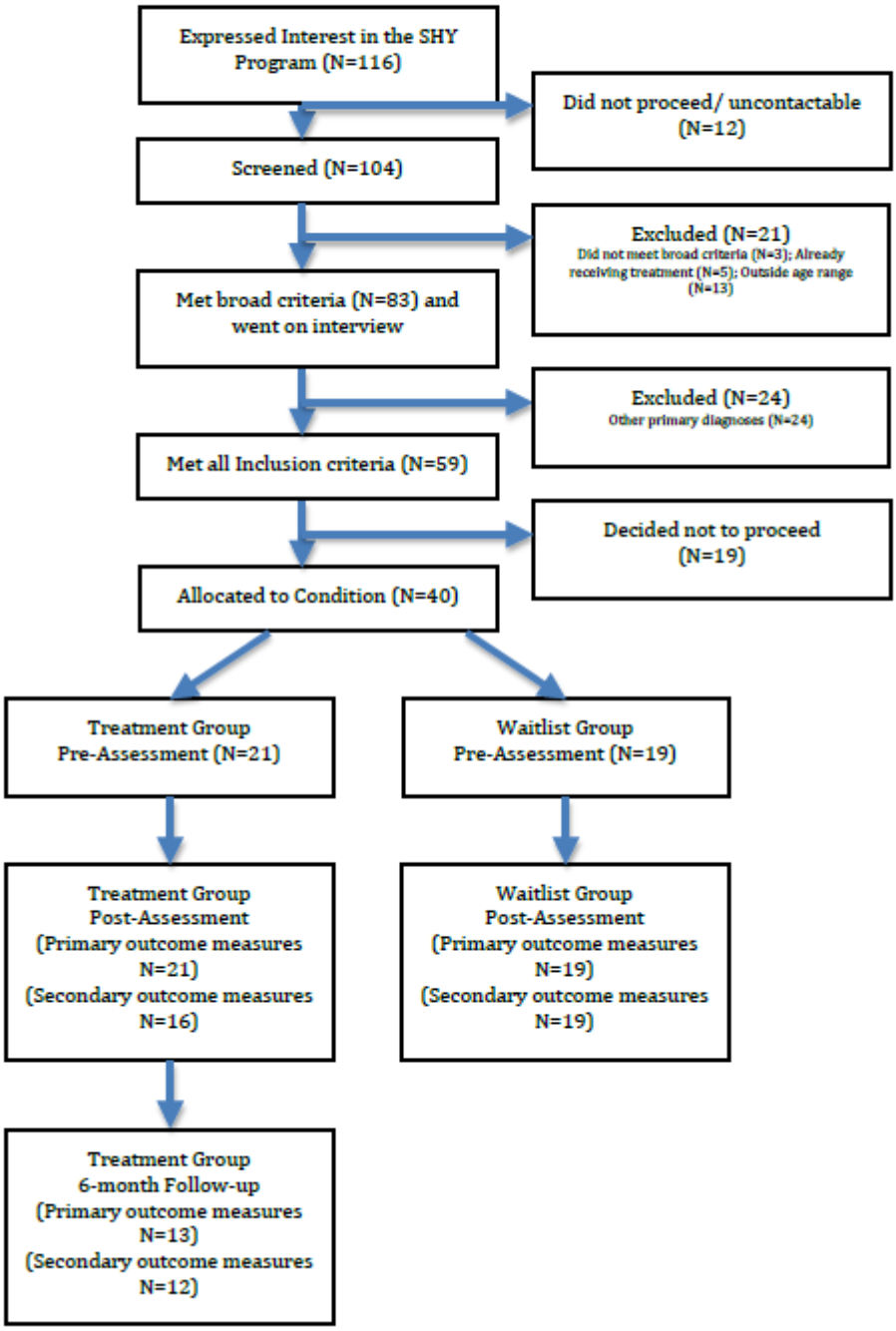

Table 1

Number of children with each comorbid diagnosis

	Diagnosis Number			
Diagnosis	Second	Third	Fourth	Fifth
Separation Anxiety Disorder	11	4	4	0
Specific Phobia	5	8	1	1
Generalised Anxiety Disorder	11	2	2	0
Obsessive-Compulsive Disorder	2	0	0	1
Attention Deficit Hyperactivity Disorder	1	1	0	0
Oppositional Defiant Disorder	1	1	0	0
Post-Traumatic Stress Disorder	0	0	1	0

Table 2

Outline of the treatment program

Day	Duration	Children	Parents
Day 1			
	45 mins	1. Introduction to the Program (parent and child)	
	45 mins	*Break (parent and child)*	
	45 mins	1. Psychoeducation	1. Psychoeducation 2. Cognitive model
	45 mins	*Break (parent and child)*	
	1 hour	1. Exposure task (parent and child) 2. Rewards given & homework set (parent and child)	
Day 2			
	45 mins	1. Review of previous session 2. Review of homework 3. Relaxation	1. Psychoeducation on parenting 2. Development of a parenting plan
	45 mins	*Break (parent and child)*	
	45 mins	1. Exposure task 2. Problem solving	1. Problem solving 2. Psychoeducation regarding …..avoidance and exposure
	45 mins	*Break (parent and child)*	
	1 hour	1. Discussion regarding avoidance and the anxiety cycle (parent and child) 2. Exposure hierarchy development (parent and child) 3.. Rewards given & homework set (parent and child)	
Day 3			
	45 mins	1. Review of previous session 2. Review of homework 3. Cognitive model	1. Review 2. Cognitive restructuring
	45 mins	*Break (parent and child)*	
	45 mins	1. Cognitive restructuring	1. Relaxation
	45 mins	*Break (parent and child)*	
	1 hour	1. Exposure task (parent and child) 2. Rewards given & homework set (parent and child)	
Day 4			
	45 mins	1. Review of previous session 2. Review of homework 3. Social skills training	1. Review 2. Social skills training
	45 mins	*Break (parent and child)*	
	45 mins	1. Social Skills training	FREE SESSION
	45 mins	*Break (parent and child)*	
	1 hour	1. Exposure task (parent and child) 2. Review and maintenance (parent and child) 3. Rewards given (parent and child)	

Table 3

Means and SDs for all outcome measures across occasions and conditions (completer sample)

Value	ICCs	Pre-Assessment		Post-Assessment		6-month follow-up
		Tx Group	WLC Group	Tx Group	WLC Group	Tx Group
No of Dx	0.17					
M		2.05	2.68	0.71*	2.21	0.23
(SD)		(1.02)	(1.20)	(0.78)	(1.44)	(0.44)
CSR	<0.00					
M		5.81	6.00	2.76*	4.89	2.23
(SD)		(0.75)	(0.75)	(1.81)	(1.88)	(1.48)
CGAS	0.05					
M		54.48	51.84 (5.95)	70.48*	58.21	78.15#
(SD)		(4.04)		(8.06)	(13.49)	(9.00)
SPAI-C	0.25					
M		25.82	19.60	13.23*	14.46	8.68
(SD)		(12.14)	(10.30)	(9.43)	(8.57)	(8.17)
SCAS-C	0.30					
M		28.23	29.16	17.33	22.23	13.33
(SD)		(14.79)	(15.23)	(9.82)	(12.37)	(9.06)
SCPQ-C	0.24					
M		13.36	11.56 (4.20)	15.12 (3.42)	14.11 (4.41)	14.55
(SD)		(3.42)				(5.99)
SSQ-C	0.29					
M		45.50	47.58	46.00	49.40	46.07
(SD)		(8.35)	(7.27)	(8.63)	(6.91)	(14.12)
CDI	0.21					
M		7.81	9.11	4.57	8.32	4.82
(SD)		(5.41)	(6.41)	(3.80)	(7.36)	(8.48)
CBCL-Int	0.46					
M		16.00	16.14	8.31*	13.88	6.42
(SD)		(9.40)	(10.25)	(4.87)	(11.45)	(5.78)
SCAS-P	0.41					
M		29.75	29.44	17.56*	25.70	17.10
(SD)		(17.43)	(16.81)	(8.38)	(15.17)	(9.53)
SCPQ-P	0.48					
M		11.47 (4.82)	9.92	15.07*	10.62 (6.07)	15.32
(SD)			(4.88)	(2.94)		(4.61)
SSQ-P	0.45					
M		42.81 (9.47)	41.70	50.06 (8.00)	47.87 (9.50)	51.17
(SD)			(13.22)			(8.04)
SPAI-P	0.64					
M		78.34	76.35	56.33*	72.39	46.51#
(SD)		(34.35)	(30.77)	(31.97)	(29.31)	(28.99)

Note. ICCs = Intraclass correlations; No of dx = number of diagnoses; CSR = clinical severity rating from the ADIS-C/P; CGAS = Clinical Global Assessment Scale; SPAI-C = Social Phobia and Anxiety Inventory for Children; SCAS-C = Spence Child Anxiety Scale, Child Report; SCPQ-C = Social Competence with Peers Questionnaire – Child Report; SSQ-C = Social Skills Questionnaire – Child Report; CDI = Child Depression Inventory; CBCL-Int = Child Behaviour Checklist – Internalising Scale; SCAS-P = Spence Child Anxiety Scale – Parent Report; SCPQ-P – Social Competence with Peers Questionnaire – Parent Report; SSQ-P = Social Skills Questionnaire – Parent Report; SPAI = Social Phobia and Anxiety Inventory – Parent report of their own social anxiety.

Highlights

- An intensive, group-based, CBT program for child social phobia was examined
- Therapy comprised 4 sessions, each of 3-hours duration, over a period of 15 days
- 76.9% of children were diagnosis free at 6-month follow-up