



# School-Based Clinicians Sustained Use of a Cognitive Behavioral Treatment for Anxiety Disorders

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## Abstract

Dissemination and use of cognitive behavioral therapy (CBT), the primary evidence-based psychosocial treatment for pediatric anxiety disorders, in school settings has been slow, occurring primarily in the context of randomized controlled trials (RCT). No data are available on the sustained use of CBT by school clinicians after research support ends. Filling this gap, the current study examined clinicians: (1) recall and attitudes toward a modular CBT (M-CBT), (2) sustained use of anxiety screening measures, (3) sustained use of M-CBT and modifications made, (4) perceived reasons and barriers to sustained use and (5) an exploratory examination of predictors of the sustained use of M-CBT. Participants included 43 school-based clinicians (77% of those originally trained in an RCT; 90% female, 73% White) who were contacted 3.43 years after their initial training to complete an online sustainability questionnaire. The results indicated that while most clinicians recalled and had positive attitudes about the M-CBT training (90%), 63% reported they continued to use M-CBT and a majority made modifications to the content, length and format. Predictors of the sustained use, based on 22 single predictor regression models, included greater perceived acceptability and benefits (for youth and clinicians) of the intervention and lower perceived difficulty of administering M-CBT components. Fewer administrative demands were also associated with greater sustained use. Findings suggest that additional efforts are needed to enhance the sustained use of M-CBT for anxiety in school settings. Targeting specific aspects of the intervention materials (difficulty, benefits) as well as lowering administrative demands might facilitate the sustained use of M-CBT by school clinicians.

**Keywords** Pediatric anxiety · CBT · Sustainability · Evidence-based treatment

## Introduction

Pediatric anxiety disorders are common and are associated with significant impairment in functioning across social, academic and familial domains (Swan & Kendall, 2016). Fortunately, cognitive behavioral therapy (CBT) is an effective treatment for these disorders (Higa-McMillan, Francis, Rith-Najarian, & Chorpita, 2016). However, less than half of anxious youth receive this or any treatment (Merikangas et al., 2011). While under-treatment likely results from practical barriers to accessing treatment, such as transportation and costs, dissemination of CBT into settings where these

barriers do not exist such as schools (treatment is provided free of charge, no need for transportation) has been slow and has occurred primarily in the context of randomized controlled trials (RCTs; Mychailyszyn et al., 2011). Understanding the reasons for the slow uptake of CBT in school settings is needed to improve the adoption of this evidence based-treatment (EBT) and improve outcomes for students with anxiety. Understanding reasons for the lack of the sustained use of CBT in school settings could inform the allocation of funds for training to ensure the highest quality of care.

Theoretical models, such as the diffusion of innovations theory (DOI; Rogers, 2003) and exploration, preparation, implementation and sustainment (EPIS; Aarons, Hurlburt, & McCue Horwitz, 2011), propose intervention-specific factors that are likely to increase adoption of new interventions in community settings. For instance, clinician perceptions of the relative advantages/benefits of the new intervention, perceptions that the new intervention is compatible with their own values (i.e., acceptability) and that the intervention is

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easy to understand and/or low in complexity or difficulty to administer have all been linked with increased use. Studies examining these and other factors within the school setting specifically have identified clinician attitudes and school resources as important factors related to use of CBT. For example, Forman, Fagley, Chu and Walkup (2012) surveyed 124 school psychologists in order to understand what factors (e.g., attitudes about a program and organizational factors) influence clinician willingness to implement interventions such as CBT. They found that acceptability (defined as “the extent to which individuals describe themselves as liking interventions and perceive an intervention to be fair, appropriate, and reasonable for an identified population”) and efficacy beliefs about the intervention, as well as the perceived presence of organizational resources and administrator support, were predictive of clinician willingness to implement CBT in a school setting. These findings were similar to those of Elkins, McHugh, Santucci and Barlow (2011) who reviewed barriers to the uptake of CBT in schools and found that time constraints and financial concerns were common reasons indicated.

Data on the actual sustained use of CBT in community settings for pediatric anxiety disorders is still in its infancy, and no studies have examined the sustained use among school clinicians. Edmunds and colleagues (2014) recruited and trained a sample of community mental health clinicians in the Coping Cat, a CBT intervention for pediatric anxiety disorders. Two years after receiving the training, 44% of the original sample of clinicians completed follow-up questionnaires on their sustained use of CBT. The results indicated that 41% of clinicians re-contacted continued to use CBT and the most commonly used components were positive reinforcement, identification and management of somatic arousal, problem solving and cognitive restructuring; exposure (thought to be the key CBT ingredient for anxiety reduction) was the component least likely to be used. Chu and colleagues (2015) also examined the uptake of CBT by interviewing community mental health clinicians ( $N=23$ ) 3 to 5 years after they completed an intensive training in CBT as part of an RCT for anxiety (Coping Cat) or depression (Primary and Secondary Control Enhancement Therapy; PASCET). Findings relevant to the current study indicated that the majority of clinicians (78.5% for the Coping Cat) continued to use the Coping Cat but used only parts, rather than the entire treatment protocol. For youth with anxiety, the most frequently used CBT component was problem solving and the least used was exposure (45.9%). Consistent with DOI, one reason clinicians may not have implemented all treatment components could be due to higher perceived difficulty in implementation.

Taken together, only a handful of studies have examined the sustained use of CBT for pediatric anxiety disorders in community settings and none have examined the sustained

use of CBT for anxiety disorders among school-based clinicians. As more youth are being treated in schools, data on the extent to which school-based clinicians continue to utilize all or some aspects of CBT after initial training are needed to inform areas for future training (e.g., whether adoption is facilitated by adjusting components of the intervention or providing specific resources to clinicians in the form of organizational support). The current study builds upon this growing literature by examining the sustained use of a modular form of CBT (M-CBT) in a school setting for youth with anxiety disorders 3.4 years after initial training in the context of an RCT. Specifically, this study describes clinicians’ responses to a sustainability questionnaire and examined: (1) school-based clinicians’ recall and attitudes about training in the study specific M-CBT modules, (2) use of anxiety screening measures presented during the RCT, (3) sustained use of the M-CBT and modifications of use, (4) perceived reasons and barriers to use and (5) potential predictors of sustained use of M-CBT. Informed by the literature, three domains of potential predictors were examined: baseline clinician characteristics (e.g., years of experience, theoretical orientation), organizational characteristics (e.g., competing demands, use of additional M-CBT supervision) and characteristics of the intervention materials (i.e., acceptability, difficulty and benefits).

## Method

### Participants

Initial data were collected as part of a larger school-based treatment effectiveness study (i.e., the School-Based Treatment for Anxiety Research Study (STARS)), which compared a M-CBT intervention to treatment as usual (Ginsburg, Pella, Pikulski, Tein, & Drake, 2020). Sixty-five school-based clinicians enrolled in STARS were randomized to be trained in M-CBT, 56 (86% out of the 65) completed the M-CBT training, and 43 (77% out of 56) completed the current study (i.e., the sustainability questionnaire). On average, clinicians completed the sustainability questionnaire 3.43 years following completion of their M-CBT training. Similar to the original sample of clinicians, those who completed the questionnaire were predominantly female (90%) and Caucasian (73%) and had professional degrees, including LCSW (22%), Masters (e.g., MA, MS, MSW; 68%) and Ph.D. (10%). Clinicians also had a variety of professional specialties, including social work (41%), school psychology (54%) and counseling (5%). Prior to M-CBT training, clinicians had a mean (standard deviation) of 12.5 (10.8) years of clinical experience, of which 11.1 (9.7) years included working with children. Clinicians’ self-reported primary theoretical orientation was cognitive or cognitive behavioral

(42%), client centered/humanistic (24%), behavioral (20%), psychodynamic (5%) and other (e.g., family system, eclectic, solution focus; 10%) before training. During STARS, 30 (70%) of these 43 clinicians enrolled and treated one or more anxious youth (mean (SD) [median] number of youths = 4.5 (3.8) [3]). Students were referred from school clinicians, other school personnel, their parents or self-referred. To be eligible, students needed to be between the ages of 6–18 and have a primary anxiety disorder. Students were recruited from elementary, middle and high schools. *The University's Institutional Review Board* approved all study procedures. For a full description of STARS treatment and procedures, see Ginsburg et al. (2020).

## Procedures

Clinicians were recruited for STARS via flyers sent by district supervisors and word of mouth. All participants signed informed consent prior to completing any study tasks and indicated a willingness to be contacted for future research projects. After completing baseline study measures, clinicians were randomized to be trained in M-CBT or provide treatment as usual (TAU). Those randomized to M-CBT were offered a 1-day training, assigned a M-CBT clinical supervisor that they had the option of meeting with weekly (in person or by phone) and provided with treatment and study materials (e.g., handouts, treatment manual and semi-structured diagnostic interview summary). Clinicians were also given and trained to use the Screen for Anxiety-Related Emotional Disorders (SCARED), a free screening questionnaire to use with potential students. Clinicians were notified to start treatment once a child was determined to be eligible by the study team (i.e., had a primary anxiety disorder). Clinicians were expected to complete 12 weekly treatment sessions with the child. For the current study, clinicians who had indicated their willingness to participate in future studies via the original STARS study consent form were called and/or emailed ( $N=56$ ). The email included an invitation to participate in the follow-up sustainability study. If clinicians indicated that they were willing to complete the sustainability questionnaire, the questionnaire was sent to them through REDCap. Clinicians were compensated via a gift card for completing the questionnaire.

## Measures

*The STARS Sustainability Questionnaire* was adapted from the Therapist Follow-up Coping-Cat interview (Chu et al., 2015). The current questionnaire included 33 items and assessed clinicians sustained use (e.g., Do you currently use any of the STARS M-CBT materials with the anxious students you treat?) and modifications to M-CBT use (e.g., Did you modify the session length, format and/or

content?). Furthermore, clinicians were asked to report the frequency of using individual M-CBT modules (e.g., psychoeducation and exposure) on a ten-point Likert-type scale (0 = Never/Not at all, 9 = All the time/Every session). Additional questions also examined recall and attitudes about the training and intervention materials, reasons and/or barriers of continued use of M-CBT (including organization resources) and use of anxiety assessment methods (see Tables for specific items). Two subscales were created for use in the current study and were examined as predictors of sustained use of M-CBT: (1) *Overall Perceived M-CBT Difficulty* (defined as clinician's appraisal regarding whether each module in M-CBT was easy to understand/low in complexity or difficult to administer using a ten-point Likert scale ranging from 0 = very easy to 9 = very difficult). The M-CBT Difficulty scale was created by summing the seven difficulty items in Table 2; Cronbach alpha 0.90, and (2) *Overall Perceived M-CBT Acceptability* (defined as clinicians' evaluation of the M-CBT strategies as realistic and practical, easy to implement, fun to teach and enjoyable for children to learn rated on a ten-point Likert scale ranging from 0 = strongly disagree to 9 = strongly agree). The M-CBT Acceptability scale was created by summing four items (strategies are realistic/practical, easy to implement, fun to teach and children enjoy learning M-CBT strategies); Cronbach alpha 0.92.

*The Therapist Background Questionnaire* is a 22-item measure completed at the baseline assessment by clinicians that recorded their demographic characteristics (e.g., age, gender, race) and professional experience (e.g., years of experience, level of education, professional specialty, primary theoretical orientation and primary approach in treating anxious youth).

*The Evidence-Based Practice Attitude Scale Openness subscale* (EPBAS; Aarons, 2004) is a four-item subscale of the EPBAS that assesses clinicians' pre-training (i.e., baseline) attitudes toward the use of new therapies (e.g., I like to use new types of therapy/interventions to help my clients). Clinicians responded using a five-point Likert-type scale (not at all, to a slight extent, to a moderate extent, to a great extent and to a very great extent) for each item where higher scores reflect more openness to using an EBT; Cronbach alpha in this sample for the Openness subscale was 0.78.

*The Texas Christian University Organizational Readiness for Change-D4 Stress subscale* (TCUORC; Lehman, Simpson, Knight, & Flynn, 2011) is four-item subscale of the TCUORC completed by clinicians at baseline. Clinicians responded on a five-point Likert-type scale (disagree strongly, disagree, uncertain, agree and agree strongly) indicating how strongly they agree or disagree with various statements (e.g., there is too much pressure at work, heavy staff workload reduces effectiveness, I am under too many

pressures to do my job effectively). Higher scores indicate higher stress levels; Cronbach alpha in this sample was 0.83.

## Data Analysis

Preliminary analyses compared baseline measures between two sets of groups. Using Fisher's exact test,  $\chi^2$  and/or *T* tests as appropriate, the 43 trained and consented clinicians who completed the sustainability questionnaire were compared to the 13 trained and consented clinicians who did not consent to complete the questionnaire. Next, the 30 clinicians who enrolled at least one student during STARS were compared to the 13 who did not. Descriptive statistics were used to present responses to the individual items on the sustainability questionnaire. Next, exploratory regression analyses, set to a nominal 5% level of significance, examined 22 single predictors of M-CBT use. Specifically, individual predictors of clinician reported current M-CBT use (yes/no) were entered into a logistic regression separately. Since most of the analyses only involved examining relationships between two variables, pairwise deletion was used when there were missing data.

## Results

### Preliminary Comparisons on Baseline Clinician Characteristics

Table 1 displays baseline clinician characteristics among those who completed the sustainability questionnaire versus those who did not. The 43 clinicians who completed the sustainability questionnaire were more likely to be female (90%; Fisher's exact test  $p < 0.05$ ) and reported CBT as their primary approach for treating anxious youth (Fisher's exact test  $p < 0.05$ ). There were no differences on any other demographic variables or the EPBAS Openness or TCUORC stress subscales.

Clinicians who did not enroll a child during the STARS study were compared to clinicians who enrolled at least one child. The 30 clinicians who enrolled a child during STARS were more likely to think M-CBT had a positive impact on their own clinical skills (*T* test  $p = 0.026$ ) and used the changing thoughts, psychoeducation and exposure modules more frequently (*T* test  $p = 0.015, 0.000$  and  $0.011$ , respectively). There were no other differences between groups.

### Aim 1: Clinician Recall and Attitudes Toward M-CBT

Every clinician (100%) recalled being trained in some component of the study treatment modules, though this varied by module ranging from 100% for psychoeducation

**Table 1** Comparison of clinician characteristics

Variable	Completed sustainability ( $n = 43$ )	Did not complete sustainability ( $n = 13$ )	<i>p</i> value
Mean (SD)			
Age	41.0 (11.2)	46.5 (13.9)	0.178 <sup>b</sup>
Years of experience	12.5 (10.8)	16.6 (11.0)	0.254 <sup>b</sup>
EBPAS—openness scale <sup>c</sup>	3.2 (0.6)	3.1 (0.6)	0.569 <sup>b</sup>
TCUORC stress subscale <sup>d</sup>	31.7 (8.8)	31.5 (7.6)	0.935 <sup>b</sup>
<i>N</i> (%)			
Female	38 (90%)	7 (58%)	0.019 <sup>a</sup>
White	30 (73%)	5 (42%)	0.080 <sup>a</sup>
Doctoral degree	4 (10%)	2 (17%)	0.608 <sup>a</sup>
Professional specialty			
Social work	17 (41%)	4 (33%)	0.887 <sup>a</sup>
Psychology	20 (49%)	7 (58%)	
CBT theoretical orientation	23 (56%)	8 (67%)	0.740 <sup>a</sup>
CBT for anxiety as treatment approach	31 (78%)	4 (33%)	0.011 <sup>a</sup>

Percents are based on non-missing data

<sup>a</sup>Fisher's exact test

<sup>b</sup>Equal variance *T* test

<sup>c</sup>Evidence-based practice attitude—openness subscale

<sup>d</sup>Texas Christian University Organizational Readiness for Change Questionnaire

to 63% for the parent psychoeducation module (see Table 2). With respect to perceived difficulty of implementing the M-CBT modules (see Table 2) exposure was rated the most difficult and psychoeducation the least difficult.

Over 90% agreed that the M-CBT training was beneficial and worthwhile. Specifically, clinicians reported M-CBT had positive impacts on their anxious students (94%) and the training improved their own clinical skills (95%). Overwhelmingly, clinicians reported they would recommend the training to other school-based clinicians (95%).

### Aim 2: Sustained Use of Anxiety Screening Measures

Sixty-five percent of clinicians reported assessing for anxiety in some fashion, though the frequency of using assessments was low (see Table 3). The most common assessment methods used were direct observation (81%), and the least common was rating scales/questionnaires (67%). Among the standardized anxiety assessment instruments taught during the M-CBT training, the Screen for Anxiety-Related Emotional Disorders (SCARED) was the most commonly used (33%).

### Aim 3: Sustained Use and Modifications of M-CBT

Sixty-three percent of clinicians reported they continue to use M-CBT materials to treat students with anxiety and 56% used M-CBT to treat youth with other mental health or behavioral problems (see Table 4). The majority of clinicians administered M-CBT with modifications. The most common modifications reported (endorsed by 74%) were “administer only selected modules” and “conducted sessions without assigning homework every session.”

The most frequently used modules were changing thoughts and psychoeducation, with mean (SD) rating of 5.9 (2.4) and 5.7 (2.3), respectively (rating scale: 0=Never/Not at all, 4=Sometimes/Occasionally and 9=All the time/At every session). The least frequently used module was parent psychoeducation (see Table 4).

### Aim 4: Perceived Barriers and Facilitators of Sustained M-CBT Use

The descriptive results of clinicians’ responses regarding reasons for, and barriers to, their sustained use of M-CBT appear in Table 5. The top reasons for their sustained use reflected the acceptability of the intervention. The top

**Table 2** Clinician recall and attitudes toward M-CBT

Recall of training of M-CBT	<i>N</i> (% yes)
Psychoeducation	43 (100%)
Exposure	40 (93%)
Changing thoughts	39 (90.7%)
Relaxation	37 (86.1%)
Problem solving	34 (79.1%)
Relapse prevention	30 (69.8%)
Parent psychoeducation	27 (62.8%)
Perceived difficulty of each module <sup>a</sup>	<i>M</i> (SD)
Exposure	4.45 (2.18)
Parent psychoeducation	4.36 (2.33)
Relapse prevention	4.19 (2.04)
Problem solving	3.31 (1.73)
Changing thoughts	3.08 (1.91)
Relaxation	2.33 (1.77)
Psychoeducation	1.93 (1.86)
Perceived value of M-CBT	
M-CBT had a positive impact on my students <sup>b</sup>	6.91 (1.70)
M-CBT had a positive impact on my own clinical skills <sup>b</sup>	7.32 (1.71)
Would you recommend M-CBT training for school—based clinicians	40 (95.2%)
Is it worth spending added time and effort to learn and deliver M-CBT	39 (95.1%)

<sup>a</sup>Rating scale ranged from 0 = very easy to 9 = very difficult

<sup>b</sup>Rating scale ranged from 0 = strongly disagree to 9 = strongly agree

**Table 3** Clinician reports of assessing for anxiety (N %)

Do you assess for anxiety in your students?	<i>N</i> = 37
Yes—screen whole school	2 (5.4%)
Yes—screen all referred kids	1 (2.7%)
Yes—screen selected kids only	21 (56.8%)
No	7 (18.9%)
Other	6 (16.2%)
How often do you assess for anxiety?	<i>N</i> = 23
Before and after treatment	5 (21.7%)
Every 1–2 sessions	1 (4.3%)
Every month	2 (8.7%)
Every 90 days	5 (21.7%)
Other (i.e., as-needed basis/varies throughout the year)	10 (43.5%)
Which assessment methods do you use?	<i>N</i> = 43
Direct observation of youth behavior	35 (81.4%)
Clinical interviews	30 (69.8%)
Rating scales or questionnaires	29 (67.4%)
Do you use...	<i>N</i> = 36
SCARED <sup>a</sup>	12 (33.3%)
CGAS <sup>b</sup>	4 (10.8%)
CGI-S <sup>c</sup>	2 (5.4%)
CGI-I <sup>d</sup>	2 (5.4%)
Clinician anxiety tracking form	3 (8.1%)

<sup>a</sup>Screen for anxiety-related emotional disorders

<sup>b</sup>Clinician global assessment scale

<sup>c</sup>Clinician global impressions scale—severity

<sup>d</sup>Clinician global impressions scale—improvement

barriers were competing demands at school, caseload too large and not enough time in their day (see Table 5).

### Aim 5: Regression Results: Predictors of M-CBT Use

Twenty-two individual regressions were conducted, the results appear in Table 6. Five of the 22 variables were statistically significant predictors of sustained use. These were: M-CBT Acceptability scale, M-CBT Difficulty scale, perceived benefits for students, perceived benefits for clinicians' skills and administrative demands.

## Discussion

This study explored the sustained use of evidence-based assessments and treatment (M-CBT) for pediatric anxiety by school-based clinicians an average of 3.43 years after initial training that occurred in the context of an RCT. Specifically, several aims were examined including school-based clinicians' recall and attitudes toward M-CBT, their sustained use

of anxiety screening measures and M-CBT (as well as any modifications to use) and whether predictors of sustained use of M-CBT could be identified. The results indicated that the majority of clinicians recalled and had positive attitudes about M-CBT (e.g., reported benefits for their own skills and for their students) and continued to use M-CBT, but with modifications. Several predictors of M-CBT use were identified, including organizational and intervention-related factors, which provide information that can be used to guide future dissemination efforts.

### Clinician Recall and Attitudes Toward M-CBT

While all clinicians recalled being trained in M-CBT, recall varied depending on the specific module. For example, all of the clinicians who completed the sustainability questionnaire recalled being trained on the psychoeducation module (used in session one of treatment); however, only 63% of clinicians recalled being trained on the parent module. Reasons for this variability may be related to use (few clinicians met with parents in the RCT), perceived difficulty of implementing

**Table 4** Clinician reports of sustained use of M-CBT

Sustained use	<i>n/N</i> (% yes)
Do you currently use M-CBT materials with anxious youth	27/43 (62.8%)
Do you use with other mental/behavioral health	23/41 (56.1%)
I use M-CBT with modifications	19/32 (59.4%)
I use M-CBT exactly as trained	13/32 (40.6%)
Modifications to use	<i>N</i> = 19
Administered only select modules	14 (73.7%)
Conduct sessions without assigning homework every session	14 (73.7%)
Administered without using the STAR plan	9 (47.4%)
Conduct sessions without setting an agenda	8 (42.1%)
Administered without in-session practice at every meeting	7 (36.8%)
Shorter sessions (i.e., less than 20–30 min)	7 (36.8%)
Use in group format	5 (26.3%)
Changed handouts	3 (15.8%)
Administered different anxiety thermometers/assessment systems	2 (10.5%)
Longer sessions (i.e., more than 30 min)	2 (10.5%)
Frequency of module use with anxious children ( <i>n</i> = 36)	<i>M</i> ( <i>SD</i> ) <sup>a</sup>
Changing thoughts	5.89 (2.38)
Psychoeducation	5.67 (2.34)
Problem solving	5.37 (2.47)
Relaxation	5.23 (2.47)
Exposure	4.33 (3.02)
Relapse prevention	3.65 (2.71)
Parent psychoeducation	2.35 (1.94)

<sup>a</sup>Rating scale ranged from 0 = never/not at all, 4 = sometimes/occasionally and 9 = used during every session

the module (psychoeducation was recalled most and rated as the least difficult to implement) or perceived benefits of that specific module. Regardless of recall, attitudes toward M-CBT were extremely positive, with the majority (over 90%) of clinicians reporting that training in M-CBT improved their own clinical skills and led to improvements in their students. Further, almost all clinicians found the training to be valuable and would recommend it to other school-based clinicians. These findings are encouraging and consistent with other studies evaluating perceived benefits of training in CBT for anxiety (Woodbridge et al., 2014; Chu et al., 2015), and suggest that school-based clinicians found value in this EBT years after being trained.

We note, however, that selection bias may have inflated these results as clinicians enrolled in the current study were more likely to endorse having a CBT approach to treating youth with anxiety compared to clinicians who volunteered in the original RCT and thus, may not be representative of the general population of school clinicians. However, there was no difference between clinicians who completed the current study and those who did not when it came to their theoretical orientation, differentiating clinician-reported beliefs (i.e., orientation) versus clinician-reported behaviors (i.e.,

approach to pediatric anxiety). This discrepancy in beliefs versus behaviors could mean that the two are unrelated, indicating that subscribing to a CBT orientation does not mean that a clinician engages in CBT skills when treating pediatric anxiety (Creed, Benjamin Wolk, Feinberg, Evans, & Beck, 2016; Ginsburg et al., 2020).

### Sustained Use of Anxiety Screening

The majority of clinicians (65%) reported assessing students for anxiety. However, the primary means of assessing whether a child was excessively anxious was through direct observation, rather than the use of a standardized assessment tool such as the SCARED. Moreover, the frequency of assessing for anxiety was low—only 21% reported assessing for anxiety before and after treatment and only 4% reported assessing for anxiety at each session. Among the standardized assessment measures, school clinicians were trained to use in the RCT, the rates of use were also low and ranged from 33% (SCARED) to 5% (CGI-S/I).

The lack of adoption of validated assessment tools is concerning and identifies an opportunity for training that may enhance clinical care. Utilizing validated screeners

**Table 5** Clinician reports of reasons, barriers and resources needed for sustained use of M-CBT

Reasons for sustained use <sup>a</sup> ( <i>n</i> = 41)	<i>M</i> ( <i>SD</i> )
The intervention strategies are realistic, practical and have sound rationale	6.98 (1.54)
M-CBT modules are easy to implement	6.93 (1.58)
M-CBT is consistent with my theoretical orientation	6.76 (1.89)
Children benefit from M-CBT strategies	6.74 (1.73)
M-CBT strategies are fun to teach	6.33 (2.11)
Handouts are age appropriate for the students in my school	6.23 (2.28)
Children enjoy learning the M-CBT strategies	6.09 (1.96)
Exposure to M-CBT changed my theoretical orientation	4.47 (2.70)
Barriers to sustained use <sup>a</sup> ( <i>n</i> = 40)	
Too many competing demands at school to use M-CBT	5.63 (2.40)
My caseload was too large to use M-CBT	4.63 (2.74)
Not enough time in the day to implement M-CBT	4.42 (2.56)
Administration demands prevented me from using M-CBT	3.30 (2.55)
M-CBT is not relevant for my students because they aren't anxious	2.58 (2.80)
M-CBT does not meet the clinical needs of my anxious students	2.39 (2.49)
Insufficient training/supervision to use M-CBT	2.37 (2.16)
M-CBT strategies are too difficult or unpleasant for children	2.13 (1.93)
Modules or materials were not user-friendly/confusing	1.95 (1.99)
I use a different theoretical orientation to treatment	1.94 (2.10)
Lack of clinical improvement in students' anxiety	1.78 (1.69)
Resources needed to implement M-CBT <sup>b</sup> ( <i>n</i> = 42)	
Private office	8.10 (1.41)
Protected time to see anxious youth	7.48 (1.80)
Smaller caseload	6.79 (1.96)
Supervision	6.69 (2.10)
Additional training	5.86 (2.08)
Money to buy therapy materials	5.40 (2.65)

<sup>a</sup>Scale ranged from 0 = strongly disagree to 9 = strongly agree

<sup>b</sup>Scale ranged from 0 = not at all important to 9 = very important

leads to more accurate identification of youth with mental health concerns, is more effective than clinician perception alone (Scott et al., 2009) and may result in more appropriate treatment referrals. As noted, the majority of students with anxiety are neither identified nor treated. The broad use of screeners for anxiety such as the SCARED would help close this gap. Moreover, the use of evidence-based assessments—including assessment methods that incorporate progress monitoring and feedback for clinicians regarding the therapeutic alliance and child symptoms has been shown to improve clinician competence and child clinical outcomes (Bickman, Kelley, Breda, de Andrade, & Riemer, 2011).

### Sustained Use and Modifications of M-CBT

The majority of clinicians (63%) reported they continued to use M-CBT with anxious students on their caseload but also reported using it with modifications. This finding is

consistent with those reported by Chu and colleagues (2015) who found that while 79% of community mental health clinicians were voluntarily using some components of the Coping Cat treatment manual with current anxiety cases 3–4 years after being trained, only 7.5% of their cases received the entire protocol.

In the current study, the two most common modifications, reported by 74% of clinicians, were administering only select modules and not assigning homework between sessions. An examination of which modules were regularly administered revealed that exposure, relapse prevention and the parent psychoeducation were administered least often. These findings also replicate those reported by community mental health clinicians (Chu et al., 2015; Edmunds et al., 2014) and may be related to findings that clinicians find conducting exposures difficult. Clinicians who do not feel efficacious in their ability to use exposures with their students may refrain from using this strategy. This interpretation was



**Table 6** Predictors of sustained use of M-CBT

Predictor	Wald $\chi^2$ (1) test statistic	OR (95% CI)	<i>p</i> value
<i>Clinician characteristics</i>			
Age	0.88	1.03 (0.97, 1.10)	0.349
Years of experience	0.55	1.02 (0.96, 1.09)	0.458
Female	0.31	0.51 (0.05, 5.39)	0.576
White	3.59	4.08 (0.95, 17.50)	0.058
Doctoral degree	0.22	0.61 (0.08, 4.82)	0.638
CBT theoretical orientation	0.43	0.65 (0.18, 2.34)	0.510
CBT as treatment approach	0.21	0.69 (0.15, 3.29)	0.644
<i>Organizational characteristics</i>			
Stress	1.94	0.95 (0.88, 1.02)	0.163
Total supervision hours received	2.45	1.17 (0.96, 1.41)	0.117
Protective time to see anxious youth	0.27	0.91 (0.63, 1.32)	0.606
Too many competing demands	2.3	0.78 (0.56, 1.08)	0.129
Caseload too large	1.53	0.85 (0.66, 1.10)	0.217
Administration demands	5.26	0.68 (0.50, 0.95)	0.022
Not enough time	3.09	0.77 (0.58, 1.03)	0.079
Private office	2.09	0.65 (0.36, 1.17)	0.149
Additional training	0.42	0.90 (0.66, 1.24)	0.518
Money to buy therapy materials	0.53	0.91 (0.72, 1.17)	0.468
<i>Intervention-related</i>			
Enrolled at least one anxious student during STARS	0.063	1.71 (0.45, 6.47)	0.427
M-CBT acceptability scale	5.6	1.91 (1.12, 3.26)	0.018
M-CBT difficulty scale	5.05	0.43 (0.21, 0.90)	0.025
Positive impact on students	4.91	1.93 (1.08, 3.47)	0.027
Positive impact on own clinical skills	5.86	1.81 (1.12, 2.93)	0.016

supported by Whiteside, Deacon, Benito and Stewart (2016) who found that clinicians who held more positive beliefs about exposure were more likely to use it. Other reasons for why clinicians might not engage in exposures include worries surrounding: clinician liability (Richard & Gloster, 2007), client dropout (Gryczkowski et al., 2013), therapeutic alliance (Kendall et al., 2009) and rigidity and unpleasantness (Bouchard, Mendlowitz, Coles, & Franklin, 2004). However, research has shown that engaging in exposures does not lead to any of these negative therapeutic outcomes. Given these concerns, it is important to communicate during clinician training that conducting exposures does not negatively affect the therapeutic process, and introducing exposures is something that should be done gradually and can be done flexibly, tailored to the individual's needs and level of readiness (Kendall & Beidas, 2007).

Regardless, in light of data showing that both homework (i.e., practice between sessions) and greater amounts of exposure are associated with better outcomes (David-Ferdon & Kaslow, 2008; Kendall et al., 2005), the current findings suggest these are key areas to target in future trainings and may also reflect one factor contributing to lower response

rates found in the STARS RCT that compared M-CBT to treatment as usual for students with anxiety disorders (Ginsburg et al., 2020).

### Clinician Report of Reasons, Barriers and Resources Needed for Sustained Use of M-CBT

When clinicians were asked the reasons for their continued use of M-CBT, the majority of responses related to characteristics of the intervention—specifically that the M-CBT strategies were practical, easy to implement, fun to teach and resulted in benefits for the child. In contrast, when asked the reasons they did not continue to use M-CBT (i.e., perceived barriers to use), the most common reasons were related to organizational demands (i.e., too many competing demands at school, large caseloads, not enough time). Elkins and colleagues (Elkins, McHugh, Santucci, & Barlow, 2011) also noted that despite perceived benefits of implementing CBT in schools, organizational barriers are often perceived as preventing dissemination and uptake. Given that the allocation of time is often not determined by clinicians themselves, having administrative buy-in to

reduce these barriers when adopting an EBT is imperative. Of note, the least reported barriers were that M-CBT was not relevant for or did not meet the needs of students. This finding contradicts the myth that EBTs are not applicable for “real world” settings and client populations.

Finally, clinicians reported on specific organizational resources that were important to have in order to continue use of M-CBT—among the most important resources were a private office, protected time, smaller caseloads and supervision. These needs align with the perceived barriers and highlight modifiable organizational factors that can contribute to lack of sustained use of M-CBT.

### Predictors of Sustained Use of M-CBT

In an effort to identify predictors of sustained use, exploratory, individual regressions were utilized and included three broad domains (a total of 22 variables): clinician characteristics, organization factors and intervention characteristics (including perceived benefits). The strongest predictors (based on the magnitude of Odds Ratios) were clinicians’ perceptions of the intervention materials/strategies and its perceived benefits. Specifically, clinicians who perceived the intervention materials as more acceptable (i.e., easy to use, realistic/practical and fun to teach) and less difficult to implement, were more likely to report continued use. In addition, clinicians with more positive beliefs that M-CBT improved their own clinical skills and their students’ outcomes, were more likely to continue to use the treatment. These findings are similar to Forman et al. (2012) who found that intervention acceptability and efficacy influenced implementation of evidence-based interventions in a school setting. This finding is also consistent with components of the Diffusions of Innovations Theory (Rogers, 2003) which stipulates that clinicians are more likely to adopt an intervention that they perceive as beneficial (and better than what they are doing), consistent with their values, easy to understand and that provide the tangible results. Related, Chorpita and others (Chorpita, 2019; Reding, Chorpita, Lau, & Innes-Gomberg, 2014) emphasize the importance of “packaging” of interventions and propose that higher adoption may occur when interventions are packaged to match the skill level and preferences of the clinician being trained which can range from simple to complex (Becker, Park, Boustani, & Chorpita, 2019). Gauging clinician perception of the EBT along these dimensions early and consistently could thus be an important component when introducing new EBT’s in school settings in order to enhance its sustained use over time.

### Limitations

Findings from the current study must be interpreted in the context of several methodological limitations. Clinicians who filled out the sustainability questionnaire were volunteers, more likely to be female and endorse a CBT approach than those that did not, reducing the generalizability of findings and potentially biasing responses. However, 33% of the sample that did not complete the questionnaire also reported using a CBT approach, so additional research is needed to understand barriers to implementation and sustainability of M-CBT; what clinicians say they use is not always what is implemented in a real-world setting (Ginsburg, Muggeo, Caron, Souer, & Pikulski, 2019). The sample of clinicians was homogeneous which may explain the absence of relations between clinician characteristics and sustained use of M-CBT (alternatively, clinician characteristics such as years of experience, gender, race, may not be associated with the likelihood of continuing to use M-CBT over time). The sustainability questionnaire was self-report which may not correspond with objective ratings of M-CBT use (Ginsburg et al., 2020) and was collected retrospectively. Future studies should track the sustained use of an EBT on an on-going basis and use observational methods to determine use and quality. The quality of M-CBT implementation and adherence and the relation between sustained use and child outcomes was not examined.

### Conclusion

Despite these limitations, the current study extends the literature on the sustained use of an EBT by examining school clinicians (rather than community mental health clinicians) and a broad range of predictors of sustained use. Given the expansion of school mental health services, more data are needed on the sustained use within school settings. On the one hand, the low use of standardized assessments, which are of low cost, is discouraging and identifies a clear area for future training. On the other hand, it is encouraging that an average of 3.4 years after being trained, the majority of clinicians were still utilizing M-CBT (none had used these strategies prior). This supports the feasibility of implementing M-CBT in a school setting despite reported barriers. Key reasons of continued use included clinicians’ perceptions that the intervention was acceptable (easy to use, fun), not difficult to implement and had clear benefits. The implication of these findings suggests that treatment developers (or trainers) would be wise to ensure that treatment materials are engaging and straightforward and not overly complex to implement. Finally, lowering administrative demands on school clinicians who are tasked to provide EBTs might also improve the adoption of these treatments.

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## Compliance with ethical standards

**Conflict of interest** Dr. Ginsburg has served as a paid consultant for Syneos Health. All other authors declare that they have no conflicts of interest.

**Ethical approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

## References

- Aarons, G. A. (2004). Mental health provider attitudes toward adoption of evidence-based practice: The Evidence-Based Practice Attitude Scale (EPBAS). *Mental Health Service Research, 6*, 61–74.
- Aarons, G. A., Hurlburt, M., & McCue Horwitz, S. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health, 38*, 4–23.
- Becker, K. D., Park, A. L., Boustani, M. M., & Chorpita, B. F. (2019). A pilot to examine the feasibility and acceptability of a coordinated intervention design to address treatment engagement challenges in school mental health services. *Journal of School Psychology, 76*, 78–88.
- Bickman, L., Kelley, S. D., Breda, C., de Andrade, A. R., & Riemer, M. (2011). Effects of routine feedback to clinicians on mental health outcomes of youths: Results of a randomized trial. *Psychiatric Services, 62*(12), 1423–1429.
- Bouchard, S., Mendlowitz, S. L., Coles, M. E., & Franklin, M. (2004). Considerations in the use of exposure with children. *Cognitive and Behavioral Practice, 11*, 56–65.
- Chorpita, B. F. (2019). An appetite for evidence. *The Behavior Therapist, 42*, 193–196.
- Chu, B. C., Talbott Crocco, S., Arnold, C. C., Brown, R., Southam-Gerow, M. A., & Weisz, J. R. (2015). Sustained implementation of cognitive-behavioral therapy for youth anxiety and depression: Long-term effects of structured training and consultation of therapist practice in the field. *Professional Psychology Research and Practice, 46*, 70–79.
- Creed, T. A., Benjamin Wolk, C., Feinberg, B., Evans, A. C., & Beck, A. T. (2016). Beyond the label: Relationship between community therapists' self-report of a cognitive behavioral therapy orientation and observed skills. *Administration and Policy in Mental Health and Mental Health Services Research, 43*, 36–43.
- David-Ferdon, C., & Kaslow, N. J. (2008). Evidence-based psychosocial treatments for child and adolescent depression. *Journal of Clinical Child & Adolescent Psychology, 37*, 62–104.
- Edmunds, J. M., Read, K. L., Ringle, V. A., Brodman, D. M., Kendall, P. C., & Beidas, R. S. (2014). Sustaining clinician penetration, attitudes and knowledge in cognitive-behavioral therapy for youth anxiety. *Implementation Science, 9*, 89–101.
- Elkins, R. M., McHugh, R. K., Santucci, L. C., & Barlow, D. H. (2011). Improving the transportability of CBT for internalizing disorders in children. *Clinician Child and Family Psychology Review, 14*, 161–173.
- Forman, S. G., Fagley, N. S., Chu, B. C., & Walkup, J. T. (2012). Factors influencing school psychologists' "willingness to implement" evidence-based interventions. *School Mental Health, 4*, 207–218.
- Ginsburg, G. S., Muggeo, M., Caron, E. B., Souer, H. R., & Pikulski, P. (2019). Exploring treatment as usual for pediatric anxiety disorders among school-based clinicians. *School Mental Health, 11*, 719–727.
- Ginsburg, G. S., Pella, J. E., Pikulski, P. J., Tein, J., & Drake, K. L. (2020). School-Based Treatment for Anxiety Research Study (STARS): A randomized controlled effectiveness trial. *Journal of Abnormal Child Psychology, 48*, 407–417.
- Gryczkowski, M. R., Tiede, M. S., Dammanm, J. E., Brown Jacobson, A., Hale, L. R., & Whiteside, S. P. H. (2013). The timing of exposure in clinic-based treatment for childhood anxiety disorder. *Behavior Modification, 37*, 113–127.
- Higa-McMillan, C. K., Francis, S. E., Rith-Najarian, L., & Chorpita, B. F. (2016). Evidence base update: 50 years of research on treatment for child and adolescent anxiety. *Journal of Clinical Child & Adolescent Psychology, 45*, 91–113.
- Kendall, P. C., & Beidas, R. S. (2007). Smoothing the trail for dissemination of evidence-based practices for youth: Flexibility within fidelity. *Professional Psychology: Research and Practice, 38*, 13–20.
- Kendall, P. C., Comer, J. S., Marker, C. D., Creed, T. A., Puliafico, A. C., Hughes, A. A., et al. (2009). In-session exposure tasks and therapeutic alliance across the treatment of childhood anxiety disorders. *Journal of Consulting and Clinical Psychology, 77*, 517–525.
- Kendall, P. C., Robin, J. A., Hedtke, K. A., Suveg, C., Flannery-Schroeder, E., & Gosch, E. (2005). Considering CBT with anxious youth? Think exposures. *Cognitive and Behavioral Practice, 12*, 136–150.
- Lehman, W. E. K., Simpson, D. D., Knight, D. K., & Flynn, P. M. (2011). Integration of treatment innovation planning and implementation: Strategic process models and organizational challenges. *Psychology of Addictive Behaviors, 25*, 252–261.
- Merikangas, K. R., He, J., Burstein, M. E., Swendsen, J., Avenevoli, S., Case, B., et al. (2011). Service utilization for lifetime mental disorders in U.S. adolescents: Results of the National Comorbidity Survey Adolescent Supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry, 50*, 32–45.
- Mychailyszyn, M. P., Beidas, R. S., Benjamin, C. L., Edmunds, J. M., Podell, J. L., Cohen, J. S., et al. (2011). Assessing and treating child anxiety in schools. *Psychology in the Schools, 48*, 223–232.
- Reding, M. E. J., Chorpita, B. F., Lau, A. S., & Innes-Gomberg, D. (2014). Providers' attitudes toward evidence-based practices: Is it just about providers, or do practices matter, too? *Administration and Policy in Mental Health and Mental Health Services Research, 41*, 767–776.
- Richard, D. C. S., & Gloster, A. T. (2007). Exposure therapy has a public relations problem: A dearth of litigation amid a wealth of concern. In D. C. S. Richard & D. Lauterbach (Eds.), *Handbook of exposure therapy* (pp. 409–425). Amsterdam: Academic Press.
- Rogers, E. M. (2003). *Diffusion of innovations theory* (5th ed.). New York: Free Press.
- Scott, M. A., Wilcox, H. C., Schonfeld, I. S., Davies, M., Hicks, R. C., Turner, J. B., et al. (2009). School-based screening to identify at-risk students not already known to school professionals: The

- Columbia Suicide Screen. *American Journal of Public Health*, 99, 334–339.
- Swan, A. J., & Kendall, P. C. (2016). Fear and missing out: Youth anxiety and functional outcomes. *Clinical Psychology: Science and Practice*, 23, 417–435.
- Whiteside, S. P. H., Deacon, B. J., Benito, K., & Stewart, E. (2016). Factors associated with practitioners' use of exposure therapy for childhood anxiety disorders. *Journal of Anxiety Disorders*, 40, 29–36.
- Woodbridge, M. W., Sumi, W. C., Yu, J., Rouspil, K., Javitz, H. S., Seely, J. R., et al. (2014). Implementation and sustainability of an evidence-based program: Lessons learned from the PRISM applied to first step to success. *Journal of Emotional and Behavioral Disorders*, 22, 95–106.

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