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ORIGINAL ARTICLE

Parental Involvement in Cognitive-Behavioral Intervention for Anxious Children: Parents' In-Session and Out-Session Activities and Their Relationship with Treatment Outcome

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Abstract The present study explored the role of parents' in-session and out-session involvement in CBT for anxious children. Fifty 8- to 12-year-old children with a principal DSM-IV anxiety disorder participated in a group CBT program. Parental involvement in the therapy was assessed by the clinician and the children and parents completed a standardized anxiety scale as the main therapy outcome measure, at pre- and post-intervention. In addition, the parents completed questionnaires to evaluate a number of possible correlates of parental involvement, namely, child's anxiety symptoms intensity and interference, parental beliefs about anxiety, expectancies regarding the efficacy of the intervention, and parental anxiety. The results indicated that the parents were moderately involved in the therapy and that socio-economic status and parental beliefs about anxiety were significant correlates of parental involvement. Finally, partial support was found for the idea that parents' involvement in the therapy might have a positive impact on therapy outcome.

Keywords Child anxiety · Cognitive-behavioral therapy · Parental involvement

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Introduction

Childhood anxiety disorders are highly prevalent [1] and have a negative impact on children's development, daily functioning, school performance, and quality of life [2, 3]. In addition, anxiety disorders are a societal burden: a study by Bodden et al. [4] has shown that families of children with anxiety disorders have 20 times higher costs (e.g., direct health care costs such as medication and visits to mental health professionals, but also indirect costs such as parents' productivity loss and school absenteeism) than normative families from the general population. All these facts underscore the importance of the prevention and treatment of childhood anxiety disorders.

There is abundant evidence for the efficacy of cognitive-behavioral therapy (CBT) in the treatment of children and adolescents with anxiety disorders. A recent meta-analysis by Reynolds et al. [5] that included 48 randomized controlled trials evaluating psychological interventions for anxious youths documented a mean effect size of .77 for CBT, which was more than three times larger than that obtained for other types of therapies (.25). However, despite these positive effects, it is also important to note that there is a substantial minority of anxious children (approximately 25–50 %) who do not recover following CBT treatment [6]. More knowledge of the factors that moderate the efficacy of CBT would be welcome. So far, research has mainly focused on demographic (age, gender) and clinical (severity, comorbidity) variables but did not find convincing moderation effects [7].

Another factor that can be considered as a potential moderator of the efficacy of CBT for youths with anxiety disorders is the parental involvement during such an intervention. This has been mainly explored by comparing the effects of child-focused CBT (CCBT) with those of family-based CBT (FCBT) and/or parent-focused CBT

(PCBT; for a review, see [8]). The results of these studies have been quite inconsistent, with some studies showing that the inclusion of parents in the intervention yields significantly better treatment effects than CCBT [9–13] and other studies documenting comparable effects for CCBT and interventions that do include parents in some way (i.e., FCBT and PCBT) [14–18]. The variability in these results is most likely due to methodological differences across the studies (e.g., sample differences, ways of assessing treatment outcome, etc.) [8, 19].

Most importantly, the research conducted on this topic so far has typically examined the effects of parental involvement in all or nothing terms by directly comparing the effects of CCBT and FCBT/PCBT [5, 8] without looking at the actual level of parents' involvement in the therapy. To our knowledge, only one study has made an attempt to explore the link between parents' quantitative involvement in therapy and treatment outcome in anxious youths. In that study, Podell and Kendall [20] assessed mothers' and fathers' attendance at and engagement in a FCBT program for clinically referred anxious youths. The results of this study support the idea that higher levels of parental attendance and engagement during the therapy sessions are associated with better treatment outcome in the children. Note that the study by Podell and Kendall evaluated only the effects of parents' in-session activities and that it may also be important to consider parental involvement outside the therapy sessions. Typically, CBT protocols include regular homework assignments for the children, such as exposure exercises, and parents could make a valuable contribution to the therapy by stimulating their children to complete these tasks and providing support if necessary [21].

Thus, the role of the parents during treatment of childhood anxiety may vary substantially: they can be involved as consultants (providing information), collaborators (assisting the child with the acquisition of new skills), or clients (learning to manage their own fear and anxiety) [22]. The most frequent role of parents in CBT programs for childhood anxiety (e.g., Coping cat, Friends for life) has been the collaborator role. In this role parents are asked to act as facilitators outside the treatment sessions by monitoring the child's behavior, helping him/her apply the newly acquired strategies and conduct the exposure plan, and supporting homework activities. In this case, higher parental involvement will facilitate changes in children's anxiety via the "transfer of control" [23], which means that expert knowledge and skills are transmitted from the therapist to the parents who then transport these to the child. Tentative support for this mechanism has been provided by Khanna and Kendall [24] who explored to what extent therapists' use of parent-training techniques affected treatment outcome in anxious children receiving FCBT. The results of their study showed that higher levels of transfer of control were associated with better outcomes as indicated by parent- and clinician-reported measures.

The present study examined the role of parental involvement in CBT for anxious children, analyzing the actual level of parental involvement while considering parents' in-session as well as out-session activities. Fifty children who met the full criteria for at least one anxiety disorder—and thus experienced considerable impairment in their daily functioning—were selected from the Portuguese school population, and were then offered the chance to participate in a group CBT program that also included parental sessions (*Friends for Life Program*) [25]. After the intervention, the parents' engagement during and outside the therapy sessions was rated by the therapists on a brief rating scale that was specifically developed for the purpose of the present study. Note that recruitment via schools may have an important advantage for this type of study. In clinical samples, parents actively seek help for their child, so they are generally likely to be motivated to participate in the therapy. This may be different in the present sample, in which the researchers screened the children for the intervention, which is a procedure that may result in greater variability in parents' motivation for and engagement in therapy. Further, the focus on school age children may have an additional advantage because the parental involvement in CBT is thought to be more important for younger children than for adolescents [8].

The present study had three main objectives. The first aim was to characterize parental involvement in a CBT intervention for anxious children by considering the in-session and out-session activities of both mothers and fathers. Second, the possible determinants of parental involvement were explored, including parental perceptions of the problem (perception of the child's anxiety symptoms intensity and interference, parental beliefs about anxiety), expectancies regarding the efficacy of the intervention, and other parental characteristics (anxiety, family structure, number of siblings, and socio-economic status). Finally, the extent to which parental involvement predicted therapy outcome as evaluated by the children and parents was investigated. These analyses also included interactive effects between parental involvement and parental anxiety because it can be expected that involvement of a highly anxious parent may have a different impact on the child and the outcomes of CBT than involvement of a non-anxious parent.

Method

Participants

Socio-demographic characteristics of the children who participated in this study are displayed in Table 1. The

Table 1 Socio-demographic characteristics of the 50 children included in this study

Age (in years)	
Range	8–12
M	9.58
SD	1.13
Gender	
Male	46.0 %
Female	54.0 %
Family structure	
Two parents	66.7 %
Single parent	32.7 %
SES	
Low	34.7 %
Medium	36.7 %
Medium–high to high	28.6 %
Principal diagnosis	
Separation anxiety disorder	24.0 %
Generalized anxiety disorder	26.0 %
Social phobia	32.0 %
Specific phobia	18.0 %
Comorbid diagnosis	
Anxiety and anxiety disorder	74.0 %
Anxiety and mood disorders	2.0 %
Anxiety and disruptive behavior disorders	22.0 %

sample consisted of 50 children (27 girls and 23 boys) with a principal DSM-IV childhood anxiety disorder and their parents (46 mothers and 38 fathers). The children were between 8 and 12 years old with a mean age of 9.58 years (SD = 1.13). They had been identified by means of a structured screening procedure that was carried out in an initial sample of 1065 Portuguese school children and were found to meet the diagnostic criteria of Separation Anxiety Disorder ($n = 12$), Social Phobia ($n = 16$), Generalized Anxiety Disorder ($n = 13$), and Specific Phobia ($n = 9$), as established by a semi-structured clinical interview (see below). Of these children, 76 % presented with more than one clinical diagnosis (the mean number of diagnoses was 2.54, SD = 1.20). One third of the children came from divorced/single parent families, and their socio-economic status (estimated by the educational and occupational levels of the parents) was qualified as low (35 %), medium (37 %), or medium–high to high (28 %).

Intervention

The FRIENDS for Life Program [25–27] is a CBT group intervention for anxious children that consists of 11 weekly sessions (one of them done conjointly with the parents), two additional sessions for the parents only, and one extra booster session for the children. During the sessions, the children learn skills to cope more effectively with feelings of anxiety, receive psycho-education, and engage in relaxation training, cognitive restructuring, exposure, problem-solving, contingency management, and social support. The participating children receive the Book of Activities. For each session, there were homework activities to be completed between sessions. Treatment tried to involve parents in various ways. Parents received a handout after each child session that summarized the content of that session and the associated homework activities, with the objective of providing them with information about the learned strategies and to encourage them to help their child in carrying out the homework activities. Parents were also invited to participate in the last 5 min of the child's session if they wanted to receive explicit instructions regarding their role and/or an explanation of the content of the handout. By the end of each week, parents evaluated their difficulties in supporting the child's activities and registered them on a response form that had to be returned each week to the therapist via their child. In addition, parents were invited to participate in two sessions for the parents only and in one session done conjointly with the child (to elaborate the exposure hierarchy and guide the parents to support the child during the exposure tasks). During the parental and child-parent sessions, we also provided some leaflets that further explained the parental role. When a child missed a session, the facilitator provided a possibility for a catch-up session before the next group session took place.

The program was conducted in the school setting by four trained clinical psychologists, with a minimum experience of 1 year in the program delivery. Each group consisted of 3–7 children and was run by one facilitator. All sessions were reviewed in weekly supervision meetings by a senior clinical psychologist (i.e., the first author).

Assessment

Sample selection

The Anxiety Disorders Interview Schedule for Children (ADIS C/P; Silverman & Albano [28]) is a semi-structured interview for diagnosing anxiety disorders in youth (7–18 years). This interview has well-established reliability and validity [29, 30]. Following the procedure used by Khanna and Kendall [31], parents and children were interviewed together. If there was disagreement between parent and child in response to an item, we followed the recommendations from Grills and Ollendick [32], combining both reports and using an "OR" rule to make decisions regarding the presence of a symptom or

diagnosis, considering external validators of impairment, and examining the source of disagreement. In the present study, interviews of a subset of 27 children were also scored by a second independent rater. Results showed that the inter-rater reliability for various anxiety disorder diagnoses was high, with all kappa values being larger than .89.

Parental involvement in the therapy

The *Parental Involvement in Therapy Scale* (PITS) [33] is a brief, self-construed, four-item scale that asks the clinician to evaluate conjointly father and mother involvement in the therapy. Four aspects of parental involvement are covered: (1) communication with the clinician (0 = None. Unable to contact the parents during the therapeutic program; 1 = Little. Attempts to contact—email, phone calls, messages, etc.—were responded to only once by the parents; 2 = Sufficient. Attempts to contact initiated by the therapist were responded to only two or three times; 3 = Good. Attempts to contact were responded to most of the times; 4 = Very good. Initiated contact by the therapist was responded to almost every time); (2) the parents' support of their children's homework activities (0 = None. No information that parents supported these tasks; 1 = Little. The parents supported these tasks only once or twice; 2 = Sufficient. The parents supported their children at least three times with these tasks; 3 = Good. The parents supported their children more than three times and sometimes applied the trained strategies in daily life; 4 = Very good. The parents were almost always engaged in the proposed tasks and regularly applied the trained strategies); (3) the parents' support of their children's exposure exercises (0 = None. Did not participate in the elaboration of the hierarchy and did not support the exposure activities; 1 = Little. Participated in the elaboration of the hierarchy, but support for the exposure was rare; 2 = Sufficient. Participated in the elaboration of the hierarchy, but support for the exposure was inconsistent; 3 = Good. Kept track of goals and encouraged exposure; 4 = Very good. Kept track of goals, encouraged and monitored the child closely and actively participated in the exposure sessions); (4) the parents' attendance at the parent session (0 = None. No attendance; 1 = Little. Attended one of the parent sessions; 2 = Sufficient. Attended two of the parent sessions; 3 = Good. Attended three of the parent sessions; 4 = Very Good. Attended three of the parent sessions and both of the parents were present for at least one of the sessions). The overall engagement score was obtained by summing the ratings on all four items. The internal consistency of the scale was high (Cronbach's alpha = .88).

To fill out the PITS, the therapists should aggregate information collected during the course of the entire therapy. After each session, the therapists filled out the *Weekly Evaluation of Child and Family Adherence and Involvement form*. On this form, the therapist registered the following data for each child: the child's attendance at the session, parents' attendance at the parental session, parents' attendance at the end of the child's session, the child's involvement in in-session and out-session activities and the mastery of learned skills (3-point scale: 0 = none/bad, 1 = partial/medium, 2 = total/good), and parents' involvement in out-session activities. Parents' involvement in week activities was registered considering information provided by the child, information provided by the parents during parental sessions, and information collected by means of the parents' weekly response form.

Outcome Variables: Child Anxiety

The *Screen for Child Anxiety Related Emotional Disorders-Revised* (SCARED-R) [34] is a questionnaire that consists of 69 items for assessing symptoms of the following anxiety disorders in children: separation anxiety disorder, generalized anxiety disorder, panic disorder, social phobia, school phobia, specific phobia, obsessive–compulsive disorder, and acute or posttraumatic stress disorder. Children rate how frequently they experience each symptom (e.g., "I worry about going to school") on a 3-point scale: 0 (never or almost never), 1 (sometimes), or 2 (often). The item scores can be combined into separate scores for each anxiety disorder and into a total anxiety score. The Portuguese version of the SCARED-R shows high levels of internal consistency and good test–retest reliability [35]. In the present study, the child and parent versions of the SCARED-R were employed to obtain a total anxiety score. Cronbach's alphas were excellent and in the .90 range at pre- and post-test.

Correlates of parental involvement

The *Children's Anxiety Life Interference Scale* (CALIS) [36] is a parent-report questionnaire that assesses anxiety-related life interference in children's school, social, and home/family functioning. Each item is rated on a 5-point Likert scale with 0 = not at all, 1 = only a little, 2 = sometimes, 3 = quite a lot, and 4 = a great deal. Reliability estimates have been found to be adequate, and moderate-to-strong convergent and discriminant validity have been documented [36]. The Portuguese version of the CALIS displays similar psychometric properties as the English version [37], and this was confirmed in the present sample, where we found a Cronbach's alpha of .89.

The *Parental Beliefs About Anxiety Questionnaire* (PBA-Q) [38] is a 17-item parent-report questionnaire for evaluating parental anxious reactions to their child's

physical symptoms and parents' negative beliefs about their child's experience of anxiety (e.g., "If my child gets too nervous, it could be really harmful"). The items must be rated on a 4-point Likert scale that ranges from 0 (strongly disagree) to 3 (strongly agree). The scale showed satisfactory internal consistency in this study for both the mother (.88) and the father (.78) versions.

The *expectancy of the efficacy of the intervention* was evaluated by means of one item. The parents were asked to report the extent to which they expected their child's fear and anxiety to improve as a result of the FRIENDS for Life Program on a 9-point scale (0 = not at all, 8 = very much).

The *Brief Symptom Inventory* (BSI) [39] is a 53-item scale that assesses psychological symptoms in adults. In the present study, both parents completed this questionnaire separately. The items of the BSI, which must be rated on a 5-point Likert scale, define a broad spectrum of psychiatric problems, including symptoms of somatization, obsessiveness and compulsivity, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. For the present study, we used only the anxiety subscale of the Portuguese version of this scale [40], which showed a high internal consistency in this sample of parents (Cronbach's alphas were .80 for fathers and .75 for mothers).

Evaluation of Treatment Integrity

All facilitators were asked to fill out a checklist with the content/activities included in each therapy session. This was done to assess the integrity of the implementation of the intervention protocol. After each session, the facilitator had to evaluate the degree of completion of each activity (entirely done, only partially done, or not done). Beyond this, facilitators were asked to register the degree to which each session was conducted in accordance with the guidelines provided by the facilitator's manual, using a 5-point Likert scale (1 = very different; 5 = very similar).

Procedure

After obtaining initial parental informed consent, a two-stage screening procedure took place. During the first stage, all the children who were allowed to participate in the study (74 %) completed the SCARED-R during their regular classes, and their mothers filled out this questionnaire at home. During the second stage, all the children who scored above the 95th percentile on the total scale and/or the subscales that measured generalized anxiety disorder, separation anxiety disorder, or social phobia on either the child or parent version of the SCARED-R were approached for a clinical evaluation of their anxiety symptoms by means of ADIS-C/P. The majority of the participants (80 %) continued their participation and agreed to undergo a joint mother–child interview, which was administered by a trained research assistant. After the interview, the mothers also completed the CALIS. The children who met the criteria for an anxiety disorder as the principal diagnosis were invited for the intervention part of the study. The following are the exclusion criteria used: the child's participation in a concurrent psychological or pharmacological treatment, comorbidity of another mental disorder with the same severity as the principal anxiety disorder diagnosis, or the presence of a pervasive developmental disorder or intellectual disabilities. The parents of the eligible children were again asked to provide informed consent for their participation in the intervention part of the study.

The BSI, PBA-Q, and expectancy of efficacy questionnaire were sent to the families and returned to the research team via the child's teacher. After the intervention, anxiety symptoms were re-assessed by means of the SCARED-R administered to the children and their mothers. Additionally, each therapist completed the PITS for each child participant at the end of the intervention.

Data Analysis

All the analyses were performed using the Statistical Package for Social Sciences 21.0. First, we computed the descriptive statistics to characterize the parental involvement in the therapy and conducted paired *t*-tests to analyze the differences between the fathers' and mothers' attendance at the parent sessions. Then, bivariate correlation analysis was used to explore the associations between the child/parent characteristics and parental involvement. Multiple regression analysis was conducted to examine the relative contribution of parental involvement in therapy (beyond other relevant variables such as parental anxiety) to the outcome measures (the parent and child scores of the SCARED-R). In these analyses, we also explored the interaction effect of parental involvement and parental anxiety on treatment outcome. The mothers' and fathers' anxiety and parental involvement scores were centered for these analyses.

Results

Treatment Integrity

To determine compliance with the protocol, for each session, we calculated the percentage of activities that were fully completed and the mean rating of similarity with the treatment manual. Both indicators were averaged across all sessions conducted in various intervention groups. It was found that 88.6 % of the session were fully conducted.

Further, the sessions were also largely carried out in accordance with the guidelines as provided by the treatment manual ($M = 4.58$, SD = .59).

Drop Out

Fifty out of 72 children (69 %) who were initially assigned to a treatment group actually completed the intervention and the evaluation protocol. As for the parents of these 50 children, only 40 (80 %) completed all assessments. Reasons for drop out are displayed in Table 2.

A series of Chi square and Mann–Whitney tests were used to compare completers and drop-outs on a variety of participant and demographic variables. No differences were obtained on child age, gender, and SES of the family. In addition, child, mother, and father reports of anxiety symptomatology before the intervention did not differ significantly between those who completed and those who dropped out of this treatment evaluation study.

Parental Involvement in the Therapy

A descriptive analysis revealed that the level of parental involvement varied across various PITS items. The communication of parents with the clinician was good to very good for the majority of the parents (78.0 %), and most of the parents attended at least 2 of the parent sessions (76.0 %). However, the majority of parents delivered low to very low support for their children's homework activities (84.0 %) and exposure exercises (68.0 %). Thus, in-session involvement was significantly higher than out-session involvement (see Table 3). Nevertheless, correlations between parental involvement items (communication with the clinician, attendance at parents' sessions, parents' support for the homework activities, and parents' support for exposure) were substantial and significant. In general, the parents' involvement in the therapy could be qualified as moderate with a mean level of 8.47 (SD = 3.93).

The mothers clearly showed higher levels of attendance at the parent sessions than fathers: 80 % of them were present during all of the sessions versus only 26 % of the fathers. The mean number of sessions attended was 1.82 (SD = 1.12) for mothers versus .50 (SD = .97) for fathers [paired $t(49) = 6.04$, $p < .001$].

Table 2 Reasons for treatment drop-out

	n
Drop out before session 1	12
Time requirements	6
Not interested	2
Individual intervention	2
Health problems	2
Discontinued CBT	10
Time requirements	2
Not interested	1
Individual intervention	2
Financial problems	1
Health problems	1
Family moved	1
Insufficient attendance	2

Correlates of Parental Involvement

The child characteristics such as age and gender did not have a significant impact on parental involvement. Thus, there were no differences in the PITS scores between younger ($M = 8.26$, SD = 3.67) and older children ($M = 8.93$, SD = 3.99) [$t(48) < 1$] or between boys ($M = 9.39$, SD = 3.27) and girls ($M = 7.96$, SD = 4.18) [$t(48) = 1.33$, $p = .19$]. With regard to the family characteristics, parental involvement did not vary as a function of family structure: single-parent families did not show different levels of parental involvement than complete families [*M*s being 8.00, SD = 4.39 versus 8.94, SD = 3.53, $t(48) < 1$], and there was no link between the number of siblings and the level of parental involvement ($r = -.17$, $p = .26$). However, a significant effect was found for socio-economic status [$F(2,48) = 6.17$, $p < .01$], with post hoc comparisons showing that parents with a low socio-economic background ($M = 6.47$, SD = 4.09) displayed lower levels of involvement than parents with a medium ($M = 10.11$, SD = 3.14) to medium–high socio-economic background ($M = 9.86$, SD = 3.14).

Table 3 Mean scores (standard deviations) on the parental involvement scale (PITS) and Spearman correlations among various items

	M (SD)	1	2	3
1. Communication with the clinician	3.00 (.98)[a]	.78*	.56*	.58*
2. Attendance at parents' sessions	2.50 (1.14)[b]	–	.54*	.56*
3. Support of exposure	2.00 (1.29)[c]		–	.74*
4. Support of other home activities	1.00 (1.06)[c]			–

PITS Parental Involvement in Therapy Scale. $N = 50$ * $p < .001$. Means sharing a common subscript were not significantly different form each other (analyzed by means of related-samples Wilcoxon signed rank tests)

Table 4 Pearson and Spearman correlations between parental involvement in the therapy (PITS) scores and other parental variables

	M (SD)	Parental involvement—PITS
1. Mother's anxiety—BSI	10.07 (3.76)	−.01 ($n = 46$)
2. Father's anxiety—BSI	9.55 (3.57)	.03 ($n = 38$)
3. Parents' beliefs regarding anxiety—PBA-Q	24.36 (5.71)	−.37* ($n = 43$)
5. Pre-intervention anxiety symptoms perceived by parents'—SCARED-R	45.96 (19.93)	−.06 ($n = 49$)
6. Pre-intervention anxiety interference perceived by parent's—CALIS	12.38 (9.47)	−.21 ($n = 50$)
7. Mother's expectancy regarding therapeutic intervention	6.27 (1.21)	−.22 ($n = 41$)

PITS Parental Involvement in Therapy Scale, *BSI* Brief Symptom Inventory, *PBA-Q* Parental Beliefs about Anxiety Questionnaire, *SCARED-R* Screen for Child Anxiety Related Emotional Disorders-Revised, *CALIS* Children's Anxiety Life Interference Scale

* $p < .01$

Pearson and Spearman rank correlations were computed between parental involvement in the therapy, as indexed by the PITS total score and parental anxiety, the parents' perception of their child's anxiety problems (i.e., interference, anxiety severity, and beliefs regarding anxiety), and expectancy of the efficacy of the therapeutic intervention. As seen in Table 4, only the parents' beliefs regarding their child's anxiety was significantly correlated with parental involvement in the therapy ($r = -.37$, $p < .01$). The negative correlation indicates that parents with more negative beliefs about their child's experience of anxiety were less inclined to participate in the intervention.

Parental Involvement and Treatment Outcome

Two multiple regression analyses were conducted to examine the contributions of the parents' anxiety and parental involvement to treatment outcome (the children's anxiety symptoms as perceived by the parent and the child at post-treatment) while controlling for the effects of the children's anxiety symptoms at pre-treatment. The results showed significant effects of the children's anxiety symptoms as evaluated at pre-treatment on the children's anxiety levels as evaluated by the mother and the child at post-treatment, which indicates that higher levels of anxiety prior to the intervention were predictive of higher levels of anxiety after the intervention. The results also revealed that parental involvement in the therapy was a significant predictor of the children's anxiety levels as evaluated by the mother at post-treatment (Table 5). These results indicate that higher parental involvement in the therapy predicted lower anxiety symptoms as perceived by the mother after the intervention. The interaction terms were not significant, which shows that the effect of parental involvement in the therapy was not moderated by the level of the mothers' or fathers' anxiety.

A similar regression analysis using the children's self-reported anxiety scores as the outcome measure indicated that parental involvement was no longer a significant predictor of treatment outcome.

Discussion

Research on parental involvement in therapy could make an important contribution to improve response rates and treatment efficacy of CBT for anxious youths. Previous studies have predominantly assessed parental involvement in all-or-nothing terms (by comparing CBT with and without a family component) and thereby discarded the actual level of parental participation in the therapy. However, although CBT is mainly focused on the child, parents may still play an important role in creating the necessary conditions for the child to engage in exposure exercises and transfer the skills learned during the therapy to daily life.

The results of this study with a sample of anxious children recruited from the community shows that parents are generally moderately involved in the therapy. To our knowledge, this study was the first to assess various aspects of parental involvement in CBT therapy by not only focusing on the parents' in-session activities (communication with the clinician, attendance at the sessions) but also their out-session activities (support of homework activities, support of their child's exposure activities). The results showed that the parents' in-session involvement was quite high, but their level of out-session involvement was significantly lower. Several explanations for this finding can be given. To begin with, this was a sample of non-referred children who were recruited from the normal school population, so it is possible that the parents did not take the anxiety problem of their child seriously. Alternative explanations could be that the parents were quite busy and simply lacked the extra time to support their child in the out-session activities, or that they did not like this type of therapy which may have undermining their motivation and compliance with the intervention. Finally, it is also possible that the parents accommodated their child's anxiety and avoidance behavior [41] and found it difficult to expose their child to challenging situations that would elicit anxiety and negative emotions.

Studies with adult populations have shown that completing exposure exercises and adhering to homework

Table 5 Prediction of treatment outcome from mother and father's anxiety and involvement in the therapy

	SCARED-R			SCARED-R		
	Child post ($n = 38$)			Mother post ($n = 34$)		
	ΔR^2	β	t	ΔR^2	β	t
Block 1	.14*			.23***		
Pretreatment measure-SCARED-R		.38	2.46*		.48	3.06***
Block 2	.01			.06		
Child Age		.01	.05		−.03	−.18
Child Gender		−.06	−.37		.24	1.51
Block 3	.08			.07		
Father anxiety-BSI		−.15	−.83		.10	.58
Mother anxiety-BSI		.29	1.71		.28	1.63
Block 4	.01			.18*		
Both parents involved		−.08	−.46		−.20	−1.42
Parental involvement-PITS		.04	.24		−.36	−2.54**
Block 5	.01			.01		
Parental Involvement X Father anxiety		−.85	−.95		−.20	−.95
Parental Involvement X Mother anxiety		−.35	−.96		−.07	−.44

SCARED-R Screen for Child Anxiety Related Emotional Disorders-Revised, *BSI* Brief Symptom Inventory, *PITS* Parental Involvement in Therapy Scale. On step 5, interaction terms were tested in separate regression analyses

* $p < .05$; ** $p < .01$; *** $p < .005$

assignments is associated with better CBT treatment outcome for anxiety disorders [42]. Because children are more dependent on their parents to engage in such out-session therapy activities, low family involvement may compromise therapy efficacy. When organizing homework and exposure activities with children and families, it is important to address this issue to promote not only children's but also parents' adherence to the tasks.

The present findings are consistent with those of the previous research of Podell and Kendall [20] because they show that mothers are more involved in treatment than fathers. This result is also consistent with the parenting literature that suggests that mothers are more engaged in children's education [43] and spend more time with their children [44]. These results also call attention to the necessity of improving fathers' engagement in their children's therapy because the available evidence indicates that fathers' attendance at and engagement in therapy are associated with better treatment outcome [20]. This argument is also underlined by the literature that suggests a specific role of fathers in the development and maintenance of childhood anxiety [45]. Interestingly, the results of a recent study by Pereira, Barros, Mendonça and Muris [46] suggest that there are various paths of influence for mothers and fathers and that the maternal influence is more cognitive in nature and the paternal influence is more behavioral. Departing from these findings, specific roles for mothers and fathers in the treatment of anxiety disordered children can be suggested, e.g., giving fathers a more salient role in the exposure component of the intervention to support their children in gradually confronting anxiety-provoking situations.

In keeping with the Podell and Kendall [20] study, our findings also showed that higher parental involvement in therapy predicts lower anxiety symptoms as perceived by the mother at follow-up. These results fit well with the assumption that parental involvement is particularly important when applying CBT to children [41]. During middle childhood, children are largely dependent on the parents to practice the competencies acquired during the therapy sessions, and they need their parents' help to generalize the use of these competencies to various situations and contexts. Thus, parents are valuable resources in the exposure component of the intervention: they may help their child assess anxiety-eliciting situations, create a hierarchy, support the child in carrying out the exposure tasks and reward the child's effort [22].

A final objective of this study was to explore the factors that are associated with parental involvement in therapy. Only one significant socio-demographic variable was found to have a significant effect, namely, socio-economic background. The parents with a lower socio-economic background displayed significantly lower levels of involvement than the parents from a medium and high socio-economic background. This is consistent with previous studies that have shown that socioeconomic disadvantage is a significant predictor of lower parental expectancies for child therapy [47] and engagement [48]. Surprisingly, the

mothers' and fathers' anxiety levels were not significantly associated with parental involvement in the therapy. However, note that this is consistent with the Podell and Kendall [20] study in which parental psychopathology did not have a significant impact on the parents' attendance at the treatment sessions or engagement in the therapy.

None of the variables regarding the parents' perception of the intensity and interference of anxiety problems or the expectancy of the efficacy of the therapeutic intervention were significantly associated with parental involvement in the therapy. A body of theoretical and empirical literature posits that families that perceive a strong need for treatment (i.e., perceive high anxiety problems and anxiety interference) and believe it will result in positive outcomes (i.e., positive expectancies regarding the efficacy of the therapeutic intervention) will be more likely to enroll in a parenting program and to be engaged in the treatment process [47, 49]. The fact that the children in this sample were recruited from the community could explain the absence of significant effects for these variables. Further, it may well be that the limited sample size reduced the probability of detecting small effects.

Finally, there was an interesting result that revealed a significant correlation between the parents' beliefs regarding their child's anxiety and parental involvement in the therapy. The parents with more fearful reactions to their child's physical symptoms and with more negative beliefs about their child's experience of anxiety were less involved in the therapy. This is the first time that this variable was studied as a correlate of parental engagement in therapy. Parental beliefs about the harmful nature of anxiety and/or parents' limited ability to tolerate seeing their children in distress can prompt the parents to overprotect their child and to prevent the child from confronting anxiety-producing situations. Therefore, this seems to be an important variable to assess at the beginning of the therapy and a potential target for improving parents' engagement.

Admittedly, this study suffers from various limitations. First, the scale for parental involvement (PITS) was developed for the purpose of the present study. Although the items seem to have face validity and were found to have good internal consistency, the instrument still needs to be subjected to a proper psychometric evaluation. Further, a significant shortcoming was that parental involvement was scored by the therapists at the end of the therapy, and the extent to which their responses were contaminated by the perception of the children's improvement is unclear. Second, the therapist rating of parental involvement was rather global, with most items not discriminating between the father's and mother's involvement. Additionally, there are most likely other potential correlates of parental involvement that were not assessed in this study, such as parental distress, quality of the inter-parental relationship and co-parenting. Finally, the generalizability of the present findings may be restricted by the fact that this was a relatively homogenous sample that came mostly from urban and semi-urban areas. Moreover, the sample was recruited from the school population and hence one should be cautious with generalizing the findings to children (and parents) who actually seek professional help for anxiety disorders. Thus, future research conducted in a clinically referred sample of children with anxiety disorders would be particularly welcome. Such a study would also make it possible to investigate the level of parental involvement for anxious children who receive CBT in the clinic.

Despite these limitations, this study makes an important contribution to the literature by enhancing our knowledge of the role of parental involvement in CCBT, conceptualizing parental involvement as a multidimensional construct, and revealing varying levels of involvement for various dimensions. These study findings also stress the importance of examining the processes of change within these treatments and exploring the contribution of parental involvement and its correlates (e.g., parental beliefs about anxiety) for treatment outcome. Future studies should further explore the role of mother and father involvement in therapy.

Summary

The present study explored the role of parents' in-session and out-session involvement in CBT for anxious children. Fifty non-referred 8- to 12-year-old children who met the DSM-IV criteria for at least one anxiety disorder participated in a group CBT program that included a number of parent sessions. In addition, parental involvement in the therapy was assessed by the clinician at the end of the intervention. The results indicated that parents in general were moderately involved in the therapy, with parents' in-session involvement being higher then parents' out-session involvement. Further, socio-economic status and parental beliefs about anxiety were significant correlates of parental involvement. More precisely, parents with a low socio-economic background and parents with more negative beliefs about their child's experience of anxiety were less inclined to participate in the intervention. Finally, support was found for the idea that parents' involvement in the therapy had a positive impact on the efficacy of CBT for children with anxiety disorders, but only when using mother's report of child anxiety as outcome variable. Further studies on the relation between parental involvement and the effectiveness of CBT for children and adolescents with anxiety disorders are needed, and this research should specifically focus on anxious youths referred to clinical settings.

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Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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