School Mental Health (2010) 2:155–165
DOI 10.1007/s12310-010-9042-5

REVIEW PAPER

# Reducing the Prevalence of Anxiety in Children and Adolescents: An Evaluation of the Evidence Base for the FRIENDS for Life Program

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Published online: 25 September 2010


**Abstract** Current estimates suggest that between 8 and 22% of children and adolescents may suffer from an anxiety disorder. Effective intervention efforts are therefore clearly needed to reduce the likelihood of anxious symptoms and promote healthy functioning. One intervention that appears feasible for use in schools and was designed to target anxiety symptoms is the FRIENDS for Life program. Evaluation of FRIENDS has been limited in the United States; however, criteria for evaluation of such programs are available. Thus, the purpose of this paper is to review the research base regarding the FRIENDS for Life program and apply coding procedures to examine program effectiveness. Overall, results suggested promise for use in school-based settings, given demonstrated effectiveness in reducing anxiety symptoms in both universal and targeted populations when implemented within the school ecology. Limitations of the existing evidence base, however, are discussed, thus providing direction for future research.

**Keywords** FRIENDS · Anxiety · School-based prevention · Cognitive-behavioral therapy

## Introduction

Current estimates suggest that between 8 and 22% of children and adolescents may suffer from an anxiety disorder (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Dadds, Spence, Holland, Barrett, & Laurens, 1997; McLoone, Hudson, & Rapee, 2006; Miller, 2008). At the broadest level, anxiety disorders are characterized by "an irrational fear of a situation or stimulus that is in excess of what would be considered reasonable and age appropriate" (McLoone et al., 2006, p. 221). Although the number of anxiety disorders described in the *Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition* (DSM-IV; American Psychological Association, 2004) well exceeds three, programs designed to treat anxiety in children have most frequently been designed to target generalized anxiety disorder (GAD), separation anxiety (SAD), or social phobia. For children with anxiety, excessive worry or fear may require constant reassurance from parents and teachers for children to feel comforted. Normal life routines, such as going to school, become incredibly difficult because children believe that unforeseen circumstances may prevent them from seeing their loved ones again. Additionally, fears of embarrassment or criticism from others may lead to avoidance of social situations, and therefore fewer significant friendships than are age-appropriate. Children with anxiety disorders often also exhibit somatic symptoms, such as fatigue, restlessness, irritability, and sleep disturbance, which may lead to panic attacks or interfere with school functioning. For those individuals for whom anxiety symptoms emerge at a young age, oftentimes symptoms persist into adulthood (Masia-Warner et al., 2005).

Unfortunately, children with anxiety often fail to receive treatment due to the fact that they are generally well-behaved and may exhibit relatively high social functioning (Dadds, Heard, & Rapee, 1991). This difficulty is inextricably linked to most internalizing disorders, in that attention is more likely to be paid to disruptive behaviors that interfere with typical functioning (Tomb & Hunter, 2004).

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In fact, it has been suggested that less than one-third of those individuals with a diagnosable mental health disorder actually receive treatment (e.g., Essau, 2005). This fact not withstanding, the potential impact of anxiety is certainly detrimental, with significant correlations identified between anxiety and depression, inattention, impaired social relations, substance abuse, and poor self-esteem (Farrell & Barrett, 2003; McLoone et al., 2006). In an attempt to ensure that needed services extend as broadly as possible, the Office of the Surgeon General of the United States suggested in a 1999 report that schools serve as a vital setting for identifying and treating mental health concerns.

## Extending Mental Health Services to School Settings

Results of population-based studies (e.g., Farmer, Burns, Phillips, Angold, & Costello, 2003) indicate that schools represent the most common entry point for children and adolescents into mental health services, with over half (60.1%) of those families reporting service usage accessing such services through the education sector. Although not traditionally conceived as such, the school serves as an exemplary setting in which to implement mental health services for several reasons. First, all individuals are provided with equal access to services. Within the community, there may exist several potential roadblocks to service provision, including the waiting lists, costs, and need for transportation usually involved in accessing support (Barrett & Pahl, 2006; Masia-Warner et al., 2005). In contrast, services within the school are provided without direct cost to the family and in a setting that may be far less stigmatizing for some families than seeking clinic-based help (McLoone et al., 2006). Second, schools are in a better position to identify those students in need of services due to daily interactions with these children. Particularly if teachers are provided with training in terms of understanding anxiety and the symptoms that characterize this disorder, students who are potentially at risk can be identified before problems intensify (Sink & Igelman, 2004). Third, the treatment of anxiety within a school setting is particularly relevant in light of the fact that many childhood anxieties emerge in response to school-based stimuli. Depending on the particular subtype, children may display anxious symptoms in response to being dropped off at school (i.e., SAD), having to interact with peers in the cafeteria (i.e., social phobia), or in response to academic imperfection (i.e., GAD). The opportunity therefore exists to implement treatments in the environment in which the anxious symptoms are actually triggered (Masia-Warner et al., 2005).

Although there are clearly advantages to implementing mental health services within schools, few treatments for anxiety currently exist for use in this setting. The majority of extant treatments for childhood anxiety were designed for use in clinic-based settings in the context of individualized therapy (Miller, 2008). Researchers have suggested that such interventions be transported from clinics into the schools; however, studies must first investigate whether treatments continue to be both feasible and efficacious. Although research is still in its infancy, an evidence base has begun to emerge regarding the transportability of cognitive behavioral therapies into school-based settings (e.g., Ginsburg, Becker, Kingery, & Nichols, 2008).

Perhaps the most common approach for the treatment of childhood anxiety has been the use of cognitive behavioral therapy (CBT). CBT represents a hybrid approach to treatment, incorporating psychoeducation, skills-building, cognitive restructuring, and exposure and has been shown to be a powerful approach for the treatment of anxiety in children and adolescents (In-Albon & Schneider, 2007). In fact, using criteria established by the APA Task Force on the Promotion and Dissemination of Psychological Procedures, the use of CBT to treat anxiety in children was found to meet the "probably efficacious" criteria (Kazdin & Weisz, 1998). One of the first cognitive-behavioral interventions developed specifically for the treatment of childhood anxiety was the Coping Cat program (Kendall, 1990). A series of 60-min sessions emphasizes the teaching of new skills and the subsequent practice of those skills in simulated and live settings. Through this program, children are taught to (a) identify both anxious feelings as well as the cognitions that accompany anxiety-provoking situations, (b) utilize positive self-talk and/or behavioral strategies for dealing with anxiety, and (c) reinforce effective use of these cognitive and behavioral strategies (Albano & Kendall, 2002). Designed for use with children and adolescents from 8 to 17 years old, the efficacy of Coping Cat has been repeatedly demonstrated within the literature over the past two decades (e.g. Kendall, 1994).

Although programs such as Coping Cat aim to treat anxiety disorders in children through the use of individualized intervention and treatment, research has estimated that the average cost of individualized intervention for childhood anxiety may exceed $2,000 (Barrett & Pahl, 2006). In contrast, the use of a universal-level program of prevention represents a more cost-effective approach to treatment. Universal approaches involve the application of a given treatment to an entire population rather than a select subset of individuals (National Research Council & Institute of Medicine, 2009). Although universal-level treatment must be applied to a larger population, several advantages have been identified with regard to feasibility. First, time does not need to be spent up front to screen children at-risk for anxiety problems. Rather, children who are in need of more intensive services are identified when they do not respond as anticipated to universal efforts (Barrett & Pahl, 2006). Second, all children are able to benefit from the skills taught.

Although symptoms must be present at elevated levels to warrant diagnosis of an anxiety disorder, it has been suggested that most individuals will experience at least a mild degree of anxiety at some point in their lives (Farrell & Barrett, 2003). Therefore, teaching the skills to successfully manage these feelings can be beneficial for all students. Third, universal prevention programs avoid the stigmatization that may accompany participation in a targeted-level intervention (Barrett & Turner, 2001). Rather than separating children who are at risk from their peers, all students participate together. Lastly, it has been noted that children diagnosed with anxiety disorders may particularly benefit from receiving therapy in a group format, in light of research that suggests that students with GAD and SAD often suffer from reduced peer interactions (Flannery-Schroeder & Kendall, 2000).

One universal-level intervention for which an evidence base has emerged over the past decade is the FRIENDS for Life program (FRIENDS; Barrett, Webster, & Turner, 2000). FRIENDS was modeled after the Coping Cat program; however, it was specifically designed for administration at the group level by either school-based mental health providers or typical classroom teachers (Barrett & Pahl, 2006; Barrett et al., 2000). Similar to Coping Cat, FRIENDS is a manual-based program, which provides implementers with detailed descriptions of developmentally appropriate activities to be completed individually or in groups. The curriculum consists of 10 1-h lessons, plus two follow-up sessions to be scheduled after 1 month and 3 months, respectively (Barrett et al., 2000). Children are taught to recognize the physical symptoms of anxiety and are provided with both behavioral (e.g., relaxation) and cognitive (e.g., positive self-talk) skills for combating these symptoms (Barrett & Pahl, 2006). In addition, three parent sessions are designed to make caregivers aware of the skills being taught to their children and to provide them with strategies for reinforcing use of the strategies at home. In order to ensure that children remember the strategies, they are taught as part of an acronym as presented in Table 1.

Initially developed and evaluated within Australia, there exists a growing literature base regarding the effectiveness of FRIENDS, with studies conducted across children varying in age, ethnicity, and level of risk for anxiety problems. In fact, FRIENDS is the only anxiety program for children and adolescents currently supported by the World Health Organization as an effective program (World Health Organization, 2004).

Evaluation of FRIENDS has been greatly limited in the United States; however, criteria for evaluation of school-based prevention and intervention programs have been developed. More specifically, in 1999, Division 16 (School Psychology) of the American Psychological Association, the Society for the Study of School Psychology, and the National Association of School Psychologists created the Task Force on Evidence-Based Interventions in School Psychology (Division 16 Task Force). The mission of this Task Force was to develop the *Procedural and Coding Manual* "to review and document the evidence for effective prevention and intervention in, or useful for, the field of

**Table 1** FRIENDS Acronym

| | |
|---|---|
| F | Identifying and understanding feelings |
| Feelings | Empathy building |
| | Recognizing body clues |
| R | Relaxation skills: diaphragmatic breathing, muscle relaxation, visualization |
| Remember to relax. | Identifying enjoyable, soothing activities: exercise, quiet time |
| Have quiet time. | |
| I | Paying attention to inner thoughts/self-talk (green helpful thoughts vs. red unhelpful thoughts) |
| I can do it! | |
| I can try my best! | We control what we think about, how we feel |
| | Attention training: look for the positive cues in all situations |
| E | 6 Block problem solving plan: |
| Explore solutions and coping step plans. | What is the problem? |
| | Brainstorm possible solutions |
| | List outcomes for each solution |
| | Select best solution based on consequences |
| | Make plan for putting solution into practice |
| | Evaluate outcome and determine whether to return to step 2 |
| | Coping step plan: |
| | Graded exposure |
| | Students encouraged to use cognitive and behavioral strategies learned in earlier sessions to face feared stimuli |
| | Identify coping role models (i.e., people who care and can help) to turn to in difficult situations |
| | CALM model used for conflict resolution with older children: Calm down during a conflict situation, Actively listen to the other person and what they want, List their needs in the situation, Make a solution based on compromise |
| N | Set reasonable, achievable goals |
| Now reward yourself! You've done your best! | Learn to self-reward for performance (especially with activity-based rewards rather than materialistic goals) |
| D | Skills learned in the program must be practiced on a regular basis |
| Don't forget to practice. | Role plays encouraged in difficult situations |
| | Teach others how to utilize strategies as well |
| S | Reinforce fact that children have learned strategies that will help them with future difficult situations |
| Smile! | |
| Stay calm for life! | Plan ahead for difficult situations and use friends to help cope |

**Table 2** General characteristics of reviewed studies

| | Reference | Participants | General design characteristics | Type of program | Length of intervention | Intensity (min/wk) | Program implementer |
|---|---|---|---|---|---|---|---|
| S1 | Barrett et al. (2006) | $N = 735$<br>6th, 9th grade Australia | Randomized block design | Universal prevention | 10 weeks | 45–60 | Research assistant |
| S2 | Barrett & Turner (2001) | $N = 489$<br>10–12 years<br>Australia | Randomized block design | Universal prevention | 10 weeks | 75 | Teacher; trained psychologist |
| S3 | Barrett et al. (2001) | $N = 204$<br>6–19 years<br>Australia | Randomized block design | Selective prevention | 10 weeks | 60 | Trained therapist |
| S4 | Barrett et al. (2003) | $N = 320$<br>6–19 years<br>Australia | Block design (randomization not specified) | Selective prevention | 10 weeks | 60 | Trained mental health provider |
| S5 | Bernstein et al. (2005) | $N = 61$<br>7–11 years<br>United States | Randomized block design | Intervention | 9 weeks | 60 | Trained therapist |
| S6 | Cooley et al. (2004) | $N = 10$<br>5th grade<br>United States | Quasi-experimental pre/post | Intervention | 6 weeks | 120 | Licensed psychologist |
| S7 | Liddle and Macmillan (2010) | $N = 58$<br>9–14 years<br>Scotland | Partial random assignment | Selective prevention | 10 weeks | – | Educational psychologist |
| S8 | Lock & Barrett (2003) | $N = 737$<br>10–14 years Australia | Randomized block design | Universal prevention | 10 weeks | 75 | Trained psychologists |
| S9 | Lowry-Webster et al. (2001) | $N = 594$<br>10–13 years<br>Australia | Randomized block design | Universal prevention | 10 weeks | 60 | Teacher |
| S10 | Mostert & Loxton (2008) | $N = 46$<br>12 years<br>South Africa | Quasi-experimental, nonequivalent control group | Universal prevention | 5 weeks | 120 | – |
| S11 | Rose et al. (2009) | $N = 52$<br>8–9 years<br>Canada | Block design (randomization not specified) | Universal prevention | 8 weeks | 60 | Teacher |

**Table 2** continued

| | Reference | Participants | General design characteristics | Type of program | Length of intervention | Intensity (min/wk) | Program implementer |
|---|---|---|---|---|---|---|---|
| S12 | Shortt et al. (2001) | $N = 71$<br>6–10 years<br>Australia | Randomized design | Intervention | 10 weeks | 60 | Research assistant |
| S13 | Stallard et al. (2005) | $N = 197$<br>9–10 years<br>England | Quasi-experimental pre-post | Universal prevention | 10 weeks | – | School nurse |
| S14 | Stallard et al. (2007) | $N = 106$<br>9–10 years<br>England | Quasi-experimental pre/post using double pretest | Universal prevention | 10 weeks | – | School nurse |

– Details not specified within study

school psychology" (Kratochwill & Stoiber, 2002, p. 342). The Task Force criteria have been widely accepted in the field of education and have been applied to several interventions (e.g., parent and family interventions; Carlson & Christenson, 2005), but have not yet been applied to FRIENDS. Thus, the purpose of this paper is to review the research base regarding the FRIENDS for Life program and apply the rigorous coding procedures set forth in the *Procedural and Coding Manual* (Task Force on Evidence-Based Interventions, 2003) to examine program effectiveness.

## Method

For the purposes of the current review, a literature search was conducted to identify all empirical studies of the FRIENDS program published in peer-reviewed journals. In addition to utilizing the list of research abstracts provided on the program developers' website, literature searches were conducted using the PSYCinfo and Medline databases. A total of 14 studies were identified and presented in Table 2. All identified studies were coded using criteria set forth by APA's Division 16 Task Force on Evidence-Based Interventions in School Psychology, as described below.

### Coding Procedures

The *Procedural and Coding Manual for Review of Evidence-Based Interventions in School Psychology* (hereafter referred to as the *Manual*; Task Force on Evidence-Based Interventions, 2003) outlines procedures for coding and rating peer-reviewed prevention or intervention program evaluation studies with single-case or group-based designs. As all of the FRIENDS studies employed a group-based design, only those rating criteria are described here. The *Manual* provides explicit instruction regarding how to review and rate the evidence provided for a prevention or intervention program. The rating procedures are divided into three broad domains: (a) General Characteristics, (b) Key Features, (c) Supplemental Descriptive or Supplemental Information. The rating procedures for each of these domains are briefly described below. For more detailed descriptions of the coding procedures, please see Kratochwill and Stoiber (2002; narrative description of conceptual foundations and coding domains) and the Procedural and Coding Manual for Review of Evidence-Based Interventions (Task Force on Evidence-Based Interventions, 2003; specific coding procedures).

*General Characteristics*

The domain General Characteristics addresses the methodology and statistical procedures used to evaluate an intervention. This domain is divided into five categories (i.e., General Design Characteristics, Statistical Treatment/Data Analysis, Type of Program, Stage of the Program, and Concurrent or Historical Intervention Exposure).

*Key Features*

The domain Key Features addresses areas related to the internal validity of intervention evaluation studies. The domain is divided into nine categories (i.e., Measurement, Control or Comparison Group, Statistically Significant Outcomes, Educational/Clinical Significance, Identifiable Components, Implementation Fidelity, Replication, Site of Implementation, and Follow-up Assessment Conducted). Each category is rated on a four-point scale to specify the level of evidence (i.e., 3 = strong evidence/support, 2 = promising evidence/support, 1 = marginal or weak evidence/support, 0 = no evidence/support).

*Descriptive or Supplemental Criteria*

The domain Descriptive or Supplemental Criteria was developed to capture information about intervention implementation and patterns of behavior change that may not be incorporated in statistical analyses or quantitative data, but may be useful in determining if an intervention is well-matched to a specific applied setting. This domain is divided into 10 categories (i.e., External Validity Indicators, Length of Intervention, Intensity/Dosage, Dosage Response, Program Implementer, Characteristics of the Intervener, Intervention Style/Orientation, Cost Analysis Data, Training and Support Resources, and Feasibility).

*Interrater Agreement*

All studies were rated by the first author according to guidelines set forth in the *Manual*. In those cases in which sufficient data were presented, effect sizes were calculated for primary outcome measures (i.e., those assessing anxiety or self-esteem) using Cohen's *d*. One half of studies were then randomly selected and coded by a second rater in order to establish interrater agreement. Within each study, coefficient kappa was calculated for each variable (i.e., general study characteristic, key methodological feature), and these values were then averaged across studies. Perfect agreement (Kappa = 1.0) was noted for general study characteristics (e.g., design, length of treatment), whereas the average kappa statistic across key methodological features was 0.87 (Range = 0.73–1).

## Results and Discussion

General Characteristics

Across the 14 studies identified, effects of the FRIENDS program have been studied with over 1,800 students ranging from 6 to 19 years old in Australia, Canada, England, Scotland, and the United States. Key characteristics of the 14 studies reviewed are presented in Table 2. In the majority of cases, the core child-level programming was implemented as prescribed in the manual (i.e., 1 h per week over the course of 10 weeks). Variations were noted, however, with regard to implementation of the booster (i.e., 1-month, 3-month) and parent (i.e., 4–80 min sessions). Implementation of booster sessions, for example, was only specifically noted in 3 of 14 studies (i.e., Bernstein, Layne, Egan, & Tennison, 2005; Barrett, Farrell, Ollendick, & Dadds, 2006; Lowry-Webster, Barrett, & Dadds, 2001). Furthermore, although the manual outlines four sessions designed specifically for parents, these meetings were only incorporated in a small number of studies (e.g., Barrett et al., 2006; Bernstein et al., 2005; Lowry-Webster et al., 2001; Shortt, Barrett, & Fox, 2001).

Although FRIENDS was designed to be used as a universal-level intervention, several studies have investigated program efficacy when utilized with at-risk or indicated populations. Specifically, three studies required students to have a current anxiety-related diagnosis to participate in the study (Bernstein et al., 2005; Cooley, Boyd, & Grados, 2004; Shortt et al., 2001), one study utilized teacher referral (Liddle & Macmillan, 2010), and two studies conducted by Barrett, Sonderegger, and Sonderegger (2001), and by Barrett, Sonderegger, and Xenos (2003) targeted recently immigrated students in English as a Second Language (ESL) classes. Although a range of effect sizes was identified across these studies (Range = 0.16–1.00), results generally suggest that the intervention had a positive effect on student outcomes. Perhaps most notable were the significant improvements evidenced across those studies involving indicated populations. The mean effect size across anxiety outcome measures for children diagnosed with anxiety (ES = 0.84) was found to be within the range of effect sizes reported for individualized CBT therapy (see Compton, March, Brent, Albano, Weersing, & Curry, 2004 for a comprehensive review). Furthermore, the effect size for children diagnosed with anxiety was found to be twice as large as for those children identified as at-risk (ES = 0.44) and four times greater than for the general population of children (ES = 0.24). This discrepancy in effect sizes is not surprising, given the likely floor effect that exists for those students demonstrating low initial symptomatology; however, it does support the validity of the program in targeting anxiety outcomes. Furthermore, the percentage of students

who moved to sub-threshold diagnostic status following the FRIENDS intervention was significantly higher than in the control condition (73% vs. 38%, Bernstein et al., 2005; 69% vs. 6%, Shortt et al., 2001). In addition, separate analyses were conducted for those students identified as at-risk within several universal-prevention studies (Lowry-Webster et al., 2001; Stallard et al., 2005; Stallard, Simpson, Anderson, Hibbert, & Osborn, 2007), therein identifying significant effects for this targeted group in addition to those identified for the larger population studied. Taken together, these results suggest that the FRIENDS program may benefit all students through the teaching of coping skills. However, when time and resource constraints dictate the scope of service provision, the population of greatest interest would inevitably be those children already diagnosed with one or more anxiety disorders.

## Key Features and Descriptive or Supplemental Criteria

Based on a 4-point scale, numerical ratings of the key methodological features are presented in Table 3. Although most outcome measures utilized have been shown to produce reliable scores, the majority of studies received low ratings with regard to the quality of measurement, given failure to either (a) incorporate multiple assessment methods or sources, (b) use the appropriate unit of analysis, or (c) note that Type I error was controlled for when making multiple statistical comparisons. Most of the studies reviewed utilized questionnaires/rating scales to evaluate anxiety symptomatology, with additional methods (i.e., diagnostic interviews) incorporated in rare instances (e.g., Shortt et al., 2001). More specifically, self-report data were used exclusively to measure outcomes in the majority of cases. The validity of self report data has been questioned, however, for children with anxiety disorders for whom the tendency to provide socially desirable responses may be more common (Dadds, Perrin, & Yule, 1998). Furthermore, the sole reliance on one method of data collection, such as the use of questionnaires, may limit results and reduce sensitivity to changes in anxiety. Notably, when rating scales were completed by both children and their parents (e.g., Bernstein et al., 2005), significant effects were noted for parent reports; however, self-report data did not indicate significant treatment effects. Although this finding is potentially idiosyncratic, it does suggest the possibility that the intervention effects described in many of the studies of FRIENDS to date have been underestimated. Therefore, to ensure a comprehensive and accurate evaluation of treatment effects, future studies should ensure that assessments are multi-method in nature.

In addition to assessment methods, issues of concern were also noted with regard to data analytic procedures, specifically controlling for Type 1 error and utilizing the appropriate unit of analysis. First, some outcomes may have been incorrectly identified as significant (i.e., $p < 0.05$) due to the fact that corrections were not made for multiple contrasts. Second, although several of the reviewed studies demonstrated statistically significant primary outcomes (see Table 4), many of these studies received a null rating in this category due to the fact that the unit of analysis was not deemed appropriate. Specifically, most of the studies conducted by Barrett and colleagues selected schools to serve as the unit of random assignment (i.e., randomly assigned entire schools to either treatment or control groups), but treated individual students as the unit of analysis. Given that independence of observations cannot be assumed within a classroom or school, such an analytic approach is limited. Consideration of multi-level analysis was noted in a follow-up study to Lock and Barrett's 2003 investigation (Barrett et al., 2006), wherein school-level factors accounted for an insignificant percentage of the total variance identified. However, this type of analysis has been an exception rather than the norm to date. Future work should therefore

**Table 3** Summary of evidence for key methodological features

| | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | S11 | S12 | S13 | S14 | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Measurement | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1.29 |
| Control or comparison group | 2 | 1 | 0 | 1 | 2 | 0 | 2 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 0.93 |
| Statistically significant outcomes | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 0.57 |
| Educational significance | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 2 | 2 | 1 | 0 | 2 | 2 | 0 | 1.36 |
| Identifiable components | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Implementation fidelity | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 1 | 1 | 3 | 3 | 2 | 1.86 |
| Replication | 2 | 0 | 0 | 2 | 2 | 1 | 3 | 1 | 2 | 0 | 0 | 1 | 2 | 2 | 1.29 |
| Site of implementation | 2 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2.14 |
| Follow-up assessment conducted | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 2 | 3 | 0 | 2 | 0 | 1 | 1.07 |
| Total | 12 | 7 | 9 | 11 | 12 | 10 | 12 | 13 | 13 | 8 | 5 | 15 | 14 | 11 | |

*S* study (as referenced in Table 1); *3* strong evidence, *2* promising evidence, *1* marginal evidence, *0* no evidence/not reported

**Table 4** Effect sizes (Cohen's *d*) for primary outcomes of reviewed studies

| Study | Effect size 1 | Effect size 2 | Effect size 3 |
|---|---|---|---|
| 1 | SCAS: 0.34 | | |
| 2 | RCMAS: 0.50 | SCAS: 0.24 | |
| 3 | CSCY: ns | RCMAS: 0.47 | SEI: 0.30 |
| 4 | RCMAS: 1.05[a]/0.32[b] | RSES[b]: 0.35 | SEI[a]: 0.38 |
| 5 | MASC: 0.17 | MASC (parent): 0.79 | SCARED (parent): 1.00 |
| 6 | MASC: 0.16 | RCMAS: 2.76 | TASC: 0.75 |
| 7 | CFSEQ: −0.51 | SCAS: 0.56 | |
| 8 | RCMAS: 0.32 | SCAS: 0.28 | |
| 9 | RCMAS: 0.06 | SCAS: 0.52 | |
| 10 | SCAS: ns | | |
| 11 | MASC: ns | | |
| 12 | RCMAS: 0.65 | | |
| 13 | CFSEQ: 0.32 | SCAS: 0.30 | |
| 14 | CFSEQ: 0.28 | SCAS: 0.39 | |

All measures of self-report unless otherwise noted

*CFSEQ* Culture-Free Self-Esteem Questionnaire (Battle, 1992), *CSCY* Coping Scale for Children and Youth (Brodzinsky et al., 1992), *MASC* Multidimensional Anxiety Scale for Children (March, Parker, Sullivan, Stallings, & Conners, 1997), *RCMAS* Revised Children's Manifest Anxiety Scale (Reynolds and Richmond 1985), *RSES* Rosenberg Self Esteem Scale (Rosenberg, 1965), *SCARED* Screen for Child Anxiety Related Emotional Disorders (Birmaher et al., 1999), *SCAS* Spence Children's Anxiety Scale (Spence, 1997), *SEI* Self Esteem Inventory (Coopersmith, 1989), *TASC* Test Anxiety Scale for Children (Sarason, 1975)

[a] Elementary school

[b] High school

investigate the use of multilevel modeling to examine desired outcomes.

Several additional weaknesses of the current FRIENDS literature base were identified through the current review. First, although the majority of studies utilized a comparison group, ratings in this category were generally low due to the fact that efforts to ensure group equivalency or control for the effect of variations in implementers were either not made or were unnoted. Although covariates were used to control for pre-test differences in some studies (e.g., Lowry-Webster et al., 2001), such an approach was not consistently evidenced (e.g., Barrett et al., 2001). Furthermore, generally weak results were identified for the categories of clinical significance and identifiable components. Although external evaluations of program effectiveness were occasionally made in terms of examining changes in diagnostic status, social validity (i.e., applied meaningfulness of behavioral change) and social comparison data were not gathered. Additionally, at present, there have been no investigations in which the different components of FRIENDS have been directly isolated and investigated. Therefore, knowledge about the efficacy and necessity of specific aspects of the intervention is limited. Such information would be especially important to know with regard to the parent sessions, which can be time-consuming and difficult to implement in schools. The independent effect of the inclusion of parent sessions was only examined in one study (Bernstein et al., 2005); unfortunately, however, results provide limited information, given that the 1-h, weekly parent sessions conducted extended beyond the standard protocol.

Variable ratings were identified in the realms of replication and generalization effects (i.e., follow-up assessments conducted). Although more than a dozen studies have been conducted using the FRIENDS program, small variations have been noted in terms of the treatment protocol such as increasing (e.g., Bernstein et al., 2005) or decreasing (Rose, Miller, & Martinez, 2009) program length. Related, published studies have not always clearly specified which intervention components were incorporated. As a result, direct replication has occurred in few instances. Additionally, given that half ($n = 7$) of the reviewed studies were conducted by at least one of the program developers, independent researchers are encouraged to conduct further investigations of the program. In spite of this concern, however, it is worth noting that the effect sizes identified in independent evaluations (mean ES = 0.48) have been similar to those in studies conducted by the program developers (ES = 0.33). With regard to generalization of treatment effects, follow-up data were collected in eight cases. Intervention effects were found to maintain at 6 (Barrett et al., 2003; Liddle & Macmillan, 2010; Mostert & Loxton, 2008) and 12 months (Barrett, Lock, & Farrell, 2005; Lowry-Webster, Barrett, & Lock, 2003; Shortt et al., 2001; Stallard, Simpson, Anderson, & Goddard, 2008), and the sustainability of effects beyond a 12-month period was even noted in one study (i.e., 36 months; Barrett et al., 2006). One challenge in interpreting these results, however, is the fact the recommended booster sessions were implemented inconsistently across studies. It would be beneficial to investigate whether booster sessions or an extended intervention are necessary to maintain outcomes in future studies.

Promising evidence was identified in the realms of fidelity and site of implementation. In addition to the fact that FRIENDS is a manualized intervention, most studies have included procedures to ensure implementation integrity. In studies in which classroom teachers served as the primary program implementers (e.g., Barrett & Turner, 2001; Lowry-Webster et al., 2001), high levels of implementation integrity were documented through self-report and observation. These findings suggest that teachers or other school personnel may be trained according to a protocol, utilizing a minimal amount of resources. In studies to date, a training period of 1–2 days has been shown to be effective in ensuring proper implementation. Furthermore,

subsequent to training, the manual supports teachers and school personnel in independently implementing the intervention, thereby increasing usability and reducing necessary resources.

Given that 13 of the 14 studies reviewed successfully carried out the program within the regular school day (implementation occurred after school in Bernstein et al., 2005), this suggests great promise for the integration of mental health supports within the existing school ecology. It should be noted, however, that these results speak to the appropriateness of the school as an implementation setting but do not address concerns related to personnel. Although three studies (i.e., Barrett & Turner, 2001; Lowry-Webster et al., 2001; Rose et al., 2009) successfully trained classroom teachers to implement the program independently, these teachers were provided with training and support that may not be available in the typical school environment. That is, teachers participated in intensive training workshops prior to implementation and received feedback regarding implementation integrity from an external consultant. Furthermore, although Barrett and Turner (2001) found no significant differences between teacher- and psychologist-led intervention conditions, nonsignificant effect sizes were noted in the other two studies in which teachers were charged with implementation. As a result, the mean effect size for those studies utilizing teachers or school providers as implementers (ES = 0.22) was found to be half as large as those in which researchers or trained providers served as implementers (ES = 0.56).

With the exception of two studies by Stallard et al. (2005, 2007), in which school nurses delivered program content, the remaining investigations relied upon trained researchers or therapists to implement the curriculum. As a result, little is currently known about the cost involved, the training and support required, or the feasibility of implementing FRIENDS with typical school personnel. If FRIENDS is to be used as a classroom intervention, future studies must more specifically investigate aspects of training and support needed to ensure accurate implementation by typical classroom teachers. In addition, none of the studies provided information regarding the characteristics of the intervener (i.e., how similar the intervener was to the participants) or investigated the effects of varying the length or intensity of the program. Determining the degree to which individual consumers can deviate from standard program protocol and continue to demonstrate positive outcomes is important in setting forth implementation guidelines for school-based practitioners.

## Implications for Research and Practice

In summary, positive outcomes have been identified in the literature, and research to date suggests that FRIENDS may be a promising intervention for the treatment of anxiety in school-based settings. The user-friendly manual, short term of implementation, and demonstrated effectiveness in reducing anxiety symptoms in children make FRIENDS a viable intervention option for anxiety prevention. Combined, these factors seem to suggest that the intervention could feasibly be incorporated into a school setting and implemented by typical school personnel. Additional research is needed, however, before school mental health providers will likely feel confident moving forward with adoption in local school settings.

Some level of ambiguity continues to exist with regard to the efficacy of FRIENDS when carried out by classroom teachers, who represent the intended implementers. To date, the majority of studies have employed clinically trained personnel as program implementers and identified medium effect sizes (Mean ES = 0.56). In the much smaller number of cases in which teachers or school providers have served as implementers, however, effect sizes have been found to fall in the small range (Mean ES = 0.22). Until further research is conducted utilizing typical classroom interventionists (i.e., teachers), it appears that schools would be best served by charging school mental health providers with primary responsibility for implementation.

An additional area in which better consensus must be drawn concerns the level of intervention at which FRIENDS should be utilized. That is, FRIENDS was designed to be implemented as a universal intervention, and applied at the classroom level; however, mean effect sizes for the general population (ES = 0.24) have been comparatively small (i.e., at-risk ES = 0.44; diagnosed with anxiety ES = 0.84). Although it has been suggested that FRIENDS is beneficial for all students, given that most individuals experience some level of anxiety at one time or another, schools will need to examine to the costs and benefits of universal implementation in order to inform local decision making. That is, those schools in which many different programs and initiatives compete for classroom time may decide that the intervention is best reserved for those students already identified as at-risk for internalizing problems. This targeted implementation would also serve to address the aforementioned implementer issue, in that small group sessions would most likely be carried out by school mental health providers. However, in those settings in which a greater degree of flexibility is afforded, FRIENDS may be carried out with all students as part of the regular classroom curriculum.

Furthermore, despite its endorsement from the World Health Organization, there exist well-defined areas in which the technical evidence base for the FRIENDS program could be strengthened. Further work is needed to ameliorate current methodological concerns related to the appropriate unit of analysis, correcting for multiple contrasts, and ensuring

matched control groups. Furthermore, interviews and questionnaire data could be gathered from parents and teachers to obtain a comprehensive view of the effectiveness of the intervention. Research should also seek to isolate the effectiveness of individual intervention components (e.g., parent training), as well as to establish clinical significance by demonstrating meaningful improvements in behavior. Finally, as noted previously, this literature base would benefit from additional investigations conducted in applied settings with typical implementers (i.e., teachers, school psychologists) to explore issues of cost, feasibility, and flexibility.

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