

UCLA

UCLA Previously Published Works

Title

Client-rated facilitators and barriers to long-term youth anxiety disorder recovery.

Permalink

<https://escholarship.org/uc/item/8tv7q1sr>

Journal

Journal of Clinical Psychology, 78(11)

Authors

Casline, Elizabeth

Ogle, Robert

Peris, Tara

et al.

Publication Date

2022-11-01

DOI

10.1002/jclp.23400

Peer reviewed



# HHS Public Access

Author manuscript

*J Clin Psychol.* Author manuscript; available in PMC 2023 November 01.

Published in final edited form as:

*J Clin Psychol.* 2022 November ; 78(11): 2164–2179. doi:10.1002/jclp.23400.

## Client-Rated Facilitators and Barriers to Long-Term Youth Anxiety Disorder Recovery

Elizabeth P. Casline<sup>1</sup>, Robert R. Ogle<sup>2</sup>, Tara S. Peris<sup>3</sup>, Philip C. Kendall<sup>4</sup>, John Piacentini<sup>3</sup>, Scott Compton<sup>5</sup>, Courtney Keeton<sup>6</sup>, Golda S. Ginsburg<sup>7</sup>

<sup>1</sup>Department of Psychology, University of Miami, Coral Gables, FL, USA

<sup>2</sup>Counseling Center, Yeshiva University, New York, NY, USA

<sup>3</sup>Division of Child and Adolescent Psychiatry, UCLA Semel Institute for Neuroscience and Human Behavior, Los Angeles, CA USA

<sup>4</sup>Department of Psychology, Temple University, Philadelphia, PA, USA

<sup>5</sup>Department of Psychiatry and Behavioral Medicine, Duke University School of Medicine, Durham, NC, USA

<sup>6</sup>Division of Child and Adolescent Psychiatry, Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, USA

<sup>7</sup>Department of Psychiatry, University of Connecticut School of Medicine, Farmington, CT, USA

### Abstract

**Objective:** This study examined client ratings of 26 facilitators and barriers to anxiety improvement approximately six years after randomization to treatment for anxiety.

**Method:** 319 youth (average 17.12 years old; 82.1% Caucasian; 58.6% female) participated in the longitudinal follow-up study to [ORIGINAL RCT], a randomized controlled trial of medication, cognitive-behavioral therapy (CBT), combination, and placebo.

**Results:** Correcting for multiple comparisons, CBT components (i.e., problem solving, changing unhelpful thoughts, relaxation skills) were rated significantly more helpful among youth without, versus with, an anxiety disorder at follow-up. Barriers that differentiated youth with and without an anxiety disorder included being bullied and difficulty applying therapy content to new situations. Comparisons between youth with different anxiety disorder trajectories (e.g., stable remission, relapsed, or chronically ill) also revealed several differences.

**Conclusion:** Findings suggest that client-rated facilitators and barriers covary with anxiety disorder recovery and may serve as useful tools when evaluating long-term treatment efficacy.

---

**Corresponding Author:** Golda S. Ginsburg, Ph.D., Department of Psychiatry University of Connecticut School of Medicine 65 Kane Street Room 2033 West Hartford, CT 06119 phone: 860-523-3788, Gginsburg@uchc.edu.

**Clinical Trials Registration:** [NCT00052078](https://www.clinicaltrials.gov/ct2/show/study/NCT00052078)

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Keywords

Anxiety; Cognitive-Behavioral Therapy; Children; Longitudinal

---

## Introduction

Anxiety disorders are the most common mental health problems for youth, with over 20% of children in the United States having met criteria for an anxiety disorder by the time they reach young adulthood and 3-month prevalence estimates in excess of 13% (Copeland et al., 2014). For youth with anxiety disorders, these symptoms also lead to significant functional impairment, including meaningful problems in academic outcomes (e.g. underachievement, lower standardized test scores), occupational challenges (e.g. difficulty adjusting to the workplace environment, lower adult income), increased family difficulties (e.g. poor relationship quality, higher rates of unwanted pregnancy) and social problems (e.g., lower social competency, perceived as “less likeable” by peers) (Erath et al., 2007; Essau et al., 2014; Mychailyszyn et al., 2010; Swan & Kendall, 2016). These disorders also lead to significant direct (e.g., visits to treatment providers) and indirect (e.g., loss of income or leave time to care for an anxious child) costs to families (Pella et al., 2020). The high burden and high prevalence make improving treatment methods for anxiety in youth a critical public health concern.

Both pharmacological and psychosocial evidence-based treatments for child and adolescent anxiety exist, with cognitive-behavioral therapy (CBT) and selective serotonin reuptake inhibitors (SSRIs) suggested as first line treatments respectively (Higa-McMillan et al., 2016; Strawn et al., 2018). Meta-analyses indicate strong evidence for clinically meaningful effect sizes, but have also found that up to 40% of youth in treatment do not respond (Ginsburg et al., 2011; Walkup et al., 2008), and long-term follow-up studies suggest relapse is common (Gibby et al., 2017; Ginsburg et al., 2018; Hofmann et al., 2012). Thus, identifying methods for improving both acute and sustained treatment response remains critical.

One method for identifying potential improvements in treatment uses client report on the process and components of treatment that are perceived as helpful for lowering anxiety. Previous work found that client’s hold beliefs about treatment credibility and treatment processes, and that perspectives held during treatment are related to treatment outcomes, satisfaction, and engagement (M. S. Barrett et al., 2008; Constantino et al., 2018; Meyer & Zane, 2013; Smith et al., 2013). For example, amongst adults receiving group-based CBT, client positive perception of the helpfulness of treatment components (e.g., in vivo exposure, cognitive restructuring) was positively correlated with treatment response in CBT treatment for adults (Smith et al., 2013). Adults from different racial-ethnic backgrounds had distinct perceptions of content they believed to be important to include in treatment, and that discrepancy between what clients perceive as important in treatment and actual treatment content correlated with reduced satisfaction in treatment (Meyer & Zane, 2013). Moreover, perception of the therapeutic process and relationship (e.g., trustworthiness and perceived

expertise of the therapist, agreement on therapeutic goals) are known to affect treatment attrition in adults (M. S. Barrett et al., 2008).

Despite evidence of the importance of client perception, treatment experiences and their relationship to outcomes remain under-studied, especially within youth samples. A study examining barriers to youth in need of treatment accessing mental health services found that approximately 26% of parents reported a negative perceptions of treatment factors and processes (e.g., negative experience of treatment professional, thought treatment would not help) as a barrier to treatment participation (Owens et al., 2002). Youth treated with CBT for anxiety disorders rated the therapeutic relationships and dealing with fears and problems as most important treatment factors, while those who rated the FEAR steps as most important demonstrated a decrease in internalizing symptoms (Kendall & Southam-Gerow, 1996). Among youth receiving CBT for anxiety in community mental health clinics, youth with lower reported treatment credibility were more likely to drop out of treatment (Wergeland et al., 2015), higher treatment credibility also predicted higher youth-rated therapy alliance (Fjermestad et al., 2018). This is notable as the relationship or alliance between youth and therapist, plays an important role youth anxiety treatment outcomes (Marker et al., 2013; McLeod et al., 2017). A recent review of CBT for anxious youth (Crawford et al., 2018) highlighted the impact of various treatment-specific (e.g., homework completion, exposure) and non-treatment-specific (e.g., moving to a new school) factors on anxiety treatment response, but noted there was inconsistent evidence regarding the relative importance of each. Factors were often examined individually in separate projects, making it difficult to compare their relative importance, nor did most studies examine youth perception of these factors. The review also highlights the limited data examining the longitudinal impact of factors or recall of treatment factors associated with anxiety recovery: a feature that is notable given that many youth anxiety treatments focused on equipping clients with relapse preventions strategies (Crawford et al., 2018). While examining client views of treatment credibility during treatment may allow for proactive tailoring of treatment to improve outcomes (Coyne et al., 2019), the lack of identifying which factors individuals with anxiety disorders perceive to have been most beneficial to their long-term recovery can also improve our ability to tailor interventions to factors that support relapse prevention.

The current study fills this gap by examining client ratings of treatment-related and non-treatment related factors identified by researchers as potentially associated with long-term anxiety recovery. Participants were youth enrolled in [STUDY NAME] (AUTHORS), a naturalistic, longitudinal follow-up study beginning approximately 6 years after randomization to the [ORIGINAL RCT] (AUTHORS). Client's ratings of factors as helpful (i.e., facilitators) or impairing (i.e., barriers) to their long-term recovery were obtained at the first of four [STUDY NAME] visits. Prior [STUDY NAME] publications have not examined these ratings and as such this study provides an opportunity to extend our understanding of the role of client perception on treatment factors associated with anxiety disorder recovery within a landmark six-site randomized control trial for youth anxiety. Specifically, this study compared ratings of facilitators and barriers between youth with and without an anxiety disorder in two ways. First, ratings of facilitators and barriers were examined cross-sectionally at the first [STUDY NAME] visit by comparing youth who met diagnostic criteria for at least one [ORIGINAL RCT] inclusion criteria anxiety disorder (i.e.,

social, generalized, and/or separation anxiety disorder) to those without an anxiety disorder. Second, facilitators and barriers were examined longitudinally by comparing ratings among youth in one of three [STUDY NAME] remission groups (i.e., stable remission, relapsers, or chronically ill), defined based on youth disorder status across three [STUDY NAME] study visits (AUTHORS). No a priori hypothesis about the relation between specific individual facilitators or barriers and anxiety disorder status was made, however, it was predicted that overall 1) youth without anxiety disorders at the first follow-up assessment would rate each facilitator as more helpful and each barrier as less impairing compared to youth with an anxiety disorder and 2) youth in the stable remission group would rate each facilitator as more helpful and each barrier as less impairing compared to both the relapse and chronically ill groups.

## Materials & Methods

### Participants

Participants were 246 (78%) of the 319 adolescents and young adults enrolled in [STUDY NAME], the longitudinal follow-up study of youth randomized to the [ORIGINAL RCT], who had completed the measure of treatment facilitators and barriers at the first [STUDY NAME] study visit. Participants were a mean age of 17.12 years ( $SD = 34.5$ ). Participants were predominately female (58.5%), White (82.1%), and lived with their parent or guardian (74.0%). Additional demographic and clinical characteristics of the current study sample are presented in Table 1. Most [STUDY NAME] participants (65.1%) reported receiving some form of treatment for anxiety over the course of the long-term follow-up period with 58.5% reporting taking a medication for anxiety and 48.4% reporting receiving any psychosocial treatment for anxiety (23.9% CBT for anxiety; Peris et al., 2021).

### Procedure

At the time of enrollment in [ORIGINAL RCT], all participants met DSM-IV TR criteria for social, generalized, and/or separation anxiety disorder and were randomized into one of four treatment conditions: cognitive behavioral therapy (CBT, Coping Cat; Kendall & Hedtke, 2006a, 2006b), medication (sertraline; SRT), combination (CBT and SRT), or pill placebo (PBO). Each participant was expected to receive twelve weeks of treatment. After 12 weeks, all youth were re-assessed, and treatment responders continued in their treatment arm. Placebo non-responders were offered [ORIGINAL RCT] treatment of their choice. Additional information on the [ORIGINAL RCT] sample, methods, acute and long-term outcomes can be found in (AUTHORS). [ORIGINAL RCT] participants were contacted through multiple channels (e.g., social media, phone, physical mail) approximately six years after randomization and were invited to participate in [STUDY NAME] through a series of follow-up visits. Written informed consent to participate in [STUDY NAME] was obtained from participants age 18 year or older and from at least one parent of all participants. Participants under age 18 years provided assent. [STUDY NAME] participants were expected to complete annual in-person study visits for up to four years that involved a semi-structured diagnostic interview with an independent evaluator and questionnaires, and one phone call at each midway point between annual in-person visits with a research assistant to collect additional questionnaire data. Data in this study were collected at each of

the annual [STUDY NAME] in-person study visits. Families received \$130 for completion of each in person study visit. Client-perceived facilitators and barriers were assessed only once at the first [STUDY NAME] visit ([STUDY NAME] Visit 1).

## Measures

**Facilitators and Barriers**—The Treatment Response Questionnaire (TRQ) was used to measure client-perception of the relative helpfulness and impairment attributable to different treatment-related and non-treatment-related factors. The TRQ is a 26-item self-report for treatment-involved youth developed for [STUDY NAME]. Items were developed by the [STUDY NAME] principal investigators based on their expertise in the treatment of anxiety disorders and knowledge of literature relevant to risk and protective factors for long-term outcomes. Items were developed to reflect components specific to the active treatment conditions in [ORIGINAL RCT] (e.g., “Exposures”, “Taking medication inconsistently”), non-specific treatment factors (e.g., “Having a good relationship with my doctor/therapist), and non-treatment-related factors (e.g., “Changing to a new school”, “Being bullied by peers”; see Table 2 for list of items). These factors were anchored on rating scales based on their potential to have been helpful in reducing anxiety or to have prevented recovery from anxiety. This resulted in of 13 items that were potentially helpful in reducing anxiety and 13 items that potentially prevented reduction in anxiety. For ease of communication, we refer to these groups of items as facilitators and barriers respectively. Each facilitator item was rated on a 4-point Likert scale, from 1, Very Helpful to 4, Not Helpful. Each barrier item was rated from 1, Very Much Impairing, to 4, Not at All Impairing. Participants had the option to indicate if a particular item was not applicable to them (i.e., did not learn/use), in which case they did not provide a rating on the 4-point Likert scale. Lower scores indicate a more helpful facilitator or a more impairing barrier.

**Anxiety Disorder Status**—Anxiety disorder diagnostic criteria was assessed using the age-appropriate versions of the DSM-IV Anxiety Disorders Interview Schedule (ADIS-Client; Brown et al., 1994) and the Anxiety Disorders Interview Schedule for DSM-IV, Child and Parent Version (ADIS-C/P, ages 6–17; Silverman & Albano, 1996). The ADIS is a gold-standard, semi-structured diagnostic instrument for adult and pediatric anxiety disorders as it assesses a broad range of anxiety, mood, and externalizing disorders and screens for other psychiatric disorders. In the current study, a trained Independent Evaluator (IE), masked to treatment condition, determined a composite Clinical Severity Rating (CSR) score based on interviews conducted separately with the parent (ADIS-P) and child (ADIS-Client ages 18+/ADIS-C ages 6–17). CSRs are generated for each disorder (range = 0 to 8; a 4 is required to make assign a disorder) and are used to categorize all positive diagnoses as primary or secondary. The interview has demonstrated good inter-rater reliability and concurrent validity (P. Barrett et al., 1996; Lyneham et al., 2007; Wood et al., 2002) and has good test-retest reliability ( $r = 0.94$  for the parent and  $r = 0.92$  for the child interviews; Lyneham et al., 2007). In this study, inter-rater diagnostic agreement for anxiety diagnoses was strong (Kappas  $> 0.90$ ) based on a randomly selected 28% ( $n = 90$ ) of the ADIS administrations (AUTHORS). Anxiety disorder status at [STUDY NAME] visit one was defined by the presence of any [ORIGINAL RCT] study eligible disorders (i.e., social, generalized, and/or separation anxiety disorder) as determined by the ADIS.

**[STUDY NAME] Remission Group**—Remission groups were identified for participants who completed at least three follow-up visits during [STUDY NAME] (n=165). Remission was defined as the absence of all DSM-IV TR anxiety disorders, obsessive-compulsive disorder, and post-traumatic stress disorder as determined by the ADIS. Participants were assigned to one of three remission groups based on their remission status across three subsequent [STUDY NAME] study visits conducted approximately annually: *stable remission* (i.e., met criteria for remission at every [STUDY NAME] visit), *relapsers* (i.e., had both a [STUDY NAME] visit with meeting criteria for remission *and* at least one visit without meeting criteria), and *chronically ill* (i.e., did not meet criteria for remission at any [STUDY NAME] visit; AUTHORS).

**Data Analysis**—Differences in baseline demographic characteristics (i.e., age, gender, race, SES) between the original [ORIGINAL RCT] sample and those who completed the TRQ (n = 246) were examined using chi-square analysis for categorical and t-test for continuous variables, respectively. Using similar analyses, we also compared demographic and clinical variables (i.e., age and anxiety severity at the [STUDY NAME] visit one, gender, race, and SES) between [STUDY NAME] participants who completed the TRQ (n= 246) and those who did not (n = 73). Little's Missing Completely at Random (MCAR) test indicated data were missing completely at random ( $\chi^2 = 290.67$  df = 287,  $p = .43$ ) (Little, 1988). Subsequent analyses were restricted to participants (N = 246) who completed the TRQ at [STUDY NAME] visit one.

For Aim 1, mean differences for each item on the TRQ for those with an anxiety disorder at [STUDY NAME] Visit 1 relative to those with no anxiety disorder at this visit were analyzed via ANCOVA, controlling for demographic variables that were significantly different between those who completed and did not complete the TRQ at [STUDY NAME] Visit 1. For Aim 2, the relation between TRQ factors and remission group (stable remission, relapsers, and chronically ill) data were analyzed via one-way ANCOVA, again controlling for treatment group and demographic variables as needed. The Benjamini & Hochberg false discovery rate (Benjamini & Hochberg, 1995) was used within each aim to correct for multiple comparisons. Tukey's post-hoc testing was done for each item with a significant ANCOVA following the correction for multiple comparisons. Finally, to examine the relative importance of TRQ items logistic regression models were used to predict having an anxiety disorder (Aim 1) or membership in the stable remission group (Aim 2) using TRQ items identified as significant via the ANCOVA as predictors (controlling for significant demographic variables and treatment condition. Analyses were conducted in R 4.1.0.

## Results

### Preliminary Analyses

Using the original [ORIGINAL RCT] sample, comparisons between TRQ completers and non-completers on baseline demographic variables revealed significant differences by gender ( $\chi^2(1) = 15.89$ ,  $p < 0.001$ ) with more females than males completing the TRQ. Within the [STUDY NAME] sample, comparisons between TRQ completers and non-completers on baseline demographic variables also revealed significant difference by gender

( $\chi^2(1) = 4.34, p = 0.04$ ) such that 81% of females compared to 74% of males completed the TRQ. Gender was thus controlled for in subsequent analyses. Treatment group was also included as a covariate to control for potential effects of intervention. Gender was dummy coded with female as the reference group, and treatment condition was dummy coded with the combination condition (CBT + SRT) as the reference group. No other significant demographic or clinical differences between TRQ completers and non-completers within both the [ORIGINAL RCT] and [STUDY NAME] samples emerged. Descriptive statistics for the [STUDY NAME] sample that completed the TRQ ( $N=246$ ) are presented in Table 1.

### **[STUDY NAME] Visit 1: Aim 1**

Table 2 presents the number of participants who endorsed each TRQ facilitator and barrier item respectively (i.e., they recalled using or learning the item) and among those participants, the total mean rating of helpfulness for each item. Table 2 also shows the mean ratings of each item by anxiety disorder status at [STUDY NAME] Visit 1. Comparing the average rating of each item between youth with and without an anxiety disorder at [STUDY NAME] Visit 1 identified three facilitators that differed significantly by anxiety disorder status: youth with no disorder rated using relaxation skills, changing unhelpful thoughts, and using problem solving skills as significantly more helpful than those with a disorder. Two barriers also differentiated those with an anxiety disorder at [STUDY NAME] Visit 1 relative to those without a disorder: youth with no disorder rated being bullied by peers and difficulty applying what was learned in therapy to new situations as less impairing than those with a disorder.

Logistic regressions tested the relative strength of the TRQ items with a significant difference by group as predictors of having an anxiety disorder at [STUDY NAME] Visit 1 controlling for gender and treatment group. None of the specific facilitators emerged as significant predictors (Table 4, Model 1). For barriers, being bullied by peers was the only significant TRQ predictor, indicating that for each one unit increase in the score (i.e., decreased impairment to recovery due to bullying), the odds of having an anxiety disorder were 31% lower (Table 4, Model 2). Therefore, youth who rated being bullied by peers as more impairing were more likely to meet criteria for an anxiety disorder.

To explore the potential effect of recall bias on these results, post hoc analyses were run to examine aim 1 in the subsample of participants who did not receive interim service use ( $n=80$ ). The only change in findings was for the use of relaxation item ( $p = 0.02$ ), which was not significantly different between groups when a correction for multiple comparisons was applied.

### **[STUDY NAME] Remission Group: Aim 2**

Table 3 presents results of one-way ANCOVAs for each facilitator and barrier item by [STUDY NAME] remission group (stable remission, relapse, chronically ill). Among participants who recalled using or learning the item, the average rating of two TRQ facilitators (using problem solving skills and changing unhelpful thoughts) were statistically different across groups in the overall model. Post-hoc comparisons indicated that the stable remission group rated problem solving as significantly more helpful than both the relapse



and chronically ill group. Both the stable remission and the relapser group rated changing unhelpful thoughts as more helpful than the chronically ill group. None of the barrier items were significantly related to remission group after correction for multiple comparison. A logistic regression tested the relative strength of the significant TRQ facilitator items as predictors of membership in the stable remission group, controlling for gender and treatment group. Using problem solving skills was the only significant TRQ predictor, indicating that for each one unit increase in the score (i.e., decreased helpfulness of problem solving), the odds of being in the stable remission group were 61% lower (Table 4, Model 3) Therefore, youth who rated problem solving as more helpful were more likely to be in the stable remission group.

## Discussion

To our knowledge, this is the first study to examine clients' ratings of factors that they associated with helping or impairing their recovery from anxiety disorders across a six-year follow-up window, and as such, these findings offer valuable insight into the parts of treatment that resonate with clients over time. This study expands our understanding of how client perception of treatment-related and non-treatment related factors are associated with to recovery from anxiety disorders by comparing youth with and without anxiety disorders at both a single timepoint and across multiple years in the context of a long-term follow-up treatment study. These results could also offer guidance to clinicians regarding what remains salient, meaningful, and helpful to clients recovering from an anxiety disorder.

With respect to treatment-related facilitators, three treatment related facilitators were rated as more helpful among clients who recovered from their anxiety disorder at the six-year follow up compared to those who did not: using relaxation techniques, using problem solving skills, and changing unhelpful thoughts. In a combined logistic regression model, each were equally important in predicting the likelihood of having an anxiety disorder (social, generalized, or separation) at the long-term follow-up. Two of these same treatment-related facilitators also differentiated individuals by anxiety trajectory over time. Specifically, clients who rated using problem solving skills and changing their unhelpful thoughts were more likely to be in stable remission over time, indicating the potential importance of these skills to maintenance of treatment recovery. Overall, ratings of treatment related facilitators suggest client's perception and application of relaxation and cognitive skills (e.g., problem solving, cognitive restructuring) are targets for continued monitored evaluation to determine whether and how variability may differentially influence their long-term recovery. These findings also suggest that clients attribute their improvement in anxiety to the benefits of using particular treatment components, providing support for recent lines of research (Hale et al., 2018; Kendall et al., 2016) examining these factors as mediators in treatment.

Together these results are consistent with the underlying conceptual model of CBT (Craighead et al., 1985) and its theory of change, in particular for skills addressing the physiological and cognitive component of the CBT triangle. Youth who reported that relaxation skills were helpful may have been better able to manage physiological arousal in response to anxious stimuli. This could provide protection against recurring or new anxious

triggers encountered during the follow-up period. Youth who used problem solving skills may be more flexible in their thinking, reduced impulsivity in response to anxiety-related decision making and therefore may have been more likely to test out approach-oriented action. Youth who found cognitive restructuring helpful may be more likely to identify and challenge unrealistic thoughts and generate coping thoughts. Indeed, data from [ORIGINAL RCT] examining mediators of short-term treatment response showed that improvement in self-efficacy about the ability to cope with anxiety provoking situations mediated treatment response in CBT, medication, and combination conditions (Kendall et al., 2016).

Doing exposures, a well-established key component of CBT efficacy for youth anxiety (Crawford et al., 2018), however, did not emerge as a significant client-perceived facilitator of long-term recovery. This is notable given the finding that during active [ORIGINAL RCT] treatment, clients receiving CBT were observed to have a significant acceleration in their rate of treatment progress after the introduction of cognitive restructuring and exposure, but not following the introduction of relaxation skills (Peris et al., 2015). It's possible that clients may view exposure is a useful strategy to implement during active treatment, use of planned exposures after treatment is perceived as less helpful in their day to day lives post-treatment. It may be that clients in recovery are no longer avoiding anxiety-provoking situations, thus "doing planned exposures" may seem less relevant to their recovery. Future work should explore why client's perceive different treatment components as more or less beneficial and the circumstances in which they apply them. For example, relaxation may help clients reduce negative arousal and facilitate greater concentration during tasks such as homework completion, or cognitive restructuring may reduce negative self-talk that facilitates improved affect. It would also be of interest to know the degree to which clients view using approach strategies to naturally occurring anxiety-provoking events as distinct from practicing approach within the context of an exposure, and whether this distinction accounts for discrepancies in relative helpfulness ratings. Moreover, how exposures are conducted and the type of post-exposure processing that occurs can influence the relative effectiveness of exposure (Crawford et al., 2018), and thus the skill with which clients implement exposures independently may also influence their perceived long-term utility.

Among barriers to experiencing a reduction in anxiety, clients who continued to meet criteria for an anxiety disorder, compared to those who did not, were more likely to report difficulty applying or generalizing what was learned in treatment at the six year follow up. None of the treatment-related barriers significantly differentiated individuals' anxiety trajectory over time. These findings highlight the importance of using on-going treatment monitoring and feedback approaches to evaluate client's feelings of self-efficacy about their ability to independently use treatment skills. Therapist should also infuse acute treatment approaches with practice in applying skills outside of session. Specifically, therapists should spend devoted time to ensure that treatment skills generalize outside of session before termination, for example by adding in practice and problem-solving exercises around potential experiences likely to come up in the future. Overall, findings regarding treatment-related facilitators and barriers also highlight useful questions therapists can ask clients about which treatment strategies they find helpful or unhelpful at follow-up visits as they help explain return to clinical levels of symptomatology and chronic illness.

With respect to non-treatment related factors, none of the facilitators were rated as more helpful among clients without an anxiety disorder at the six-year follow up nor did they differentiate clients anxiety trajectory over time. Only one non-treatment related barrier was rated as more impeding of anxiety reduction among those with versus without an anxiety disorder at the six year follow up: being bullied by peers. No non-treatment related barriers differentiated the three remission groups. The importance of bullying in the development and/or maintenance of anxiety is consistent with previous research that suggests bullying predicts higher levels of anxiety (Averdijk et al., 2011; Craig, 1998; Kumpulainen, 2008). Considering this finding, direct inquiry about bullying experiences throughout treatment and the follow-up period seems warranted along with intervention if reported.

Despite the contributions of the current study, several limitations merit consideration for interpreting results. First, this was a naturalistic follow-up, which does not allow the inference of causality or direction of effects. Second, the measure of facilitators and barriers (i.e., the TRQ) was created for this study by researchers, and therefore does not provide an exhaustive list of facilitators and barriers, including those that might be most salient to youth. Moreover, because the TRQ relies on recall, it does not consider whether youth actually received specific treatment components. Because the TRQ is self-report, it also precludes the ability to evaluate the relationship between observed/accurate skill application and ratings of helpfulness or impairment. Future work should focus on conducting qualitative interviews with youth receiving treatment for anxiety disorders to develop a more comprehensive list of factors influencing long-term recovery. Future work should compare client retention of treatment specific knowledge to their perception of the skills utility in their treatment response, and the impact on length of time since treatment on this relationship. Notably, our post hoc analyses examining aim 1 in those without interim treatment suggested that recall bias did not have a major impact on study conclusions as the overall pattern of results remained the same. While the significance of the use of relaxation skills item changed, this was due to the p-value no longer meeting the adjusted alpha for multiple comparison, which may have been a by-product of the reduced sample size in this analysis. Moreover, the credibility of treatment components should be assessed before, during treatment and over a long-term follow-up period to evaluate how these factors covary over time. Finally, the generalizability of the findings is restricted due to characteristics of the sample. The [STUDY NAME] sample consisted of volunteers for a long-term treatment follow-up study and not all participants from the original study agreed to participate (though 63.5% did participate, more females volunteered than males). Sample sizes also differed across items which may have influenced power to detect significant differences.

The current findings offer several meaningful future directions. First, given the alignment between client perception of factors and the results of other studies examining these factors as mediators (Kendall et al., 2016; Kendall & Treadwell, 2007) more frequent measurement of client perception of barriers and facilitators in treatment trials may be useful as a tool to improve an intervention. Second, monitoring clients' perceptions of the utility of identified components might be used during treatment to help guide clinical decision-making about treatment progress. Therapists may focus on components where perceived helpfulness is high to maximize client's ability to generalize outside of session. Alternatively, they may use client feedback about perceived unhelpfulness of evidence-based treatment components to

alter the content delivery or application in session to improve the components utility to the client. Future work could assess clients' mastery of the tools taught in treatment, particularly problem-solving and cognitive restructuring, to ensure clients are using these tools well and with fidelity before moving to other treatment components. Future research could extend the current findings by examining the relative utility of different treatment components and incorporating the role of additional treatment factors that clients perceive to be helpful (or unhelpful) such as treatment credibility, expectancy for treatment effectiveness, and their readiness or motivation for change. These factors can impact session attendance, treatment drop out and treatment outcome (Keijsers et al., 1999; Kodal et al., 2018; Lee et al., 2019; Wergeland et al., 2015), which might also influence their the reporting of perceived facilitators and barriers.

## Conclusion

Understanding a client's perception of factors that facilitate or impede recovery from an anxiety disorder is a valuable goal. The present findings indicate that some core components of CBT are perceived as helping reduce anxiety such as using relaxation, and increase flexibility in thinking (i.e., changing unhelpful thoughts and using problem solving skills) may resonate and remain with clients, even after their treatment is completed. However, both having difficulty applying or generalizing what was learned in therapy and experiences of bullying are important barriers to long-term recovery that require greater attention in relapse prevention. Assessment of the client's perception of treatment and recovery during the design and evaluation of treatment studies may further improve the utility and effectiveness of evidence-based treatment for youth anxiety.

## Acknowledgement:

This research was supported by the NIMH (grants MH064089 to Dr Ginsburg, MH064003 to Dr Sakolsky, MH64088 to Dr Piacentini, MH64092 to Dr Albano, MH64107 to Drs March and Compton, and MH063747 to Dr Kendall). The authors wish to acknowledge the contributions of Brittany A. Gibby and all CAMELS PIs and staff that worked on the project.

## Role of the Sponsor:

The funding source had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

## References

- Averdijk M, Müller B, Eisner M, & Ribeaud D (2011). Bullying victimization and later anxiety and depression among pre-adolescents in Switzerland. *Journal of Aggression, Conflict and Peace Research*, 3(2), 103–109. 10.1108/17596591111132927
- Barrett MS, Chua W-J, Crits-Christoph P, Gibbons MB, & Thompson D (2008). Early withdrawal from mental health treatment: Implications for psychotherapy practice. *Psychotherapy: Theory, Research, Practice, Training*, 45(2), 247–267. 10.1037/0033-3204.45.2.247
- Barrett P, Rapee RM, Dadds MR, & Ryan SM (1996). Family Enhancement of Cognitive Style in Anxious and Aggressive Children. *Journal of Abnormal Child Psychology*, 24(2), 187–203. [PubMed: 8743244]

- Benjamini Y, & Hochberg Y (1995). Controlling the False Discovery Rate: A Practical and Powerful Approach to Multiple Testing. *Journal of the Royal Statistical Society: Series B (Methodological)*, 57(1), 289–300. 10.1111/j.2517-6161.1995.tb02031.x
- Brown TA, Dadds MM, & Rapee RM (1994). Anxiety disorders interview schedule adult version: Client interview schedule. Graywind Publications Incorporated.
- Constantino MJ, Coyne AE, Boswell JF, Iles BR, & Visl A (2018). A meta-analysis of the association between patients' early perception of treatment credibility and their posttreatment outcomes. *Psychotherapy*, 55(4), 486–495. 10.1037/pst0000168 [PubMed: 30335460]
- Copeland WE, Angold A, Shanahan L, & Costello EJ (2014). Longitudinal Patterns of Anxiety From Childhood to Adulthood: The Great Smoky Mountains Study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(1), 21–33. 10.1016/j.jaac.2013.09.017 [PubMed: 24342383]
- Coyne AE, Constantino MJ, & Muir HJ (2019). Therapist responsivity to patients' early treatment beliefs and psychotherapy process. *Psychotherapy*, 56(1), 11–15. 10.1037/pst0000200 [PubMed: 30688483]
- Craig WM (1998). The relationship among bullying, victimization, depression, anxiety, and aggression in elementary school children. *Personality and Individual Differences*, 24(1), 123–130. 10.1016/S0191-8869(97)00145-1
- Craighead EW, Meyers AW, & Wilcoxon Craighead L (1985). A conceptual model for cognitive-behavior therapy with children. *Journal of Abnormal Child Psychology*, 13(3), 331–342. 10.1007/BF00912720 [PubMed: 4045005]
- Crawford EA, Frank HE, Palitz SA, Davis JP, & Kendall PC (2018). Process Factors Associated with Improved Outcomes in CBT for Anxious Youth: Therapeutic Content, Alliance, and Therapist Actions. *Cognitive Therapy and Research*, 42(2), 172–183. 10.1007/s10608-017-9864-7
- Erath SA, Flanagan KS, & Bierman KL (2007). Social Anxiety and Peer Relations in Early Adolescence: Behavioral and Cognitive Factors. *Journal of Abnormal Child Psychology*, 35(3), 405–416. 10.1007/s10802-007-9099-2 [PubMed: 17265192]
- Essau CA, Lewinsohn PM, Olaya B, & Seeley JR (2014). Anxiety disorders in adolescents and psychosocial outcomes at age 30. *Journal of Affective Disorders*, 163, 125–132. 10.1016/j.jad.2013.12.033 [PubMed: 24456837]
- Fjermestad KW, Lerner MD, McLeod BD, Wergeland GJH, Haugland BSM, Havik OE, Öst L-G, & Silverman WK (2018). Motivation and treatment credibility predict alliance in cognitive behavioral treatment for youth with anxiety disorders in community clinics. *Journal of Clinical Psychology*, 74(6), 793–805. 10.1002/jclp.22551 [PubMed: 29143977]
- Gibby BA, Casline EP, & Ginsburg GS (2017). Long-Term Outcomes of Youth Treated for an Anxiety Disorder: A Critical Review. *Clinical Child and Family Psychology Review*, 20(2), 201–225. 10.1007/s10567-017-0222-9 [PubMed: 28181040]
- Ginsburg GS, Becker-Haimes EM, Keeton C, Kendall PC, Iyengar S, Sakolsky D, Albano AM, Peris T, Compton SN, & Piacentini J (2018). Results From the Child/Adolescent Anxiety Multimodal Extended Long-Term Study (CAMELS): Primary Anxiety Outcomes. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(7), 471–480. 10.1016/j.jaac.2018.03.017 [PubMed: 29960692]
- Ginsburg GS, Kendall PC, Sakolsky D, Compton SN, Piacentini J, Albano AM, Walkup JT, Sherrill J, Coffey KA, Rynn MA, Keeton CP, McCracken JT, Bergman L, Iyengar S, Birmaher B, & March J (2011). Remission after acute treatment in children and adolescents with anxiety disorders: Findings from the CAMS. *Journal of Consulting and Clinical Psychology*, 79(6), 806–813. 10.1037/a0025933 [PubMed: 22122292]
- Hale AE, Ginsburg GS, Chan G, Kendall PC, McCracken JT, Sakolsky D, Birmaher B, Compton SN, Albano AM, & Walkup JT (2018). Mediators of Treatment Outcomes for Anxious Children and Adolescents: The Role of Somatic Symptoms. *Journal of Clinical Child & Adolescent Psychology*, 47(1), 94–104. 10.1080/15374416.2017.1280804 [PubMed: 28278599]
- Higa-McMillan CK, Francis SE, Rith-Najarian L, & Chorpita BF (2016). Evidence Base Update: 50 Years of Research on Treatment for Child and Adolescent Anxiety. *Journal of Clinical Child & Adolescent Psychology*, 45(2), 91–113. 10.1080/15374416.2015.1046177 [PubMed: 26087438]

- Hofmann SG, Asnaani A, Vonk IJJ, Sawyer AT, & Fang A (2012). The Efficacy of Cognitive Behavioral Therapy: A Review of Meta-analyses. *Cognitive Therapy and Research*, 36(5), 427–440. 10.1007/s10608-012-9476-1 [PubMed: 23459093]
- Keijsers GPJ, Schaap CPDR, Hoogduin C, Hoogsteins B, & de Kemp ECM (1999). PRELIMINARY RESULTS OF A NEW INSTRUMENT TO ASSESS PATIENT MOTIVATION FORTREATMENT IN COGNITIVE-BEHAVIOUR THERAPY. *Behavioural and Cognitive Psychotherapy*, 27(2), 165–179. 10.1017/S1352465899272074
- Kendall PC, Cummings CM, Villabø MA, Narayanan MK, Treadwell K, Birmaher B, Compton S, Piacentini J, Sherrill J, Walkup J, Gosch E, Keeton C, Ginsburg G, Suveg C, & Albano AM (2016). Mediators of change in the Child/Adolescent Anxiety Multimodal Treatment Study. *Journal of Consulting and Clinical Psychology*, 84(1), 1–14. 10.1037/a0039773 [PubMed: 26460572]
- Kendall PC, & Hedtke K (2006a). *Cognitive-behavioral therapy for anxious children: Therapist Manual* (3rd ed.). Workbook Publishing.
- Kendall PC, & Hedtke K (2006b). *Coping Cat Workbook* (2nd ed.). Workbook Publishing.
- Kendall PC, & Southam-Gerow MA (1996). Long-Term Follow-Up of a Cognitive-Behavioral Therapy for Anxiety-Disordered Youth. *Journal of Consulting and Clinical Psychology*, 64(4), 724–730. [PubMed: 8803362]
- Kendall PC, & Treadwell KRH (2007). The role of self-statements as a mediator in treatment for youth with anxiety disorders. *Journal of Consulting and Clinical Psychology*, 75(3), 380–389. 10.1037/0022-006X.75.3.380 [PubMed: 17563155]
- Kodal A, Fjermestad KW, Bjelland I, Gjestad R, Öst L-G, Bjaastad JF, Haugland BSM, Havik OE, Heiervang ER, & Wergeland GJH (2018). Predictors of long-term outcome of CBT for youth with anxiety disorders treated in community clinics. *Journal of Anxiety Disorders*, 59, 53–63. 10.1016/j.janxdis.2018.08.008 [PubMed: 30273789]
- Kumpulainen K (2008). Psychiatric conditions associated with bullying. *International Journal of Adolescent Medicine and Health*, 20(2). 10.1515/IJAMH.2008.20.2.121
- Lee P, Zehgeer A, Ginsburg GS, McCracken J, Keeton C, Kendall PC, Birmaher B, Sakolsky D, Walkup J, Peris T, Albano AM, & Compton S (2019). Child and Adolescent Adherence With Cognitive Behavioral Therapy for Anxiety: Predictors and Associations With Outcomes. *Journal of Clinical Child & Adolescent Psychology*, 48(sup1), S215–S226. 10.1080/15374416.2017.1310046 [PubMed: 28448176]
- Little RJA (1988). A Test of Missing Completely at Random for Multivariate Data with Missing Values. *Journal of the American Statistical Association*, 83(404), 1198–1202.
- Lyneham HJ, Abbott MJ, & Rapee RM (2007). Interrater Reliability of the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Version. *Journal of the American Academy of Child & Adolescent Psychiatry*, 46(6), 731–736. 10.1097/chi.0b013e3180465a09 [PubMed: 17513985]
- Marker CD, Comer JS, Abramova V, & Kendall PC (2013). The Reciprocal Relationship Between Alliance and Symptom Improvement Across the Treatment of Childhood Anxiety. *Journal of Clinical Child & Adolescent Psychology*, 42(1), 22–33. 10.1080/15374416.2012.723261 [PubMed: 23009693]
- McLeod BD, Southam-Gerow MA, & Kendall PC (2017). Observer, youth, and therapist perspectives on the alliance in cognitive behavioral treatment for youth anxiety. *Psychological Assessment*, 29(12), 1550–1555. 10.1037/pas0000465 [PubMed: 28263642]
- Meyer OL, & Zane N (2013). The Influence of Race and Ethnicity in Client's Experience of Mental Health Treatment: Race and ethnicity in mental health treatment. *Journal of Community Psychology*, 41(7), 884–901. 10.1002/jcop.21580 [PubMed: 25400301]
- Mychailyszyn MP, Méndez JL, & Kendall PC (2010). School Functioning in Youth With and Without Anxiety Disorders: Comparisons by Diagnosis and Comorbidity. *School Psychology Review*, 39(1), 106–121.
- Owens PL, Hoagwood K, Horwitz SM, Leaf PJ, Poduska JM, Kellam SG, & Ialongo NS (2002). Barriers to Children's Mental Health Services. *Journal of the American Academy of*

- Child & Adolescent Psychiatry, 41(6), 731–738. 10.1097/00004583-200206000-00013 [PubMed: 12049448]
- Pella JE, Slade EP, Pikulski PJ, & Ginsburg GS (2020). Pediatric Anxiety Disorders: A Cost of Illness Analysis. *Journal of Abnormal Child Psychology*, 48(4), 551–559. 10.1007/s10802-020-00626-7 [PubMed: 32078089]
- Peris TS, Compton SN, Kendall PC, Birmaher B, Sherrill J, March J, Gosch E, Ginsburg G, Rynn M, McCracken JT, Keeton CP, Sakolsky D, Suveg C, Aschenbrand S, Almirall D, Iyengar S, Walkup JT, Albano AM, & Piacentini J (2015). Trajectories of change in youth anxiety during cognitive—Behavior therapy. *Journal of Consulting and Clinical Psychology*, 83(2), 239–252. 10.1037/a0038402 [PubMed: 25486372]
- Peris TS, Sugar CA, Rozenman MS, Walkup JT, Albano AM, Compton S, Sakolsky D, Ginsburg G, Keeton C, Kendall PC, McCracken JT, & Piacentini J (2021). Long-term Service Use Among Youths Previously Treated for Anxiety Disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, 60(4), 501–512. 10.1016/j.jaac.2020.07.911 [PubMed: 33301814]
- Silverman WK, & Albano AM (1996). *Manual for the ADIS-IV-C/P*. Psychological Corporation.
- Smith AH, Norton PJ, & McLean CP (2013). Client Perceptions of Therapy Component Helpfulness in Group Cognitive-Behavioral Therapy for Anxiety Disorders: Client Perceptions of Treatment. *Journal of Clinical Psychology*, 69(3), 229–239. 10.1002/jclp.21926 [PubMed: 23044668]
- Strawn JR, Geracioti L, Rajdev N, Clemenza K, & Levine A (2018). Pharmacotherapy for generalized anxiety disorder in adult and pediatric patients: An evidence-based treatment review. *Expert Opinion on Pharmacotherapy*, 19(10), 1057–1070. 10.1080/14656566.2018.1491966 [PubMed: 30056792]
- Swan AJ, & Kendall PC (2016). Fear and missing out: Youth anxiety and functional outcomes. *Clinical Psychology: Science and Practice*, 23(4), 417–435. 10.1111/cpsp.12169
- Walkup JT, Albano AM, Piacentini J, Birmaher B, Compton SN, Sherrill JT, Ginsburg GS, Rynn MA, McCracken J, Waslick B, Iyengar S, March JS, & Kendall PC (2008). Cognitive Behavioral Therapy, Sertraline, or a Combination in Childhood Anxiety. *New England Journal of Medicine*, 359(26), 2753–2766. 10.1056/NEJMoa0804633 [PubMed: 18974308]
- Wergeland GJH, Fjermestad KW, Marin CE, Haugland BS-M, Silverman WK, Öst L-G, Havik OE, & Heiervang ER (2015). Predictors of dropout from community clinic child CBT for anxiety disorders. *Journal of Anxiety Disorders*, 31, 1–10. 10.1016/j.janxdis.2015.01.004 [PubMed: 25637909]
- Wood JJ, Piacentini JC, Bergman RL, McCracken J, & Barrios V (2002). Concurrent Validity of the Anxiety Disorders Section of the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions. *Journal of Clinical Child & Adolescent Psychology*, 31(3), 335–342. 10.1207/S15374424JCCP3103\_05 [PubMed: 12149971]

**Table 1.**

Participant demographics and clinical characteristics (N = 246)

Variable	Level	n (Percent)
Gender	Male	102 (41.5%)
Race	Black	24 (13.0%)
	Asian	6 (9.7%)
	White	202 (82.1%)
	American Indian	3 (1.20%)
	Other	11 (4.40%)
[ORIGINAL RCT] Treatment Response	Responder	165 (67%)
		<i>Mean (SD)</i>
Age at [STUDY NAME] Visit 1		17.67 (3.45)
Primary Disorder Clinical Severity Rating <sup>1</sup> at [STUDY NAME] Visit 1		3.59 (1.84)

<sup>1</sup>Independent evaluator rated clinical severity rating (Range = 0–8) based on DSM-IV Anxiety Disorders Interview Schedule (ADIS-Client) or the Anxiety Disorders Interview Schedule for DSM-IV, Child and Parent Version (ADIS-C/P)

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript



**Table 2.** Treatment Response Questionnaire item means and difference by anxiety disorder at [STUDY NAME] visit 1

TRQ Item	Item Endorsed (n)	Mean (SD)			p-value
		Total (n=246)	No Anx DX (n=119)	Anx DX (n=127)	
<i>Facilitators (1, Very Much Helpful to 4, Not at All Helpful)</i>					
Using relaxation skills	209	2.23 (0.91)	1.99 (0.81)	2.46 (0.94)	<0.001 <sup>^</sup>
Changing unhelpful thoughts	217	2.30 (0.89)	2.01 (0.78)	2.56 (0.90)	<0.001 <sup>^</sup>
Using problem solving skills	210	2.30 (0.95)	2.05 (0.82)	2.53 (1.00)	<0.001 <sup>^</sup>
Parents changing their parenting approach	145	2.52 (0.97)	2.55 (0.99)	2.50 (0.96)	0.572
Doing exposures	207	2.26 (0.95)	2.12 (0.92)	2.39 (0.96)	0.072
Positive relationship with my therapist/doctor	182	2.08 (1.01)	1.99 (1.04)	2.16 (0.99)	0.226
Staying on my [ORIGINAL RCT] medicine	115	2.37 (1.17)	2.16 (1.02)	2.56 (1.28)	0.021
Taking a new medicine	105	2.36 (1.18)	2.24 (1.15)	2.43 (1.20)	0.320
Using additional talk therapy	128	2.29 (1.04)	2.23 (1.09)	2.34 (1.01)	0.431
Getting support/help from teachers	140	2.38 (1.01)	2.29 (0.98)	2.45 (1.03)	0.289
Getting a new set of friends	129	2.38 (1.05)	2.18 (0.96)	2.51 (1.10)	0.128
Changing to a new school	102	2.73 (1.11)	2.57 (1.09)	2.82 (1.12)	0.334
Moving out of my home	74	2.89 (1.17)	2.74 (1.15)	3.00 (1.18)	0.295
<i>Barriers (1, Very Much Impairing to 4, Not at All Impairing)</i>					
Taking medication inconsistently	118	2.97 (1.14)	3.25 (0.99)	2.72 (1.23)	0.014
Stopping my medication	119	3.04 (1.19)	3.14 (1.19)	2.95 (1.19)	0.600
Attending therapy appointments irregularly	113	3.30 (0.96)	3.30 (0.98)	3.30 (0.95)	0.806
Lack of connection with my therapist and/or doctor	124	3.23 (1.00)	3.34 (0.91)	3.14 (1.08)	0.266
Avoiding things that make me anxious	216	2.74 (1.05)	2.85 (1.02)	2.63 (1.06)	0.103
Thinking in very negative ways	203	2.57 (1.18)	2.61 (1.24)	2.53 (1.13)	0.563
Difficulty practicing what I learned in therapy	151	3.07 (0.96)	3.19 (0.94)	2.93 (0.96)	0.105
Difficulty applying what I learned in therapy to new situations	149	3.05 (0.96)	3.25 (0.90)	2.84 (0.98)	0.014 <sup>^</sup>
Had very negative things happen to me (e.g., accident, assault)	125	2.94 (1.20)	3.25 (1.04)	2.70 (1.27)	0.015

TRQ Item	Item Endorsed (n)	Mean (SD)			p-value
		Total (n=246)	No Anx DX (n=119)	Anx DX (n=127)	
My parent(s) has anxiety or other problems	146	2.99 (1.03)	3.15 (1.02)	2.88 (1.03)	0.179
Not having support from parents or teachers	141	3.26 (1.07)	3.45 (0.99)	3.10 (1.12)	0.062
Being bullied by peers	131	2.98 (1.16)	3.34 (0.98)	2.77 (1.22)	0.005 <sup>a</sup>
Using alcohol/drugs	97	3.59 (0.89)	3.68 (0.85)	3.52 (0.91)	0.189

Lower scores indicate a more helpful facilitator or a more impairing barrier. ANCOVA comparison controlling for gender and treatment condition.

<sup>a</sup> significant adjusted  $\alpha$  values obtained by using the Benjamini-Hochberg false discovery-rate correction procedure, ANX DX = anxiety disorder defined as the presence of one or more DSM-IV TR social, generalized, or separation anxiety disorders.

**Table 3.** Treatment Response Questionnaire item means and difference by [STUDY NAME] remission group

TRQ Item	Item Endorsed (n)	Remission Group (Mean (SD))				p-value
		Stable Remission (n=37)	Relapsers (n = 83)	Chronically III (n = 45)		
<i>Facilitators (1, Very Much Helpful to 4, Not at All Helpful)</i>						
Using relaxation skills	140	1.85 (0.80)	2.11 (0.95)	2.46 (0.92)	0.007	
Changing unhelpful thoughts	147	1.94 (0.76)	2.16 (0.85) <sup>++</sup>	2.79 (0.95) <sup>***</sup>	<0.001 <sup>^</sup>	
Using problem solving skills	143	1.84 (0.73)	2.29 (0.97) <sup>*</sup>	2.72 (1.02) <sup>***</sup>	<0.001 <sup>^</sup>	
Parents changing their parenting approach	98	2.26 (1.05)	2.55 (1.12)	2.53 (0.84)	0.557	
Doing exposures	136	1.77 (0.88)	2.20 (0.95)	2.46 (0.97)	0.017	
Positive relationship with my therapist/doctor	123	1.71 (0.95)	2.00 (1.00)	2.21 (1.04)	0.143	
Staying on my [ORIGINAL RCT] medicine	83	2.19 (1.11)	2.10 (1.10)	2.59 (1.22)	0.205	
Taking a new medicine	68	2.00 (1.20)	2.18 (1.17)	2.58 (1.14)	0.296	
Using additional talk therapy	84	1.94 (1.11)	2.14 (1.00)	2.26 (1.03)	0.394	
Getting support/help from teachers	93	2.09 (0.81)	2.37 (1.05)	2.46 (1.07)	0.444	
Getting a new set of friends	82	2.08 (1.00)	2.41 (1.06)	2.54 (1.17)	0.747	
Changing to a new school	67	2.80 (1.32)	2.34 (1.08)	3.09 (0.92)	0.032	
Moving out of my home	45	3.60 (0.89)	2.91 (1.19)	3.39 (1.04)	0.309	
<i>Barriers (1, Very Much Impairing to 4, Not at All Impairing)</i>						
Taking medication inconsistently	82	3.54 (0.97)	3.04 (1.07)	2.57 (1.20)	0.033	
Stopping my medication	76	3.50 (1.09)	3.10 (1.14)	2.91 (1.16)	0.269	
Attending therapy appointments irregularly	76	3.47 (1.07)	3.29 (0.93)	3.48 (0.75)	0.573	
Lack of connection with my therapist and/or doctor	80	3.59 (0.80)	3.15 (1.06)	3.21 (1.02)	0.307	
Avoiding things that make me anxious	141	3.04 (0.96)	2.68 (1.03)	2.68 (1.07)	0.274	
Thinking in very negative ways	134	2.62 (1.24)	2.51 (1.24)	2.84 (1.08)	0.397	
Difficulty practicing what I learned in therapy	93	3.38 (0.80)	2.98 (1.00)	3.25 (0.79)	0.123	
Difficulty applying what I learned in therapy to new situations	96	3.48 (0.87)	3.04 (0.91)	3.12 (0.99)	0.147	
Had very negative things happen to me (e.g., accident, assault)	82	3.43 (1.16)	3.07 (1.11)	2.77 (1.24)	0.360	

TRQ Item	Item Endorsed ( <i>n</i> )	Remission Group ( <i>Mean (SD)</i> )			<i>p</i> -value
		Stable Remission ( <i>n</i> =37)	Relapsers ( <i>n</i> = 83)	Chronically Ill ( <i>n</i> = 45)	
My parent(s) has anxiety or other problems	96	3.24 (1.09)	3.08 (1.01)	3.13 (0.96)	0.900
Not having support from parents or teachers	94	3.44 (0.92)	3.48 (1.01)	3.07 (1.14)	0.239
Being bullied by peers	89	3.50 (0.73)	3.05 (1.10)	2.94 (1.24)	0.102
Using alcohol/drugs	64	3.64 (0.92)	3.73 (0.69)	3.65 (0.83)	0.600

Lower scores indicate a more helpful facilitator or a more impairing barrier. ANCOVA comparison controlling for gender and treatment condition.

<sup>^</sup> significant overall model adjusted  $\alpha$  values obtained by using the Benjamini-Hochberg false discovery-rate correction procedure, Tukey's Post-Hoc Test:

\* indicates a

+ indicates.

+/+ = significant difference between relapsers and chronically ill group,  $p < .01$

\*\* = significant difference between stable remission and the indicated group,  $p < .01$

\*\*\* = significant difference between stable remission and the indicated group,  $p < .001$

Logistic regression models examining client-perceived facilitators and barriers as predictors of long-term anxiety disorder outcomes controlling for gender and treatment condition.

**Table 4.**

	<b>B</b>	<b>SE</b>	<b>p</b>	<b>Exp(B)</b>	<b>95% CIExp(B)</b>	
					<b>Lower</b>	<b>Upper</b>
<i>Model 1. Facilitators predicting anxiety disorder status at [STUDY NAME] Visit 1</i>						
Intercept	1.87	0.59	0.001**	-	-	-
Gender - Male	0.56	0.32	0.082	0.57	0.30	1.07
Treatment Group - Sertraline	0.20	0.43	0.638	1.22	0.53	2.83
Treatment Group - CBT	0.17	0.40	0.670	1.19	0.54	2.64
Treatment Group - Placebo	0.71	0.52	0.169	2.04	0.75	5.79
Using relaxation skills	0.19	0.21	0.378	1.20	0.80	1.83
Changing unhelpful thoughts	0.45	0.21	0.054	1.57	1.00	2.53
Using problem solving skills	0.24	0.24	0.263	1.27	0.83	1.93
<i>Model 2. Barriers predicting anxiety disorder status at [STUDY NAME] Visit 1</i>						
Intercept	3.01	1.00	0.002**	-	-	-
Gender - Male	0.75	0.47	0.110	0.47	0.18	1.18
Treatment Group - Sertraline	0.01	0.62	0.990	1.01	0.30	3.46
Treatment Group - CBT	0.05	0.57	0.930	0.95	0.31	2.96
Treatment Group - Placebo	1.21	0.71	0.090	3.35	0.89	14.87
Difficulty applying what I learned in therapy to new situations	0.33	0.25	0.189	0.72	0.43	1.17
Being bullied by peers	0.49	0.22	0.027*	0.61	0.39	0.93
<i>Model 3. Facilitators predicting membership in [STUDY NAME] remission group</i>						
Intercept	0.26	0.77	0.733	-	-	-
Gender - Male	1.57	0.48	0.001**	4.81	1.91	12.97
Treatment Group - Sertraline	0.27	0.66	0.69	0.77	0.20	2.77
Treatment Group - CBT	0.29	0.60	0.62	0.75	0.23	2.41
Treatment Group - Placebo	0.64	0.73	0.39	0.53	0.12	2.17

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

	<b>B</b>	<b>SE</b>	<b>p</b>	<b>Exp(B)</b>	<b>95% CI Exp(B)</b>	
					<b>Lower</b>	<b>Upper</b>
Changing unhelpful thoughts	0.01	0.33	0.97	1.01	0.52	1.94
Using problem solving skills	0.95	0.36	0.009**	0.39	0.18	0.76

\*  $p < 0.05$

\*\*  $p < 0.01$