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RESEARCH PAPER

Therapist- and therapy-related predictors of outcomes in a randomized controlled trial of school-based treatments for pediatric anxiety

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Abstract The current study examined predictors of outcomes across two school clinician-delivered treatments (i.e., treatment as usual [TAU] or modular cognitive-behavioral therapy [M-CBT]) for youth with anxiety disorders. Predictors reflected two broad domains—-therapist factors (i.e., education, years of experience, therapeutic orientation, work related stressors/barriers, self-efficacy, and attitudes towards evidence-based practices) and treatment-related factors (i.e., dosage, child compliance with treatment, therapeutic alliance, therapeutic nonspecifics, and proportion and quality of evidence-based structure elements). One hundred and ninety-five youth (mean age 10.98; 50.3% female, 53.5% non-Hispanic Caucasian) and 54 therapists (90.7% female, 72.2% non-Hispanic Caucasian) that were enrolled and randomized in a previous study (Ginsburg et al., 2020) participated. Results showed that incorporation of more evidence-based structure elements (e.g., agenda setting, assigning homework) and higher child compliance with treatment significantly increased odds of response to treatment. These findings provide important information about key ingredients to successful treatments, regardless of treatment condition/modality, and can be used to inform future training and implementation of school-based treatments for youth with anxiety disorders.
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C.M. Orlando, E.B. Caron, I.C. Smith et al.

Anxiety disorders are common in youth, with a worldwide prevalence rate of 6.5% (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). Cognitive-behavioral therapy (CBT) is the most strongly supported evidence-based psychosocial treatment for pediatric anxiety (for review, see Higa-McMillan, Francis, Rith-Najarian, & Chorpita, 2016), and youth receiving CBT report moderate to high overall levels of treatment satisfaction (for review see Olsson et al., 2021). However, the evidence base for CBT for pediatric anxiety comes primarily from clinic-based randomized controlled trials in which CBT is compared with waitlist control conditions (James, Reardon, Soler, James, & Creswell, 2020). When compared with active control conditions, meta-analytic results are mixed; some meta-analyses found that CBT led to greater rates of full recovery than treatment-as-usual (TAU) or active control conditions (Sigurvinsdóttir, Jensínudóttir, Baldvinsdóttir, Smárason, & Skarphedinsson, 2020; Warwick et al., 2017), but others found no difference between CBT and alternative treatment conditions for disorder remission or symptom reduction in youth (James et al., 2020). Further, when CBT is implemented by community- and school-based clinicians, several studies failed to find a benefit of CBT over TAU for youth with anxiety (Barrington, Prior, Richardson, & Allen, 2005; Ginsburg, Becker, Drazdowski, & Tein, 2012; Southam-Gerow et al., 2010). An illustration of this is a recent comparison of a modular CBT (M-CBT) to TAU administered by school-based clinicians to youth with an anxiety disorder (Ginsburg, Pella, Pikulski, Tein, & Drake, 2020). At posttreatment, it was found that youth in both the M-CBT and TAU conditions responded to treatment at similar rates (42% and 37%, respectively), with no significant differences between conditions aside from greater improvement in parent reports of child anxiety in the M-CBT condition. Treatment gains were maintained at the 12-month follow-up, with no significant differences between conditions. This is especially interesting considering that the M-CBT and TAU conditions were sufficiently differentiated, with clinicians in the M-CBT condition utilizing more structural elements of CBT (77%) than did clinicians in the TAU condition (33%; see Ginsburg et al., 2020). Additionally, an examination of independent-evaluator ratings of TAU session audio recordings revealed low use of cognitive-behavioral approach (14%; Ginsburg, Muggeo, Caron, Souer, & Pikulski, 2019). Clinicians within the M-CBT condition also exhibited significant session adherence, with an across-session average of 74% (see Ginsburg et al., 2020). While these findings reflect benefits of receiving treatment for anxiety in a school setting, they also highlight the concerning differences in response rates to CBT in community settings versus efficacy trials.

Failure to find superiority of evidence-based practice (EBP) in community settings is not unique to CBT (e.g., Weisz, Jensen-Doss, & Hawkley, 2006), and is a major issue addressed by the field of implementation science. Identification of factors that predict community-based treatment outcomes, particularly those separate from treatment modality, could allow implementation supports (e.g., training) to target the key processes linked to client change and could facilitate implementation and dissemination of EBPs (Fixen, Naoom, Blase, Friedman, & Wallace, 2005; Kendall & Beidas, 2007). Potential predictors of outcomes are both therapist-related (e.g., experience, therapeutic orientation, attitudes towards EBPs) and treatment-related (e.g., alliance, child compliance with treatment, use of EBP elements); the current study examined these factors to identify which contribute to better outcomes for youth with anxiety disorders, regardless of treatment modality.

Therapist-related factors

Theoretical orientation

The impact of theoretical orientation on treatment outcome tends to be minimal. Although one study found that therapists with CBT orientations reported higher levels of EBP use (Nelson & Steele, 2007), studies examining child-focused therapists have not found differences between varying therapeutic orientations on child outcomes (Nakamura, Higa-McMillan, Okamura, & Shimabukuro, 2011; Okamura, Nakamura, Mueller, Hayashi, & Higa-McMillan, 2014; Okamura, Hee, Jackson, & Nakamura, 2018) or early discontinuation of (Lau et al., 2020) EBPs. Still, it is important to replicate these findings as they relate to treatment of youth with anxiety.

Education

A therapist's level of education (i.e., whether they have a Bachelor's, Master's, or doctoral degree) is a relevant demographic variable to consider, although there is limited evidence that education has an impact on outcomes. There is some evidence that child therapists with higher levels of education exhibit greater levels of knowledge about, open attitudes towards, and familiarity with EBPs (Nakamura et al., 2011; Okamura et al., 2018). Specific to anxiety treatment, therapists with higher levels of education (i.e., a doctoral or Master's degree) have been found to use exposure therapies more frequently (but not with greater proficiency) than therapists with lower levels of education (Harned, Dimeff, Woodcock, & Contreras, 2013). That said, it is unclear if these differences result in improved treatment outcomes. As such, more research in this area is needed.

Years of experience

While some studies have not found any association between years of therapist experience and treatment outcomes for anxiety in children (Thirlwall et al., 2013), others found negative associations between experience and therapist effectiveness with children (Beidas et al., 2014; Bjaastad et al., 2018). Specifically, greater clinical experience has been associated with lower levels of therapist competence and adherence, reduced odds for diagnostic recovery, and less posttreatment symptom change (Beidas et al., 2014; Bjaastad et al., 2018). Although another study found that prior clinical experience in general predicted better youth treatment outcomes, greater clinical experience in specifically treating anxiety disorders predicted poorer treatment outcomes (Podell et al., 2013). This drop in effectiveness may be linked to experienced therapists dedicating less time to maintaining high levels of therapeutic skills after they complete formalized training (Bjaastad et al., 2018) or

exhibiting lower treatment adherence (Podell et al., 2013). Thus, there is mixed evidence regarding how therapist years of experience impacts the delivery and effectiveness of EBPs and more research is needed.

Therapist work barriers

Therapist stressors and barriers to treatment delivery may also impact treatment outcomes. Although there is some evidence that higher therapist caseloads are correlated with higher posttreatment levels of youth anxiety and treatment non-response (Podell et al., 2013), and organizational barriers (e.g., being unable to leave the office to do exposures, the agency not being supportive of exposure therapies) are related to lower proficiency in exposure therapies (Harned et al., 2013), limited investigation has been done in this area. More work is needed to determine the impact of therapist barriers on treatment outcomes.

Attitudes towards EBPs

Therapist attitudes towards the adoption of EBPs can impact the use and delivery of EBPs across practitioners (Nelson & Steele, 2007). Negative attitudes towards exposure therapies have been linked with less proficiency with these treatments (Harned et al., 2013), and therapist attitudes that EBPs are not clinically useful, as well as unfavorable attitudes towards a specific practice, are linked with discontinuing the use of that practice with youth populations (Lau et al., 2020). Organizational openness to evidence-based practices can increase therapist use of EBPs (Nelson & Steele, 2007), whereas the perception that EBPs are required by their organization can decrease adherence and skill in delivery of EBPs, specifically CBT for youth with anxiety (Beidas et al., 2014). That said, it is unclear whether these behaviors have a detrimental impact on treatment outcomes, particularly for youth with anxiety.

Self-efficacy

Finally, a therapist's degree of self-efficacy is often investigated in the context of treatment delivery. There is ample evidence that higher therapist self-efficacy is linked with aspects of treatment delivery, including greater overall knowledge about EBPs for youth populations (including EBPs for anxiety; Schiele et al., 2014) and greater use of exposure therapies (Harned et al., 2013), whereas lower levels of self-efficacy in delivering an EBP is linked with increased odds of discontinuing that treatment (Lau et al., 2020). Regarding the impact of self-efficacy on treatment outcomes, there is some evidence that school-based provider self-efficacy is linked with a higher quality of services delivered (Schiele, Weist, Youngstrom, Stephan, & Lever, 2014). In addition, one study of a school nurse-delivered anxiety treatment found that self-efficacy was linked with improved treatment outcomes, but only for nurses implementing a CBT-based intervention (Caron, Drake, Stewart, Muggeo, & Ginsburg, 2022).

Treatment-related factors

Therapeutic alliance

Meta-analyses have found that the impact of therapeutic alliance on treatment outcomes for youth is small in general (McLeod, 2011), with a medium effect size for adolescents specifically (Murphy & Hutton, 2018). The impact of therapeutic alliance on treatment outcomes for youth with anxiety is mixed in the literature. Some studies have found an association between alliance and outcomes for this population (Hughes & Kendall, 2007; Keeley, Geffken, Rickets, & McNamara, 2011), and there is some evidence that improvements in therapeutic alliance have a positive impact on outcomes (Chiu, McLeod, Har, & Wood, 2009; Hudson et al., 2014). Reciprocal relationships between alliance and reductions in anxiety are likely, with early measurements of alliance predicting later outcomes, and reductions in anxiety symptoms resulting in improved therapeutic alliance (Marker, Comer, Abramova, & Kendall, 2013). However, some investigations on alliance and treatment outcomes for youth with anxiety found mixed results (Chiu et al., 2009; Ginsburg et al., 2012; Liber et al., 2010; McLeod et al., 2017), while others found no significant relationship for this population (Kendall, 1994; Kendall et al., 1997; Southam-Gerow et al., 2021). It is relevant to note that most investigations on alliance are conducted in an active treatment (i.e., CBT), and not in a TAU context. Cummings et al. (2013) found that although therapeutic alliance predicted treatment outcomes for anxious youth receiving CBT only, alliance did not predict outcomes for youth in other treatment conditions (including receiving a placebo medication, sertraline, or a combination of sertraline and CBT). Further, as some work suggests that alliance is weaker in community practice settings than in the research settings in which efficacy trials take place (McLeod et al., 2016), it is important to examine alliance-outcome associations in community settings.

Dosage

The length of treatment (referred to here as ''dosage'' and operationalized as number of treatment hours) may have an impact on treatment outcomes. Meta-analyses investigating treatment for youth anxiety have found that number of therapeutic hours a child receives is positively related to treatment effect size (McGuire et al., 2015; Reynolds, Wilson, Austin, & Hooper, 2012). One meta-analysis found nonsignificant effects for treatments under four hours, small but significant effects for treatments between five and eight hours, and moderate to large effect sizes for treatments over nine hours (Reynolds et al., 2012). That said, another study did not find an association between number of sessions attended and treatment outcomes (Lee et al., 2019).

Child compliance with treatment

The child's compliance with treatment may also impact treatment outcomes for youth with anxiety disorders, although previous studies have found mixed results. Child adherence with treatment has been linked with decreased

C.M. Orlando, E.B. Caron, I.C. Smith et al.

anxiety symptoms and overall improved functioning following CBT treatment (Lee et al., 2019). It should be noted that adherence/compliance with treatment extends beyond homework completion; although homework completion has a positive effect on treatment outcomes across populations and presenting issues (see Kazantzis, Deane, & Ronan, 2000), some studies have not found this effect in treatment of youth with anxiety disorders specifically (Hughes & Kendall, 2007; Lee et al., 2019). Indeed, a child's participation in treatment consists of several behaviors, some positive and some negative. Positive youth involvement in treatment (e.g., participation in session) and in exposure sessions has been linked with reductions in and lower anxiety severity at posttreatment (Chiappini et al., 2020).

Session structure and delivery

Overall, the impact of EBP adherence and competence on youth treatment outcomes is small (for review, see Collyer, Eisler, & Woolgar, 2020). Among studies of CBT for youth anxiety, associations between adherence/competence and outcomes have been mixed (Bjaastad et al., 2018; Husabo et al., 2022; Liber et al., 2010; Southam-Gerow et al., 2021). However, additional treatment delivery factors *across therapeutic modalities*, such as therapeutic nonspecifics and inclusion of general evidence-based structural elements, have been understudied. These treatment delivery factors may be relevant given some evidence that treatment adherence to CBT protocols for youth anxiety is lower in community versus research settings (Cox et al., 2020; McLeod et al., 2019), yet a comparable percentage of students no longer met criteria for their principal diagnosis in trials examining both settings (i.e., Kendall et al., 2008; Southam-Gerow et al., 2010).

Regarding evidence-based structural elements, Ginsburg et al. (2012) found that greater use of these elements (e.g., agenda-setting, reviewing and assigning homework) was associated with decreased youth symptoms of anxiety at post-intervention and one-month follow-up across a CBT and usual care condition. In the area of therapeutic non-specifics, Podell et al. (2013) found that therapists who delivered treatment in a collaborative ''coaching'' style had better youth outcomes, but Ginsburg et al. (2012) found no association between a nonspecific therapeutic quality scale (e.g., maintaining a positive working relationship, regularly assessing child comprehension) and treatment outcomes. As such, further investigation of such treatment delivery factors is needed to delineate the impact of these structural components of evidence-based treatment.

Current study

The purpose of the current study was to examine therapist- and therapy-related predictors of treatment outcomes for youth with anxiety, regardless of treatment modality, using data from the School-Based Treatment for Anxiety Research Study (STARS; Ginsburg et al., 2020), which compared M-CBT to TAU. This study adds to the treatment effectiveness literature by examining predictors of outcomes in school-based treatment. Identifying predictors across treatments is needed to understand the active ingredients that lead to

Table 1 Demographic characteristics of students and therapists.

Student demographics	
Age (*M, SD*)	10.98 (3.32)
Gender (% female)	50.3%
Race/ethnicity (%)	
Non-Hispanic White	53.3%
Others	46.7%
Therapist demographics	
Age (*M, SD*)	43.49 (10.65)
Gender (% female)	90.7%
Race/Ethnicity (%)	
Non-Hispanic White	72.2%
Others	24.1%
Professional specialty (%)	
Social work	38.9%
School psychology	46.3%
Clinical psychology	1.9%
Counseling	3.7%
Other	5.6%

better student outcomes and can be used to improve therapist training as well as enhance student outcomes for youth anxiety disorders. Toward that end, this study examined predictors across two broad domains (1) therapist factors (i.e., theoretical orientation, level of education, experience, work barriers, attitudes towards EBPs, self-efficacy) and (2) therapy-related factors (i.e., therapeutic alliance, dosage, child compliance with treatment, and session structure/delivery components).

Methods

Participants

Participants were 195 children and 54 school-based clinicians who participated in STARS (Ginsburg et al., 2020) and received at least one treatment session. Child participants were, on average, 11 years old (*M* = 10.98, *SD* = 3.32), 50.3% female, and 53.5% non-Hispanic Caucasian. Youth were eligible to participate in STARS if they were between the ages of 6 and 18 and met DSM-IV criteria for a primary anxiety disorder, which was assessed using the Anxiety Disorders Interview Schedule (ADIS; Silverman & Albano, 1996).

Thirty-two therapists were randomized into the M-CBT condition (59.3%) and 22 were randomized into the TAU condition (40.7%). Therapists saw between one and 14 students throughout the duration of the study, with an average of just under four students each (*M* = 3.64, *SD* = 3.19). Fifteen therapists saw one student (M-CBT = 9, TAU = 6) and 39 saw two or more (M-CBT = 23, TAU = 16). Therapists were largely female (90.7%) and non-Hispanic Caucasian (72.2%). Therapists had an average of 14.2 years of clinical experience following graduation (*SD* = 9.9), tended to identify their theoretical orientation as behavioral or cognitive-behavioral (61.1%), and had a Master's-level education (53.7%). See Table 1 for additional demographic information.

Procedures

STARS was conducted between 2012 and 2017 in multiple school districts in Connecticut and a large school district in Maryland, USA. Clinicians were randomized into M-CBT or TAU conditions (for descriptions of each condition and clinician training, see Ginsburg et al., 2020). Students were recruited for STARS via clinicians, school personnel, or parents. Study staff conducted phone screenings and an in-person baseline evaluation to determine eligibility for the study. After eligibility was determined, students received the intervention (M-CBT or TAU) from their school clinician. Treatment sessions were audio-recorded for Treatment Adherence and Therapist Competence (TATC) rating by study staff. A posttreatment evaluation was conducted approximately 12 weeks after baseline. For additional information about STARS, see Ginsburg et al. (2020).

Measures relevant for this study were completed at baseline (therapist and child demographics, barriers, Evidence-Based Practice Attitudes Scale, the efficacy sub-scale of the Texas Christian University Organizational Readiness for Change), following each session (dosage and compliance), and post-intervention (Child Report of Therapeutic Alliance). Masked evaluators rated anxiety severity (CGI-S) at baseline and anxiety improvement (CGI-I) at post-intervention. A subset (25%) of recorded sessions were coded with the TATC by study staff. As noted above, the two conditions were found to be sufficiently differentiated and adherence to M-CBT was acceptable (see Ginsburg et al., 2020).

Measures

Therapist-related factors

Therapist Background Questionnaire. At baseline, clinicians provided information regarding their demographics (e.g., age, gender, race/ethnicity) and professional experience (e.g., years of experience, education/degree, theoretical orientation). Dichotomous variables were created for therapist education (Master's level versus advanced study beyond Master's degree) and theoretical orientation (behavioral/cognitive-behavioral versus other orientations).
Clinician's pretreatment barriers. Modified from Kazdin, Holland, Crowley, and Breton's (1997) Barriers to Treatment Participation Scale, this scale, completed by clinicians at baseline, assessed perceived barriers to delivering treatment (e.g., large caseloads, administrative demands). This scale consisted of seven items rated on a five-point Likert scale, with higher scores indicating greater barriers to treatment delivery. The internal consistency was $\alpha = .73$.
Evidence-Based Practice Attitudes Scale (EBPAS; Aarons, 2004, 2005). The EBPAS, completed by clinicians at baseline, measured attitudes towards adoption of evidence-based practices on a five-point Likert scale. In the current study, only the Openness (e.g., ''I like to use new types of therapy/interventions to help my clients'') and Divergence (e.g., ''I would not use manualized therapy/interventions'') subscales (eight items total) were used to create a total score. Items were recoded so that higher scores indicated greater support towards the use of evidence-based practices. Internal consistency was $\alpha = .74$.

Texas Christian University Organizational Readiness for Change (TCUORC; Lehman, Greener, & Simpson, 2002). The efficacy subscale of the TCUORC scale was used to assess clinicians' baseline levels of efficacy conducting counseling, accomplishing tasks, and carrying out plans. This subscale consists of five items rated on a five-point Likert scale; higher scores indicated higher levels of efficacy. Internal consistency was $\alpha = .74$.

Treatment-related factors

Child's Perception of Therapeutic Relationship (Kendall et al., 1997). This measure assesses children's perceptions of their relationship with their clinician (e.g., ''How much do you like your school counselor?''). The measure consists of seven items rated on a five-point Likert scale; higher scores represented more positive attitudes towards their clinician. This measure was completed by each student at posttreatment. Internal consistency was $\alpha = .84$.
Dosage and Youth Compliance with Treatment. After each session, clinicians recorded information related to the session (e.g., duration) and a single-item rating of the child's overall compliance with treatment. This item (''Please circle a number below that represents the child's overall compliance with treatment'') was identical across conditions and was rated on a seven-point Likert scale; higher scores indicated higher compliance. An average compliance score was calculated across all session forms received for each child. This measure was also used to calculate dosage of treatment (in minutes) each child received.
Treatment adherence and therapist competence (TATC; Ginsburg et al., 2012). The TATC was modified for STARS and measures the use and quality of session structure strategies, as well as nonspecific competence (Ginsburg et al., 2019). This measure is completed by trained study staff upon reviewing a clinician's audio-recorded session. Twenty-five percent of each child's available recorded sessions were rated via the TATC, and 15% of selected sessions were double-rated to assess inter-rater reliability (Ginsburg et al., 2020). Children had between one and four sessions coded; the majority of children had three sessions coded (50.3%) and twenty percent had no sessions coded. Three variables included in the TATC were utilized in this study and are explained below—EBP Elements (Proportion and Quality) and Nonspecifics.
EBP Elements. Eleven items on the TATC allow study staff to assess common treatment elements generally associated with evidence-based treatments for anxiety (e.g., agenda-setting; reviewing previously-assigned homework; teaching, modeling, and practicing a skill; using handouts/materials; and reviewing progress), referred to hereafter as ''EBP structural elements.'' The proportion of therapist use of these EBP structural elements (with a continuous proportion score ranging from 0.0 to 1.0, with higher numbers indicating a higher proportion of elements utilized) as well as the quality of their implementation of the EBP structural elements (rated on a 1 to 4 scale, with higher scores indicating higher quality of implementation) were used as two separate predictors. The ICC for these variables were .76 (for proportion of EBP structural elements) and .70 (quality of EBP structural elements).

C.M. Orlando, E.B. Caron, I.C. Smith et al.

Nonspecifics. An additional 11 items on the TATC allow study staff to assess nonspecific therapist behaviors that are process/relational in nature and are thought to bolster the quality of the treatment implemented (e.g., generating excitement about the intervention, assessing the child's comprehension, using a collaborative style, generalizing material to new situations, adjusting to the age/emotional state of the child). For each item, study staff rated the quality of the behavior in question on a four-point scale, with higher scores indicating greater levels of therapeutic competence. The ICC for this variable (referred to as ''nonspecifics'') was .63.

Outcome and baseline control measures

Clinical Global Impression—Improvement (CGI-I) and Severity (CGI-S) Scales (Guy, 1976). The CGI-I provides a global rating of improvement in anxiety symptoms (CGI-I). This scale ranges from 1 to 7, with higher numbers reflecting a worsening of anxiety. Ratings of 1 to 3 indicate symptoms have improved, a rating of a 4 indicates anxiety symptoms have not changed, and ratings of 5 to 7 indicate symptoms have worsened. This measure was completed at posttreatment by trained study staff and informed by reports on the ADIS. The primary outcome of both this study and the original study (Ginsburg et al., 2020) was treatment responder status via the CGI-I; youth who received a CGI-I score of 1 or 2 (indicating ''very much improved'' and ''much improved,'' respectively) were considered ''responders.'' This method has been utilized in other studies examining treatment of anxiety (e.g., Walkup et al., 2008). The CGI-S (Guy, 1976) was utilized as a baseline control variable; this measure provides a global rating of anxiety severity on a scale of 1 to 7; higher numbers reflect more severe symptoms. This measure was completed at each timepoint, informed by reports on the ADIS. Inter-rater agreement for the CGI-I and CGI-S was 92% and 98%, respectively (Ginsburg et al., 2020).

Study inclusion measure

Anxiety Disorders Interview Schedule for DSM-IV (ADIS; Silverman & Albano, 1996). The ADIS is a structured interview for anxiety disorders in children and adolescents; this measure was used to determine eligibility in STARS (i.e., meeting diagnostic criteria for a primary anxiety disorder). See Ginsburg et al. (2020) for information regarding diagnosis/CSR determination and inter-rater reliability.

Additional demographic measures

Child Demographic Questionnaire. Primary caregivers provided demographic information about their child (e.g., age, gender, race/ethnicity) at baseline.

Data analytic plan

All analyses were conducted using IBM SPSS (Version 27; IBM Corp., 2020) predictive analytics software. Preliminary analyses were conducted to determine if demographic variables (child age, gender, and ethnicity, clinician ethnicity, and study site) correlated with treatment outcomes and should be considered as covariates. Number of students each therapist saw was examined as correlate of predictor and outcome variables (a continuous variable for therapist-related variables and a binary variable for treatment-related and outcome variables) to determine impact of total students seen on predictor variables and outcome. Chi^2 analyses were also conducted to determine if number of students seen varied by treatment condition. For final analyses, a two-level multi-level modeling strategy was utilized to account for data nested within clinicians, which accounts for the varying number of cases seen by each clinician, and the fact that cases seen by the same therapist are likely to be more similar to each other than to cases seen by other clinicians. Using this model, a series of binary logistic regressions were conducted using response to treatment (responder/non-responder) as a dependent variable. Missing data was handled via listwise deletion. Each predictor was run in a separate analysis initially, with baseline anxiety severity and treatment condition included as control variables. All significant predictors were included in the final model. In the event that the random effect could not be estimated (i.e., the slope was zero, indicating a lack of substantially different slopes for different clinicians), analyses were re-run using a non-nested model; this strategy was utilized for the pretreatment barriers, attitudes towards EBPs, alliance, and self-efficacy predictors.

Results

Preliminary analyses

As noted above, preliminary analyses were conducted to determine if demographic variables for children and clinicians, as well as study site, correlated with treatment outcomes; no significant correlations were found. Number of students seen was not found to significantly correlate with any therapist-related predictors. There was a significant correlation between clinicians who saw more than one student and session length [$r(193) = .24$, $p = .001$] and therapeutic alliance [$r(118) = .24$, $p = .008$], but there was no relationship between this variable and any other therapy-related predictors, including treatment response. A Chi^2 test revealed no significant differences between treatment conditions for therapists who saw one versus therapists who saw multiple students. Little's test of missing completely at random (Little, 1988) was not significant ($\chi^2 = 1.97$, $DF = 4$, $p = .74$). Overall response to treatment in the current sample (i.e., a CGI-I score indicating ''very much improved'' and ''much improved'') was 35.9%. Descriptive information, rates of missing data, and expanded details about results can be found in Table 2.

Therapist-related factors

No therapist characteristics (education, years of experience, therapeutic orientation, self-efficacy, pretreatment stressors/barriers, attitudes towards EBPs) significantly predicted treatment response.

Table 2 Means, standard deviations, percent missing, and results for predictors and dependent variables.

	M (SD) or %	% missing	Coefficient	SE	OR	95% CI for OR	p
Therapist-related predictors							
Education (% advanced beyond MA)	35.2%	11.1	−.09	.37	.92	[.44—1.89]	.81
Years of experience	14.17 (9.92)	3.7	−.01	.02	.99	[.96—1.03]	.54
Therapeutic orientation (% behavioral)	61.1%	3.7	.48	.37	1.62	[.79—3.33]	.19
Pretreatment stressors/barriers	15.20 (5.27)	5.6	.03	.04	1.04	[.97—1.11]	.32
Attitudes towards EBPs	3.21 (.44)	5.6	−.56	.33	.57	[.30—1.10]	.09
Self-efficacy	41.89 (4.20)	5.6	.07	.05	1.07	[.98—1.17]	.14
Therapy-related predictors							
Therapeutic alliance	24.91 (5.87)	38.5	−.01	.03	.99	[.93—1.06]	.86
Dosage	290.82 (114.79)	0	.001	.002	1.00	[.99—1.00]	.61
Child compliance with treatment	5.37 (1.02)	0	.43	.17	1.54	[1.10—2.17]	.01
Nonspecifics	2.79 (.73)	20	.37	.29	1.45	[.82—2.56]	.20
EBP structural elements	.67 (.23)	20	2.57	1.25	13.03	[1.10—154.04]	.04
EBP structure quality	2.17 (.73)	20	.64	.33	1.89	[.98—3.66]	.06
Response to treatment (% responders)	35.9%	12.3					

EBP: evidence-based practice.

Therapy-related factors

Child compliance significantly predicted treatment response (B = .43, SE = .172, t = 2.52, p = .013); as ratings of child compliance with treatment increased one point (on a seven-point scale) correspond to a 54% odds increase that the child will respond to treatment (OR = 1.54).

The proportion of common EBP structural elements utilized by the therapist significantly predicted treatment response (B = 2.57, SE = 1.25, t = 2.06, p = .042). As clinicians delivered a higher proportion of these EBP structural elements, the odds of the student responding to treatment increased significantly (OR = 13.03). Quality of these EBP structural elements approached significance (B = .64, SE = .33, t = 1.90, p = .059), indicating that as a clinician's quality of delivery of the EBP structural elements increased, the student's odds of responding to treatment increased as well (OR = 1.89). Therapist nonspecifics, dosage, or child perception of therapeutic alliance did not significantly predict outcomes.

Full model with all significant predictors

A final analysis was run, including all significant predictors (child compliance with treatment and use of common EBP structural elements). No predictors were significant in this model, although use of EBP structural elements trended towards significance (B = 2.26, SE = 1.30, t = 1.75, p = .08), suggesting that as therapist use of CBT treatment elements increased, the odds of their student responding to treatment increased (OR = 9.61).

Discussion

The current study examined the impact of several therapist- and therapy-related factors on student outcomes across school-based M-CBT and TAU for anxiety disorders. When examined individually, use of EBP structural elements and child compliance with treatment significantly predicted response to treatment. Implications are discussed below.

Among the therapy-related factors, the use of EBP structural elements was linked with treatment response. This indicates that incorporating many common structural elements of EBPs (e.g., setting an agenda, teaching/practicing a skill, assigning homework) can notably increase a youth's response to treatment. CBT is well-established as an effective treatment for childhood anxiety disorders (e.g., Higa-McMillan et al., 2016), but there has been little focus on the use of broader elements of EBPs aside from the skills taught and practiced to the child during treatment. The current study provides support that incorporation of even the structural elements of EBPs (often found in but not exclusive to CBT) are linked with increased odds of treatment response, regardless of whether or not CBT was the primary treatment modality utilized. This is generally in keeping with previous research (Bjaastad et al., 2018; Ginsburg et al., 2012). It makes sense that utilization of these structural elements is associated with treatment response, as several of these elements ensure that the child is learning a helpful skill that may directly apply to their presenting issue (e.g., teaching/modeling a skill, having the child practice the skill), take steps to ensure out-of-session practice or session-by-session continuity (e.g., assigning out-of-session tasks, reviewing previously-assigned homework, reviewing previous session and/or progress), and that the child is working towards a treatment goal. It stands to reason that these elements facilitate learning and therapeutic work, can possibly increase the overall response rate to treatment, and can be easily incorporated into many treatment modalities. Recommendations are provided below.

In contrast to expectations, nonspecific therapeutic style (e.g., generating excitement about the intervention, checking in for child understanding/answering questions, generalizing material to new situations) was not significantly associated with outcomes. This is consistent with findings from a prior study (Ginsburg et al., 2012). Based on the findings of the current study, it is possible that these therapeutic ''nonspecifics'' have less of a notable impact on treatment

outcomes than does incorporating EBP structural elements. It is possible that these therapeutic styles relate to change in other important aspects of treatment (e.g., child buy-in and/or motivation for treatment), but more research is needed in this area.

Child perception of the therapeutic alliance, although associated with therapists seeing more than one child, was unrelated to treatment response, which contradicts some previous outpatient findings (e.g., Chiu et al., 2009; Hudson et al., 2014; Hughes & Kendall, 2007; Keeley et al., 2011). That said, other studies have not found this link (Kendall, 1994; Kendall et al., 1997; McLeod et al., 2016; Southam-Gerow et al., 2021), particularly in community settings (McLeod et al., 2016), and the impact of therapeutic relationship is weaker for youth overall (McLeod, 2011; Murphy & Hutton, 2018). As such, lack of relationship between alliance and treatment outcome may not be particularly surprising. Aspects of measurement may also have impacted these results; items in the measure utilized reflected a desire to spend more time with one's school counselor (e.g., ''Would you like to spend more time with your counselor if you could?''), to which negative responses might not necessarily reflect a poor relationship. In this study, only child perception of alliance was measured using a validated scale, whereas clinician and supervisor perceptions were not. Future research may investigate the impact of clinician and/or supervisor perception of alliance on outcomes, especially utilizing validated measures.

Child compliance with treatment was found to relate to treatment response, with children who were more compliant with treatment 1.5-times more likely to respond to treatment. This is in keeping with literature that suggests that youth participation and compliance with treatment, beyond simple homework completion, is associated with symptom improvement (Chiappini et al., 2020; Chu & Kendall, 2004; Kodal et al., 2018; Lee et al., 2019; Wergeland et al., 2016). Child compliance with treatment is likely essential to treatment, as the majority of therapeutic change occurs outside the therapy room, with children practicing and applying skills learned in therapy into their everyday lives. Children who are noncompliant (e.g., defiant in session, resistant to sharing or learning skills, not practicing or completing out-of-session homework) may be unlikely to fully benefit from treatment. As such, taking steps to increase child compliance with treatment may increase the overall response rate to treatment. Ways to increase child compliance with treatment are discussed below.

None of the therapist-related factors significantly predicted treatment response. These findings are consistent with several studies that found no relationship between level of education (Nelson & Steele, 2007; Okamura et al., 2014, 2018) and therapeutic orientation (Harned et al., 2013; Lau et al., 2020; Nakamura et al., 2011; Okamura et al., 2014, 2018) and treatment delivery/outcomes. The lack of significant associations between positive therapist attitudes towards EBPs and treatment response suggest that, while previous research linked attitudes with aspects of treatment utilization and delivery (Harned et al., 2013; Lau et al., 2020; Nelson & Steele, 2007), there may be more meaningful contributors to student outcomes than therapist attitudes (e.g., incorporation of EBP structural elements). Although the lack of impact of therapist barriers on

treatment outcomes is somewhat in conflict with findings in the literature (Harned et al., 2013; Podell et al., 2013), it should be noted that therapists in this sample tended to report low levels of barriers (average score of a 15.56 on a measure with a range of 7 to 35), meaning that therapists tended not to begin treatment with a large number of barriers in general.

That said, these nonsignificant therapist-related results can be viewed in a positive light. Therapist characteristics (level of education, years of experience, therapeutic orientation, and confidence in implementation of EBPs), as well as number of students seen, were not found to have an impact on whether or not a student responded to treatment, nor did the pretreatment barriers that many therapists experience (i.e., large caseloads, administrative demands, scheduling conflicts). Thus, several of the variables that are difficult for therapists to change, fortunately, may not have a noteworthy impact on a youth's response to the treatment delivered.

It should be noted that the percentage of youth who responded to treatment was relatively lower than those found in other clinical samples—36% as compared to 60% in other studies of CBT treatment of anxiety (Walkup et al., 2008). This is illustrative of the decrease in responsiveness often found in community-based studies or instances where treatment is provided via community providers (with varying training in evidence-based treatments) as opposed to clinicians trained specifically in a particular treatment (Barrington et al., 2005; Ginsburg et al., 2012; Southam-Gerow et al., 2010) and speaks to the need to increase training and provide resources to community-based clinicians to improve student response to treatment. It should also be noted that the criteria for ''treatment responders'' was stringent in nature, and when Ginsburg et al. (2020) utilized a more liberal criteria (i.e., including CGI-I scores of 1, 2, and 3 as ''responders''), the response rate increased to 82% (M-CBT) and 80% (TAU).

The results of this study have many implications for therapy providers. Most notably, these results provide evidence that, while not the only essential component of treatment, it is important for therapists to incorporate basic structural elements of EBPs into each session. While these structural components are often found in CBT, they are not exclusive to this treatment modality and can be incorporated into a variety of treatments and presenting issues. Incorporation of these elements into treatment is fairly simple and may be more cost-effective for training: instead of receiving training in novel interventions for each presenting issue, therapists may benefit from incorporating these common and effective CBT elements into the majority of interventions (as suggested by Ginsburg et al., 2012).

The importance of structural elements of EBPs (and, to a lesser extent, compliance of the student in treatment) may also impact the response rate to treatment, which was found to be low in this study and other similar community-based studies. It is possible that clinicians working in schools and communities become less purposeful about incorporating these elements into treatment with anxious youth. Indeed, it is important to note that the overall proportion (.67) and quality (2.17) of utilization of EBP strategies was middling within this population, indicating a need for improvement and possibly informing low response to treatment. Clinicians may also experience a lack of insight regarding their

delivery of EBPs. Indeed, a separate study of the TAU clinicians of this study found that while the majority described their primary therapeutic strategy as cognitive-behavioral (68%), ratings made by independent evaluators indicate that only a minority of sessions utilized CBT as a primary strategy (14%; Ginsburg et al., 2019). The impact of utilizing these simple strategies speaks to the need for increased training with these strategies. Increased proficiency with and use of these strategies may increase the effectiveness of community-based treatment with youth.

Therapists should also be mindful of child compliance with treatment, which has an impact on outcomes. Therapists should take steps to facilitate child motivation for and compliance with treatment. Indeed, higher youth motivation for anxiety treatment has been linked to increased symptom improvement and odds of diagnostic recovery at a one-year follow-up (Kodal et al., 2018; Wergeland et al., 2016). Establishing buy-in early on in treatment may be one way to facilitate motivation and compliance. Youths should be aware of what treatment will consist of and why this will help them in their lives. Therapists should regularly check in on child understanding of all treatment components and answer questions/clarify information as needed. Implementing reward systems for compliance (e.g., in-session skill practice, homework completion) can also be useful. Parents can be utilized to facilitate compliance with treatment outside of the session (e.g., ensuring homework completion, assisting with out-of-session tasks such as skill practice and exposures, implementing rewards). Additionally, therapists should assess and address barriers to compliance as much as possible. Therapists can be flexible in their delivery of treatment to address barriers (e.g., minimizing reading/writing demands for a child with learning difficulties) and should take care to adapt treatment to the developmental status and any special needs of the child (Kendall & Beidas, 2007; Kendall & Frank, 2018).

These results provide opportunities for future research. Given the importance of incorporating aspects of EBPs into treatment, it would be interesting to see if purposeful efforts to increase therapist implementation of these EBP structural elements (i.e., through training, increased education) has a subsequent impact on treatment response. Of note, two of the eleven structural elements included in the current study include checking in on the child's mood/anxiety and reviewing the child's progress; these elements are similar to strategies utilized in outcome monitoring, which has been shown to improve outcomes in youth (Dyason, Shanley, O'Donovan, & Low-Choy, 2020). Future research could also investigate specifically which EBP structural elements have the biggest impact on treatment outcomes. Further investigations into child compliance with treatment is also warranted; assessing compliance as a multifaced construct (e.g., compliance both in- and out-of-session, compliance with skill practice/homework completion) may be useful, as well as factors that may bolster compliance. Finally, while this study focused on therapist- and therapy-related factors that impact treatment outcomes, there are more factors that impact the outcomes, including child-specific (e.g., child attitudes towards treatment, motivation to change), family-specific (e.g., socioeconomic status, openness towards discussion and treatment of mental health difficulties), and school/neighborhood factors (e.g., school resources and funding, schoolwide attitudes towards mental wellness). The factors that predict child response to school-based treatments for anxiety are vast and nuanced, and this study reported only on specific components.

There are many strengths to this study. First, this study captures outcomes of treatment conducted by community (i.e., school-based) clinicians. As there is evidence of reduced superiority of EBPs over control conditions in community-based studies (Barrington et al., 2005; Ginsburg et al., 2012; Southam-Gerow et al., 2010), it is important that more studies investigate both EBPs and usual care in community and school contexts so that work can be done to bolster treatment effectiveness. This study is fairly unique in examining variables that predict treatment outcome that are separate from the specific treatment modality and can be generalized across treatments. Additionally, ratings of treatment integrity were conducted by individuals other than the therapist themselves, which may provide a more objective rating of treatment competence and adherence than a potentially biased self-report measure. Similarly, child anxiety was assessed by independent evaluators rather than child- or parent-report, which lends a more stringent and reliable and less biased assessment of anxiety severity and recovery (incorporating both child and parent perspectives on change). Multi-method/multi-rater associations (e.g., therapist-rated child compliance predicting independent evaluator-rated child response to treatment) provide confidence that associations are not due to shared method variance.

Several limitations are worth noting to contextualize results. Some of the therapist measures were completed at baseline and might have changed over time (e.g., self-efficacy, barriers, therapeutic orientation). Additionally, there was missing data on some post-intervention measures (most notably therapeutic alliance); however, these data were missing at random. As noted above, this study focused specifically on therapist and therapy predictors of treatment outcome, and there are several other relevant factors that may also impact outcomes, such as child, family, school, and other systemic factors. As such, while this study captured an aspect of contributors to treatment response, there are many contributing factors still to be examined.

This study investigated several therapist- and therapy-related predictors that may impact response to treatment in youth with anxiety disorders, regardless of treatment modality implemented. Greater use of EBP structural elements and greater child compliance to treatment increased odds of response. These findings lend support to the incorporation of evidence-based structural elements to treatments for youth with anxiety disorders. Additional research is needed to learn more about common elements of treatments that bolster treatment response for youth.

Disclosure of interest

The authors declare that they have no competing interest.

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