One-Session Treatment of Specific Phobias in Youth: A Randomized Clinical Trial in the United States and Sweden

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One hundred and ninety-six youth, ages 7–16, who fulfilled Diagnostic and Statistical Manual of Mental Disorders (4th ed.) criteria for various specific phobias were randomized to a one-session exposure treatment, education support treatment, or a wait list control group. After the waiting period, the wait list participants were offered treatment and, if interested, rerandomized to 1 of the 2 active treatments. The phobias were assessed with semistructured diagnostic interviews, clinician severity ratings, and behavioral avoidance tests, whereas fears, general anxiety, depression, and behavior problems were assessed with self- and parent report measures. Assessments were completed pretreatment, posttreatment, and at 6 months following treatment. Results showed that both treatment conditions were superior to the wait list control condition and that 1-session exposure treatment was superior to education support treatment on clinician ratings of phobic severity, percentage of participants who were diagnosis free, child ratings of anxiety during the behavioral avoidance test, and treatment satisfaction as reported by the youth and their parents. There were no differences on self-report measures. Treatment effects were maintained at follow-up. Implications of these findings are discussed.

Keywords: specific phobias, children and adolescents, randomized control trial, cognitive behavior therapy, treatment outcome

In the past 10 years, several epidemiological studies have estimated the prevalence of specific phobias in community samples of children and adolescents to range from 5% to 10% (see Kessler et al., 2005). For many youth, phobias result in considerable academic difficulties (Ialongo, Edelsohn, Werther-Larsson, Crockett, & Kellam, 1995), social and personal distress (Ollendick & March, 2004), and interference in day-to-day activities (Essau, Conradt, & Petermann, 2000; Ollendick, King, & Muris, 2004). For some individuals, phobias persist a lifetime (Ollendick et al., 2004); moreover, they may lead to adult anxiety, mood, and substance use disorders (Kendall, Safford, Flannery-Schroeder, & Webb, 2004). Recently, in a prospective follow-back investigation of the Dunedin (New Zealand) Multidisciplinary Health and Development Study, Gregory et al. (2007) reported that specific phobias in adulthood (32 years of age) were frequently preceded by juvenile phobias (at 11 years of age) but not preceded by other anxiety or mood disorders; moreover, other anxiety and mood disorders in adulthood were frequently preceded by juvenile phobias (more so than other juvenile anxiety or mood disorder). They asserted that the prevention and treatment of juvenile phobias represent major health imperatives.

In recent reviews of evidence-based treatments for phobic and anxiety disorders in youth from randomized controlled trials (RCTs), the behavioral and cognitive-behavioral treatments have been found to be highly effective (Cartwright-Hatton, Roberts, Chitsabesan, Fothergill, & Harrington, 2004; In-Albon & Schneider, 2006; Ollendick, King, & Chorpita, 2006). It should be noted, however, that most of the support comes from studies comparing cognitive-behavioral treatments to wait list control (WLC) condi-
TREATMENT OF SPECIFIC PHOBIAS IN YOUTH

In the treatment of specific phobias, three behavioral and cognitive-behavioral procedures—participant modeling, exposure in vivo, and reinforced practice—have been shown to be particularly effective (Davis & Ollendick, 2005; Ollendick et al., 2006). These procedures have been incorporated into what has come to be called one-session treatment (OST) by Öst (1989, 1997). An intensive form of cognitive behavior therapy (CBT), it has been found to be a rapid and effective treatment for adults with a variety of specific phobias including animal, natural environment, and situational types (Antony & Barlow, 1998; Öst, 1997). Across 11 RCTs with adults conducted by Öst and his colleagues in Sweden, the proportion of individuals with clinically significant improvement has been estimated to be 82% at posttreatment and 85% at 1-year follow-up. This combined cognitive-behavioral treatment has been designated as an evidence-based treatment for adults (Chambless & Ollendick, 2001; Zlomke & Davis, 2008). The treatment is called one-session treatment because it is typically delivered in one extended treatment session (lasting up to 3 hr in duration). The treatment is implemented individually in a relatively standard clinical format invoking therapeutic principles of instruction, participant modeling, in vivo exposure, reinforced practice, and cognitive challenge (Öst, 1997).

In children and adolescents, the OST has been evaluated in one small clinical trial in the Netherlands (Muris, Merckelbach, Holdrinet, & Sijsenaar, 1998) and in one RCT in Sweden (Öst, Svensson, Hellström, & Lindwall, 2001). In 2.5-hr treatment sessions, Muris, Merckelbach, Holdrinet, and Sijsenaar (1998) compared OST to eye movement desensitization and reprocessing (EMDR) and to computerized exposure in 26 spider-phobic children and adolescents. Although the EMDR intervention was marginally superior to the computerized intervention, the OST was superior to both of these interventions on subjective fear ratings, state anxiety, and behavioral avoidance following the one session of treatment. Unfortunately, follow-up information on the long-term effects of intervention was not provided. In the Öst, Svensson, Hellström, and Lindwall (2001) study, individual OST was compared to a parent-present OST and to a WLC condition in the treatment of 60 youth with diverse phobias, including all major types. Although the findings were mixed, both active interventions were superior to the WLC condition on measures of subjective distress, behavioral avoidance, and independent assessor ratings of the severity of the phobias at posttreatment. The three groups did not differ significantly, however, on commonly used self- and parent report measures following treatment. There was a tendency for the children and adolescents in the alone condition to fare better than those in the parent-supplemented condition. Treatment gains were maintained at 1-year follow-up.

Silverman et al. (1999) completed an RCT with children and adolescents with specific phobias that raised questions about the efficacy of cognitive-behavioral treatments. Silverman and her colleagues evaluated the relative efficacy of an exposure-based contingency management treatment condition and an exposure-based cognitive self-control condition relative to an education support control condition. Eighty-one children and adolescents with diverse phobias between 6 and 16 years of age and their parents participated in the trial. Treatment was manualized and consisted of 10 sessions (80 min per session) in which children and their parents were seen in separate treatment sessions but with the same therapist, followed by a brief conjoint meeting. Results were mixed. At posttreatment, no differences were found among the two treatment conditions and the education support condition on various self-report and parent report measures (although trends favoring the two active treatment conditions were evident on most of the measures). However, in reference to indices of “clinically significant” improvement, Silverman et al. reported significant differences among the treatment conditions. That is, composite diagnoses from the semistructured diagnostic interview—the Anxiety Disorders Interview Schedule (ADI) for the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV), Child and Parent Versions (C/P; Silverman & Albano, 1996)—revealed that 88% of the children in the exposure-based cognitive self-control condition were free of their diagnosis at posttreatment compared with 55% in the exposure-based contingency management condition and 56% in the education support condition (a difference favoring the self-control exposure condition over the other two conditions). In addition, a criterion-referenced measure of outcome, the Fear Thermometer, showed clinically significant improvement (defined as a change that eliminated or substantially reduced children’s reported level of distress) for the self-control and the contingency management exposure groups (80% each) compared with the education support condition (25%). Thus, considerable support was garnered for the relative efficacy of the exposure-based cognitive self-control treatment and, to some extent, the exposure-based contingency management treatment over the education support control condition. Still, not unlike the findings reported by Öst et al. (2001), differential changes were not manifest on frequently used child and parent report measures. Moreover, it should be noted that Silverman’s education support condition may have involved (inadvertently) some exposure elements (W. K. Silverman, personal communication, 2000), making it unclear whether potent behavioral change processes—in addition to education and support—were present in that condition.

On balance, then, there is emerging support for the efficacy of cognitive-behavioral treatments in the treatment of specific phobia in children and adolescents; however, the support is limited, especially when the treatments are compared with credible control conditions such as was done by Silverman et al. (1999). The primary purpose of the present study was to compare OST with a credible education support condition and a WLC condition for children and adolescents between 7 and 16 years of age who presented with diverse specific phobias (with the exception of blood-injection-injury type; these phobias were excluded because the Öst et al., 2001, study showed that this treatment was less effective with this phobia type). It was predicted that the OST would be superior to the education support condition and the WLC condition at posttreatment, with the education support condition also superior to the WLC condition at posttreatment. At 6-month follow-up (with wait list participants randomly assigned to one of the two active interventions), it was predicted that the OST would continue to be superior to the education support condition. A secondary purpose of this investigation was to determine whether treatment effects would be comparable across two countries—Sweden and the United States. OST, pioneered by Öst (1989, 1997) in Sweden, has not been systematically examined in an RCT outside the country in which it was developed. An important goal in the initial stages of determining the portability and generaliz-
ability of this intervention is to examine its efficacy in a country other than that in which it was developed.

Method

Participants

Children and adolescents were recruited through referrals from child psychiatric services, school health services, family medical practices, and newspaper advertisements in Stockholms County, Sweden, and from the New River Valley and Roanoke Valley areas of southwestern Virginia.

To be included in the study (a) the participants had to be between 7 and 16 years of age, (b) the participants had to have a specific phobia according to DSM-IV (American Psychiatric Association, 1994) criteria, (c) the phobia had to result in significant impairment and be rated at least 4 on a 0–8 clinician severity rating scale (see below), (d) the duration of the phobia had to be at least 6 months, (e) the participants did not fulfill criteria for any of the disorders meeting exclusion criteria (i.e., primary major depression, pervasive developmental disorder, drug or alcohol abuse, or psychotic symptoms), and (f) the participants had to agree to discontinue other forms of psychotherapy or antidepressant medications for the duration of the study. Over a period of 6 years (2001–6), a total of 226 participants were screened and completed diagnostic interviews; 196 participated (101 from Sweden and 95 from Virginia). Reasons for nonparticipation included being referred out for treatment because they met exclusion criteria (15), not meeting full criteria for a specific phobia (9), low motivation for treatment (5; see below), and too young in age (1). See Figure 1 for participant flow through the study.

In Stockholm, 101 youth entered the treatment protocol: 63 girls (62%) and 38 boys (38%), with a mean age of 11.1 years \( (SD = 1.9) \). Ninety-four percent of the Sweden sample were Caucasian, 1% were African American, 2% were Hispanic, and 3% were of other ethnicities. Sixty-six percent of parents were married or cohabiting, 23% were divorced or separated, 8% were adoptive or foster care parents, and 3% were single parents. The overall mean income of the Sweden sample was $84,506. Seventy-one (70%) of the Sweden sample had animal phobias: dogs (29), spiders (15), wasps (9), birds (5), snakes (4), ants (4), insects (4), and snails (1). The remaining 30 (30%) had a variety of phobias, including enclosed spaces (13), loud noises (6), thunderstorms (5), costumed characters (2), flying (1), water (1), mushrooms (1), and rain (1).

Comorbidity was defined as fulfilling another DSM-IV diagnosis according to semistructured diagnostic interviews (ADIS-C/P) with a clinician severity rating (CSR) of 4 or above. Relative impairment of various diagnoses, as determined by CSRs, was used as the basis for assigning primary versus secondary diagnoses (Silverman & Albano, 1996). Forty-four (44%) of the Swedish participants were comorbid with at least one additional disorder: Twenty-four had one additional disorder, and 20 had two or more additional diagnoses. The 44 secondary diagnoses included other specific phobias (22), separation anxiety disorder (7), generalized anxiety disorder (6), social phobia (5), major depression (1), attention-deficit/hyperactivity disorder (1), obsessive-compulsive disorder (1), and enuresis (1).

For Virginia, 95 youth entered the treatment study: 43 girls (45%) and 52 boys (55%), with a mean age of 10.9 years \( (SD = 1.7) \). Eighty-eight percent of the Virginia sample were Caucasian, 4% were African American, 2% were Hispanic, and 6% were of other ethnicities. Seventy-three percent of parents were married or cohabiting; 12% were divorced or separated; 8% were adoptive, foster care, or stepparents; 3% were single; and 4% did not report their family structure. The overall mean income of the Virginia sample was $71,240. Forty percent of the Virginia sample had animal phobias: dogs (20), spiders (11), bees (4), cats (1), and other animals (2). The remaining 60% had situational, natural environment, and “other” specific phobias, including the dark or being alone (20), thunderstorms (17), heights (3), elevators or enclosed spaces (3), loud noises (2), costumed characters (2), flying (2), water (2), vomiting or choking (2), taxidermy-prepared animals (2), and other phobias (2).

Ninety (94.7%) of the Virginia participants were comorbid with at least one additional disorder: Twenty-nine had one additional disorder, and 61 had two or more additional disorders. The 90 secondary diagnoses included other specific phobias (45), generalized anxiety disorder (17), social phobia (10), attention-deficit/hyperactivity disorder (all types; 8), separation anxiety disorder (5), enuresis (2), obsessive-compulsive disorder (1), posttraumatic stress disorder (1), and oppositional defiant disorder (1).

Design

Within country, participants were randomly assigned to the three treatment conditions. Because a main goal of the study was to investigate the relative efficacy of OST in comparison to EST, a strategy of proportional random assignment was used to differentially maximize the size of the two active treatment conditions vis-à-vis the WLC (see Silverman et al., 1999). Overall, across sites, 85 children were assigned randomly to OST; 70 to EST, and 41 to WLC. Randomization was done, within country, by the

Figure 1. Flow chart of participants through phases of the trial (Virginia and Sweden samples combined).
principal investigators before the start of the study, with computerized randomization procedures or random number generators. Randomization assignments were kept in opaque envelopes that were not opened until the time of assignment.

The waiting period was approximately 4 weeks, a period equal to the time between pre- and postassessment in the two treatment conditions. After the post–wait list assessment, children and adolescents in WLC who still fulfilled inclusion criteria were offered treatment and, if they remained interested in receiving treatment, were rerandomized to one of the two active treatments (see Figure 1). Of the 41 WLC participants, 34 were interested in receiving treatment; 17 were randomly assigned to the OST condition and 17 to the EST condition. The remaining 7 WLC participants were either referred out for treatment (N = 5) or no longer met criteria at the end of the wait list period (N = 2; see Figure 1). Within country, participants were randomized to therapists who treated approximately the same number of participants in each condition (four female therapists in Sweden, three male and three female therapists in Virginia).

Assessment of Primary Outcome Measures

**Diagnostic assessment.** The ADIS-C/P (Silverman & Albano, 1996) was administered by trained graduate student clinicians enrolled in doctoral programs in clinical psychology at the respective sites. One clinician interviewed the child (ADIS-C) while another clinician simultaneously interviewed the primary caregiver (ADIS-P; 94% mothers) regarding the child’s psychological problems. The outcomes of these two interviews were discussed with the project directors during weekly supervision sessions to arrive at consensus diagnoses and CSRs. To assess reliability of the diagnoses, independent trained assessors randomly selected and reviewed 20% of the videotaped interviews. Under Cohen’s kappa, agreements on diagnoses were .95 and .86 on primary and secondary diagnoses, respectively, in Sweden and .93 and .88 in Virginia.

**CSR.** As part of the diagnostic screening interview with the ADIS-C/P, the clinicians rated the severity of the child’s phobia on a 0–8 scale, where 0 = no symptoms, 2 = mild, 4 = moderate, 6 = severe, and 8 = very severe. Assessors were blind to treatment condition, both prior to and following treatment. For the 20% of the videotaped interviews used for diagnostic reliability purposes, product–moment correlations showed an interrater reliability of the CSRs of .92 for primary and .83 for secondary diagnoses in Sweden and .87 for primary and .85 for secondary diagnoses in Virginia.

**Behavioral Approach Tests (BATs).** Based on the BATs used by Öst et al. (2001), a specific approach test was constructed for each of the specific phobias. With two exceptions, the BATs were in vivo in that the participants were asked to approach real, live animals or objects or situations (e.g., climb a ladder, interact with a clown). The two exceptions were for thunderstorms and flying phobias for which audiotapes and videotapes were used. The BAT consisted of a number of gradually more difficult steps (varying between 12 and 27 steps), and participants were instructed to do their best so that a reliable measure of avoidance could be obtained. However, they were also told that they could terminate the behavioral test at any point if the anxiety was too much for them. Because the number of steps varied on the BATs, the percentage of steps accomplished was used as the unit of analysis. In addition, participants rated their degree of subjective units of distress (SUDS) on a 0–8 scale after the assessor explained the directions of the BAT but before they entered the room or situation with the phobic object. A subset of 30 participants completed the BAT and SUDS ratings approximately 1 hr after the first administration. Test–retest reliability was .92 for the SUDS rating and .87 for percentage of steps undertaken in the BAT.

**Treatment satisfaction survey.** Treatment satisfaction was assessed by a three-item scale (ranging from 0 to 8) measuring degree of satisfaction with changes in fear level, avoidance, and interference of the phobia following treatment. Separate ratings were provided by parents and their children.

Assessment of Secondary Outcome Measures

**Child-rated scales.** The Fear Survey Schedule for Children–Revised (FSSC-R; Ollendick, 1983) was used to assess fears. It consists of 80 items rated on a 1–3 scale. General anxiety was assessed with the Multidimensional Anxiety Scale for Children (MASC; March et al., 1997), a scale consisting of 39 items rated on a 0–3 scale. Depression was assessed with the Children’s Depression Inventory (CDI; Kovacs, 1981), which has 27 items rated on a 0–2 scale. Motivation for treatment was assessed by a 15-item instrument modeled after that developed by Keijzers et al. (1999). Children were asked to rate various statements (e.g., “I need help immediately to solve my problems,” “I believe this is the right treatment for me”) on a 0–2 scale indicating whether the 15 statements were not at all true, partly true, or mostly true for them (range of scores: 0–30). Internal consistency for the present study was .73. Children reporting scores below 15 were viewed as possessing poor motivation and were not included in the trial (N = 5; see Figure 1).

**Parent-rated scales.** The parents’ perceptions of their child’s problems were assessed with the Child Behavior Checklist (CBCL; Achenbach, 1991), consisting of 113 items rated on a 0–2 scale.

**Procedure**

**Pretreatment.** Upon referral, a member of the research team phoned the parents to conduct a brief screening interview, which usually lasted about 15–20 min (see Figure 1). The telephone screen was intended to rule upon the presence of a specific phobia and any disorders meeting exclusionary criteria. If a child appeared to fulfill inclusion criteria, an appointment was made for the full assessment interview. The interview began with the child and the parent being informed about the study and inviting them to participate. The parent signed an informed consent form and the child provided signed assent, with both forms approved by our respective institution review boards. During this assessment session, the ADIS-C/P was administered. If the child was judged to fulfill the DSM-IV criteria, he or she continued filling out the FSSC-R and MASC while the parent completed the CBCL.

During a second assessment session, the BAT was administered. When the BAT was completed, the child filled out the CDI.

**Posttreatment.** One week after the 3-hr treatment session, the participants and their parents were interviewed with miniversions of ADIS-C/P (sections containing the primary and secondary di-
agnoses met at pretreatment), performed the BATs, and completed the following questionnaires once again: FSSC-R, CDI, MASC, and CBCL. All participants completed treatment and/or the WLC condition to which they were assigned. There were no treatment dropouts for this OST (see Figure 1).

**Six-month follow-up.** At the 6-month follow-up, the same assessments as at posttreatment were carried out.

**Pretreatment Interview**

Because the therapists had not participated in the assessment process, they met with the child and the child’s parents for a 45-min session, approximately 1 week prior to the OST. The main purpose of this session was for the therapist to get acquainted with the child, to begin to develop a therapeutic relationship, and to undertake a brief cognitive-behavioral functional analysis of the child’s phobia. Furthermore, the therapist described the treatment the child had been randomly assigned to and evaluated the child’s motivation for treatment. The therapist met with the child alone for about two thirds of this session, and then the parents were brought into the room so that the treatment could be described to them. The following pretreatment instructions were given for OST: “This treatment is done as teamwork and both you and I (the therapist) have equal responsibility for achieving success. I want you to know that I will never do anything without first describing it to you, demonstrating it, and seeking your permission to do it. Do you understand?” The therapist also informed the children that even though they might experience a high level of anxiety during the exposures, they would not “break their personal record” of anxiety in the phobic situation.

EST was also described as teamwork wherein the therapist would help the child learn more about specific phobias, how they develop, how they are maintained, and how information about the phobia would help the child overcome it. This information was presented in the form of a colorful booklet that was highly interactive. This activity was embedded in a supportive relationship. Basically, the child was informed that “knowledge was power” and that the information would help the child overcome his or her phobia. In both conditions, a sense of self-efficacy was engendered. The pretreatment interview session ended with both the child and the parent filling out the credibility scales (see below).

**Treatments**

**OST.** This treatment followed the principles described by Öst (1989, 1997) and was manualized but flexibly implemented (Öst & Ollendick, 2001), maximized to 3 hr, and adjusted to the developmental level of the child. Playful activities were used with younger children (ages 7–11), whereas more age-appropriate situations were enlisted with adolescents. The guiding principle of treatment was the cognitive-behavioral analysis of the child’s catastrophic cognition concerning what would happen when encountering the phobic object or situation. The treatment was based on the rationale that it is the child’s strong belief in the catastrophe that maintains his or her escape and avoidance behavior. This belief then prevents the child from obtaining new information that can correct the false belief.

Treatment consisted of graduated exposure in vivo, embedded in a series of behavioral tests that the child was encouraged to attempt in order to obtain new information about the phobic object or situation. The children were encouraged to draw conclusions regarding their beliefs after an exposure situation had been completed. Examples of exposure situations for enclosed places included riding elevators and being in small windowless rooms with the door closed, whereas a dog phobic child would be provided the opportunity to interact with dogs of different sizes and activity levels. Most of the treatments lasted the full 3 hr, but in a few cases the session was terminated earlier if the child no longer displayed significant avoidance behavior and experienced little to no anxiety. In no case did a child ask to end the treatment before the 3 hr were up. No adverse events were observed during treatment.

**EST.** This treatment was also maximized to 3 hr, flexibly implemented, and based on the manual developed by Silverman et al. (1999) but modified slightly for this study. During the treatment session, the child had a workbook with text, pictures, and activities. The most important issues covered during the session were a definition of fear and phobia, a theoretical formulation of the acquisition of phobias (cognitive, operant learning, vicarious conditioning), a description of the physiological factors associated with phobias, and a description of “slipping” and how to handle it. The child was encouraged to keep the workbook at home and to take it out and review it now and then in order to remember the important facts that the child learned about phobias during the treatment session. EST was intended to be fun activity embedded in a therapeutic relationship but with no in vivo exposure to the feared object or situation and no cognitive challenges.

**Therapists**

In Stockholm, four female clinicians (with a master’s degree or above) with 1–4 years of clinical experience beyond their basic training in CBT served as therapists. In Virginia, three male and three female clinicians (with a master’s degree or above) served as therapists. Their experience beyond the basic coursework was also 1–4 years. However, the therapists had limited experience treating children with specific phobias. Each therapist received approximately 10 hr of training in the interventions by attending didactic sessions, reviewing therapy tapes conducted by the principal investigators, and observing ongoing treatment cases. Moreover, they received weekly supervision by the site supervisors (the principal investigators), and their sessions were actively monitored for adherence and competency on an ongoing basis.

**Treatment credibility ratings.** After having received a description of the treatment to which their child was randomly assigned, the attending parents filled out a four-item credibility scale adapted from Borkovec and Nau (1972). Each item was rated on a 0–8 scale (range: 0–32). The means for the parent credibility scale across countries were 26.93 (SD = 3.92) for OST and 24.99 (SD = 5.27) for EST. There was a significant difference between the two treatment conditions, F(1, 188) = 6.72, p < .01, with parents in OST reporting higher mean credibility scores than parents in EST. However, ratings for both conditions indicated high overall levels of credibility. There was not a significant country or Country × Treatment Condition interaction on the parent credibility scale.

The perceived credibility of the treatment was also assessed for the children, with an adapted version of Borkovec and Nau’s (1972) credibility scale. It too possessed four items, with each rated on a 0–8 scale (range: 0–32). The means for the child
credibility scale across countries were 27.13 (SD = 4.68) for OST and 25.31 (SD = 5.49) for EST. There was a significant difference between the treatment conditions, $F(1, 188) = 5.58, p < .05$, with children in OST reporting higher mean credibility scores than children in EST. However, both means reflect very high levels of credibility. There was not a significant country or Country $\times$ Treatment Condition interaction on the child credibility scale.

Therapist adherence and competency ratings. All therapy sessions were videotaped, and 20% of each therapist’s sessions in both conditions were randomly selected for assessment of adherence and competence by experts on the treatments using 13-item rating scales specifically developed for this purpose by us. Each item was rated on a 0–6 scale, and the item means for the Swedish therapists were 5.10 (SD = 0.43; range: 4.35–5.73) for OST and 4.95 (SD = 0.39; range: 4.29–5.63) for EST. The corresponding means for the Virginia therapists were 4.96 (SD = 0.41; range: 4.25–5.90) for OST and 5.12 (SD = 0.40; range: 4.46–5.85) for EST. In addition, two proscribed items were included for the EST condition (therapist refrains from challenging negative thoughts/beliefs about the phobic object; therapist refrains from encouraging/prescribing exposure activities). For Sweden, the item mean for these two items was 5.70 (SD = 0.36; range: 4.70–6.00), and for Virginia the mean was 5.62 (SD = 0.395; range: 4.50–6.00). All between-site differences were nonsignificant.

Results

Attrition

All participants completed the treatment or WLC period to which they were randomly assigned and participated in the postassessment. Thus, there were no dropouts from treatment. As indicated above, 34 of the 41 WLC participants were rerandomized to the OST and EST conditions, yielding a total of 102 participants in the OST condition and 87 participants in the EST condition (see Figure 1). At the time of the 6-month follow-up, 9 of the 102 participants in the OST condition (the original 85 plus the 17 rerandomized to that treatment) and 8 of the 87 in the EST condition (the original 70 plus the 17 reassigned to that condition) were not available for follow-up (see Figure 1). The 6-month data were analyzed with an intent-to-treat strategy, with the last observation carried forward in the case of missing data. Attrition did not differ significantly across the OST and EST treatment conditions, $\chi^2(1, N = 189) = 0.008, p = .93$.

Sociodemographic Variables

No differences in family structure and race or ethnicity were observed for country or treatment group. Table 1 presents frequencies and percentages of the other demographic variables, including gender, age, type of specific phobia, and presence of comorbidity by country and treatment group. As can be seen in Table 1, there were no differences among the three treatment groups on any of these variables. However, country differences on demographic variables were evident on four demographic variables. Specifically, the Virginia sample had more boys and more 7- to 11-year-olds, whereas the Sweden sample had more girls, $\chi^2(1, N = 196) = 5.09, p < .05$, and more 12- to 16-year-olds, $\chi^2(1, N = 196) = 15.17, p < .001$. In addition, the Sweden sample had a higher number of youth with an animal phobia compared with the Virginia sample, $\chi^2(1, N = 196) = 18.20, p < .001$. Finally, the Virginia sample had a higher number of participants with two or more comorbid disorders, $\chi^2(1, N = 196) = 39.8, p < .0001$, compared with the Sweden sample.1

Pretreatment Differences

Table 2 presents the means and standard deviations for the primary outcomes measures at pretreatment, posttreatment, and 6-month follow-up. One-way analyses of variance (ANOVAs) were used to assess treatment group and country differences on the outcome variables at pretreatment. No differences on any of the outcome variables were noted among the treatment groups at pretreatment. For the country analyses, two significant differences were found. First, there was a significant difference on the CSR of phobia severity, $F(1, 195) = 3.94, p < .05$, in that the Virginia sample received higher CSR mean scores (6.12) than the Sweden sample (5.84). Second, there was a significant difference in the percentage of steps completed on the BAT, $F(1, 182) = 13.42, p < .0001$. The Virginia sample completed a higher percentage of steps ($M = 59.34$) at pretreatment than the Sweden sample ($M = 40.06$). Although seemingly paradoxical, a possible reason why the Virginia sample had higher CSR mean scores but completed a higher percentage of steps on the BAT is because the Virginia sample had a higher number of youth with natural environmental phobia ($n = 34$) than the Sweden sample ($n = 7$). The majority of the environmental phobias were either of storms ($n = 9$) or the dark ($n = 11$) in which the BAT had to be artificially created (i.e., watching a storm on the TV or sitting in a dark room for 5 min) and tended to lack the realistic nature of storms or the dark in the natural setting.

Primary Outcome Measures

CSRs. Results for the CSRs of the phobia are displayed in Figure 2. Figure 2A shows the pre- and posttreatment means for the original three groups. Repeated measures ANOVAs revealed significant time, $F(1, 195) = 154.07, p < .0001, \eta^2 = .45$, and Time $\times$ Treatment Group interaction effects, $F(2, 190) = 36.19, p < .0001, \eta^2 = .28$. Results were nonsignificant for Time $\times$ Country and Time $\times$ Country $\times$ Treatment Group interactions. A one-way ANOVA at posttreatment was significant, $F(2, 190) = 28.38, p < .0001$, and Scheffe’s tests indicated that the OST group mean was significantly lower than both the EST group mean (mean difference = 1.39, standard error of the mean = 0.26; $p < .0001$) and the WLC group mean (mean difference = -2.09, standard error of the mean = 0.30; $p = .0001$; see Table 2).

Figure 2B shows the means for OST and EST groups at pretreatment, posttreatment, and 6-month follow-up after the WLC subjects had been rerandomized to one of the two treatment groups. Repeated measures ANOVAs revealed significant time, $F(2, 185) = 185.98, p < .0001, \eta^2 = .50$, and Time $\times$ Treatment Group interaction effects, $F(2, 185) = 15.69, p < .0001, \eta^2 = .08$. Results were nonsignificant for Time $\times$ Country and Time $\times$ Country $\times$ Time interaction effects, $F(2, 185) = 5.13, p = .0001, \eta^2 = .03$. The Virginia sample completed a higher percentage of steps ($M = 59.34$) at pretreatment than the Sweden sample ($M = 40.06$). Although seemingly paradoxical, a possible reason why the Virginia sample had higher CSR mean scores but completed a higher percentage of steps on the BAT is because the Virginia sample had a higher number of youth with natural environmental phobia ($n = 34$) than the Sweden sample ($n = 7$). The majority of the environmental phobias were either of storms ($n = 9$) or the dark ($n = 11$) in which the BAT had to be artificially created (i.e., watching a storm on the TV or sitting in a dark room for 5 min) and tended to lack the realistic nature of storms or the dark in the natural setting.

1 All main analyses were run controlling for age, gender, and type of phobia through analyses of covariance. Results were virtually identical to the analyses of variance. Analyses of variance are reported here.
Country × Treatment Group interactions. Both treatment groups showed significant improvements that were maintained at the 6-month follow-up. Additionally, a one-way ANOVA at posttreatment, $F(1, 188) = 26.03, p < .0001$, and at 6-month follow-up, $F(1, 188) = 9.96, p < .01$, showed significant differences between the two treatment groups: The OST group had lower CSR ratings compared with the EST treatment group at both points in time. Diagnosis free. Diagnosis free was defined as having a CSR of below 4 on the ADIS, as rated by the independent assessor. Figure 3 depicts the percent diagnosis free in the three treatment groups before WLC rerandomization. Chi-square analyses showed significant differences between the three treatment groups at posttreatment, $\chi^2(2, N = 196) = 39.89, p < .0001$; 55% ($N = 47$) of the OST group no longer met diagnostic criteria—significantly higher than the EST (23%; $N = 16$) and WLC conditions (2%; $N = 1$). Figure 4 depicts the percent diagnosis free after the WLC was rerandomized at posttreatment and 6-month follow-up. Chi-square analyses showed significant differences between the two treatment groups at posttreatment, $\chi^2(1, N = 189) = 19.58, p < .0001$, and at 6-month follow-up, $\chi^2(1, N = 189) = 4.06, p < .05$; 52% ($N = 53$) of the OST group were diagnosis free at posttreatment, and 49% ($N = 50$) remained diagnosis free at 6 months, in contrast to 21% ($N = 18$) of the EST group at posttreatment and 35% ($N = 30$) at 6 months. Chi-square analyses were also conducted to see if differences existed between countries in percent diagnosis free. Results for before-and-after WLC randomization indicated that there were no between-country differences.

Table 1
Sociodemographic Variables for Virginia and Sweden Samples by Treatment Group

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<th>Variable</th>
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Note. OST = one-session treatment; EST = education support treatment; WLC = wait list control.

Table 2
Means and Standard Deviations on Primary Outcome Measures by Treatment Condition

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<td>28.38**</td>
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<td>5.66</td>
<td>9.96*</td>
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<td>BAT % steps completed</td>
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<td>BAT SUDS rating</td>
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<td>3.44</td>
<td>18.40**</td>
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</table>

Note. OST = one-session treatment; EST = education support treatment; WLC = wait list control; CSR = clinician severity rating; BAT = Behavioral Approach Test; SUDS = subjective units of distress; TSS = treatment satisfaction survey (lower scores indicate less fear, avoidance, and interference). * $p < .01$. ** $p < .001$. 
Repeated measures ANOVAs revealed a significant time effect, $F(1, 177) = 54.04, p < .0001, \eta^2 = .23$, for the mean percentage of steps completed in the BATs before WLC randomization. Results were nonsignificant for Time × Treatment Group, Time × Country, and Time × Country × Treatment Group interactions. One-way ANOVAs and Scheffe’s tests did not reveal any significant differences between the treatment groups at posttreatment.

Upon rerandomization of the WLC participants to the two treatment groups, repeated measures ANOVAs revealed a significant time, $F(2, 175) = 46.61, p < .0001, \eta^2 = .21$, and Time × Country interaction effect, $F(2, 175) = 10.32, p < .0001, \eta^2 = .06$. However, one-way ANOVAs did not reveal any significant differences between the treatment groups at posttreatment or 6-month follow-up. Because a Time × Country interaction was significant and pretreatment differences were demonstrated between country for the percentage of steps completed, a one-way analysis of covariance, controlling for pretreatment mean percentage of steps completed, was conducted. Results indicated no significant difference at posttreatment between the Virginia and Sweden samples on the mean percentage of steps completed at posttreatment. There were also no significant differences between Virginia and Sweden on the mean number of steps completed at the 6-month follow-up. Results were nonsignificant for Time × Treatment Group and Time × Country × Treatment Group interactions.

**BATs: Self-ratings of anxiety prior to the BAT (SUDS).** Repeated measures ANOVAs revealed significant time, $F(1, 184) = 83.48, p < .0001, \eta^2 = .31$; Time × Treatment Group, $F(2, 184) = 3.92, p < .05, \eta^2 = .04$; and Time × Country effects, $F(1, 184) = 4.61, p < .05, \eta^2 = .02$, in the SUDS rating just before entering the room in the behavioral avoidance task for the three groups. Results were nonsignificant for the Time × Country × Treatment Group three-way interaction. One-way ANOVAs at posttreatment showed a significant difference between the treatment groups, $F(2, 192) = 5.12, p < .01$, and Scheffe’s tests indicated that the OST group mean was significantly lower than the EST group mean (mean difference $= -1.18$, standard error of the mean $= 0.41$; $p < .05$). Because a Time × Country interaction was significant, one-way ANOVAs were conducted to test for

**Figure 2.** Mean clinician severity ratings by the independent assessor (A) for the original groups and (B) after wait list group rerandomization.

**Figure 3.** Percent diagnosis free for combined Virginia and Sweden samples at posttreatment, before wait list control (WLC) rerandomization. OST = one-session treatment; EST = education support treatment.

**Figure 4.** Percent diagnosis free for combined Virginia and Sweden samples at posttreatment and 6-month follow-up, after wait list control rerandomization. OST = one-session treatment; EST = education support treatment.
differences by country. One-way ANOVAs revealed a significant difference at posttreatment between the Virginia and Sweden samples, $F(1, 192) = 12.20, p < .01$, in that the Sweden sample had higher SUDS ratings ($M = 3.91$) than the Virginia sample ($M = 2.63$).

Upon rerandomization of the WLC participants to one of the two active treatments, repeated measures ANOVAs revealed a significant time effect, $F(2, 184) = 75.32, p < .0001, \eta^2 = .29$, in the SUDS rating just before entering the room in the behavioral avoidance task. Results were nonsignificant for Time $\times$ Treatment Group, Time $\times$ Country, and Time $\times$ Country $\times$ Treatment Group interactions. One-way ANOVAs revealed a significant difference at posttreatment between the two treatment groups, $F(1, 190) = 4.16, p < .05$, in that the EST group had higher SUDS ratings ($M = 3.68$) than the OST group ($M = 2.89$). No differences were found at the 6-month follow-up, however.

Secondary Outcome Measures

Results on both the parent and child report measures are presented in Table 3 by country and treatment group. Differences were examined through one-way ANOVAs, indicating that there was a significant difference between countries on the MASC total anxiety score at posttreatment, $F(1, 193) = 14.59, p < .0001$, and at the 6-month follow-up, $F(1, 186) = 10.73, p < .01$. Inspection of the means indicated that the Virginia sample had a significantly lower MASC total anxiety score (mean at posttreatment = 43.65; mean at 6-month follow-up = 43.70) compared with the Sweden sample (mean at posttreatment = 49.32; mean at 6-month follow-up = 48.82).

Repeated measures ANOVAs yielded significant time effects for the CBCL anxious/depressed scale, CBCL internalizing scale, MASC, and FSSC-R. Significant time effects were not found for the CDI. However, there was no Time $\times$ Treatment Group, Time $\times$ Country, or Time $\times$ Country $\times$ Treatment Group interactions on any of the measures with the exception of one. The MASC total score yielded a significant Time $\times$ Country interaction, $F(1, 186) = 9.06, p < .01$. A one-way ANOVA at posttreatment revealed significant differences between MASC total score, $F(1, 193) = 14.59, p < .0001$, in that the Sweden sample had higher MASC total scores ($M = 49.32$) than the Virginia sample ($M = 43.65$).

Upon WLC rerandomization, repeated measures ANOVAs yielded significant time effects for the CBCL anxious/depressed scale, CBCL internalizing scale, MASC, and FSSC-R. Results remained nonsignificant for the CDI. Time $\times$ Treatment Group, Time $\times$ Country, and Time $\times$ Country $\times$ Treatment Group interactions were not found on any of the measures. Inspection of the means on all measures showed improvement, albeit small, at the 6-month follow-up.

The Influence of Sociodemographic Variables on Diagnosis-Free Status

Analyses were also conducted to test the influence of the sociodemographic variables (gender, age, and phobia type) on diagnosis-free status at posttreatment and at the 6-month follow-up for the OST and EST conditions. For OST, chi-square analyses

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<th>EST</th>
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<th>OST</th>
<th>EST</th>
<th>WLC</th>
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<td>4.82</td>
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</table>

Note. Standard deviations are shown in parentheses. OST = one-session treatment; EST = education support treatment; WLC = wait list control; CBCL = Child Behavior Checklist; MASC = Multidimensional Anxiety Scale for Children; FSSC-R = Fear Survey Schedule for Children-Revised; CDI = Children’s Depression Inventory.

* $p < .01$. 

Table 3

Parent and Child Report Scales Means for Virginia and Sweden Samples by Treatment Group
failed to show any significant differences at posttreatment but did show significant differences in diagnosis-free status at the 6-month follow-up for gender, $\chi^2(1, N = 102) = 4.74, p < .05$. Specifically, there was a higher percentage of girls (62%; $N = 26$) than boys (40%; $N = 24$) who were diagnosis free at 6-month follow-up. None of the sociodemographic variables showed significant differences in diagnosis-free status at posttreatment or the 6-month follow-up for the EST condition.

Clinically Significant Improvement

Clinically significant improvement for OST and EST at posttreatment was examined for three indicators. First, the CSR for the specific phobia had to be a 3 or lower (i.e., subclinical). Then, for both the parent and the child treatment satisfaction survey, three items were selected to represent clinically significant improvement. The three items asked the parent and child to rate how (a) fearful, (b) avoidant, and (c) interfering their fears were compared with those of other children their age. These items were on a 0–8 scale, with 0 = not at all and 8 = very, very much. These three items were summed, and the item mean was calculated separately for parents and children. A mean score of below 3.5 was used to indicate clinically significant improvement (a score indicating little to very little fear, avoidance, or interference).

Three separate chi-square analyses were conducted to test clinically significant improvement between OST and EST on these indices separately: (a) CSR of 3 or below, (b) parent treatment satisfaction mean score on the three items described above at 3.49 or below, and (c) child treatment satisfaction mean score of the three items described above of 3.49 or below. Finally, a fourth chi-square analysis was conducted on all three indicators combined. Chi-square analyses for the CSR indicated significant differences between OST and EST at posttreatment, $\chi^2(1, N = 189) = 19.57, p < .0001$, with OST ($n = 53$; 52%) having a greater amount of clinically significant improvement than EST ($n = 18$; 21%). Chi-square analyses for the parent treatment satisfaction score also indicated significant differences between OST and EST at posttreatment, $\chi^2(2, N = 189) = 26.63, p < .0001$, with OST ($n = 56$; 55%) having a greater amount of clinically significant improvement than EST ($n = 26$; 30%). Similarly, chi-square analyses for the child satisfaction survey indicated significant differences between OST and EST at posttreatment, $\chi^2(2, N = 189) = 9.55, p < .01$, with OST ($n = 75$; 74%) having a greater amount of clinically significant improvement versus EST ($n = 52$; 60%). Finally, chi-square analyses for all three indicators combined indicated significant differences between OST and EST at posttreatment, $\chi^2(2, N = 189) = 24.37, p < .0001$, with OST ($n = 34$; 33%) having a greater amount of clinically significant improvement than EST ($n = 10$; 12%).

Discussion

The present study compared an intensive, cognitive behavior therapy (OST) to an education support treatment (EST) and a wait list control (WLC) group in the treatment of specific phobias in a large sample of children and adolescents from Sweden and Virginia. Our primary hypothesis was that OST and EST would be superior to WLC at posttreatment and that OST would be superior to EST at posttreatment and at 6-month follow-up. Indeed, OST and EST evidenced superior outcomes to WLC on the independent assessor ratings of phobic severity and the percentage of participants who were diagnosis free following treatment. However, these two groups were not superior to WLC on the number of steps completed on the BAT, self-report, or parent report measures at posttreatment. In reference to OST and EST at posttreatment, analyses showed that OST was superior to EST not only on clinician ratings of phobic severity and percentage of participants who were diagnosis free but also on child ratings of anxiety immediately before the BAT and treatment satisfaction as reported by the children and their parents. At 6-month follow-up, participants in the OST condition continued to do better than those in the EST condition on CSRs and the percentage of participants who were diagnosis free but not on subjective ratings of anxiety before the BAT or other study variables. Thus, partial support for our primary hypothesis was obtained.

The failure of OST to produce outcomes superior to attention/support and WLC conditions on self- and parent report measures is not inconsistent with earlier findings of Öst et al. (2001), who conducted a study in Sweden with phobic youth that served as the pilot study for this investigation. In that study, OST did not show superior effects to WLC on child reports of fear, anxiety, or depression. Similarly, in the trial completed by Silverman et al. (1999), no posttreatment differences were found on measures of fear, anxiety, and depression between exposure-based treatments and an education support condition similar to the one used in this study. Similarly, no differences on parent-reported CBCL scores were noted by Silverman et al. or by us in this study. In the Silverman et al. and Öst et al. studies, like the present one, significant time effects for self- and parent report measures were observed for all groups, but Time × Treatment interaction effects were not obtained. It should also be noted that in this study and the others floor effects likely existed on these measures; that is, the means for these measures were all in the normative ranges at pretreatment, leaving little room for change.

Of particular interest, approximately 50% of participants in the OST condition were diagnosis free at posttreatment and at 6-month follow-up. The rates in Sweden (48% at posttreatment, 44% at 6-month follow-up) and Virginia (56% at posttreatment, 54% at 6-month follow-up) were marginally different, although not significantly different from one another. These recovery rates are similar to those obtained in CBT trials with other anxiety disorders (cf. Barrett, Dadds, & Rapee, 1996; Kendall, 1994; Kendall et al., 1997) and specifically with phobic disorders treated with contingency management plus exposure procedures (Silverman et al., 1999). They are, however, considerably lower than those reported by Öst et al. (2001) in the pilot study for this investigation. In that study, using similar procedures with similarly diverse specific phobias in similarly aged youth, the authors reported that 82% of the youth evidenced clinically significant change at posttreatment and 80% at 1-year follow-up. One potentially important difference exists between that study and the current one that might account for these differences. In the Öst et al. study, the two therapists “had extensive experience treating children with specific phobias and, before the start of the study, had treated approximately 40 children using the one-session treatment” (p. 817). Both therapists in that study were licensed psychotherapists with an average of 8.5 years’ post-CBT training. In contrast, therapists in the current study had limited experience with treating phobic youth and in the use of
OST. Yet, our treatment adherence and competence measures indicated that the therapists had mastered and implemented the OST procedures well. Quite obviously, it is possible that additional experience and mastery of the procedures would have made our therapists more proficient in the use of this complex intervention. Although a comparison of relatively experienced and inexperienced therapists awaits experimental study, it appears highly probable that experienced therapists would produce better results inasmuch as the Swedish therapists in both the current study and the former one were directly supervised by the developer of this intensive treatment and yet differences were obtained.

The similarity in outcomes between Sweden and Virginia is of importance. As noted earlier, OST has not been systematically examined outside Sweden or across clinical sites. In the initial stages of determining the portability and generalizability of this intervention, it is important to establish the efficacy of the intervention under the supervision of someone other than the developer of the treatment and at a site other than the site at which it was developed. In this study, therapists in Sweden were supervised by Öst (developer of the treatment), whereas those in Virginia were supervised by Ollendick (trained by Öst). The similarity in outcomes across sites suggests that the treatment is portable and that it can be used effectively in different clinical settings. However, it remains to be determined whether the treatment can be transported effectively outside a clinical research setting.

Final mention should be made of the influence of background variables on treatment outcomes in this study. None of our sociodemographic variables (gender, age, ethnicity, income level, family structure, type of phobia) predicted treatment outcome at post-treatment, and only one (gender) did so at 6-month follow-up. More girls responded to OST than boys. This finding was also reported by Öst et al. (2001). Although Öst et al. also reported that type of phobia predicted treatment outcome (better outcomes with the animal phobia type), this was not found in the present study. Berman, Weems, Silverman, and Kurtines (2000), using a somewhat similar, albeit not intensive, intervention, failed to find support for gender, age, socioeconomic status, and phobia type as predictors of treatment outcome in a reanalysis of the Silverman et al. (1999) findings. Thus, in the three major trials with specific phobias conducted to date, the findings are mixed. None of the studies has shown that age or socioeconomic status of the participants predicts differential outcomes. Type of phobia did predict outcome in Öst et al. but not in Silverman et al. or the current study. Gender emerged as a reliable predictor for OST in both the Öst et al. study and the current study but not for contingency-based exposure techniques used by Silverman et al. It is difficult to explain why a higher proportion of girls than boys were diagnosis free with OST but not with contingency-based exposure therapy. A closer examination of treatment tapes might reveal differences in terms of compliance with treatment strategies or possibly relationship–alliance issues that might predict differential outcomes for girls over boys.

Future research concerning OST of specific phobias in youth might examine whether augmenting the treatment with parent involvement enhances treatment outcomes. In the present study, children were treated alone and the parents were not actively involved in the treatment (nor were they in the Öst et al., 2001, pilot study). For the most part, the parents brought their children in for treatment but were not actively involved in the treatment or advised as to what they might do to enhance treatment gains following treatment. Some recent studies have shown that cognitive-behavioral treatments supplemented with family and/or parent anxiety management strategies produce superior outcomes to those obtained with individual CBT (cf. Barrett et al., 1996; Cobham, Dadds, & Spence, 1998). This emerging body of literature suggests that parents may have a positive impact on treatment outcome. Of course, not all studies have reported similar outcomes with parent-enhanced supplements to CBT (cf. Nauta, Scholing, Emmelkamp, & Minderaa, 2003). Barmish and Kendall (2005) asserted that “as alluring as it might be to include parents as co-clients for multiple theoretical reasons, the belief cannot be mistaken as evidence” (p. 578). Given the mixed findings to date, additional comparative research is needed before firm conclusions can be drawn. At this time, the evidence is insufficient to indicate that either approach is superior.

As with all RCTs, the present study has its limitations. Among the more salient limitations is the fact that many of our participants did not report significant distress on the self-report measures of fear, anxiety, and depression, and many parents did not report significant internalizing problems on the CBCL even though children reliably met diagnostic criteria for a specific phobia and evidenced considerable distress and interference. A majority of the youth reported pretreatment scores in the normative range, as did their parents for internalizing problems. Had higher scores been reported on these measures, it is conceivable that change might have been evident. It is interesting that these self- and parent reports were within the normative range even though the youth met full criteria for diagnosis of a specific phobia on the ADIS-C/P and their phobias were judged to be in the severe range by trained clinicians. However, similar findings have been reported by Silverman et al. (1999) and Öst et al. (2001) for phobic youth, and desynchrony across measures is not uncommon for childhood phobias and anxiety disorders (Silverman & Ollendick, 2005). It may be that this desynchrony could be used to predict differential treatment effects, as suggested by De Los Reyes and Kazdin (2005).

Another limitation is related to the fact that a small number of youth (n = 5) were excluded from the clinical trial because they were not “motivated” for treatment. In these instances, parents desired change in their children, but the children themselves did not believe the treatment was right for them and did not want to participate in the intensive exposure required with such a treatment. For ethical reasons, these children and their families did not participate. Still, it should be noted that this was a very small number of children, inasmuch as 196 entered the clinical trial and only 5 declined to do so.

The study is also limited by the very small number of minority participants. Approximately 90% of the youth in both Sweden and Virginia were Caucasian. Although these percentages reflect the racial and ethnic compositions of these two sites, they do not speak to how effective the treatments would be with such youth and their families in more diverse communities. Finally, it is evident that our therapists implemented both OST and EST treatment conditions and that they might have had a favored treatment. However, our treatment adherence and competency ratings were high for both conditions, suggesting that both treatments were implemented competently and with fidelity.
These limitations notwithstanding, this study possessed several strengths including an examination of this intensive treatment across two sites, collection of treatment adherence and competency measures as well as credibility ratings, inclusion of diverse phobias in youth who were highly comorbid with other disorders, and a systematic follow-up of treatment gains. Although more research is needed to determine the generalizability of our findings, OST appears to be both efficient and effective in the treatment of specific phobias in youth.

References


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