Evidence-Based Psychosocial Treatments for Phobic and Anxiety Disorders in Children and Adolescents: A Review and Meta-Analyses

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Abstract

The article reviews psychosocial treatments for phobic and anxiety disorders in youth. Using criteria from Nathan and Gorman (2002), 32 studies are evaluated along a continuum of methodological rigor. In addition, the treatments evaluated in each of the 32 studies are classified according to Chambless et al. (1996, 1998) and Chambless and Hollon's (1998) criteria. Findings from a series of meta-analyses of the studies that used waitlists also are reported. In accordance with Nathan and Gorman, the majority of the studies were either methodologically robust or fairly rigorous. In accordance with Chambless and colleagues, although no treatment was *well-established*, Individual Cognitive Behavior Therapy, Group Cognitive Behavior Therapy (GCBT), GCBT with Parents, GCBT for social phobia (SOP), and Social Effectiveness Training for children with SOP each met criteria for *probably efficacious*. The other treatments were either *possibly efficacious* or *experimental*. Meta-analytic results revealed no significant differences between individual and group treatments on diagnostic recovery rates and anxiety symptom reductions, as well as other youth symptoms (i.e., fear, depression, internalizing and externalizing problems). Parental involvement was similarly efficacious as parental non-involvement in individual and group treatment formats. The article also provides a summary of the studies that have investigated mediators, moderators, and predictors of treatment outcome, concluding with a discussion of the clinical representativeness and generalizability of treatments, practice guidelines, and future research directions.

Evidence-based Psychosocial Treatments for Phobic and Anxiety Disorders in Children and Adolescents: A Review and Meta-Analyses

Since the publication of Ollendick and King's (1998) initial status report on the efficacy of psychosocial treatments to reduce phobic and anxiety disorders in children and adolescents, the research literature has grown considerably (see, for example, recent chapters by Barrett & Farrell, 2007; Chorpita & Southam-Gerow, 2006; Silverman & Berman, 2001). Ollendick and King’s report included only four randomized controlled clinical trials (RCTs) (i.e., Barrett, Dadds, & Rapee, 1996; Cornwall, Spence, & Schotte, 1996; Kendall, 1994; Kendall et al., 1997), probably because childhood phobic and anxiety disorders treatment research using systematic diagnostic criteria was only beginning to emerge at the time. (The broad category “Anxiety Disorders of Childhood and Adolescence” appeared for the first time only in the 3rd edition of the Diagnostic and Statistical Manual of Mental Disorders; American Psychiatric Association, 1980.) Given the paucity of RCTs, Ollendick and King’s report also covered both group treatment and single case design studies that relied on analogue samples (e.g., Bandura Grusec, & Menlove, 1967; Kondas, 1967) — i.e., non-clinic referred and undiagnosed children and adolescents.

Based on their review, Ollendick and King (1998) concluded that behavioral procedures such as imaginal and in-vivo desensitization were *probably efficacious* for childhood phobias; and cognitive-behavioral procedures with (and without) family anxiety management were *probably efficacious* for childhood anxiety disorders. However, because much of the support for these procedures came from analogue studies, an important recommendation of Ollendick and King was that “…we need more research that is methodologically sound and that extends the evaluation of our treatment procedures to clinic-referred children in clinic settings…” (*p.* 165). As will be evident in the present article, the field has improved along the lines recommended by Ollendick and King (1998) in that the literature now contains considerably more methodologically sound studies using clinic referred samples.

The advancements that have been made in the research literature have high public health significance given that anxiety disorders are one of the most, if not the most, common set of psychiatric disorders in childhood and adolescence. Prevalence rates in community samples have ranged from 5% to

10% (e.g., Anderson, Williams, McGee, & Silva, 1987) and as high as 20.2% in a community study conducted in New Zealand (Newman, Moffitt, Caspi, Magdol, Silva, & Stanton, 1996). Prevalence rates in clinic samples have varied widely, with rates ranging as low as 3.7% to as high as 44.7% (e.g., Last, Perrin, Hersen, & Kazdin, 1992). Anxiety disorders in youth also tend to run a chronic course and lead to significant impairment in major areas of a youth's life (e.g., school, family, and peer relations) (see McClure & Pine, 2006; Silverman & Berman, 2001).

For the present review, we identified psychosocial treatments for inclusion by searching the research literature using PsycINFO with the following keywords: fears, phobia, anxiety, child, adolescent, psychotherapy, therapy, treatment, and intervention. We also conducted manual searches of the following journals: *Journal of Consulting and Clinical Psychology, Journal of the American Academy of Child and Adolescent Psychiatry*, *Journal of Clinical Child and Adolescent Psychology*, *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *Behaviour Research and Therapy*, and *Behavior Therapy*. We also searched the reference lists of all the published treatment studies to find additional studies. We focused on treatments that targeted the most prevalent phobic and anxiety disorders in children and adolescents (hereafter referred to as youth unless referring to a specific developmental period) as classified in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1987, 1994) (i.e., DSM-III-R or IV): separation anxiety disorder (SAD), social phobia (SOP), overanxious disorder/generalized anxiety disorder (GAD), and simple/specific phobia (SP). Note that this Special Issue contains separate articles on psychosocial treatments for child and adolescent obsessive compulsive disorder and for youth exposed to traumatic events.

To be included for coverage in this article, studies needed to exhibit most of the methodological features recommended by Chambless et al. (1996, 1998) and Chambless and Hollon (1998): multisource assessments, structured diagnostic interviews, manualized protocols, integrity checks, and systematic follow-ups. Our literature search resulted in 32 group design studies (see Table 1) that possessed most, if not all, of these methodological features. We also searched for single-case design studies and found about 50 of these studies published since Ollendick and King (1998). Because of the large number of single-case designs, coupled with the fact that these studies tended to focus on evaluating single therapeutic strategies (e.g., in-vivo exposure), our focus in this article is on the 32 group design studies, most of which evaluated a combination of therapeutic strategies or a treatment package/program (e.g., Coping Cat; Kendall, 1994).

We begin by reporting on the classification of each of the 32 studies using the criteria of Nathan and Gorman (2002), in which studies are evaluated along a continuum of methodological rigor ranging from Type 1, most methodologically rigorous, to Type 6, least methodologically rigorous. We next report on the classification of each psychosocial treatment investigated within each of these 32 studies using the criteria of Chambless et al. (1996, 1998) and Chambless and Hollon (1998): *well-established treatments*, *probably efficacious treatments*, *possibly efficacious treatments*, and *experimental treatments*. After providing a narrative evaluative summary of each study, we report results of a series of meta-analyses. The following section reviews studies that have investigated mediators, moderators, and predictors of treatment outcome. We conclude with a discussion about the clinical representativeness and generalizability of the 32 studies, practice guidelines, and future research directions.

Classification of Psychosocial Treatment Studies Based on Nathan and Gorman's (2002) *Criteria*

Nathan and Gorman's (2002) criteria specify six types of treatment studies. Type 1 studies are the most rigorous and involve randomized, prospective clinical trial methodology. They involve comparison groups with random assignment, blinded assessments, clear presentation of the study’s inclusion and exclusion criteria, state-of-the-art diagnostic methods, adequate sample size to offer statistical power, and clearly described statistical methods. Type 2 studies are clinical trials in which an intervention is tested, but at least one aspect of the Type 1 study requirement is missing—for example, a trial in which a double blind cannot be maintained, a trial in which two treatments are compared but assignment is not randomized, or a trial with a clear but not necessarily fatal flaw (e.g., no follow-up). Type 3 studies are methodologically limited. They are open trials aimed at obtaining pilot data and are thereby subject to observer bias, but they still indicate whether the treatment would be worth pursuing using a more rigorous design. Type 4 studies are reviews with secondary data analyses such as meta-analyses. Type 5 studies are reviews that do not include secondary data analyses, and Type 6 studies are case studies, essays, and opinion papers. For this article, Type 4, 5, and 6 studies were not included for coverage, as our focus was on more methodologically rigorous studies for purposes of classifying treatments as evidence-based.

The 32 studies were coded with respect to methodological rigor by two independent raters using Nathan and Gorman's (2002) criteria. Prior to evaluating each study, the two independent raters met with the first author to review the criteria and to clarify potential misinterpretations. The two evaluators rated independently all studies using a standardized coding sheet; kappa coefficients of .79, .93, and .87 were attained for the classification of Type 1, Type 2, and Type 3 studies, respectively. Discrepancies in the classification were discussed between the two raters and the first author, with the classification viewed as "final" once full consensus was attained among all parties after this discussion.

As shown in Table 1, most of the 32 studies were classified as Type 1. The studies by Manassis et al. (2002), Mendlowitz et al. (1999), and Wood, Piacentini, Southam-Gerow, Chu, and Sigman (2006) were classified as Type 2 because they lacked systematic follow-ups. Baer and Garland (2005), Ginsburg and Drake (2002), Muris, Merckelbach, Holdrinet, and Sijsenaar (1998), and Muris, Meesters, and Gobel (2002) were classified as Type 2 because they did not meet the minimum sample size criteria found by Kazdin and Bass (1989) ($n \geq 12$ per condition) for a medium effect size (Chambless & Hollon, 1998). Three studies were classified as Type 3 because they were open trials (i.e., Bögels & Siqueland, 2006; Masia, Klein, Storch, & Corda, 2001; Thienemann, Moore, & Tompkins, 2006).

Classification of Psychosocial Treatments based on Chambless et al. (1996, 1998) and Chambless and Hollon (1998)

As noted, we used criteria from Chambless et al. (1996, 1998) and Chambless and Hollon (1998) to determine each treatment's classification within one of the following categories: *well-established treatments, probably efficacious treatments, possibly efficacious treatments,* and *experimental treatments* (see Table 2). The same procedures described above to classify the studies along Nathan and Gorman's (2002) criteria were used by the same two independent raters to classify each treatment along Chambless and colleagues' criteria. For the classification of *well-established treatments* and *probably efficacious* *treatments*, the raters had perfect agreement: the kappas were 1.00. For the classification of *possibly efficacious treatments* and *experimental treatments*, the kappas were .88 and .88, respectively.

Table 3 shows the final classification of each treatment. As shown in the Table, no psychosocial treatment for child and adolescent phobic and anxiety disorders met the *well-established* criteria. The reason is that, per Chambless et al. (1996, 1998), there were not at least two studies, conducted by independent investigatory teams, that compared an “efficacious” treatment to pill or placebo or to another treatment. Individual Cognitive Behavior Therapy (ICBT), GCBT, two variants of GCBT (i.e., GCBT with parent; GCBT for SOP), and Social Effectiveness Training for Children (SET-C) with SOP met Chambless et al.’s *probably efficacious* criteria. These treatments met the *probably efficacious* criteria because there were at least two studies showing that are each of these treatments are statistically significantly superior to a waitlist control condition. Specifically, ICBT was superior to a waitlist control in Kendall (1994), Barrett et al. (1996), Kendall et al. (1997), and Flannery-Schroeder and Kendall (2000). GCBT was superior to a waitlist control in Barrett (1998), Mendlowitz et al. (1999), and Flannery-Schroeder and Kendall (2000). GCBT with parents was superior to a waitlist control in Barrett (1998) and Silverman et al. (1999b), and GCBT for SOP was superior to a waitlist control in Spence, Donovan, and Brechman-Toussaint (2000), as well as Gallagher, Rabian, and McCloskey (2003). SET-C met the *probably efficacious* criteria because it was superior to a psychological placebo in Beidel, Turner, and Morris (2000).

As also shown in Table 3, 15 treatments met the *possibly efficacious* criteria (e.g., ICBT with parents, ICBT for school refusal behavior with Parent/Teacher Training). Each of the treatments labeled *possibly efficacious* met Chambless and Hollon’s (1998) criteria of evidence supporting each treatment’s efficacy relative to a waitlist or a placebo in one “good” study (*p.* 4; Chambless et al., 1998). For example, Barrett et al. (1996) provided support for the efficacy of ICBT with Parents relative to a waitlist control condition, and the efficacy of ICBT for school refusal behavior with Parent/Teacher Training relative to a waitlist control condition was demonstrated by King et al. (1998). At first glance, Parent GCBT, in which parents work with a therapist in group format and learn how to deal more effectively with a child who is anxious and to help the anxious child cope with fearful situations, could be viewed as *probably efficacious* because there are two studies (i.e., Mendlowitz et al., 1999; Thienemann et al., 2006) evaluating this treatment. However, of these two studies, Thienemann et al. (2006) was an open trial and thus the classification of *possibly efficacious* seems appropriate for Parent GCBT (Chambless & Hollon, 1998).

Finally, 3 treatments were classified as *experimental* (i.e., school-based GCBT for SOP, school-based GCBT, school-based modified SET-C for SOP). In the case of school-based GCBT, this treatment also at first glance could be viewed as *probably efficacious* because there are at least two studies (i.e., Ginsburg & Drake, 2002; Muris et al., 2002) demonstrating its efficacy. However, each of these two studies lack sufficient statistical power, in that the treatment condition cell size was less than 12 (as previously noted, 12 is the median sample size per treatment condition found by Kazdin and Bass, 1989, in their meta-analyses of youth psychosocial treatment outcome research. To have the conventional 80% power; for a significance test of a medium difference between two treatment conditions, a study needs about 50 participants per condition; Chambless & Hollon, 1998) and thus the classification of *experimental* appears more appropriate. The remaining *experimental* treatments were tested in studies not meeting the methodology criteria (e.g., did not use control conditions, lacked statistical power).

Of further note is that in 22 of the 32 studies (e.g., Kendall, 1994; Silverman et al., 1999b), a given treatment, such as ICBT and GCBT, served as the main/experimental treatment condition. In 10 studies however (e.g., Barrett et al., 1996; Barrett, 1998), ICBT and GCBT served as comparison conditions relative to *another* treatment condition. In both of these types of studies (e.g., Barrett et al., 1996; Barrett, 1998) the classification of a treatment was not affected by its status as either a “main/experimental” or “comparison” condition because the efficacy of the treatment was demonstrated regardless (Chambless et al., 1996). Finally, in this article, we refer to some of the treatment conditions using a CBT label even though it was not necessarily referred to in this way by the authors. For example, “child only” (Mendlowitz et al., 1999) and “CLINIC” (Spence, Holmes, March, & Lipp, 2006) we call

GCBT and GCBT with parents, respectively, because they fit those particular CBT prototypes. We note in the study narrative summary when we make this type of change of designation.

Narrative Summary of the 32 Treatment Studies

In this section we provide narrative evaluative summaries of each of the 32 treatment studies corresponding to *probably efficacious treatments, possibly efficacious treatments,* and *experimental treatments.* Studies corresponding to *probably efficacious treatments* are described in more detail than those corresponding to *possibly efficacious treatments* and *experimental treatments.* In most studies, symptom levels (e.g., anxiety) were assessed using child and parent rating scales. The most widely used child self-rating scales are the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978), the Children’s Depression Inventory (CDI; Kovacs, 1992), and the Fear Survey Schedule for Children - Revised (FSSC-R; Ollendick, 1983). Several studies used other child self-rating scales, such as the State Trait Anxiety Inventory for Children (STAIC, Spielberger, 1973), the Coping Questionnaire for Children (CQ-C; Kendall, 1994), the Social Phobia and Anxiety Inventory (SPAI - child version, Beidel, Turner, & Morris, 1995), and the Social Anxiety Scale for Children – Revised (SASC-R, La Greca & Stone, 1993). Findings from more recently developed youth self-rating scales such as the Multidimensional Anxiety Scale for Children (MASC, March, Parker, Sullivan, Stallings, & Conners, 1997) have been reported in only a few studies (i.e., Manassis et al., 2002; Thienemann et al., 2006; Wood et al., 2006).

The most widely used parent rating scale to assess youth anxiety symptoms is the Child Behavior Checklist (CBCL, Achenbach, 1991). A small number of studies also used the teacher version of the CBCL, namely, the Teacher Report Form (TRF, Achenbach & Edelbrock, 1986). When the CBCL and/or TRF have been used, outcome has been evaluated most frequently using the Internalizing broad band scales, the Anxiety-Depression (A/D) narrow band scales, or both. With regard to youth diagnoses, the most widely used interview schedule has been the Anxiety Disorders Interview Schedule for Children (Child and Parent Versions) (ADIS-C/P; Silverman & Nelles, 1988, for DSM-III-R; ADIS-IV: C/P Silverman & Albano, 1996, for DSM-IV). Direct observations of fear and anxiety reactions in youth (e.g., via in-vivo exposures) were conducted in about one-third of the studies. The reader is referred to Silverman and Ollendick (2005) for further information about evidence-based assessment procedures for use with children and adolescents with phobic and anxiety disorders.

The majority of studies involved random assignment of participants to conditions and manualized treatment protocols or the equivalent. Treatment was typically administered by doctoral students, psychologists, or psychiatrists. Several studies, including King et al. (1998), Muris et al. (1998), Silverman et al. (1999b), Nauta , Schooling, Emmelkamp, and Minderaa (2003), Bögels and Siqueland (2006), and Wood et al. (2006), provided specific information about the procedures used to train therapists (e.g., typically 5 to 12 hours of didactic instruction, observation, and weekly supervision). In terms of parents' involvement in their child's treatment, although the goals of parent sessions varied somewhat across trials, parent sessions included some fairly consistent therapeutic strategies. As summarized recently by Barmish and Kendall (2005), these strategies included teaching parents to remove their reinforcement of their child's anxious behaviors (e.g., Barrett et al., 1996; Barrett, 1998; Silverman et al., 1999b), reducing family conflict (e.g., Barrett et al., 1996; Barrett, 1998), and training parents to manage their own anxiety (e.g., Cobham, Dadds, & Spence, 1998; Heyne et al., 2002; Nauta et al., 2003).

Probably Efficacious Psychosocial Treatments

Individual Cognitive Behavior Therapy. Kendall (1994) reported the first RCT evaluating the efficacy of ICBT for anxiety disorders in youth. Participants were 47 youth (9 to 13 years) who presented to a child and adolescent anxiety disorders specialty research clinic. Exclusion criteria were youth IQ below 80, a disabling physical condition, psychotic symptoms, or current pharmacotherapy for anxiety. Youth and parents were administered a comprehensive assessment battery that included the ADIS-C/P. Primary diagnoses were overanxious disorder (OAD) (n = 30), SAD (n = 8), and avoidant disorder (AVD) (n = 9), with 60% of participants meeting criteria for additional diagnoses (e.g., SP, depression).

The assessment battery included 10 measures, 6 from youth (i.e., RCMAS, STAIC-T/S, FSSC-R, CDI, CQ-C, Negative Affectivity Self Statement Questionnaire; NASSQ, Ronan, Kendall, & Rowe, 1994), 2 from parent (i.e., CBCL and a parent version of the State Trait Anxiety Inventory for Children; STAIC-T/P), 1 from teacher (i.e., TRF), and a behavior observation task.

After completing the assessment battery, participants were randomized to either a 16 to 20 session/week ICBT (*n* = 27) or an 8 week waitlist control condition (*n* = 20). Subsequent to waiting, youth and parent were re-administered the assessment battery (i.e., a postwait assessment). Following the postwait assessment, participants in the waitlist received ICBT, which was followed by another administration of the assessment battery. Participants in ICBT received a treatment package that included recognizing and clarifying distorted cognitions and attributions, devising coping plans, and evaluating performance. The behavioral component of the treatment included in-vivo exposures, relaxation training, and contingent reinforcement procedures. Following ICBT, all participants were administered the assessment battery. At posttreatment, 64% of participants in ICBT no longer met criteria for an anxiety disorder diagnosis, in contrast to 5% following the wait period. In addition, pre to posttreatment analyses showed significantly greater improvement for ICBT than the waitlist on all rating scales and behavior observations, except for the TRF Internalizing and Externalizing (I/E) ratings. At one year follow-up, treatment gains were maintained across all rating scales and behavior observations including the TRF-I/E.

Kendall and Southam-Gerow (1996) provided additional evidence for the efficacy of ICBT in a follow-up study conducted an average of 3.35 years after treatment, using data obtained from 36 of the 47 participants in Kendall (1994) (ages 11.33 to 18.25 years). The follow-up assessment battery, which included the parent version of the ADIS-C/P only and fewer rating scales than in Kendall (1994), revealed maintenance of treatment effects across all youth (i.e., RCMAS, CDI, NASSQ, and CQ-C) and parent (i.e., the CBCL-I/E, CBCL-A/D, STAIC-T/P, and CQ/P) rating scales.

In a second RCT, Kendall et al. (1997) randomized youth (9 to 13 years) to either ICBT (*n* = 60) or a waitlist (*n* = 34), and the efficacy of ICBT was again demonstrated among youth with primary anxiety diagnoses of OAD (*n* = 55), AVD (*n* = 17), and SAD (*n* = 22), using the ADIS-C/P. Diagnostic recovery rates at posttreatment revealed that 71% in ICBT no longer had the primary/targeted diagnosis as primary; 53% no longer had the primary/targeted diagnosis anywhere in their clinical profile. In contrast, 6% in the waitlist condition no longer had the primary anxiety disorder diagnosis at the postwait assessment. Significant pre to posttreatment improvements also were found for treated youth on all self-rating scales (i.e., RCMAS, STAIC-T, FSSC-R, CDI, NASSQ, CQ-C), parent rating scales (i.e., CBCL-I; CBCL-A/D, STAIC-T/P, CQ-P), and behavior observations. There was one exception: no significant pre to posttreatment differences were found on father-completed CBCL-A/Ds. Treatment gains were maintained at one year follow-up across all rating scales and behavior observations including on father completed CBCL-A/D.

In another long term follow-up study, Kendall, Safford, Flannery-Schroeder, and Webb (2004) reported on 86 of the 94 participants in Kendall et al. (1997), an average of 7.4 years posttreatment (ages 15 to 22 years; mean age = 19.3 years). The long-term follow-up assessment consisted of questionnaires, the ADIS-IV: C/P (Silverman & Albano, 1996), and the ADIS-IV - lifetime version (Di Nardo, Brown, & Barlow, 1994). Alcohol and drug abuse/dependence (the sequelae of anxiety) also were assessed using a semi-structured interview. At the follow-up, parents reported that after their child’s completion of ICBT, 5.3% of the youth had a psychiatric hospitalization, 42.6% received outpatient therapy, and 34.1% received psychotropic medication. Youth reported that after completing ICBT, 5.5% had a psychiatric hospitalization, 39.7% received outpatient therapy, and 31.5% received psychotropic medication. Although it was not possible to control for any subsequent treatment the youth might have received, rendering it unclear whether ICBT was the primary source of change, prognoses were positive. Specifically, the primary/targeted anxiety disorder was absent in 93% of the youth based on parent interviews and 81% based on youth interviews. Questionnaire data also showed that posttreatment gains were maintained at long-term follow-up across all youth and parent rating scales. Additionally, successful outcome at posttreatment was linked to less substance use at long-term follow-up, suggesting potential preventive value of early intervention.

Group Cognitive Behavior Therapy. Barrett (1998) evaluated the efficacy of GCBT in sixty youth (7 to 14 years) with primary diagnoses of OAD (*n* = 30), SAD (*n* = 26), and SOP (*n* = 4), based on the ADIS-C/P. Youth were randomized to GCBT (*n* = 23), GCBT with Parents (*n* = 17) (referred by the authors as GCBT plus Family Anxiety Management), or a waitlist control condition (*n* = 20). In GCBT, the group was conducted by two therapists. In GCBT with Parents, parents and their children, as well as two therapists, were in the same room for the entire session. The first half of the session focused on training youth in cognitive and behavioral strategies; the second half on training parents in managing their child's emotional upsets and communication and problem solving.

At posttreatment, the percentage of youth free of principal and additional diagnoses based on the ADIS-C/P was significantly larger in the two GCBT conditions (64.8%) than the waitlist (25.2%). Further comparisons showed significant pre to posttreatment improvements for the two GCBT conditions relative to the waitlist on youths' FSSC-R ratings, mother and father CBCL-I/E ratings, and clinicians' ratings of diagnostic severity. There were no significant differences between GCBT and GCBT with Parents in terms of diagnostic recovery rates (55.9% and 70.7%, respectively), and no significant differences on mother and father pre to posttreatment CBCL-I/E ratings. However, statistically significant pre to posttreatment differences were found between the two GCBT conditions on clinicians' ratings of severity and youths' FSSC-R ratings, with GCBT with Parents showing significantly greater improvements than GCBT. At one year follow-up, treatment gains were maintained on all rating scales, and GCBT with Parents continued to show significantly greater improvements than GCBT on diagnostic severity ratings and FSSC-R ratings.

Silverman et al. (1999b) randomized 56 youth (6 to 16 years) to either GCBT with Parents (*n* = 37) or a waitlist (*n* = 19). Primary diagnoses (based on the ADIS-C/P) were SOP (*n* = 15) and OAD/GAD (*n* = 41). Youth and parents attended separate but concurrent groups conducted by two therapists. Natural group processes were emphasized in the sessions as well as peer modeling, feedback, support, reinforcement, and social comparison. At posttreatment, 64% of youth in GCBT with Parents no longer met primary diagnosis compared to 12.5% in the waitlist. Statistically significant improvements were observed pre to posttreatment for treated but not waitlisted youth on clinicians' ratings of diagnostic severity, youth self-ratings on the RCMAS, FSSC-R, and CDI, and parent CBCL-I/E ratings. Hierarchical linear modeling showed continued improvement on all rating scales from posttreatment to 3 month follow-up, with continued maintenance of treatment gains over 6 and 12 month follow-up.

Using a sample of children (7 to 12 years) with DSM-IV anxiety disorders, derived using an adaptation of the Diagnostic Inventory for Children and Adolescents Revised – Parent version (specific disorders and rates were not reported), Mendlowitz et al. (1999) randomized 62 children to GCBT (referred by the authors as "child only" *n* = 23), GCBT with Parents (referred by the authors as "child + parents" *n* = 18), or a GCBT Parent only condition (referred by the authors as "parent only" *n* = 21). Prior to treatment randomization, 40 (65%) of these 62 children were first assigned to a waitlist control condition. Across the three treatment conditions, participants showed statistically significant pre to posttreatment improvements on all measures (i.e., RCMAS, CDI, and a coping measure), and parents' ratings of improvements. No significant improvements were found on any measure in the waitlist condition.

Although diagnostic recovery rates and follow-up data were not reported by Mendlowitz et al. (1999), Manassis, Avery, Butalia, and Mendlowitz (2004) reported a 6 to 7 year follow-up study on 43 of the 62 children (ages 8 to 12 years at the time of treatment) from Mendlowitz et al. (1999). Participant youth, now adolescents, and their parents were asked questions over the telephone about clinically relevant anxiety symptoms, impairment, and further mental health treatment received after treatment termination. Although treatment gains were generally maintained for anxiety symptoms and anxiety related impairment, the gains were less substantial than those reported in Barrett et al's (2001) follow-up study, perhaps due to the different measures used by Manassis et al. (2004).

Two studies have evaluated the relative efficacy of ICBT and GCBT (Flannery-Schroeder & Kendall, 2000; Manassis et al., 2002). In Flannery-Schroeder and Kendall, youth (8 to 14 years) were randomized to ICBT (*n* = 13), GCBT (*n* = 12), or a waitlist (*n* = 12). Primary diagnoses (derived using the ADIS-IV: C/P) were GAD (*n* = 21), SAD (*n* = 11), and SOP (*n* = 5). Parental involvement was minimal in both treatment conditions. At posttreatment, ICBT had a 73% primary/targeted diagnostic recovery rate and GCBT had a 50% primary/targeted diagnostic recovery rate, a non-significant difference. In the waitlist, 8% did not meet diagnostic criteria for the primary anxiety disorder at the postwait assessment. Statistically significant improvements were observed pre to posttreatment for treated but not waitlisted youth on the STAIC-T, RCMAS, CQ-C, CDI, Social Acceptance subscale of the Self Perception Profile for Children (Harter, 1985), mother and father completed STAIC –T/P, CQ-P, and father completed CBCL-I. When ICBT and GCBT were compared, the overall pattern of results showed no statistically significant differences between the two conditions. On the STAIC – State, a significant improvement was observed for the ICBT condition only, perhaps due, in part, to a pretreatment GCBT STAIC – State floor effect (Flannery-Schroeder & Kendall, 2000). Three-month follow-up data obtained on 29 of the 37 participants revealed treatment gains were maintained for both GCBT and ICBT across all rating scales including diagnostic recovery rates. Again there were no significant differences between the two treatments on any measure including now on the STAIC -State.

Manassis et al. (2002) randomized 78 children (8 to 12 years) to either ICBT (*n* = 41) or GCBT (*n* = 37), with both treatments involving substantial parent participation. Youths' primary DSM-IV anxiety disorder diagnoses were SAD (*n* = 20), GAD (*n* = 47), SOP (*n* = 5), SP (*n* = 5), and panic disorder (*n* = 1), derived using the Diagnostic Interview for Children and Adolescents – Revised (Reich, 2000). Results showed statistically significant pre to posttreatment improvements for both ICBT and GCBT on the SASC-R and MASC, with no significant treatment differences. Child CDI ratings and clinicians' ratings on the Children's Global Assessment Scale (C-GAS; Endicott, Spitzer, Fleiss, & Cohen, 1976) also showed significant ICBT and GCBT pre to posttreatment improvements, with ICBT showing significantly more improvement than GCBT on these scales. Diagnostic recovery rates and follow-up data were not reported. The reason for the superior performance of ICBT on some of the study's measures in Manassis et al. (2002) is unclear. The authors suggest the individual treatment format offers the child more direct reassurance and social approval by the therapist, which may be helpful to anxious youth. In contrast, according to the authors, the group format may be overwhelming, at least initially for youth with social evaluative concerns. These possibilities highlight the importance of further research on determining the mediators of treatment outcome for different formats.

Spence et al. (2006) randomized 72 youth (7 to 14 years**)** with SOP (*n* = 30), GAD (*n* = 20), SAD (*n* = 15), and SP (*n* = 7), derived using the parent version of the ADIS-IV: C/P, to one of three conditions: GCBT with Parents (referred to by authors as “CLINIC,” *n* = 22)**,** GCBT with Parents plus Internet (referred to by the authors as “CLIN-NET” *n* = 27), or a waitlist (*n* = 23). Both treatments were followed by booster sessions at 1 and 3 months. In GCBT with Parents, youth were seen in ten group treatment sessions while their parents were seen in six, separate group sessions. In GCBT with Parents plus Internet, youth also were seen in ten group treatment sessions but half of the sessions involved the youth’s using the internet at home to obtain psychoeducation. Half of the parent sessions in GCBT with Parents plus Internet involved therapist and youth group meetings, and the other half were conducted over the internet at home.

Results indicated that the proportion of youth recovered at posttreatment from their primary anxiety diagnosis was significantly larger in the two treatments conditions than the waitlist (65% GCBT with parents, 56% GCBT with Parents plus Internet, 13% waitlist). No significant differences were found between the two GCBT conditions on diagnostic recovery rates or questionnaire data, with both conditions producing significant pre to posttreatment improvements on all youth self-rating scales (i.e., RCMAS, CDI, Spence Child Anxiety Scale; SCAS, Spence, 1998) and parent scales (i.e., SCAS – P, CBCL-I). At 6 and 12 month follow-up, all gains were maintained. Although there were some differential patterns of findings at the follow-ups between conditions, further internet studies are needed before offering explanations for these differential patterns. Nevertheless, the findings are promising in that they suggest the internet may have utility in anxiety reduction programs for youth.

In another study, Rapee, Abbott, and Lyneham (2006) randomized 267 children (6 to 12 years) to GCBT (referred by the authors as “group treatment” *n* = 90), Bibliotherapy (*n* = 90), or a waitlist (*n* = 87). Primary diagnoses (using the ADIS-IV: C/P) were SOP (*n* = 64), GAD (*n* = 103), SAD (*n* = 51), SP (*n* = 33), obsessive compulsive disorder (*n* = 13), and panic disorder (*n* = 3). In Bibliotherapy, parents were provided with a commercially available book and children with a workbook containing parallel information. At posttreatment, 61.1% in GCBT no longer met primary diagnosis compared to 25.9% in Bibliotherapy and 6.7% in the waitlist. Statistically significant improvements were observed pre to posttreatment for GCBT but not the waitlist on clinicians' ratings of diagnostic severity, child self-ratings on the SCAS, and a measure of automatic thoughts, as well as parent SCAS and CBCL-I/E ratings. Intent-to-treat analyses revealed that the effects of Bibliotherapy were generally similar to waitlist effects (no improvement). At 3 month follow-up, GCBT gains were maintained, with continued statistically significant superiority over Bibliotherapy. This study is important because, unlike the internet, which may hold some promise, the findings suggest that bibliotherapy, although perhaps better than no treatment (i.e., the waitlist), does not meet the same level of efficacy as GCBT.

GCBT for SOP. Spence et al. (2000) randomized 50 youth (7 to 14 years**)** with SOP (derived using the ADIS-C/P) to GCBT (referred by the authors as “parent not involved” *n* = 19)**,** GCBT with Parents (referred by the authors as “parent involved” *n* = 17), or a waitlist (*n* = 14). The GCBT conditions included 3 and 6 month booster sessions subsequent to 12 treatment sessions. In both GCBT conditions, emphasis was placed on social skills training. At posttreatment, the percentage of youth diagnosis free was significantly higher in GCBT (58%) and GCBT with Parents (87.5%) than the waitlist (7%). Statistically significant pre to posttreatment improvements also were found for treated but not waitlisted participants on the youth completed RCMAS, SCAS, as well as on measures of social worries, parent-rated social skills, and social competence, and behavior observations. Again, there were no significant pre to posttreatment differences between the two GCBT conditions on any measure, with continued lack of significant differences at 6 and 12 month follow-up.

In Hayward et al. (2000), 35 adolescent girls (mean age = 15.8 years, *SD* = 1.6) with SOP (derived using the ADIS-IV: C/P) were randomized to either GCBT (referred by the authors as “cognitive- behavioral group therapy-adolescent;” *n* = 12) or No Treatment (*n* = 23). This is the only study reviewed in this article that used a female-only adolescent sample. Adolescents in GCBT were assessed at pretreatment, posttreatment, and 12 month follow-up. Adolescents in the No Treatment condition were assessed at baseline and 5 and 12 months later. At posttreatment, 45% in GCBT no longer met diagnostic criteria for SOP compared to 4% in the No Treatment condition, a statistically significant difference. Statistically significant improvements also were found pre to posttreatment for GCBT, using the SPAI, and for adolescent and parent SOP symptom ratings, using the ADIS-IV: C/P. There were no significant changes in the No Treatment condition from baseline to 5 months on any measure. At the 12 month follow-up, although not significantly different, 40% in GCBT continued to meet diagnosis for SOP compared to 56% in the No Treatment condition; and 40% in GCBT had either SOP or major depression compared to 78% in the No Treatment condition. As Hayward et al. note, it is unclear why GCBT was less robust in this study than in other studies. However, they suggest that the females' heterosocial anxiety, which was not a direct target of treatment, may have played a role, and that the females' SOP may have been complicated by episodes of major depression. These possibilities are worthy of further investigation.

Gallagher et al. (2003) randomized children (8 to 11 years) with SOP (derived using the ADIS-IV: C/P) to either a 3 session GCBT condition (*n* = 12) or a waitlist (*n* = 11). During the first GCBT session, children were trained to recognize the physiological and behavioral aspects of anxiety, as well as negative self-talk. Sessions 2 and 3 emphasized modifying child negative self-talk and conducting graded behavioral exposures. Although no statistically significant improvements were found from pre to posttreatment, significant improvements were found from pre to 3 month follow-up for GCBT, but not the waitlist, on the SPAI for Children, SASC-R, RCMAS, CDI, parents' CBCL-A/D, and clinicians' ratings of diagnostic severity. The treatment's lagged effects suggest the interesting possibility that children may benefit from an extended time interval in which they can practice and consolidate the skills learned in treatment, especially when there are few treatment sessions.

Social Effectiveness Training for Children. In Beidel, Turner, and Morris (2000), children (8 to 12 years) with a primary diagnosis of SOP based on the ADIS-IV: C were randomized to either SET-C (*n* = 30) or Testbusters (*n* = 20), an active comparison control condition that taught children study skills and test taking. At posttreatment, 67% in SET-C no longer met criteria for SOP compared to 5% in

Testbusters, a statistically significant difference. Pre to posttreatment comparisons showed significant improvements for participants in SET-C on the Eysenck Personality Inventory – Extroversion (Eysenck & Eysenck, 1968), the SPAI-C, CBCL-I, clinicians' impairment and diagnostic severity ratings, as well as child and observer ratings during role play tasks. There were no significant improvements on any of these measures in Testbusters. However, Testbusters did show significant improvement, as did SET-C, on the STAIC-T/S, the Loneliness Scale (Asher & Wheeler, 1985), and on child and observer ratings during a read aloud task, with the latter finding perhaps due to child practice in reading aloud and peer social interactions in the Testbusters condition. At 6 month follow-up, data were reported for SET-C only, with treatment gains being maintained for all rating scales, with continued statistically significant improvement on the SPAI-C. In addition, using the ADIS-C, the percentage of children treated with SET-C no longer meeting for SOP diagnoses rose significantly from 67% to 85%.

Additional evidence for SET-C's efficacy was provided by Beidel, Turner, Young, and Paulson (2005) in a follow-up study conducted 3 years posttreatment using data obtained from 27 of the 30 children who completed SET-C in Beidel et al. (2000) and two young adolescents who had completed a pilot version of SET-C for adolescents (from a total *N* of 29). At the follow-up, participants' mean age was 14.03 years (range = 11 to 18 years). Maintenance of treatment effects (pre to follow-up) was observed for all youth (i.e., SPAI-C, CDI, Loneliness Scale) and parent (i.e., CBCL-I/E) rating scales, as well as the behavior observer ratings, with continued statistically significant improvement on a clinician's impairment scale. Additionally, 72% of the youth no longer met diagnostic criteria for SOP. Some decrement was observed in youth self-rated social skills, as the 3 year follow-up SET-C mean scores were statistically equivalent to the pretreatment SET-C mean scores. Beidel et al. (2005) suggest these same tasks that were used in both the follow-up and in the original Beidel et al. (2000) study were perhaps boring or unchallenging to these now adolescent participants.

Another study reporting on the long term efficacy of SET-C is García-López et al. (2006). Conducted in Spain, García-López et al. report results of a 5 year follow-up study of 23 adolescents with SOP who received SET-C (*n* =7), GCBT (*n* = 8), or *Intervención en Adolescentes con Fobia Social*

(IAFS, Olivarez & García-López, 1998, *n* = 8). At the follow-up, participants' mean age was 20.83 years (range = 20 to 22 years). GCBT and IAFS involved the same cognitive and behavioral procedures described above and were delivered in group formats. Posttreatment SOP diagnostic recovery rates based on the adult ADIS were 50% for GCBT, 43% for SET, and 37% for IAFS, not statistically significantly different from one another. Statistically significant pre to posttreatment improvements were found on both the SPAI and SASC, with again no significant treatment differences. At the 5 year follow-up, SOP diagnostic recovery rates were identical for GCBT and IAFS, 50%; the rate was 43% for SET-C. The youth self-rating scales also showed maintenance of treatment gains over the five years across all three treatments, with again no significant treatment differences from posttreatment to 1 year follow-up, or from posttreatment to 5 year follow-up.

Possibly Efficacious and *Experimental Psychosocial Treatments*

ICBT with Parents. In Barrett et al. (1996), children and adolescents (7 to 14 years) with anxiety disorder diagnoses (based on the ADIS-C/P) were randomized to ICBT (referred by the authors as "CBT" *n* = 28), ICBT with Parents (referred by the authors as "CBT plus family anxiety management training" *n* = 25), or a waitlist (*n* = 26). At posttreatment, 69.8% of the youth in the two treatment conditions no longer met diagnostic criteria for a current anxiety disorder compared to 26% in the waitlist (at postwait). Additionally, both treatment conditions showed significantly more pre to posttreatment improvement than the waitlist on the FSSC-R, CDI, mother and father CBCL-I/E ratings, and behavior observations. Statistically significant differences also were found between ICBT and ICBT with Parents on diagnostic recovery rates (57.1% versus 84%, respectively). At one year follow-up, treatment gains were maintained on all measures for both conditions, with ICBT with Parents being statistically significantly superior to ICBT on diagnostic recovery rates and the FSSC-R. There were no significant differences between the treatments on the CDI, mother and father CBCL-I/E ratings, and behavior observations.

In a long-term follow-up of Barrett et al. (1996), Barrett, Duffy, Dadds, and Rapee (2001) assessed 52 of the 79 original participants. Of these 52 participants, 31 had received ICBT and 21 ICBT with Parents (mean follow-up time interval = 6.17 years; youths' mean age = 16.1 years; range = 13 to 21 years). The follow-up results continued to support the efficacy of ICBT and ICBT with Parents across all measures, but no significant differences were found between the two conditions on any measure at the follow-up, including on diagnostic recovery using the ADIS-C (child version) (85.7% in ICBT versus 85.7% in ICBT with Parents). The lack of significant differences between the condition with and without parent involvement at long term follow-up again highlights the need to conduct further research on the value of adding parents to treatment programs, given that the main benefits of parental involvement observed in the initial Barrett et al. (1996) study dissipated over time.

Emotive Imagery for Darkness Phobia. Cornwall et al. (1996) randomized children (7 to 10 years) with SP of darkness (based on the ADIS-C/P) to either an Emotive Imagery treatment condition (*n* = 12) or a waitlist (*n* = 12). Significant pre to posttreatment gains were found for Emotive Imagery, but not the waitlist on the RCMAS, FSSC-R, Fear Thermometer ratings during an imagined darkness probe stimulus, number of seconds the child tolerated being alone in the dark, and parents' ratings of their child's darkness fears. At 3 month follow-up, treatment gains were maintained on all child and parent rating scales including the behavior tolerance task.

ICBT for School Phobia or School Refusal Behavior. Last et al. (1998) randomized children and adolescents (6 to 17 years) with school refusal behavior as well as anxiety disorder diagnoses (based on the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present Episode version) to either ICBT (referred by the authors as "CBT" *n* = 32) or Education Support (ES, *n* = 24), a comparison control condition that provided psychoeducation as well as supportive counseling. At posttreatment, 65% in ICBT no longer met criteria for the primary phobic disorder, compared to 50% in ES, a non-statistically significant difference. Both conditions showed statistically significant pre to posttreatment improvements in mean percentage of hours that youth spent in the classroom, and modified-STAIC and CDI ratings, but again with no significant differences between the two conditions on these two measures. Four-week follow-up data obtained for 29 (52%) of the 56 participants were reported for school attendance; again, no significant differences were found between ICBT and ES. Follow-up data for the STAIC and CDI were not reported. Given that ES was designed as a comparison control condition and direct behavioral tasks were not assigned to the youth, the positive effects for this condition are intriguing, indicating the need to further understand the therapeutic change process, as discussed further below.

In King et al. (1998), children and adolescents (5 to 15 years) with school refusal behavior and anxiety diagnoses (based on the ADIS-C/P) were randomized to either ICBT with Parent/Teacher Training (PTT) (referred to by the authors as “CBT”; *n* = 17) or a waitlist (*n* = 17). Statistically significant pre to posttreatment improvements were found for CBT, but not the waitlist, on the number of full days youth were present at school; youth ratings of school-related self efficacy; their ratings on the RCMAS, FSSC-II (Gullone & King, 1992), and CDI; as well as parent CBCL-I/E and teacher TRF-I/E ratings. All gains were maintained at 3 month follow-up. Three to 5 year school attendance and school adjustment follow-up data corresponding to these youth were reported by King et al. (2001), who concluded that treatment gains were maintained.

In another sample of youth with school refusal behavior and anxiety disorders based on the ADIS-C/P, Heyne et al. (2002) randomized youth (7 to 14 years) to ICBT (referred to by authors as “child therapy” *n* = 21), ICBT with PTT (referred to by authors as “combined child therapy and parent/teacher training” *n* = 20), or PTT (*n* = 20; referred to by authors as “parent/teacher training”). Statistically significant pre to posttreatment improvements were found on all measures in all three conditions (i.e., the number of full days the child was present at school, as well as generally the same measures used in King et al., 1998; see above), with no significant differences between any of the conditions. The only significant difference was on what could be viewed as the most important outcome measure, namely, school attendance: ICBT with PTT and PTT showed significantly greater improvements than ICBT. At the 2-week follow-up, treatment gains were maintained on all measures; but ICBT no longer differed significantly from the two parent/teaching training conditions, even when it came to percentage of school attendance. It would have been interesting to have conducted a longer follow-up assessment than just two weeks, especially in light of Barrett et al.’s (2001) finding that differential gains from parent involvement dissipated over time.

GCBT with Parental Anxiety Management for Anxious Parents. In Cobham et al. (1998), mother and father dyads were classified according to parental anxiety levels, using the adult State Trait Anxiety Inventory (Trait) (Spielberger, Gorsuch, & Lushene, 1970) (i.e., “anxious”, *n* = 35, “non-anxious”, *n* = 32). All youth (7 to 14 years) met DSM-IV criteria for an anxiety disorder based on a modified ADIS-C/P and were randomized either to GCBT (referred by the authors as “child focused cognitive behavioral therapy”, *n* = 32) or GCBT with Parental Anxiety Management (GCBT with PAM, *n* = 35) (referred by the authors as “child focused cognitive behavioral therapy plus parental anxiety management”). Results indicated that for youth whose parents were classified as non-anxious, 82% in GCBT no longer met criteria for an anxiety disorder compared to 80% in GCBT with PAM, a non-significant difference. For youth whose parents were classified as anxious, however, 39% in GCBT no longer met criteria for an anxiety disorder compared to 77% in GCBT with PAM, a significant difference. As Cobham et al. (1998) note, this significant difference based on posttreatment diagnoses may reflect the diagnosticians’ expectancies for improvement because diagnosticians were not blind to participants’ assigned condition. Furthermore, GCBT and GCBT with PAM showed significant improvement on the RCMAS and STAIC-S/T, with no statistically significant differences between the two treatment conditions. At 6 and 12 month follow-up, all treatment gains were maintained, again with no significant differences between treatment conditions.

Graded in-vivo Behavioral Exposures. Muris et al. (1998) randomized youth (8 to 17 years) with a DSM-III-R diagnosis of SP of spiders based on a revised version of the Diagnostic Interview Schedule for Children (DISC) to one of three 2.5 hour conditions administered during Phase One of the study: Eye Movement Desensitization and Reprocessing (EMDR) (*n* = 9), In-vivo Exposures (*n* = 9), and Computerized Exposures (*n* = 8). EMDR followed the protocol of Shapiro (1995). After completing Phase One, all youth participated in Phase Two, involving 1.5 hours of in-vivo exposure. For Phase One, significant pre to posttreatment improvement was found for EMDR on youths’ ratings of affect using the Self Assessment Manikin (SAM; Hodes, Cook, & Lang, 1985). Significant pre to posttreatment improvements were found for the In-vivo Exposures condition on youths’ fears ratings of spiders, and their SAM and STAIC-S ratings during a behavioral avoidance test (BAT), as well as observer BAT ratings. No significant pre to posttreatment improvements were found for Computerized Exposures on any measure. In terms of Phase Two (i.e., all participants received in-vivo exposures), significant improvements were found on all measures (noted above), with no significant differences between any of the conditions. Diagnostic recovery rates and follow-up data were not reported.

Graded Exposures plus either Contingency Management or Self-Control for Phobic Disorders. Silverman et al. (1999a) randomized youth (6 to 16 years) with a diagnosis of a phobic disorder (majority with SP) based on the ADIS-C/P to one of two imaginal/in-vivo exposure conditions: Exposures plus Self Control (SC, *n* = 41) versus Exposures plus Contingency Management (CM, *n* = 40). The remaining youth were randomized to an ES condition (*n* = 23), similar to ES used in Last et al. (1998). A statistically significant difference was found between the conditions with respect to primary/targeted phobic disorder diagnostic recovery rates: 88% for SC; 56% for CM; and 75% for ES (SC > CM).The significant difference in diagnostic recovery rates was in contrast to the lack of any significant treatment differences for any of the rating scales, even though all three conditions produced significant pre to posttreatment improvements on youth- and parent-completed RCMAS and FSSC-R, and youth-completed CDI. This pattern of gains was maintained at the follow-up assessments (3, 6, and 12 months), but again, no significant treatment differences were found. As we pointed out above in the Last et al. summary, finding that ES, designed as an active comparison control condition, was efficacious was unexpected in this sample of primarily phobic youth. Whether these findings would be found in a sample of anxiety disordered youth is unclear. Such findings highlight the need to conduct additional comparative outcome studies that use other types of active comparison conditions in order to move beyond waitlist control designs, which comprise the majority of the youth phobic and anxiety treatment research literature.

Social Effectiveness Training for Children. Another study to move beyond the waitlist design is Beidel, Turner, and Morris (2000). In this study, children (8 to 12 years) with a primary diagnosis of SOP, based on the ADIS-IV: C, were randomized to either SET-C (*n* = 30) or Testbusters (*n* = 20), an active comparison control condition that taught children study skills and test taking. At posttreatment, 67% in

SET-C no longer met criteria for SOP compared to 5% in Testbusters, a statistically significant difference. Pre to posttreatment comparisons showed significant improvements for participants in SET-C on the Eysenck Personality Inventory – Extroversion (Eysenck & Eysenck, 1968), the SPAI-C, CBCL-I, clinicians' impairment and diagnostic severity ratings, as well as child and observer ratings during role play tasks. There were no significant improvements on any of these measures in Testbusters. However, Testbusters did show significant improvement, as did SET-C, on the STAIC-T/S, the Loneliness Scale (Asher & Wheeler, 1985), and on child and observer ratings during a read aloud task, with the latter finding perhaps due to child practice in reading aloud and peer social interactions in the Testbusters condition. At 6 month follow-up, data were reported for SET-C only, with treatment gains being maintained for all rating scales, with continued statistically significant improvement on the SPAI-C. In addition, using the ADIS-C, the percentage of children treated with SET-C no longer meeting for SOP diagnoses rose significantly from 67% to 85%.Additional evidence for the efficacy of SET-C was provided by Beidel, Turner, Young, and Paulson (2005), in a follow-up study conducted 3 years posttreatment using data obtained from 27 of the 30 children who completed SET-C in Beidel et al. (2000) and two young adolescents who had completed a pilot version of SET-C for adolescents (from a total *N* of 29). At the follow-up, participants' mean age was 14.03 years (range = 11 to 18 years). Maintenance of treatment effects (pre to follow-up) was observed for all youth (i.e., SPAI-C, CDI, Loneliness Scale) and parent (i.e., CBCL-I/E) rating scales, as well as the behavior observer ratings, with continued statistically significant improvement on a clinician's impairment scale Additionally, 72% of the youth no longer met diagnostic criteria for SOP. Some decrement was observed in youth self-rated social skills, as the 3 year follow-up SET-C mean scores were statistically equivalent to the pretreatment SET-C mean scores. Beidel et al. (2005) suggest that these tasks—which were used in both the follow-up and in the original Beidel et al. (2000) study--were perhaps boring or unchallenging to these now adolescent participants.

Another study reporting on the long term efficacy of SET-C is García-López et al. (2006), conducting in Spain. García-López et al. report results of a 5 year follow-up study of 23 adolescents with

SOP who received SET-C (*n* =7), GCBT (*n* = 8), or *Intervención en Adolescentes con Fobia Social* (IAFS, Olivarez & García-López, 1998, *n* = 8). At the follow-up, participants' mean age was 20.83 years (range = 20 to 22 years). GCBT and IAFS involved the same cognitive and behavioral procedures described above and were delivered in group formats. Posttreatment SOP diagnostic recovery rates (based on the adult ADIS) were 50% for GCBT, 43% for SET, and 37% for IAFS, not statistically significantly different from one another. Statistically significant pre to posttreatment improvements were found on both the SPAI and SASC, with again no significant treatment differences. At the 5 year follow-up, SOP diagnostic recovery rates were identical for GCBT and IAFS--50%; the rate was 43% for SET-C. The youth self-rating scales also showed maintenance of treatment gains over the five years across all three treatments, with again no significant treatment differences from posttreatment to 1 year follow-up, or from posttreatment to 5 year follow-up.

FRIENDS. Shortt, Barrett, and Fox (2001) randomized children (6 to 10 years old) with DSM-IV anxiety diagnoses (based on the Diagnostic Interview Schedule for Children, Adolescents, and Parents) to the FRIENDS program (*n* = 54) or a waitlist (*n* = 17). At posttreatment, 69% in FRIENDS were diagnosis- free compared to 6% in the waitlist, a statistically significant difference. Statistically significant pre to posttreatment improvements also were found for treated but not waitlisted children on the RCMAS and mother, but not father, CBCL-I ratings. At 12 month follow-up, treatment gains were maintained across these rating scales, with father CBCL-I ratings now showing significant improvements at follow-up. Regarding father CBCL-I ratings, the authors suggest the low return rate of father-rated forms at posttreatment could have reduced statistical power for these analyses.

One-Session Behavioral Exposure Treatment for SP. Öst et al. (2001) randomized youth (7 to 17 years) with a primary diagnosis of a phobic disorder, based on the ADIS-IV: C/P, to One-Session Behavioral Exposure Treatment (referred by the authors as "Child-Alone", *n* = 21), One-Session Behavioral Exposure Treatment with Parents (referred by the authors as "Parent-Present", *n* = 20), or a waitlist condition (*n* = 19). Significant pre to posttreatment improvements were found for both treatment conditions, but not the waitlist, on the RCMAS, FSSC-R, the Childhood Anxiety Sensitivity Index (CASI, Silverman, Fleisig, Rabian, & Peterson, 1991), and clinicians' rating of severity. There were no significant pre to posttreatment improvements on the CDI, or on child state anxiety and heart rate levels during the BAT. Significant differences between the two treatment conditions were found only on the FSSC-R, with One-Session Behavioral Exposure Treatment showing significantly greater improvement than One-Session Behavioral Exposure Treatment with Parents. Significant treatment differences also were found on the BAT diastolic and systolic blood pressure levels. Readers are referred to Öst et al. for further discussion of the blood pressure results, which require further investigation given this is the first study to use blood pressure as an outcome variable. At one year follow-up, One-Session Behavioral Exposure Treatment with Parents showed significantly greater improvement than One-Session Behavioral Exposure Treatment on the RCMAS, FSSC-R, and CASI but not the STAIC-S/T, CDI, or blood pressure and heart rate measures.

Skills for Academic and Social Success. Masia et al. (2001) examined a modified school-based SET-C (Beidel et al., 2000) in an open trial with 6 adolescents (14 to 17 years) with SOP, based on the ADIS-IV: C/P. At posttreatment, 50% no longer met criteria for SOP. Significant pre to posttreatment improvements also were found on the SPAI-C, a social anxiety scale, clinicians' ratings of diagnostic severity, and the adolescents' self-ratings of anxiety and avoidance to 10 personally relevant socially anxiety provoking situations. Follow-up data were not reported.

School-based GCBT. Ginsburg and Drake (2002) randomized 12 African American adolescents (14 to 17 years) with primary anxiety diagnoses (based on the ADIS-IV: C/P) to either GCBT (referred by the authors as "CBT" *n* = 6) or a group attention support control condition (AS-Control, *n* = 6). This is the only treatment study that focused specifically on African American adolescents. At posttreatment, 75% in GCBT no longer met diagnostic criteria for the primary/targeted diagnosis compared to 20% in AS-Control. Significant pre to posttreatment improvements were found for both GCBT and AS-Control on clinicians' ratings of diagnostic severity and adolescents' SASC-R ratings, with GCBT showing significantly greater improvement on the clinicians' ratings. GCBT, but not AS-Control, also resulted in significant pre to posttreatment improvement on the Screen for Child Anxiety and Related Emotional Disorders (Birmaher et al., 1997). Follow-up data were not reported.

In another school-based GCBT study, Muris, Meesters, and Melick (2002) randomized children (9 to 12 years) with primary DSM-III-R anxiety diagnoses, based on the DISC, to either GCBT (referred by the authors as "CBT" *n* = 10) or Emotional Disclosure (*n* = 10). Significant pre to posttreatment improvements were found on the Revised Children's Anxiety and Depression Scale (Chorpita, Yim, Moffit, Umemoto, & Francis, 2000) and the STAIC-T for GCBT, but not Emotional Disclosure. Follow-up data were not reported. These two studies speak of the feasibility of delivering CGBT in school settings, but because both studies had relatively small sample sizes the efficacy of school-based GCBT warrants further research attention.

ICBT with Cognitive Parent Training. Nauta et al. (2003) randomized youth (7 to 18 years) with primary anxiety diagnoses (based on the ADIS-IV: C/P) to ICBT (referred by the authors as "CBT only" *n* = 29), ICBT with cognitive parent training (CPT) (referred by the authors as "CBT + cognitive parent training" *n* = 30), or a waitlist (*n* = 20). At posttreatment, 54% of the youth across the two treatments no longer met criteria for an anxiety disorder diagnosis versus 10% in the waitlist, a statistically significant difference. Significant pre to posttreatment improvements also were found for both treatment conditions, but not the waitlist, on youth FSSC-R and SCAS-C ratings, and parent SCAS and CBCL-I/E ratings. No significant differences were found between the two treatments on any measure, including diagnostic recovery rates (68% for ICBT; 69% for ICBT with CPT). At 3 month follow-up, treatment gains were maintained, with again no significant differences between ICBT and ICBT with CPT.

School-based modified SET-C for Children with SOP. In Baer and Garland (2005), adolescents (13 to 18 years) with SOP, based on the ADIS-C, were randomized to either a modified SET-C (referred by the authors as "Cognitive Behavioral Group Therapy for Adolescents") (*n* = 6) or a waitlist (*n* = 6). At posttreatment, 36% in modified SET-C no longer had their primary/targeted SOP diagnosis whereas all waitlisted adolescents continued to meet for SOP at the postwait assessment. Significant pre to posttreatment improvements also were found for treated, but not waitlisted adolescents, on the SPAI-C and clinicians' ratings of diagnostic severity. No significant improvements were found on an adult depression inventory in either condition. Follow-up data were not reported. As noted by the authors, treatment efficacy for the modified SET-C was less evident than in Beidel et al. (2000) with respect to diagnostic recovery rates, perhaps because the modified SET-C was only 18 hours in duration versus 42 hours in Beidel et al. Moreover, two SET-C treatment elements, peer generalization sessions and contingent reinforcement procedures, were not included. Findings such as these highlight the importance in future research of determining the essential key procedures of change that cut across CBTs, as well as those essential to a specific treatment such as SET-C.

Parent GCBT. Thienemann et al. (2006) evaluated Parent Group CBT in an open trial with 24 parents (all mothers) of children and adolescents with anxiety disorders, based on the ADISC-IV: C/P. At posttreatment, 25% of youth no longer met for their primary diagnosis and 54.9% of all anxiety disorder diagnoses (primary and additional) were remitted. Youths' MASC self-ratings showed significant pre to posttreatment improvements, but only for youth whose mothers had anxiety disorders. Statistically significant pre to posttreatment improvements also were found on mother rated MASCs, mothers' attitudes toward her child, and clinicians' ratings of severity. In addition, the offspring of mothers with anxiety disorders showed significantly greater pre to posttreatment improvement on youth rated MASCs than the offspring of mothers without anxiety disorders. This significant difference was not found, however, among the offspring of mothers with comorbid depressive disorder, suggesting that children of depressed parents may benefit especially from being direct recipients of treatment, although this study's sample of depressed parents was too small to drawn any firm conclusions.

Family CBT. In Bögels and Siqueland (2006), 24 youth (8 to 17 years) with primary anxiety diagnoses (based on the Kids Semi-structured Clinical Interview for DSM-IV) participated in an open trial of Family CBT. At posttreatment, 46% of youth in Family CBT no longer had their primary/targeted diagnosis, and significant changes from pretreatment to posttreatment were found on child, mother, and father rated SCAREDs and mother CBCL-I/Es, with these gains maintained at 3 and 12 month follow-up. Interestingly, despite the specific targeting of family functioning in Family CBT, no improvements were found on the Family Functioning Scale (Bloom, 1985). Another study examining a Family CBT protocol is Wood et al. (2006). Youth (6 to 13 years) with primary anxiety diagnoses (based on the ADSI-IV: C/P) were randomized to either Family CBT (referred by the authors as the “Building Confidence” program) or ICBT. Posttreatment diagnostic recovery rates were 78.9% for Family CBT and 52.6% for ICBT, a non-significant difference. Statistically significant pre to posttreatment improvement was found on child and parent rated MASCs in both treatments, with significantly greater improvement found for Family CBT than ICBT on parent MASCs, but not child MASCs. On clinicians’ ratings of impairment, 78.9% of youth in Family CBT and 26.3% of youth in ICBT were rated by clinicians as “completely recovered or very much better,” another statistically significant difference between the two conditions. Follow-up data were not reported.

Bibliotherapy. In Lyneham and Rapee (2006), youth with a primary anxiety diagnosis (based on the ADIS-IV: C/P) were randomized to either Bibliotherapy + Telephone Contact (*n* = 28), Bibliotherapy + Email Contact (*n* = 21), Bibliotherapy + Client-Initiate, or a waitlist (*n* = 22). At posttreatment, 92% of youth in Bibliotherapy + Telephone did not meet for their primary diagnosis compared to 75% in Bibliotherapy + Email, 47% in Bibliotherapy + Client-Initiate, and 0% in the waitlist. Statistically significant improvements, pre to posttreatment, were found for Bibliotherapy compared to the waitlist on clinician’s ratings of diagnostic severity. On all child and parent measures (i.e., SCAS, CATS, CBCL-I/E, SCAS-P), the Bibliotherapy conditions showed significantly more improvements than the waitlist. The only difference between the Bibliotherapy conditions was on clinicians’ ratings (Bibliotherapy + Telephone was superior to the other two Bibliotherapy conditions). At the 12 month follow-up, gains were generally maintained with some variations. It thus appears that supplementing Bibliotherapy with client contact is a promising approach for treating anxiety disorders in children, although the authors point out that Bibliotherapy is likely not to replace face-to-face services.

Summary of Studies

As reviewed, considerable advances have been made in evaluating the efficacy of psychosocial treatments for phobic and anxiety disorders in children and adolescents. Most of the studies were RCTs and were methodologically robust or fairly rigorous; indeed, in accordance with Nathan and Gorman (2002) criteria, most studies were Type 1 and Type 2. In terms of the classification of the treatments in accordance with Chambless et al. (1996; 1998) and Chambless and Hollon, (1998), no treatment was *well-established*. But ICBT, GCBT, GCBT with Parents, GCBT for SOP and SET-C for SOP each met criteria for *probably efficacious.* Most treatments generally consisted of 12 to 15 sessions/weeks and usually targeted a spectrum of primary anxiety disorder diagnoses (typically, SAD, GAD, and SOP). However, there also are disorder-specific treatments (e.g., SET-C for SOP). In addition, although treatment outcome evaluation has focused on recovery rates of participants' primary diagnoses, studies such as Barrett (1998) and Spence et al. (2000) reveal that recovery can occur for additional diagnoses as well. Reducing parental anxiety, however, when targeted in parental involvement treatment conditions, does not appear to readily occur, at least within the structure and time constraints of the currently devised CBT programs (i.e., Bögels & Siqueland, 2006; Cobham et al., 1998). Also, the evidence remains mixed in terms of whether involving parents significantly enhances phobic and anxiety treatment effects and maintenance for youth.

Treatment Efficacy Indexed by Effect Sizes

We now evaluate treatment efficacy as indexed by effect sizes and via meta-analyses to cumulate research results across studies. Although we would have preferred to correct for bias and errors in individual studies, we corrected only for sampling error because we found that across investigations, data on the reliability of scores in their respective samples were rarely reported. Consequently, the effect sizes reported in this article are underestimates, to the extent that unreliability of the measures downwardly biased the computed effect sizes. Our focus was on two main effect size statistics. First, we focused on effect sizes corresponding to diagnostic recovery rates reported in individual studies, indexed as the proportion of participants in the experimental group who no longer met diagnostic criteria after treatment was completed. Second, we considered the d-value effect size (d) as a standardized index of the mean treatment-related improvement in continuous outcome measures.

We included in the meta-analyses only studies that had a waitlist control and an experimental group as well as pre and posttreatment measures (studies included are indicated in the Reference list). As such, we computed the difference in the outcome measures between pre and posttreatment for the waitlist and experimental conditions separately. The difference of these two differences was divided by the largest standard deviation (*SD*) (across the four *SD*s) to obtain a conservative index of treatment effect. We conducted a series of nested hierarchical meta-analyses. First, we meta-analyzed studies evaluating CBT. We then conducted separate analyses for studies that focused exclusively on anxiety reduction as their outcome measure, with all other symptoms grouped separately. Next, we analyzed studies that used ICBT against those that used GCBT. We also investigated the effects of parent participation on these outcomes. Finally, we cumulated child and parent ratings of youth's anxiety symptoms and other symptoms (i.e., depression, fear, internalizing-, externalizing-problems) separately.

Efficacy Indexed as Diagnostic Recovery Rates. Table 4 presents recovery rates from pre to posttreatment in the experimental treatment conditions. Examination of Table 4 suggests that CBT was efficacious across the samples in terms of diagnostic recovery rates. As many as 62% of the treated participants changed their diagnostic status; however, across the samples analyzed there was substantial variability. Only about one-half of the variability (49%) was attributable to sampling error; after removing the effects of sampling error, treatment effects ranged from 46% to 79%. The finding that 95% of the treatments showed at least a 46% improvement in diagnostic status supports the efficacy of CBT. Importantly, both ICBT and group GCBT treatments demonstrated similar success with respect to recovery rates at posttreatment (59% versus 62%). Because individual treatment formats generally require more time, effort, and resources than group formats, these findings could argue for group-based interventions. However, caution is needed before reaching this conclusion, given the small number of samples as well as the variability across the samples. Parent involvement did not result in better outcomes than parental non-involvement (68% versus 64%) and improvements were generally similar in individual or group treatment formats (68% versus 67%).

Efficacy Indexed as Standardized Differences in Rating Scales. Tables 5 and 6 present outcomes with respect to rating scales. When we focus on youth self-rating scales, CBT has almost a one-half standard deviation improvement in anxiety symptoms across the different samples (*d* = .44). However, the variability was substantial, with only 25% of the observed variance attributable to sampling error. The effect size was statistically significant, but further research is needed. A similar positive effect was found for reduction in other symptoms (*d* = .41), but this effect size was not statistically significant (95% CI: -.15 to .98). Again there was no statistically significant difference between individual and group treatments either for anxiety symptoms (*d*s. = 46 and .41, respectively) or for other symptoms (*d*s. = 27 and .21, respectively).

Individual child and adolescent treatments did not result in better outcomes than group treatments for either anxiety reduction or reduction of other symptoms. In addition, parent involvement either in individual or group format appears to be less favorable when youth self-rated anxiety symptoms are considered, but it results in more favorable outcomes when other symptoms are considered. This is true in both individual (*d*s = .43 versus .41) and group formats (*d*s = .67 versus .41), although the favorable effects of parental involvement are more pronounced in group format. Table 6 summarizes results for the parent rating scales. The overall efficacy of CBT for anxiety reduction was much higher based on parent than on youth ratings. The average effect was .91, but due to the comparatively small sample size (total *N* across 5 samples was only 131) and large variability, this was not statistically significant. We were unable to compare the effects of individual versus group on parent ratings of youth anxiety because only one group study (Silverman et al., 1999b) reported parent ratings of youth anxiety (for a meta-analysis at least two effect sizes from different studies are needed). When it comes to other symptoms (i.e., fear, depression, and internalizing and externalizing behavior problems), CBT has a statistically significant effect (*d* =.63). Individual and group formats did not significantly differ (*d*s = .64 versus .60).

Supplementary Analyses. We conducted several supplementary analyses. First, we derived effect sizes for the waitlist control conditions. Waitlist conditions showed an improvement of a one-quarter standard deviation in anxiety rating scales (whether youth or parent-rated) and much smaller improvements in ratings of other symptoms. We also compared changes from pretreatment to long term follow-up (in addition to posttreatment). For youth anxiety self-rating scales, the effect size decreased slightly (approximately 10%) from one year to long term follow-up. However, there was an increase of .12 d-units for parent ratings from one year to long term follow-up. When other symptoms are considered, there was considerable drop in efficacy for both parent and youth ratings. Finally, we considered the possibility of covariates across study characteristics. We coded the following for each study: age of participants, sex composition, ethnicity, and whether the trial was conducted in North America. When these characteristics were correlated with the effect sizes reported, most correlations ranged from .03 to .15 in magnitude and were not statistically significant. The only substantial and statistically significant correlation was between the national origin of the sample (North America versus other) and effect sizes, with larger effect sizes reported in North American trials. This finding may suggest that further cultural adaptations of these treatments are required to increment efficacy in other populations.

Overall, the most salient findings from the meta-analyses can be summarized as follows: Findings support the efficacy of CBT with no statistically significant differences between ICBT and GCBT regarding diagnostic recovery rates, anxiety reductions, and other symptoms (i.e., fear, depression, and internalizing and externalizing behavior problems). Parent involvement in their child’s treatment generally resulted in slightly (but not statistically significant) better outcomes than parental non-involvement, thus highlighting once again the need to conduct further research on the extent that parental involvement enhances treatment effects. Improvements regarding diagnostic recovery rates, anxiety reductions, and the other symptoms were generally similar for individual and group CBT. Parent involvement in either ICBT or GCBT appears to be slightly less favorable (but not statistically significant) than parental non-involvement when youth self-rated anxiety symptoms are considered. Parental involvement results in more favorable outcomes than parental non-involvement when fear, depression, and internalizing and externalizing behavior are considered. This is true in both ICBT and GCBT, but with no statistically significantly differences between the two treatment formats.

Mediators, Moderators, and Predictors of Treatment Outcome

A number of articles have appeared in the literature on the thorny methodological and statistical issues involved in evaluating for potential mediators and moderators in treatment outcome research (e.g., Hinshaw, 2002; Kraemer, Wilson, Fairburn, & Agras, 2002; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). In this section, we review the one study that focused on evaluating mediation and the few studies that explored for moderators and predictors of treatment outcome. In terms of mediation, Treadwell and Kendall (1996) found ICBT produced changes in youths' negative self-statements (i.e., anxious self-talk) and positive self-statements on the NASSQ, but only changes in youths' anxious self-talk mediated symptom reduction on the core outcome measures: RCMAS, STAIC T/S, and CDI. Although Treadwell and Kendall (1996) is an important initial effort in the evaluation of mediators of youth anxiety treatment response, the mediator, youths' anxious self-talk, was assessed concurrently with the outcome (i.e., anxiety; see Weersing & Weisz, 2002). Future research should conduct assessments of the putative mediator(s) during the period of active intervention, prior to collecting the outcome data.

A preliminary effort in exploring for moderation was reported by Barrett et al. (1996), in which ICBT plus FAM was compared to ICBT. Youth age (younger 7 to 10 years; older 11 to 14 years) and sex were included as factors in chi-square analyses, with the outcome being ADIS: C/P diagnoses. Younger children responded significantly better than older children to ICBT plus FAM than to ICBT, as did girls relative to boys. Although another worthwhile initial effort, future studies designed specifically to test for moderation employing modern data analytical methods (e.g., MacKinnon et al., 2002) are needed to fully evaluate the potentially important relations between child characteristics (e.g., age, gender) and treatment format, as well as other possible moderators.

Several studies have explored for predictors of treatment outcome—that is, variables accounting for outcome irrespective of treatment condition. Using data from the two Silverman trials (Silverman et al., 1999a; Silverman et al., 1999b), Berman, Weems, Silverman, and Kurtines (2000) found that parents' depressive symptoms on the BDI were the strongest predictor of youths' poor treatment response. Furthermore, parental fear and hostility using the Symptom Checklist - 90 Revised (Derogatis, 1983) and youths' self-ratings on the CDI and STAIC-T were significant predictors of poor treatment response. In another study, Crawford and Manassis (2001) found children's (N = 61, 8 to 12 years) ratings of family dysfunction and of their mothers' and fathers' frustration were significant predictors of poor treatment response on the RCMAS and clinicians' rated impairment. Mothers' and fathers' family dysfunction ratings and mothers' ratings of parenting stress also were significant predictors of poor treatment response on the RCMAS, as were fathers' ratings of somatization on the Brief Symptom Inventory (Derogatis, 1992).

Using diagnostic recovery rates and parent and child rating scales as the outcomes, Kendall and colleagues (Kendall, 1994; Kendall, Brady, & Verduin, 2001; Treadwell, Flannery-Schroeder, & Kendall, 1995) examined youth sex, ethnicity (European American, African American), comorbidity, and perceptions of the therapeutic relationship, as well as therapists' perceptions of parental involvement, as possible predictors of treatment outcome. None of these variables was found to be a significant predictor. Despite these null findings, methodological artifacts are important to consider such as the low rates of comorbid disruptive disorders in the anxious samples, leading to concerns about whether the study was sufficiently powered to detect significant effects for all the variables investigated.

Representativeness and Generalizability

Although progress has been made in demonstrating the efficacy of psychosocial treatments for child and adolescent anxiety disorders, it is unknown whether the positive findings obtained in research clinics would replicate in community settings. As reviewed earlier, only four studies (i.e., Baer & Garland, 2005; Ginsburg & Drake, 2002; Masia et al., 2001; Muris et al., 2002) have been conducted outside university research clinics. Although all four studies reported positive treatment response, the studies had small samples (i.e., *n*s range from 6 to 12), a limited number of outcome variables (i.e., 2 to 3), no follow-up assessments, and all used a group treatment format. One study (i.e., Masia et al., 2002) lacked a comparison or control condition. Further research in community settings is necessary to move the field forward from efficacy to effectiveness research (Schoenwald & Hoagwood, 2001; Silverman, Kurtines, & Hoagwood, 2004). Also important is to systematically examine whether the positive findings obtained in research clinics extend to adolescents (samples have generally been on average 8 to 13 years of age), as well as to ethnic minorities.

With respect to ethnic minorities, proportions have been small or non-existent. Exceptions are the two Silverman et al. (1999a, b) trials, which included sizable proportions of Latino youth (i.e., 37% and 46%). Using the data from these two trials, Pina, Silverman, Fuentes, Kurtines, and Weems (2003) compared Latino (mostly Cuban Americans) and European American youth along diagnostic recovery rates, clinically significant improvement indexes, parent and child rating scales, and effect sizes. Results revealed that treatment effects for Latino and European American youth were statistically equivalent on all these variables, with one main exception: RCMAS treatment gains revealed significantly greater improvement for European American than Latino youth. At one year follow-up, gains were maintained across all ratings scales for both groups.

In another study, Ferrell, Beidel, and Turner (2004) conducted secondary data analyses to compare data from African American (*n* = 19) and European American (*n* = 39) youth who had participated in Beidel et al. (2000). Results showed significant pre to posttreatment improvements on all measures for both groups, with no significant differences between the two groups. At 6 month follow-up, gains were maintained across all ratings scales for both groups, again with no differences between them. Although encouraging, it will be important to further examine whether these positive findings replicate in larger samples.

Overall, the findings of Pina et al. (2003) and Ferrell et al. (2004) suggest cognitive and behavioral procedures are likely to be efficacious in the treatment of phobic and anxiety disorders in ethnic minority youth, at least with the ethnic minorities who participated in these two university-based RCTs. The Latino participants in Pina et al. who received the intervention in English, for example, were mostly U.S. born, Cuban Americans, and were highly acculturated. Further studies specifically designed to test whether ethnocultural factors such as acculturation-enculturation moderate treatment efficacy among diverse segments of ethnic minority youth are needed. Generally, enhancing minority representation in youth phobic and anxiety treatment studies represents a major challenge for the field. To enhance minority representation, investigators need to become more attuned to how different minority groups think and talk about the problem of excessive youth fear and anxiety. A recent study (Pina & Silverman, 2004), for example, found significant differences, as a function of ethnocultural group (Cuban, non-Cuban) and language choice (Spanish, English) in parents' ratings of their child's somatic symptoms and in youths' ratings of distress about experiencing somatic symptoms). Such findings suggest that one way to enhance recruitment of certain Latino groups might be to emphasize in recruitment materials information about the physiological manifestations of anxiety symptoms and how these symptoms impair functioning.

Another study relating to the representativeness of research clinic findings is Southam-Gerow, Weisz, and Kendall (2003). Families who presented to a university research clinic for anxiety disorders and had participated in previous treatment studies (i.e., Howard & Kendall, 1996; Kendall, 1994; Kendall et al., 1997) were compared to families who presented to community service clinics along sociodemographic and clinical variables. Community service clinic participants were mostly ethnic minorities, of lower family income, and more likely to reside in single-parent homes than university-based research clinic participants. The former group also had significantly more disruptive diagnoses and aggressive and delinquent behavior problems than the latter. In light of the higher prevalence of externalizing behavior problems in the community service clinic sample, Southam-Gerow et al. suggest targeting these types of problems when working with anxious children in community settings.

Directions for Future Research

Although the knowledge garnered since the publication of Ollendick and King (1998) is considerable, there remain many unresolved issues. We summarize the most critical ones here.

1. Establishing *Well-Established Treatments.* Over one-half of the child and adolescent phobic and anxiety treatment studies used waitlist control conditions. Given the strong and consistent evidence for the efficacy of CBT programs, at least among mainstream youth, moving beyond waitlist control designs, as done for example in Last et al. (1998) and Beidel et al. (2000), could secure CBT *well-established* status, at least for some of the treatments classified in this article as *probably efficacious* (i.e.,

ICBT, GCBT, GCBT with Parents, GCBT for SOP). Specifically, high quality RCTs are needed that will demonstrate the efficacy of these now classified *probably efficacious treatments* against active, credible comparison control conditions including psychological and/or pill placebo, or another established treatment.

2. *Moving beyond waitlist control conditions*. The majority of studies have compared CBT to waitlist control conditions. Findings are mixed when active and credible control conditions have been used as comparisons. In both Last et al. (1998) and Silverman et al. (1999a), youth assigned to such a condition (ES) showed significant improvement, faring as well, on most measures, as the experimental condition. In studies using other active, credible control conditions, such as Testbusters in Beidel et al. (2000) and Emotional Disclosure in Muris et al. (2002), the comparison control condition did not fare as well. It is important to conduct further research that moves beyond waitlists and examines participants' utilization of specific treatment strategies and to disentangle the potential role of therapy non-specificity.

3. *Improving measurement*. Rating scales used to compare variants of CBT generally show non-statistically significant differences between treatment conditions (e.g., ICBT versus ICBT with parents). The lack of significant differences could be due in part to insensitivity of the existing measures in detecting the specific skills that are being targeted in treatment programs. For example, perhaps the specific parenting skills targeted in ICBT with parent programs are inadequately assessed with the existing measures.

Another measurement problem relates to the assumption of metric equivalence. Metric equivalence refers to whether the items on a scale have the same meaning across groups (e.g., Raykov, 2004). It is possible, for example, that although a two-unit change on the ADIS-C/P clinician severity rating scale from 6 to 8 may hold little importance for a fourth grade child with SOP, for an adolescent with SOP this degree of change could mean the difference between whether the adolescent can present an oral exam that is required for high school graduation. The field now has available an array of statistical tools that can assist in evaluating for metric equivalence as well as the degree of systematic source and error effects in assessing child and adolescent anxiety. Nevertheless, problems will remain so long as the field continues to use scales with “arbitrary metrics” (Blanton & Jaccard, 2006; Sechrest, McKnight, & McKnight, 1996), which provide little, if any, information about whether the treatment had meaningful impact on day-to-day functioning.

4. *Enhancing statistical power.* We conducted traditional analyses of power corresponding to small, medium, and large effect sizes (using Cohen’s *d* as the measure of effect size). Our analyses of power showed that no study had power above .80 for detecting a small or medium effect when comparing two active treatments. However, seven studies (i.e., Barrett et al. 1996; Kendall et al., 1997; Manassis et al. 2002; Nauta et al., 2003; Öst et al., 2001; Silverman et al. 1999a; Shortt et al., 2001) had adequate sample sizes offering sufficient power (.80) to detect a large effect size. Because most of the studies comparing two treatments classified as *probably efficacious* or *possibly efficacious* did not have sufficient power to detect a small or medium effect size (the magnitude of effect that one can reasonably expect from this type of comparison), the evidence is ambiguous in terms of the relative efficacy of the variants of CBTs that have been investigated (e.g., ICBT versus ICBT plus FAM; ICBT versus GCBT).

5. *Handling treatment non-completers, missing data, and outliers.* With few exceptions (e.g., Kendall et al., 1997; Rapee et al., 2006) the evaluation of treatment outcome has been limited to analyzing the data only for those participants who completed the full treatment program, not for all participants who had been randomized to conditions but did not complete the treatment program (i.e., intent to treat analyses). This practice would produce an enhanced, overly positive picture of treatment outcome. Future research should report outcome for both treatment completers and non-completers, through intent-to-treat analyses.

Relatedly, there has been sparse research conducted on factors that influence treatment non-completion in child and adolescent phobic and anxiety treatment studies (i.e., Kendall & Sugarman, 1997; Pina, Silverman, Weems, Kurtines, & Goldman, 2003), with findings generally revealing more similarities than differences between treatment completers and non-completers. However, Kendall and Sugarman (1997) found treatment non-completers were more likely to be in the waitlist control condition, live in single-parent households, be of ethnic minority status, and self-rate lower levels on the RCMAS than completers. As research accumulates on factors relating to treatment non-completion, investigators can use this cumulative knowledge to plan in advance strategies that might be used to help ensure "high risk" dropout families continue in the treatment program. This practice also would serve to enhance the representativeness of treated samples.

In addition, the outcome literature (and again, not necessarily specific to this area) has paid little or no attention to issues relating to the handling of missing data and outliers. These factors can substantially alter studies' findings and thus the subsequent conclusions drawn. There now is an abundance of information available in the statistical and methodological literature for modern strategies to handle these issues (see Allison, 2001; Jaccard & Guilamo-Ramos, 2002a; 2002b for further information and references).

6. *Dismantling strategies; moderator and mediator analyses.* Dismantling frameworks, in which key components of treatment programs are taken apart (e.g., parent training versus parental anxiety management in parent involvement treatment programs), can have considerable utility in determining the relative efficacy of specific therapeutic components for positive child treatment response. Alternatively, with structural equation modeling and other complex data analytic strategies, a carefully designed study can systematically allow for the evaluation of theorized mediators. In our view, a main reason why the parent involvement studies have yielded discrepant findings, especially with respect to their relative efficacy to individual treatments, is that investigators have limited their methodological strategies to the basic RCT outcome design. However, by thinking "outside the basic RCT outcome design box," the field can begin asking more theory driven questions such as those that relate to moderators and mediators, as well as moderated-mediators. For example, perhaps training parents in child management skills (a hypothesized mediator) will be more beneficial to parents of younger children (a hypothesized moderator), or parents of children with SAD (another hypothesized moderator), or both, compared to parents of adolescents or parents of children with non-SAD diagnoses. Answers to these types of questions will further serve to develop transportability models for the propagation of evidence-based treatments into community service clinic settings.

7. *Increasing attention to developmental issues.* Although there are a handful of studies that have used adolescent samples (i.e., Baer & Garland, 2005; Ginsburg & Drake, 2002; Hayward et al., 2000), phobic and anxiety RCTs are characterized by relatively small sample sizes with rather wide age ranges. As noted earlier, this practice has limited the possibility to consider age as a factor in the study design and to conduct relevant moderator analyses. As a consequence, data are scant on how variations in treatments might fare in large scale RCTs focusing on younger age groups (preschoolers) and older age groups (adolescents). Nevertheless, flexibility has been emphasized by treatment developers (e.g., Kendall, Chu, Gifford, Hayes, & Nauta, 1998; Silverman & Kurtines, 1996), and clinicians thus can consider potential variations in treatment delivery as a function of development. Examples could include the use of age appropriate language (e.g.., "hanging out with other kids" versus "playing with other kids"), therapeutic materials and handouts (e.g., drawings, cartoons, games), as well as likely topics that would be discussed with child versus adolescents in sessions (e.g., increases with age in social and peer pressures, in child-parent autonomy issues). The reader is referred to the Commission on Anxiety Disorders (2005) for a detailed discussion of what is currently known about anxiety disorders and their treatment in adolescents.

8. *Increasing minority representation.* To increase minority representation in phobic and anxiety treatment studies, investigators need to carefully reconsider how they frame the problem of excessive fear and anxiety to minority groups even as early as the study's recruitment phase. Furthermore, once minorities are enrolled in the study, it is incumbent on investigators to adapt and modify existing CBT programs in ways that are more sensitively attuned to the cultural context of the minority group. For example, acronyms used in many anxiety reduction programs (e.g., FEAR in Kendall, 1994; STOP in Silverman et al., 1999a, 1999b; FRIENDS in Shortt et al., 2001) are difficult to translate into Spanish. Successful adaptation and modification of cognitive and behavioral strategies for use with diverse ethnic minority groups will require more than superficial or cosmetic changes. The issue relates to the need to further understand the conceptual underpinnings of therapeutic procedures used in CBT anxiety programs and to discover mediators and moderators of positive treatment response. It would seem important to have theoretically and empirically grounded knowledge about the functional role that key therapeutic strategies

play in the change process, if any, and for whom. Once such knowledge is available, functionally equivalent strategies can be tested and tried across different groups to determine whether these adapted strategies play similar roles. For example, if parental use of contingency contracting is found to mediate approach behavior for young children, and in turn positive child treatment response, then one might need to redesign a parental strategy that is more culturally amenable to Latino values but still encourages child approach behavior. Another possibility is that the conceptual underpinnings of CBT might vary between diverse groups, and thus, the hypothesized mediators of positive response also might differ. As this article has highlighted, investigators have not even scratched the surface of these two possibilities (i.e., determining functionally equivalent mediators across groups and/or identifying unique mediators for a group).

9. *Integrating pharmacological treatment of anxiety disorders.* Selective serotonin reuptake inhibitors (SSRI), such as fluvoxamine, have been found to yield moderate to large effects for the primary symptoms of GAD, SAD, and SOP across a small number of trials (see Stock, Werry, & McClellan, 2001; Walkup, Labellarte & Ginsburg, 2002), and SSRIs appear to be generally well-tolerated in young people. Currently funded by the National Institute of Mental Health, the Child/Adolescent Anxiety Multimodal Treatment Study (CAMS) is the first systematic, controlled trial comparing ICBT and an SSRI, alone or in combination, against a control condition in reducing GAD, SAD, and SOP. The CAMS is likely to answer important questions about the relative efficacy of these treatments. Given concerns about the effects of medication on the developing brain, as well as concerns over temporary potentiation suicidal thoughts and actions early in the course of SSRI treatment, further research is needed to determine the necessary duration of pharmacotherapy for child and adolescent anxiety disorders as well its long term safety. Additional research is needed to determine the most efficacious sequencing of medication regimens and CBT, including their combination, and the potential moderation of treatment sequencing by participant characteristics. For example, youth with complex clinical presentations may benefit from combined CBT and medication, followed by CBT alone; youth with medication-resistant anxiety may well benefit from CBT alone first.

Practice Guidelines

At present, because several treatments were found to be *probably efficacious* (i.e., ICBT, GCBT, GCBT with Parents, GCBT for SOP, SET-C for SOP) and because the meta-analyses revealed that ICBT and GCBT are generally comparable (with or without parent involvement) practitioners should feel reasonably confident about delivering any of these types of treatments. For example, if a practitioner needs to offer services that are cost and time efficient, GCBT might be considered. As detailed in this article, the main components of these treatments involves gradual exposures (in-vivo or imaginary), developing coping plans, use of cognitive self control, relaxation, and learning self-evaluation and self-reward. Detailed information regarding these psychological treatments is available to practitioners. Some titles include *Anxiety and Phobic Disorders: A Pragmatic Approach* (Silverman & Kurtines, 1996), *Treating Anxious Children and Adolescents* (Rapee, Wignall, Hudson, & Schniering, 2000), *Phobic and Anxiety Disorders in Children and Adolescents: A Clinician's Guide to Effective Psychosocial and Pharmacological Interventions* (Ollendick & March, 2004), and *Cognitive Behavioral Therapy for Anxious Children: Therapist Manual* (Kendall, 2006). The reader also is referred to Weems (2005) for a commentary that provides interesting perspectives on the strengths and limits of the various volumes, including practical resources for parents.

Concluding Comments

The present article reported on the status of evidence-based psychosocial treatments for phobic and anxiety disorders in children and adolescents, reflecting the considerable advances made in this area since the publication of the initial status report by Ollendick and King (1998). A decade latter, the field has improved along the lines recommended by Ollendick and King (1998) in that the literature now contains considerably more methodologically sound studies using clinic referred samples. Namely, most of the studies selected were methodologically robust or fairly rigorous, based on Nathan and Gorman's (2002) criteria. Treatments were evaluated in RCTs (or group design studies) meeting most if not all methodological features recommended by the Chambless et al. (1996; 1998) and Chambless and Hollon, (1998). Based on our review, although no psychosocial treatments for child and adolescent phobic and anxiety disorders were found to meet criteria for *well-established*, several cognitive and behavioral treatments met criteria for *probably efficacious* (i.e., ICBT, GCBT, GCBT with parents, GCBT for SOP, and SET-C for SOP), with the remainder treatments meeting for *possibly efficacious* and *experimental*.

The considerable progress made shows that cognitive behavioral treatments, in individual or group formats, with and without parent involvement, as well as with or without peer and teacher involvement, lead to positive treatment response in children and adolescents with phobic and anxiety disorders. Precisely how much, and how, the effects of individual treatment can be enhanced still represent important avenues for additional research. Recent methodological and statistical advances should pave the way for better answers to these issues. The next generation of research is likely to continue to build on the existing knowledge base in ways that will move the field forward on both theoretical and methodological levels, and by so doing, help improve the lives of children, adolescents, and their families.

Table 1

Characteristics of Child and Adolescent Phobic and Anxiety Disorders Psychosocial Treatment Studies

Study	N	Nc	Intervention duration sessions/weeks	Number of Therapists	Comorbid Diagnoses	Percent Diagnostic Recovery	Study Type
Baer and Garland, 2005	12	11	12/--	3	Yes	36.0	2
Barrett et al., 1996	79	70	12/--	5	Yes	69.8	1
Barrett, 1998	60	50	12/12	4	Yes	64.8	1
Beidel et al., 2000	67	50	24/12	--	Yes	67.0	1
Bögels and Siqueland (2006)	24	17	12/-	12	Yes	46.0	3
Cobham et al., 1998	67	61	10 /14	4	Yes	68.7	1
Cornwall et al., 1996	--	24	6/6	1	No	--	1
Flannery-Schroeder and Kendall, 2000	45	37	--/18	8	Yes	--[a]	1
Gallagher et al., 2004	--	23	3/3	--	Yes	--	1
Ginsburg and Drake, 2002	12	9	10/10	2	Yes	75.0	2
Hayward et al., 2000	35	33	16 /16	4	--	45.0	1
Heyne et al., 2002	61	57	8/16	6	Yes	--	1
Kendall, 1994	47	47	16 to 20/--	7	Yes	64.0	1
Kendall et al., 1997	118	94	16 to 20/16	11	Yes	--[b]	1
King et al., 1998	34	34	6 /4	3	Yes	--	1
Last et al., 1998	56	41	12/12	--	Yes	--	1
Lyneham and Rapee (2006)	100	42	12/12	--	Yes	--c	1
Manassis et al., 2002	78	78	12/12	2	Yes	--	2
Masia et al., 2001	6	6	14/14	2	Yes	50.0	3
Mendlowitz et al., 1999	68	62	12/12	5	Yes	--	2
Muris et al., 1998	26	26	--/--	2	No	--	2
Muris et al., 2002	20	20	12/--	--	Yes	--	2
Nauta et al, 2003	89	76	12/12	27	Yes	54.0	1
Öst et al., 2001	60	60	1/-	2	Yes	--	1
Rapee et al., 2006	267	212	9/12	--	Yes	--[d]	1
Shortt et al., 2001	71	64	10/10	2	Yes	69.0	1
Silverman et al., 1999a	104	81	10/10	8	Yes	69.0	1
Silverman et al., 1999b	56	41	12/12	6	Yes	64.0	1
Spence et al., 2000	50	40	12 /12	2	Yes	58.0	1
Spence et al., 2006	72	65	10/10	5	yes	--e	1

Table 1 continued.

Thienemann et al., 2006	24	22	8/8	3	Yes	25.0	3
Wood et al., 2006	40	38	12 to 16/-	10	Yes	78.9	2

-- Not reported in the article. *N* = number of youth who met study's inclusion criteria for participation. *Nc* = number of youth who completed the intervention. Percent success is based on number of completers no longer meeting DSM criteria for the primary/treated anxiety disorder diagnoses at posttreatment: [a]73% of youth in ICBT; 50% of the in GCBT; [b] based on parent reported interview data, 53%; based on child interview data 45.74% (some children did not meet criteria for an anxiety disorder diagnoses at pretreatment); c 92% Bibliotherapy + telephone; 75% in Bibliotherapy + email, 47% in Bibliotherapy + client-initiate; [d] 61.1% in GCBT, 25.9% in Bibliotherapy (CBT); [e] based on parent reported interview data 66.7% in the GCBT with parent, 60.9% GCBT with parent plus internet.

Table 2

Criteria for Classifying Evidence-based Psychosocial Treatments

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Criteria 1: Well-Established Treatments

1.1 There must be at least two good group-design experiments, conducted in at least two independent research settings and by independent investigatory teams, demonstrating efficacy by showing the treatment to be:

a) statistically significantly superior to pill or psychological placebo or to another treatment

OR

b) equivalent (or not significantly different) to an already established treatment in experiments with statistical power being sufficient to detect moderate differences

AND

1.2 treatment manuals or logical equivalent were used for the treatment

1.3 conducted with a population, treated for specified problems, for whom inclusion criteria have been delineated in a reliable, valid manner

1.4 reliable and valid outcome assessment measures, at minimum taping the problems targeted for change were used

1.5 appropriate data analyses

Criteria 2: Probably Efficacious Treatments

2.1 There must be at least two good experiments showing the treatment is superior (statistically significantly so) to a wait-list control group

OR

2.2 One or more good experiments meeting the Well-Established Treatment Criteria with the one exception of having been conducted in at least two independent research settings and by independent investigatory teams

Criterion 3: Possibly Efficacious Treatments

At least one “good” study showing the treatment to be efficacious in the absence of conflicting evidence

Criterion 4: Experimental Treatments

Treatment not yet tested in trials meeting task force criteria for methodology

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Adapted from Division 12 Task Force on Psychological Interventions’ reports (Chambless et al., 1996, 1998) and from Chambless and Hollon (1998) who also describe criteria for methodology

Table 3

Classification of Psychosocial Treatments for Child and Adolescent Phobic and Anxiety Disorders

Psychosocial Treatment	Citation for Evidence
Well-Established Treatments	
None	--
Probably Efficacious Treatments	
Individual Cognitive Behavioral Therapy	Kendall (1994); Kendall et al (1997); Barrett et al. (1996); Flannery Schroeder and Kendall (2000)
Group Cognitive Behavioral Therapy	Barrett (1998); Flannery-Schroeder and Kendall (2000); Mendlowitz et al. (1999); Rapee et al. (2006)
Group Cognitive Behavioral Therapy with parents	Barrett (1998); Silverman et al (1999b); Spence et al. (2006); Mendlowitz et al. (1999)
Group Cognitive Behavioral Therapy for SOP	Spence et al. (2000); Hayward et al (2000); Gallagher et al. (2004)
Social Effectiveness Training for Children for SOP	Beidel et al. (2000)
Possibly Efficacious Treatments	
Emotive Imagery for SP of darkness	Cornwall et al. (1996)
Individual Cognitive Behavioral Therapy with Parents	Barrett et al. (1996); Manassis et al. (2002)
Individual Cognitive Behavioral Therapy for school refusal behavior with Parent/Teacher Training	King et al. (1998); Heyne et al. (2002)
Individual Cognitive Behavioral Therapy for school refusal behavior	Last et al. (1998); Heyne et al. (2002)
Group Cognitive Behavioral Therapy with Parental Anxiety Management for anxious parents	Cobham et al (1998)
In-vivo Behavioral Exposures with EMDR for SP of spiders	Muris et al. (1998)
Exposures plus Contingency Management for SP	Silverman et al. (1999a)
Exposures plus Self-Control for SP	Silverman et al. (1999a)
FRIENDS	Shortt et al. (2001)

One-Session Exposure Treatment for SP	Öst et al. (2001)

Table 3 continued.

One-Session Exposure Treatment with Parents for SP	Öst et al. (2001)
Parent/Teacher Training for school refusal behavior	Heyne et al. (2002)
Individual Cognitive Behavioral Therapy with Cognitive Parent Training	Nauta et al. (2003)
Family Cognitive Behavioral Therapy	Bögels and Siqueland (2006) Wood et al. (2006)
GCBT with Parents plus Internet	Spence et al. (2006)
Parent Group Cognitive Behavioral Therapy	Mendlowitz et al. (1999) Thienemann et al. (2006)
Experimental Treatments	
School-based Group Cognitive Behavioral Therapy for SOP	Masia et al. (2001)
School-based Group Cognitive Behavioral Therapy	Ginsburg and Drake (2002); Muris et al. (2002)
School-based modified Social Effectiveness Training for Children with SOP	Baer and Garland (2005)

Table 4

Pretreatment to Posttreatment Change Relative to Waitlist Change for Diagnostic Recovery Rates

Category	K	N	p-hat	SDp-hat	SESD	Res Sd	%VarSE	95% CI	Fail-safe-N	Qw
CBT Overall	20	603	.62	.1282	.0828	.0843	49.11	.46 to .79	104	47.95*
ICBT	6	293	.59	.1072	.0685	.0825	48.83	.43 to .88	29	14.69*
GCBT	6	106	.62	.1363	.1140	.0747	69.96	.47 to .77	31	8.58
ICBT with Parents	2	64	.68	.1269	.0769	.1009	36.70	.48 to .88	12	5.45*
GCBT with Parents	5	140	.67	.0895	.0847	.0288	89.60	.62 to .73	29	5.58

CBT = cognitive and behavior therapy, ICBT = individual cognitive and behavior therapy, GCBT = group cognitive and behavior therapy.

K = the number of independent samples that contributed an effect size. N = the total sample size across the K samples. p-hat = the average proportion of participants who improved due to treatment. P-hat is the sample size weighted average computed as $\sum n_i p_i / \sum n_i$ where the summation is over the K samples and p_i and n_i are the proportions of participants who no longer meet diagnostic criteria for the treated anxiety disorder diagnosis at posttreatment and the sample size, respectively, in each individual sample. The fail-safe-N indicates the number of samples with an average effect size of zero that should have been left out in our meta-analyses to lower the estimated effect size to .10. The Fail-safe-N was computed as k[(d/dc)-1] where k is the number of effect sizes in that meta-analysis, d is the computed average effect size, dc is the critical value which was taken as .10 here. The Qw indicates the variability among effect sizes and significant values suggest the presence of moderators. Qw was computed as k*Obs variance/sampling error variance and is a Chi-square with k-1 degrees of freedom.

Table 5

Pretreatment to Posttreatment Change Relative to Waitlist Change on Anxiety Symptoms and Other Symptoms reported by Children and Adolescents

Category	K	N	d	SDd	SESD	Res Sd	%VarSE	95% CI	Fail-safe-N	Qw
Anxiety Symptoms										
CBT Overall	37	1640	0.44	0.2346	0.1184	0.2025	25.46	0.04 to 0.83	126	145.26*
ICBT	16	864	0.46	0.2579	0.1306	0.2224	25.65	0.03 to 0.90	58	62.39*
GCBT	9	279	0.41	0.1642	0.0938	0.1347	32.63	0.15 to 0.68	28	27.58*
ICBT with Parents	4	196	0.31	0.1429	0.1034	0.0986	52.35	0.11 to 0.50	8	7.67
GCBT with Parents	6	233	0.38	0.1691	0.0816	0.1428	23.25	0.09 to 0.68	17	25.77*
Other Symptoms										
CBT Overall	19	754	0.41	0.3148	0.1237	0.2894	15.44	-0.15 to 0.98	59	123.05*
ICBT	8	341	0.27	0.1607	0.0714	0.1440	19.73	-0.02 to 0.55	14	40.53*
GCBT	4	95	0.21	0.1494	0.0862	0.1221	33.27	-0.03 to 0.44	4	12.02*
ICBT with Parents	3	132	0.43	0.1790	0.1394	0.1123	60.65	0.21 to 0.65	10	4.95
GCBT with Parents	3	162	0.67	0.2196	0.1145	0.1874	27.17	0.30 to 1.04	17	11.04*

CBT = cognitive and behavior therapy, ICBT = individual cognitive and behavior therapy, GCBT = group cognitive and behavior therapy. K = the number of independent samples that contributed an effect size. N = the total sample size across the K samples. Other Symptoms = fear and depression. The fail-safe-N indicates the number of samples with an average effect size of zero that should have been left out in our meta-analyses to lower the estimated effect size to .10. The Fail-safe-N was computed as k[(d/dc)-1] where k is the number of effect sizes in that meta-analysis, d is the computed average effect size, dc is the critical value which was taken as .10 here. The Qw indicates the variability among effect sizes and significant values suggest the presence of moderators. Qw was computed as k*Obs variance/sampling error variance and is a Chi-square with k-1 degrees of freedom.

Table 6

Pretreatment to Posttreatment Change Relative to Waitlist Change on Anxiety Symptoms and Other Symptoms reported by Parents

Category	K	N	d	SDd	SESD	Res Sd	%VarSE	95% CI	Fail-safe-N	Qw
Anxiety Symptoms										
CBT Overall	4	131	0.91	0.6109	0.2693	0.5484	19.42	-0.16 to 1.99	32	20.58*
Other Symptoms										
CBT Overall	53	2499	0.63	0.3388	0.1304	0.3127	14.81	0.02 to 1.24	281	357.77*
ICBT	28	1535	0.64	0.2751	0.1110	0.2517	16.29	0.14 to 1.13	151	171.99*
GCBT	7	183	0.60	0.4711	0.1684	0.4399	12.79	-0.26 to 1.46	35	54.78*
ICBT with Parents	9	410	0.57	0.2403	0.1363	0.1979	32.20	0.18 to 0.96	42	27.97*
GCBT with Parents	7	311	0.72	0.3787	0.1446	0.3500	14.58	0.04 to 1.41	43	48.01*

CBT = cognitive and behavior therapy, ICBT = individual cognitive and behavior therapy, GCBT = group cognitive and behavior therapy. No data was available to derive anxiety effect sizes and corresponding statistical indices for ICBT, GCBT, ICBT with parents, or GCBT with parents. K = the number of independent samples that contributed an effect size. N = the total sample size across the K samples. Other Symptoms = fear, depression and internalizing and externalizing child behavior problems. The Fail-safe-N was computed as k[(d/dc)-1] where k is the number of effect sizes in that meta-analysis, d is the computed average effect size, dc is the critical value which was taken as .10 here. The Qw indicates the variability among effect sizes and significant values suggest the presence of moderators. Qw was computed as k*Obs variance/sampling error variance and is a Chi-square with k-1 degrees of freedom.

References

Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18.* Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach T. M., & Edelbrock, C. (1986). *Manual for the Teacher Report Form.* Burlington, VT: University of Vermont, Department of Psychiatry.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders (3rd ed).* Washington, DC: Author.

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders (3rd ed., rev.).* Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders (4th ed.).* Washington, DC: Author.

Anderson, J. C., Williams, S. M., McGee, R., & Silva, P. A. (1987). DSM-III disorders in preadolescent children: Prevalence in a large sample from the general population. *Archives of General Psychiatry, 44*, 69-76.

Asher, S. R., & Wheeler, V. A. (1985). Children's loneliness: A comparison of rejected and neglected peer status. *Journal of Consulting and Clinical Psychology, 53*, 500-505.

*Baer, S., & Garland, J. (2005). Pilot study of community-based cognitive behavioral group therapy for adolescents with social phobia. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*, 258-264.

Bandura, A., Grusec, J.E., & Menlove, F. L. (1967). Vicarious extintion of avoidance behavior. *Journal of Personality and Social Psychology, 5*, 16-23.

Barmish, A., & Kendall, P. C. (2005). Should parents be co-clients in cognitive-behavioral therapy for anxious youth? *Journal of Clinical Child and Adolescent Psychology, 34*, 569-581.

*Barrett, P. M. (1998). Evaluation of cognitive-behavioral group treatments for childhood anxiety disorders. *Journal of Clinical Child Psychology, 27*, 459-468.

*Barrett, P. M., Dadds, M. R., & Rapee, R. M. (1996). Family treatment of childhood anxiety: A controlled trial. *Journal of Consulting and Clinical Psychology, 64,* 333-342.

Barrett, P. M., Duffy, A. L., Dadds, M. R., & Rapee, R. M. (2001). Cognitive-behavioral treatment of anxiety disorders in children: Long-term (6-year) follow-up. *Journal of Consulting and Clinical Psychology, 69*, 135-141.

Barrett, P., & Ferrell, L. (2007). Behavioral intervention for childhood anxiety. In J. M. Briesmeister and C. E. Schaefer (Eds.), *Handbook of parent training: Helping parent prevent and solver problem behaviors* (pp. 133-163). Hoboken NJ: John Wiley & Sons.

Beidel, D. C., Turner, S. M., & Morris, T. L. (1995). A new inventory to assess childhood social anxiety and phobia: The Social Phobia and Anxiety Inventory for Children. *Psychological Assessment, 7,* 73-79.

Beidel, D. C., Turner, S. M., & Morris, T. L. (2000). Behavioral treatment of childhood social phobia. *Journal of Consulting and Clinical Psychology, 68,* 1072-1080.

Beidel, D. C., Turner, S. M., Young, B., & Paulson, A. (2005). Social effectiveness training for children: Three-year follow-up. *Journal of Consulting and Clinical Psychology*, *73*, 721-725.

Berman, S. L., Weems, C. F., Silverman, W. K., & Kurtines, W. M. (2000). Predictors of outcome in exposure-based cognitive and behavioral treatments for phobic and anxiety disorders in children. *Behavior Therapy, 31*, 713-731.

Birmaher, B., Khetarpal, S., Brent, D., Cully, M., Balach, L., Kaufman, J., et al. (1997). The Screen for Child Anxiety Related Emotional Disorders (SCARED): Scale construction and psychometric properties. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 545-553.

Blanton, H., & Jaccard, J. (2006). Arbitrary metrics in psychology. *American Psychologist*, *61,* 27-41.

Bloom, B.L. (1985). A factor analysis of self-report measures of family functioning. *Family Process*, 24, 225-239.

Bögels, S. M., & Siqueland, L. (2006). Family cognitive behavioral therapy for children and adolescents with clinical anxiety disorders. *Journal of the American Academy of Child and Adolescent*

Psychiatry, 45, 134-141.

Chambless, D. L., Sanderson, W. C., Shoham, V., Johnson, S. B., Pope, K. S., Crits-Christoph, P., et al. (1996). An update on empirically validated therapies. *The Clinical Psychologist, 49*, 5-18.

Chambless, D. L., Baker, M. J., Baucom, D. H., Beutler, L. E., Calhoun, K. S., et al. (1998). Update on empirically validated therapies, II. *The Clinical Psychologist, 51*, 3-16.

Chambless, D. L., & Hollon, S. D. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology, 66*, 7-18.

Chorpita, B. F., & Southam-Gerrow, M. A. (2006). Fears and Anxieties. In E. J. Mash & R. A. Barkley (Eds.), *Treatment of childhood disorders* (271-335). New York, NY: Guilford Press.

Chorpita, B. F., Yim, L., Moffit, C., Umemoto, L. A., & Francis, S. E. (2000). Assessment of DSM-IV anxiety and depression in children: A revised child anxiety and depression scale. *Behaviour Research and Therapy, 38*, 835-855.

*Cobham, V. E., Dadds, M. R., & Spence, S. H. (1998). The role of parental anxiety in the treatment of childhood anxiety. *Journal of Consulting and Clinical Psychology, 66*, 893-905.

Commission on Anxiety Disorders. Anxiety Disorders. (2005). In Evans, D. L. et al., (Eds.), *Treating and preventing adolescent mental health disorders: What we know and don't know.* (pp. 161-247). New York: Oxford University Press.

*Cornwall, E., Spence, S. H., & Schotte, D. (1996). The effectiveness of emotive imagery in the treatment of darkness phobia in children. *Behaviour Change, 13*, 223-229.

Crawford, A. M., & Manassis, K. (2001). Familial predictors of treatment outcome in childhood anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 1182-1189.

Derogatis, L. R. (1983). *SCL-90-R Administration, Scoring, and Procedures Manual – II.* Baltimore MD: Clinical Psychometric Research.

Derogatis, L. R. (1992). *BSI: Administration, Scoring and Procedures Manual- II.* Baltimore, MD: Clinical Psychometric Research.

Endicott, J. S., Spitzer, R. L., Fleiss, J., & Cohen, J. (1976). The Global Assessment Scale. *Archives of*

General Psychiatry, 33, 766-771.

Eysenck, S. B., & Eysenck, H. J. (1968). The measurement of psychoticism: A study of factor stability and reliability. *British Journal of Social and Clinical Psychology, 7*, 286-294.

Ferrell, C. B., Beidel, D. C., & Turner, S. M. (2004). Assessment and treatment of socially phobic children: A cross cultural comparison. *Journal of Clinical Child and Adolescent Psychology, 33*, 260-268.

*Flannery-Schroeder, E. C., & Kendall, P. C. (2000). Group and individual cognitive-behavioral treatments for youth with anxiety disorders: A randomized clinical trial. *Cognitive Therapy and Research, 24,* 251-278.

*Gallagher, H. M., Rabian, B. A., & McCloskey, M. S. (2003). A brief group cognitive behavioral intervention for social phobia in childhood. *Journal of Anxiety Disorders, 18*, 459-479.

García-López, L., Olivares, J., Beidel, D. C., Albano, A. M., Turner, S. M., & Rosa, A. I. (2006). Efficacy of three treatment protocols for adolescents with social anxiety disorder: A 5-year follow-up assessment. *Journal of Anxiety Disorders, 20*, 175-191.

Ginsburg, G. S., & Drake, K. (2002). School-based treatment for anxious African-American adolescents: A controlled pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 768-775.

Gullone, E., & King, N. J. (1992). Psychometric evaluation of a revised fear survey schedule for chidlren and adolescents. *Journal of Child Psychology and Psychiatry, 33*, 987-98.

Harter, S. (1985). *Manual for the Self-Perception Profile for Children*. Denver, CO: University of Denver.

*Hayward, C., Varady, S., Albano, A. M., Thienemann, M., Henderson, L., & Schatzberg, A. F. (2000). Cognitive-behavioral group therapy for social phobia in female adolescents: Results of a pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 721-726.

*Heyne, D., King, N., Tonge, B., Rollings, S., Young, D., Pritchard, M., et al. (2002). Evaluation of child therapy and caregiver training in the treatment of school refusal. *Journal of the American*

Academy of Child and Adolescent Psychiatry, 41, 687-695.

Hinshaw, S. P. (2002). Process, mechanism, and explanation related to externalizing behavior problems in developmental psychopathology. *Journal of Abnormal Child Psychology, 30*, 431-446.

Hodes, R. L., Cook, E. W., & Lang, P. J. (1985). Individual differences in autonomic response: Conditioned association or conditioned fear? *Psychophysiology, 22*, 545-560.

Howard, B. L., & Kendall, P. C. (1996). Cognitive-behavioral family therapy for anxiety-disordered children: A multiple-baseline evaluation. *Cognitive Therapy and Research, 20*, 423-443.

Jaccard, J., & Guilamo-Ramos, V. (2002a). Analyses of variance frameworks in clinical child and adolescent psychology: Issues and recommendations. *Journal of Clinical Child and Adolescent Psychology, 31*, 130-146.

Jaccard, J., & Guilamo-Ramos, V. (2002b). Analyses of variance frameworks in clinical child and adolescent psychology: Advanced issues and recommendations. *Journal of Clinical Child and Adolescent Psychology, 31*, 278-294.

Kazdin, A. E., & Bass, D. (1989). Power to detect differences between alternative treatments in comparative psychotherapy outcome research. *Journal of Consulting and Clinical Psychology, 57*, 138-147.

*Kendall, P. C. (1994). Treating anxiety disorders in children: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 62*, 200-210.

Kendall, P. C. (2006). Cognitive behavioral therapy for anxious children: Therapist manual (3rd edition). Workbook Publishing.

Kendall, P.C., Brady, E. U., & Verduin, T. L. (2001). Comorbidity in childhood anxiety disorders and treatment outcome. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 784-794.

Kendall, P. C., Chu, B., Gifford, A., Hayes, C., Nauta, M. (1998). Breathing life into a manual: Flexibility and creativity with manual-based treatments. *Cognitive and Behavioral Practice, 5*, 177-198.

*Kendall, P. C., Flannery- Schroeder, E., Panichelli-Mindel, S. M., Southam-Gerow, M., Henin, A., & Warman, M. (1997). Therapy for youth with anxiety disorders: A second randomized clinical trial. *Journal of Consulting and Clinical Psychology, 65*, 366-380.

Kendall, P.C., Safford, S. Flannery-Schroeder, E., & Webb, A. (2004). Child anxiety treatment: Outcomes in adolescence and impact on substance use and depression at 7.4 year follow-up. *Journal of Consulting and Clinical Psychology, 72,* 276-287.

Kendall, P. C., & Southam-Gerow, M. A. (1996). Long-term follow-up of a cognitive-behavioral therapy for anxiety-disordered youth. *Journal of Consulting and Clinical Psychology, 64,* 724-730.

Kendall, P. C., & Sugarman, A. (1997). Attrition in the treatment of childhood anxiety disorders. *Journal of Consulting and Clinical Psychology, 65,* 883-888.

*King, N. J., Tonge, B. J., Heyne, D., Pritchard, M., Rollings, S., Young, D., et al. (1998). Cognitive-behavioral treatment of school-refusing children: A controlled evaluation. *Journal of the American Academy of Child and Adolescent Psychiatry, 37,* 395-403.

King, N. J., Tonge, B. J., Heyne, D., Turner, S. Pritchard, M., Young, D., et al. (2001). Cognitive-behavioural treatment of school refusing children: Maintenance of improvement at 3- to 5-year follow-up. *Scandinavian Journal of Behaviour Therapy, 30,* 85-89.

Kondas, O (1967). Reduction of examination anxiety and 'state fright' by group desensitization and relaxation. *Behaviour Research and Therapy, 5*, 275-281.

Kovacs, M. (1992). *Children's Depression Inventory manual.* North Tonawanda, NY: Multi-Health Systems, Inc.

Kraemer, H. C., Wilson, T., Fairburn, C. G., & Agras, S. (2002). Mediators and moderators of treatment effects in randomized clinical trials. *Archives of General Psychiatry, 59*, 877-883.

La Greca, A. M., & Stone, W. L. (1993) Social Anxiety Scale for Children -- Revised: Factor structure and concurrent validity. *Journal of Clinical Child Psychology, 22*, 17-27.

Last, C. G., Hansen, C., & Franco, N. (1998). Cognitive-behavioral treatment of school phobia. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 404-411.

Last, C. G., Perrin, S., Hersen, M., & Kazdin, A. E. (1992). DSM-III-R anxiety disorders in children: Sociodemographic and clinical characteristics. *Journal of the American* Academy of Child and Adolescent Psychiatry, 31, 1070-1076.

Lyneham, H. J., & Rapee, R. M. (2006). Evaluation of therapist-supported parent-implemented CBT for anxiety disorders in rural children. *Behaviour Research and Therapy, 44,* 1287-1300.

March, J. S, Parker, J. D. A., Sullivan, K., Stallings P., & Conners, C. K. (1997). The Multidimensional Anxiety Scale for Children (MASC): Factor structure, reliability, and validity. *Journal of the American Academy of Child and Adolescent Psychiatry, 36,* 554-565.

Masia, C. L., Klein, R. G., Storch, E. A., & Corda, B. (2001). School-based behavioral treatment for social anxiety disorder in adolescents: Results of a pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry, 40,* 780-786.

Manassis, K., Avery, D., Butalia, S. & Mendlowitz, S. L. (2004). Cognitive-behavioral therapy with childhood anxiety disorders: Functioning in adolescence. *Depression and Anxiety, 19,* 209-216.

Manassis, K., Mendlowitz, S. L., Scapillato, D., Avery, D., Fiksenbaum, L., Freire, M. et al. (2002). Group and individual cognitive behavioral therapy for childhood anxiety disorders: A randomized trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 41,* 1423-1430.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods,* 7, 83-104.

*Mendlowitz, S. L., Manassis, K., Bradley, S., Scapillato, D., Miezitis, S., & Shaw, B. F. (1999). Cognitive-behavioral group treatments in childhood anxiety disorders: The role of parental involvement. *Journal of the American Academy of Child and Adolescent Psychiatry, 38,* 1223-1229.

Muris, P., Meesters, C., & Melick, M. (2002). Treatment of childhood anxiety disorders: A preliminary comparison between cognitive-behavioral group therapy and a psychological placebo intervention. *Journal of Behavior Therapy and Experimental Psychiatry, 33,* 143-158.

Muris, P., Merckelbach, H., Holdrinet, I., & Sijsenaar, M. (1998). Treating phobic children: Effects of EMDR versus exposure. *Journal of Consulting and Clinical Psychology, 66*, 193-198.

Nathan, P. E., & Gorman, J. M. (2002). *A guide to treatments that work* (2nd ed.). London: Oxford University Press.

*Nauta, M. H., Schooling, A., Emmelkamp, P.M.G., & Minderaa, R. B. (2003). Cognitive-behavioral theory for children with anxiety disorders in a clinical setting: No additional effect of a cognitive parent training. *Journal of the American Academy of Child and Adolescent Psychiatry, 42,* 1270-1278.

Newman, D. L., Moffitt, T. E., Caspi, A., Magdol, L., Silva, P. A., & Stanton, W. R. (1996). Psychiatric disorder in a birth cohort of young adults: Prevalence, comorbidity, clinical significance, and new case incidence from ages 11 – 21. *Journal of Consulting and Clinical Psychology, 64***,** 552-562.

Ollendick, T. H. (1983). Reliability and validity of the revised Fear Survey Schedule for Children (FSSC-R). *Behaviour Research and Therapy, 21*, 685-962.

Ollendick, T. H. & King, N. J. (1998). Empirically supported treatments for children with phobic and anxiety disorders: Current Status. *Journal of Clinical Child Psychology, 27*, 156- 167.

Ollendick, T. H., & March, J. S. (Eds.). (2004). *Phobic and anxiety disorders in children and adolescents: A clinician's guide to effective psychosocial and pharmacological interventions.* New York: Oxford University Press.

*Öst, L., Svensson, L., Hellström, K., & Lindwall, R. (2001). One-session treatment of specific phobia in youth: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 69*, 814-824.

Pina, A. A., & Silverman, W. K. (2004). Clinical phenomenology, somatic symptoms, and distress in Hispanic/Latino and European American youths with anxiety disorders. *Journal of Clinical Child and Adolescent Psychology, 33*, 227-236.

Pina, A. A., Silverman, W. K., Fuentes, R. M., Kurtines, W. M., & Weems, C. F. (2003). Exposure-based cognitive behavioral treatment for phobic and anxiety disorders: Treatment effects and maintenance for Hispanic American relative to European American youth. *Journal of the American Academy of Child and Adolescent Psychiatry, 42,* 1179-1187.

Pina, A. A., Silverman, W. K., Weems, C. F., Kurtines, W. M., & Goldman M. L. (2003). A comparison of completers and non-completers of exposure-based cognitive and behavioral treatment for phobic and anxiety disorders in youth. *Journal of Consulting and Clinical Psychology, 71*, 701-705.

Rapee, R. M., Abbott, M. J., & Lyneham, H. J. (2006). Bibliotherapy for children with anxiety disorders using written materials for parents: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 74,* 436-444.

Rapee, R. M., Wignall, A., Hudson, J. L., & Schniering, C. A. (2000). *Treating anxious children and adolescents.* Oakland, CA: New Harbinger.

Raykov, T. (2004). Behavioral scale reliability and measurement invariance evaluation using latent variable modeling. *Behavior Therapy, 35*, 299-331.

Reich, W. (2000). Diagnostic Interview Schedule for Children and Adolescents (DICA). *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 59-66.

Reynolds, C. R., & Richmond, B. O. (1978). What I think and feel: A revised measure of children’s manifest anxiety. *Journal of Abnormal Child Psychology, 6*, 271-280.

Ronan, K. R., Kendall, P. C., & Rowe, M. (1994). Negative affectivity in children: Development and validation of a self-assessment questionnaire. *Cognitive Therapy and Research, 18*, 509-528.

Schoenwald, S. K., & Hoagwood, K. (2001). Effectiveness, transportability, and dissemination of interventions: What matters when? *Psychiatric Services, 52*, 1190-1197.

Sechrest, L., McKnight, P., & McKnight, K. (1996). Calibration of measures for psychotherapy outcome studies. *American Psychologist, 51,* 1065-1071.

Shapiro, F. (1995). *Eye movement desensitization and reprocessing: Basic principles, protocol and procedures.* New York: Guildford Press.

*Shortt, A. L., Barrett, P. M., & Fox, T. L. (2001). Evaluating the FRIENDS program: A cognitive-behavioral group treatment for anxious children and their parents. *Journal of Clinical Child and Adolescent Psychology, 30*, 525-535.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R.. E., (1970). Manual for the State Trait Anxiety Inventory, Palo Alto, CA: Consulting Psychologists Press.

Silverman W. K., & Albano, A. M. (1996). *Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions.* New York: Oxford University Press.

Silverman, W. K., & Berman, S. L. (2001). Psychosocial interventions for anxiety disorders in children: Status and future directions. In W. K. Silverman & P. D. A. Treffers (Eds.), *Anxiety disorders in children and adolescents: Research, assessment and intervention* (pp. 313-334). Cambridge, U. K.: Cambridge University Press.

Silverman, W. K., Fleisig, W., Rabian, B., & Peterson, R. A. (1991). Childhood Anxiety Sensitivity Index. *Journal of Clinical Child Psychology, 20*, 162-168.

Silverman, W. K., & Kurtines, W. M. (1996). Anxiety and Phobic Disorders: A pragmatic approach. New York, NY: Plenum Press.

Silverman, W. K., Kurtines, W. M., Ginsburg, G. S., Weems, C. F., Rabian, B., & Serafini, L. T. (1999a). Contingency management, self-control, and education support in the treatment of childhood phobic disorders: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 67,* 675-687.

*Silverman, W. K., Kurtines, W. M., Ginsburg, G. S., Weems, C. F., Lumpkin, P. W., & Carmichael, D. H. (1999b). Treating anxiety disorders in children with group cognitive-behavioral therapy: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 67,* 995-1003.

Silverman, W. K., Kurtines, W. M., & Hoagwood, K. (2004). Research progress on effectiveness, transportability, and dissemination of empirically supported treatments: Integrating theory and research. *Clinical Psychology: Science and Practice, 11*, 295-299

Silverman, W. K., & Nelles, W. B. (1988). The Anxiety Disorders Interview Schedule for Children.

Journal of the American Academy of Child and Adolescent Psychiatry, 27, 772-778.

Silverman, W. K., & Ollendick, T. H. *(2005)*. Evidence-based assessment of anxiety and its disorders in children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 34, 380-411*.

Spence, S. H. (1997). Structure of anxiety symptoms among children: A confirmatory factor-analytic study. *Journal of Abnormal Psychology, 106*, 280-297.

*Spence, S. H., Donovan, C., & Brechman-Toussaint, M. (2000). The treatment of childhood social phobia: The effectiveness of a social skills training-based, cognitive-behavioral intervention, with and without parental involvement. *Journal of Child Psychology and Psychiatry, 41*, 713-726.

*Spence, S. H., Holmes, J. M., March, S., & Lipp, O. V. (2006). The feasibility and outcome of clinic plus internet delivery of cognitive-behavior therapy for childhood anxiety. *Journal of Consulting and Clinical Psychology, 74*, 614-621.

Spielberger, C. D. (1973). *Preliminary test manual for the State-Trait Anxiety Inventory for Children.* Palo Alto: CA. Consulting Psychologists Press.

Stock, S. L., Werry, J. S., & McClellan, J. M. (2001). Pharmacological treatment of pediatric anxiety. In W. K. Silverman and P. D. Treffers (Eds.), *Anxiety disorders in children and adolescents: Research, assessment and intervention.* (pp. 335-367). New York: Cambridge University Press.

Thienemann, M., Moore, P., & Tompkins, K. (2006). A parent only group intervention for children with anxiety disorders: Pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*, 37-46.

Treadwell, K. R. H., Flannery-Schroeder, E. C., & Kendall, P. C. (1995). Ethnicity and gender in relation to adaptive functioning, diagnostic status, and treatment outcome in children from an anxiety clinic. *Journal of Anxiety Disorders, 9*, 373-384.

Treadwell, K. R. H., & Kendall, P. C. (1996). Self-talk in youth with anxiety disorders: States of mind, content specificity, and treatment outcome. *Journal of Consulting and Clinical Psychology, 64*, 941-950.

Walkup, J. T., Labellarte, M., J., & Ginsburg, G. S. (2002). The pharmacological treatment of anxiety disorders. *International Review of Psychiatry*, *14*, 135-142.

Weersing, V. R., & Weisz, J. R (2002). Mechanisms of action in youth psychotherapy. *Journal of Child Psychology and Psychiatry, 43,* 3-29.

Weems, C. F. (2005). Childhood anxiety disorders: An overview of recent guides for professionals and parents. *Journal of Clinical Child and Adolescent Psychology, 34*, 772-778.

Wood, J. J., Piacentini, J. C., Southam-Gerow, Chu, B., & Sigman, M. (2006). Family cognitive behavioral therapy for child anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*, 314-321.

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