



Youth Top Problems and Early Treatment Response to the Unified Protocols for Transdiagnostic Treatment of Emotional Disorders in Children and Adolescents

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Abstract

The Top Problems assessment is an idiographic measure of client concerns that may allow clinicians to identify early treatment response. Few studies have examined early response to evidence-based therapies using Top Problems. We collected weekly Top Problems ratings from 95 youth with emotional disorders who received treatment using the Unified Protocols for Transdiagnostic Treatment of Emotional Disorders in Children and Adolescents (UP-C/UP-A). We assessed Top Problems rating change from session 1 to session 4, the role of pre-treatment variables in early Top Problems rating change, and the role of early Top Problems rating change in post-treatment symptom outcomes. Top Problems ratings decreased significantly from session 1 to session 4. Younger child age and higher parent cognitive flexibility were associated with early Top Problems improvement. Controlling for pre-treatment, early Top Problems rating change did not explain the variance in post-treatment outcomes. Future research should examine Top Problems trajectories over treatment course.

Keywords Top problems · Children · Idiographic assessment · Early treatment response · Transdiagnostic

Introduction

Psychological research and clinical practice share the common goal of increasing treatment effectiveness to improve client outcomes [1]. However, researchers and clinicians may strive to achieve this goal in different ways. Whereas modern research highlights the importance of evidence-based practice (i.e., provisions of assessment and treatment practices that are accurate and reliable and/or improve outcomes across many settings and client presentations) [2], clinical practice has generally emphasized clinical judgement and individualized, client-focused interventions [3]. To address this discrepancy, the American Psychological Association [4] created guidelines that encourage the implementation of evidence-based practice while also acknowledging the role of clinical judgement in determining when these practices may be most appropriate to use. Accordingly, in recent years, many clinical organizations have implemented

more evidence-based treatments into their practices [5, 6]. Nonetheless, many clinicians still hesitate to incorporate evidence-based assessment into their work [7, 8], even though research has consistently supported evidence-based assessment as an important component of evidence-based practice [7, 9].

The use of standardized assessment (i.e., measures that use a fixed set of items to assess individuals on a particular construct) for routine outcome monitoring has been shown to improve treatment outcomes [10–13], as it provides valuable feedback about treatment progress to the clinician and client that can inform treatment planning and personalization [14, 15]. Despite these benefits, standardized assessment is underutilized in clinical practice [16, 17]. Many clinicians report not using standardized measures due to concerns about ease of administration, burden on clients, specificity, clinical utility, and cross-cultural validity [17–20]. Indeed, some standardized measures include more items than may be necessary in order to increase measure reliability, assess only certain problems or diagnoses, and/or may not be valid to use among certain racial or ethnic groups [21]. For clinicians who hesitate to incorporate standardized assessment into their practice and for researchers who share these concerns, idiographic assessment may be especially beneficial.

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Idiographic measures differ from standardized measures in that they are tailored to the client and often use open-ended rather than fixed questions to assess psychopathology or target a behavior for change [22]. Idiographic measures can highlight idiosyncratic and culture-specific problems that may not be detected by standardized measures [23] and can thus aid in implementing more personalized treatment interventions [24]. Idiographic measures also may be more sensitive to change than standardized measures [25] and, when used routinely throughout treatment, may inform clinicians more quickly about treatment progress. Additionally, compared to standardized measures, idiographic measures are preferred by clinicians for their ease of use, sensitivity to change, and relevance and acceptability to clients [26]. Therefore, efforts should be made to monitor client progress and outcomes using idiographic measures of change.

The Top Problems (TP) assessment [27] is an idiographic measure that may be particularly useful to clinicians for routine progress and outcome monitoring of youth clients. The TP assessment asks clients and their parents to list the primary concerns for which they are seeking treatment and rate the severity of each problem weekly during treatment sessions. This measure thereby facilitates a discussion about target problems and treatment goals that is often a necessary first step toward treatment success [28]. Many clinicians already ask such questions about problems and goals informally when beginning treatment with a new client [27], so the TP assessment may be easier to implement than standardized assessments because it more closely resembles common clinical practice. The TP assessment capitalizes on the strengths of both clinical practice and standardized assessment, as it focuses on client-generated concerns across diagnostic categories and produces quantitative outcome data. The TP assessment has been used in numerous studies to measure symptom change, sudden gains, and treatment outcomes for a range of youth clients, including those diagnosed with depressive and anxiety disorders [29–31]. The TP assessment has demonstrated good sensitivity to change [27] and thus, when used weekly during treatment sessions, may allow clinicians to identify early treatment response.

Early treatment response (ETR) is defined broadly as significant improvement in client symptom severity that occurs early in treatment. ETR is clinically relevant, as clinicians can use this information to better understand client progress, make decisions about treatment planning [32], and adjust their treatment approach [33]. There is some variation in what researchers define as “early” in treatment [34], but in the context of cognitive behavioral therapy (CBT), many researchers have defined ETR as significant improvement in client symptom severity that occurs within the first four weeks of treatment. For example, studies have found that the largest reduction in depressive symptom severity occurs during the first four

weeks of CBT [35, 36] and that clients with depression who do not respond to CBT after four weeks are unlikely to achieve remission by the end of treatment [37]. While much of the early literature examined ETR in the treatment of depressive disorders, ETR has been examined more recently in the treatment of generalized anxiety disorder [38], obsessive compulsive disorder [39–41], and posttraumatic stress disorder [42]. Across a range of diagnoses and treatments, ETR appears to predict improved treatment outcomes [43–47].

Still, current research is inconclusive on what factors predict ETR. Some studies have found no association between demographic and pre-treatment variables and ETR [38, 47], whereas others have found that younger age [41, 42], less severe pre-treatment symptoms [40, 42, 46], or more severe pre-treatment symptoms [39] can predict ETR in different clinical samples. It is possible, because different diagnoses warrant different treatment, that ETR does not present the same way across different populations or interventions, and that these seemingly incongruent findings may be explained by such contextual factors. Nonetheless, because previous studies have assessed ETR in different clinical populations, current research is inconclusive on whether the predictors and/or predictive validity of ETR vary across diagnoses. For this reason, efforts should be made to assess ETR to a transdiagnostic treatment in order to better understand the presentation of ETR in a more heterogeneous clinical sample.

Similar to idiographic assessment, transdiagnostic treatment may be used to bridge the gap between research and clinical practice. While many empirically based, disorder-specific treatment interventions are available to clinicians, they are not widely used [48, 49], possibly in part because they fail to address the reality that clinicians see many different kinds of clients who often present with multiple comorbid diagnoses [50]. Unlike disorder-specific treatments, transdiagnostic treatments frequently target mechanisms of treatment change across many disorders [51, 52], such as cognitive flexibility [53, 54] and distress tolerance [55, 56], which facilitate change processes in the treatment of a range of emotional disorders (e.g., depression, anxiety) [57, 58]. The Unified Protocols for Transdiagnostic Treatment of Emotional Disorders in Children and Adolescents (UP-C/UP-A) [59] is one such treatment, which uses cognitive-behavioral and mindfulness skills to increase client cognitive flexibility and distress tolerance [60] and is effective to treat a range of emotional disorders in youth [61–64]. There is preliminary evidence of ETR to the UP-C and UP-A at eight weeks [65, 66], but no studies have examined ETR to the UP-C or UP-A at four weeks. Since previous studies have highlighted the four-week timepoint as an important marker for ETR, examining response to the UP-C and UP-A at this timepoint would allow for a more nuanced assessment of the nature and predictors of ETR to a transdiagnostic treatment.

In sum, more research is needed to examine the predictors and predictive validity of ETR to a transdiagnostic treatment, such as the UP-A and UP-C, in order to inform treatment planning and personalization. The TP assessment is uniquely suited for this purpose, as it captures client-generated problems across diagnostic categories, produces quantitative data about client and parent perception of problem severity, and allows for the examination of ETR in one sample of participants with a range of presenting problems. No previous studies have examined ETR to the UP-C and UP-A using the TP assessment.

The current study aims to address this gap in the literature by examining early TP rating change for youth receiving the UP-C and UP-A. First, we aimed to assess change in child and parent TP ratings from session 1 to session 4. We hypothesized that TP ratings would decrease, indicating child and parent perception of treatment effectiveness at targeting their top problems during the first four weeks of treatment. Second, we aimed to examine the role of demographic variables (i.e., age, biological sex, ethnicity, and family income), mechanisms of treatment change (i.e., cognitive flexibility and distress tolerance) and pre-treatment symptoms (i.e., depression and anxiety) in explaining the variance in early TP rating change. We hypothesized that younger age would be associated with greater child and parent TP rating improvement, as there is emerging evidence that younger children are more likely than older children to respond [67–70] and to respond more quickly [41, 42] to CBT for emotional disorders. Alternatively, we hypothesized that biological sex, ethnicity, and family income would not be associated with early TP rating change, as there is insufficient evidence of relationships between these variables and ETR in previous research. We hypothesized that greater pre-treatment child cognitive flexibility and distress tolerance would be associated with greater child and parent TP rating improvement, and that greater parent cognitive flexibility and distress tolerance would be associated with greater parent TP rating improvement, as previous research has identified these as facilitators of change in the treatment of emotional disorders [53–60]. In accordance with previous findings that lower pre-treatment symptom severity can predict ETR [40, 42, 46], we hypothesized that lower pre-treatment depression and anxiety symptom severity would be associated with greater child and parent TP rating improvement, and that these pre-treatment symptoms would explain a significant amount of the variance in early TP rating change when controlling for demographic variables. Finally, we aimed to examine the variance in post-treatment depression and anxiety symptoms explained by early TP rating change. We hypothesized that greater child and parent TP rating improvement would be associated with lower post-treatment depression and anxiety symptom severity, as is consistent with previous studies of ETR [43–45,

47], and that early TP rating change would explain a significant amount of the variance in post-treatment depression and anxiety symptoms when controlling for demographic and pre-treatment variables.

Method

Participants

Youth included in this investigation were those between the ages of six and 18 years old who could speak and comprehend English sufficiently to assent to treatment, had a parent or caregiver with whom they lived who was able to take them to assessment and treatment sessions, were diagnosed with a primary emotional disorder after the completion of a diagnostic interview, and received the UP-C or UP-A individual or group treatment at a university-based specialty research clinic. Youth excluded from the study were those who were not eligible for treatment due to a previous diagnosis of schizophrenia, organic brain syndrome, or intellectual disability, and those who presented lower cognitive functioning or serious or current suicidal or homicidal ideation. Youth ($N=23$) were also excluded from the study if they were eligible for services at the clinic and began treatment but did not attend or have TP data for at least eight treatment sessions.

Ninety-five youth (54.7% male) between the ages of six and 17.8 years old ($M=12.18$, $SD=3.41$) were included in the study. The sample was 91.6% white and 76.2% Hispanic/Latinx, which is consistent with the community from which the sample was drawn. The average annual family income for the sample was high ($M=\$118,315.86$, $SD=\$88,606.14$). The most common primary diagnosis was generalized anxiety disorder (42%), and 22% of participants were diagnosed with co-primary diagnoses. Participants received either individual UP-A (44.2%), individual UP-C (26.3%), group UP-C (25.3%), or group UP-A (4.2%) treatment. On average, participants attended 13.42 treatment sessions ($SD=2.21$) before the post-treatment assessment.

Measures

Anxiety Disorder Interview Schedule for the DSM-IV and DSM-5, Child and Parent Versions (ADIS-IV-C/P and ADIS-5-C/P) [71, 72]

The ADIS-IV-C/P and ADIS-5-C/P are semi-structured clinical interviews used to assist in the diagnosis of mood and anxiety disorders in youth, as defined by the Diagnostic and Statistical Manual of Mental Disorders, 4th and 5th editions (DSM) [73, 74]. The ADIS-IV-C/P has demonstrated excellent interrater and test–retest reliability, good concurrent

validity, and adequate convergent validity [75–77]. The psychometric properties of the ADIS-5-C/P have not yet been published, but it is expected that its reliability and validity should be similar to those of the ADIS-IV-C/P. To establish reliability among evaluators, clinicians were trained prior to administering interviews with participants. In training, clinicians read the literature about the interview measure, watched and assigned ratings to four video interviews, completed a live collaboration interview with a reliable evaluator, and completed a live “match” interview. Clinicians’ ratings were considered to “match” if they diagnosed the same clinical disorders as the reliable evaluator and assigned Clinical Severity Rating scores within one point of those of the reliable evaluator. Clinicians were determined to be reliable when they had completed these steps.

Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID) [78]

The MINI-KID is a structured clinical interview used to assist in the diagnosis of DSM-IV and ICD-10 psychiatric disorders in youth, which has demonstrated good interrater reliability, test–retest reliability, convergent validity (i.e., convergence with the Schedule for Affective Disorders and Schizophrenia for School Aged Children), and discriminant validity [79, 80]. Reliable evaluators were established using the same procedure as was used for the ADIS-IV-C/P and ADIS-5-C/P.

Emotion Regulation Questionnaire (ERQ) [81]

The ERQ is a 10-item self-report measure of the use of emotion regulation strategies. The ERQ is comprised of two subscales: cognitive flexibility (“reappraisal”) and emotion suppression. Only the cognitive flexibility subscale was examined in this study. ERQ items are rated on a 7-point Likert-type scale from 1 to 7, on which 1 represents “strongly disagree” and 7 represents “strongly agree.” Scores on the cognitive flexibility subscale range from 6 to 42, and higher scores indicate greater cognitive flexibility. The ERQ has demonstrated good internal consistency, convergent validity, and discriminant validity [81]. The ERQ cognitive flexibility subscale demonstrated good internal consistency ($\alpha = 0.87$) in the current study.

Emotion Regulation Questionnaire, Child and Adolescent Form (ERQ-C/A) [82]

The ERQ-C/A is a revised version of the ERQ [81] used to assess emotion regulation strategies in youth. The ERQ-C/A is a 10-item self-report measure comprised of two subscales: cognitive flexibility (“reappraisal”) and emotion suppression. Only the cognitive flexibility subscale was examined

in this study. ERQ-C/A items are rated on a 5-point Likert-type scale from 1 to 5, on which 1 represents “strongly disagree” and 5 represents “strongly agree.” Scores on the cognitive flexibility subscale range from 6 to 30, and higher scores indicate greater cognitive flexibility. The ERQ-C/A has demonstrated good internal consistency, construct validity, and convergent validity [82]. The ERQ-C/A cognitive flexibility subscale demonstrated good internal consistency ($\alpha = 0.82$) in the current study.

Distress Tolerance Scale (DTS) [83]

The DTS is a 15-item self-report measure of the ability to tolerate emotional distress. DTS items are rated on a 5-point Likert-type scale from 1 to 5, on which 1 represents “strongly agree” and 5 represents “strongly disagree.” Higher scores indicate greater levels of distress tolerance. Although the DTS has been evaluated primarily in adult populations [83, 84], there is preliminary evidence that its factor structure is similar when used in a clinical population of youth [85]. Moreover, in a clinical population of youth, the DTS demonstrated adequate to excellent internal consistency and good discriminant validity [85]. The DTS was used to measure both child and parent self-reported distress tolerance in this study. In both the child ($\alpha = 0.90$) and parent ($\alpha = 0.88$) samples, the DTS exhibited good internal consistency.

Revised Children’s Anxiety and Depression Scale (RCADS) [86]

The RCADS is a 47-item self-report measure of anxiety and depression symptoms in youth. The RCADS includes six subscales (separation anxiety disorder, social phobia, generalized anxiety disorder, obsessive compulsive disorder, panic disorder, and major depressive disorder) which each correspond to a DSM-IV disorder. The RCADS also produces a total anxiety score comprised of all anxiety-related subscales. The major depressive disorder subscale and the total anxiety subscale were used in this study. RCADS items are rated on a 4-point Likert-type scale from 0 to 3, on which 0 represents “never” and 3 represents “always.” Higher scores indicate greater symptom frequency and severity. The RCADS has demonstrated adequate test–retest reliability and good convergent and discriminant validity [86, 87]. The RCADS total anxiety subscale (pre-treatment $\alpha = 0.94$, post-treatment $\alpha = 0.93$) and major depressive disorder subscale (pre-treatment $\alpha = 0.84$, post-treatment $\alpha = 0.83$) demonstrated good to excellent internal consistency in this study.

Top Problems Assessment

The Top Problems (TP) assessment [27] is an idiographic measure used to identify child- and parent-reported target problems for treatment and track changes in problem severity over time. Clinicians administer the TP assessment by asking children and their parent(s) an open-ended question such as, “What are your top problems right now?” or “What are the main things you want to work on in treatment?”. Children and parents can respond in any way they see fit, citing any problems they choose, whether or not these problems relate to the child’s presenting symptoms or diagnosis. The clinician then asks a question such as, “For each of the problems you listed, how severe or interfering is the problem for you right now?” and children and parents can provide numerical severity ratings on a given scale. In this study, children and parents were asked to rate problem severity on a Likert-type scale from 0 to 8, on which 0 represented total problem remission and 8 represented extreme problem severity. The TP assessment has demonstrated good test–retest reliability, good convergent validity (i.e., convergence with the Youth Self Report and Child Behavior Checklist), good discriminant validity, and adequate criterion validity [27].

Procedure

Informed consent and assent were obtained from all parent and youth participants in the study. All procedures administered were part of an IRB-approved protocol. Youth participants were referred to the research clinic by parents. After initiating contact with the clinic, parents completed phone screening interviews with research assistants to assess presenting problems and treatment eligibility. Each participant who appeared eligible for treatment based on their age and parent’s phone interview was invited to schedule a pre-treatment assessment at the clinic.

Pre-treatment assessments were conducted for all participants who appeared eligible after their phone screening interviews and were interested in receiving treatment services. During each pre-treatment assessment, a graduate student clinician conducted semi-structured interviews with the child and parent using the ADIS-IV, ADIS-5, or MINI-KID, depending on changes in clinic procedures. The child and parent also completed questionnaires (including the ERQ/ERQ-C/A, DTS and RCADS) that assessed symptoms related to emotional disorders. After 16 weeks of treatment, participants and parents were invited to complete a post-treatment assessment, which included a second interview and the same battery of questionnaires.

Intervention

Treatment was conducted at a university-based research clinic by graduate student clinicians. Clinicians were trained by the developer of the manual prior to seeing clients using the UP-C and UP-A. Following the training, graduate student clinicians received supervision from a clinical psychologist who had been previously trained to use the treatment manuals.

Unified Protocols for Transdiagnostic Treatment of Emotional Disorders in Children and Adolescents (UP-C and UP-A) [59]

The UP-C and UP-A are adaptations of the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders [88] that are effective to treat a range of emotional disorders in youth [61–64]. The UP-C and UP-A share the same principles but vary slightly in structure and content to accommodate the cognitive abilities of their respective age groups. The UP-A includes 8 core modules and 2 optional modules, designed to be delivered once per week and to span across 16 treatment sessions. The UP-C includes 15 treatment sessions designed to be delivered once per week, and its content reflects that of the UP-A but is presented as a set of steps represented by the acronym “CLUES” as to engage children in treatment by appointing them as “Emotion Detectives” tasked to learn skills in order to better understand their emotions [59]. The UP-A and UP-C can be delivered in individual or group settings. See Table 1 for descriptions of the techniques and goals of each UP-A module and UP-C “CLUES” skill.

In accordance with the UP-C and UP-A manuals, clinicians administered the TP assessment each week during treatment sessions. During a child’s first session, clinicians asked the child and parent to identify their primary concerns for which they were seeking treatment. Then, during each treatment session, clinicians asked the child and parent to rate how much difficulty the problem posed for them in the past week from 0 (no difficulty) to 8 (extreme difficulty). Child- and parent-identified problems were not required to match, but clinicians often tried to find agreement in order to create shared treatment goals. The TP assessment form used in the clinic required the identification of three problems, but some clinicians interpreted this guideline flexibly in order to accommodate the number of problems that clients perceived as necessary to target in treatment. These data were included in the study. The minimum number of problems identified was 2 and the maximum was 5 ($M = 3.21$, $SD = 0.481$).

Table 1 Description of UP-C and UP-A core treatment module techniques and goals

"CLUES" skill/UP-A module	Module techniques	Module goals
C: <i>Consider How I Feel</i> UP-A Module 1: <i>Building and Keeping Motivation</i>	Identify top problems and treatment goals, assess barriers to treatment, strengthen motivation	Enhance motivation for treatment, establish therapeutic alliance
C: <i>Consider How I Feel</i> UP-A Module 2: <i>Getting to Know Your Emotions and Behaviors</i>	Identify emotions and their function, explain the cycle of avoidance, normalize emotional experiences	Decrease avoidance of emotional experiences
C: <i>Consider How I Feel</i> UP-A Module 3: <i>Introduction to Emotion-Focused Behavioral Experiments</i>	Introduce behavioral activation, opposite-action and other emotion-focused behavioral experiments	Decrease avoidance and other maladaptive behaviors as reactions to emotional experiences
C: <i>Consider How I Feel</i> UP-A Module 4: <i>Awareness of Physical Sensations</i>	Establish relationship between emotional experiences and physical sensations, increase awareness of physical sensations, conduct interoceptive exposure	Increase distress tolerance, decrease avoidance of physical sensations
L: <i>Look at My Thoughts</i> U: <i>Use Detective Thinking and Problem Solving</i> UP-A Module 5: <i>Being Flexible in Your Thinking</i>	Teach cognitive flexibility and reappraisal techniques, explain common "thinking traps," establish relationship between thoughts, emotions and actions	Increase cognitive flexibility
E: <i>Experience My Emotions</i> UP-A Module 6: <i>Awareness of Emotional Experiences</i>	Practice mindfulness and non-judgmental awareness, prepare for exposure	Decrease focus on negative or maladaptive thoughts, increase distress tolerance
E: <i>Experience My Emotions</i> UP-A Module 7: <i>Situational Emotion Exposures</i>	Conduct imagined and situational exposures	Decrease emotional and experiential avoidance, increase cognitive flexibility and distress tolerance
S: <i>Stay Happy and Healthy</i> UP-A Module 8: <i>Keeping It Going, Maintaining Your Gains</i>	Review skills learned, discuss treatment progress, create plan to use skills in the future	Relapse prevention

Data Analysis Procedures

All analyses were conducted using Statistical Package for Social Sciences (SPSS) Version 25.0 [89]. The amount of missing data ranged from 0 to 26%. We assessed missingness using Little's MCAR test and found that missing data were missing completely at random ($\chi^2(3289) = 1761.43$, $p = 1.00$). To further examine missing TP assessment data, we created a dichotomous "TP data missing" variable in order to assess associations between TP data missingness and demographic, pre-treatment, and post-treatment variables. TP data missingness was not associated with any demographic, pre-treatment, or post-treatment variables. For participants ($N = 11$) who did not have TP ratings for session 1 but had ratings for session 2, we imputed missing TP data from session 1 with ratings from session 2, as this would have been the first session in which TP data were collected for these participants. Participants ($N = 6$ youth, 17 parents) who did not attend or have TP ratings for session 1 or 2 and session 4 were excluded from analysis. Missing ERQ, ERQ-C/A, DTS and RCADS data were imputed using multiple imputation. We also created a dichotomous "post-treatment completed" variable in order to examine associations between pre-treatment variables and TP rating change and post-treatment completion status. Post-treatment non-completion ($N = 25$) was not associated with any pre-treatment variables or TP rating change.

For treatment sessions 1 and 4, we added all TP ratings collected from child and separately all TP ratings collected from parent and divided these two sums by the numbers of problems identified in order to produce one "total problems" score for child and one "total problems" score for parent for each treatment session. This approach facilitates statistical analyses, allows for the inclusion of additional data if a participant identifies more than three problems, and has demonstrated good test-retest reliability, good convergent validity, and sensitivity to change over time [27].

We used paired samples t-tests to assess change in child and parent TP ratings from session 1 to session 4. We examined correlations among variables of interest. We conducted two hierarchical linear regressions to examine the role of demographic variables (i.e., age, biological sex, ethnicity, and family income), mechanisms of treatment change (i.e., cognitive flexibility and distress tolerance), and pre-treatment symptoms (i.e., depression and anxiety) in explaining the variance in child and parent TP rating change. We conducted two hierarchical linear regressions to examine the role of child and parent TP rating change in explaining the variance in post-treatment depression and anxiety symptom outcomes controlling for demographic and pre-treatment variables. For regression analyses, we corrected for multiple comparisons using a Bonferroni correction (adjusted p -value = 0.0125).

Results

Aim 1: Top Problems Rating Change from Session 1 to Session 4

Both child and parent average TP ratings decreased significantly from session 1 to session 4. On average, child TP ratings decreased by 1.32 points ($SD = 1.64$; $d = 0.80$, $t(88) = 7.59$, $p < 0.001$) and parent TP ratings decreased by 1.48 points ($SD = 1.73$; $d = 0.86$, $t(77) = 7.62$, $p < 0.001$) on the 8-point TP assessment scale. Child and parent TP ratings were significantly correlated at sessions 1 and 4, indicating high parent-child agreement on TP severity. Correlations of demographic, pre-treatment, and post-treatment variables with child and parent TP rating change are presented in Table 2.

Younger child age was associated with greater child TP rating improvement and greater parent cognitive flexibility was associated with greater parent TP rating improvement. No other pre-treatment variables were significantly associated with child or parent TP rating improvement. Both child and parent TP rating improvement were associated with lower child-rated post-treatment depression symptom severity, but neither child nor parent TP rating improvement was associated with lower child-rated post-treatment anxiety symptom severity.

Aim 2: The Role of Demographic and Pre-treatment Variables in TP Rating Change

Controlling for other demographic variables, age explained a significant amount of the variance in child TP rating change (Table 3). Controlling for age, no other pre-treatment variables explained a significant amount of variance in child TP rating change. Age also explained a significant amount of the variance in parent TP rating change, and controlling for age, pre-treatment parent cognitive flexibility explained a significant amount of the variance in parent TP rating change (Table 4).

Aim 3: The Role of TP Rating Change in Post-treatment Depression and Anxiety Symptoms

Controlling for demographic and pre-treatment variables, neither child nor parent TP rating change explained a significant amount of the variance in child post-treatment depression (Table 5) or anxiety (Table 6) symptoms.

Post-hoc analysis

Given the role of age in explaining the variance in child and parent TP rating improvement, a post-hoc analysis was conducted to examine the association between age and

Table 2 Correlation matrix

	Child TP change	Parent TP change	Age	Biological sex	Ethnicity	Family income	Pre C ERQ	Pre P ERQ	Pre C DTS	Pre P DTS	Pre C RCADS Dep	Pre C RCADS Anx	Post C RCADS Dep	Post C RCADS Anx
Child TP Change	1													
Parent TP Change	0.54**	1												
Age	0.25**	0.21	1											
Biological sex	0.07	-0.01	0.18	1										
Ethnicity	-0.10	0.13	0.07	-0.09	1									
Family income	0.03	0.07	-0.30*	-0.23*	-0.25*	1								
Pre C ERQ	-0.08	0.09	0.22*	-0.09	0.14	0.14	1							
Pre P ERQ	0.15	-0.28*	0.03	0.05	0.11	-0.13	0.02	1						
Pre C DTS	0.03	-0.09	0.03	-0.10	-0.09	0.16	0.09	-0.08	1					
Pre P DTS	-0.03	0.01	0.07	-0.13	0.08	0.10	-0.05	0.15	0.07	1				
Pre C RCADS Dep	0.18	0.22	0.28**	0.20	-0.01	-0.15	0.02	-0.07	-0.41**	-0.24*	1			
Post C RCADS Dep	0.24*	0.26*	0.16	0.20	0.15	-0.10	-0.12	-0.04	-0.33**	-0.24*	0.49**	1		
Pre C RCADS Anx	0.05	0.19	0.02	0.15	0.11	-0.08	0.11	-0.11	-0.43**	-0.10	0.67**	0.44**	1	
Post C RCADS Anx	0.13	0.19	0.03	0.24*	0.18	-0.08	-0.14	-0.06	-0.22*	-0.25*	0.37**	0.79**	0.47**	1

Child TP Change Child Top Problems rating change, *Parent TP Change* Parent Top Problems rating change, *Pre C ERQ* Pre-treatment child cognitive flexibility, *Pre P ERQ* Pre-treatment parent cognitive flexibility, *Pre C DTS* Pre-treatment child distress tolerance, *Pre P DTS* Pre-treatment parent distress tolerance, *Pre C RCADS Dep* Pre-treatment child depression, *Post C RCADS Dep* Post-treatment child depression, *Pre C RCADS Anx* Pre-treatment child anxiety, *Post C RCADS Anx* Post-treatment child anxiety.

* $p < 0.05$, ** $p < 0.01$.

Table 3 Child TP rating change

Model	R	R ²	R ² Change	F	df1	df2	Predictor	Beta	SE	CI (98.75%)	Tol	VIF
1	0.297	0.088	0.088	1.96	4	77	Age*	0.30*	0.05	[0.01, 0.27]	0.88	1.13
							Biological sex	-0.00	0.36	[-0.90, 0.89]	0.92	1.09
							Ethnicity	-0.01	0.24	[-0.81, 0.38]	0.91	1.10
							Family income	0.09	0.00	[-0.00, 0.00]	0.82	1.22
2	0.320	0.102	0.014	1.82	1	76	Age*	0.32*	0.05	[0.10, 0.20]	0.85	1.18
							Biological sex	-0.02	0.36	[-0.97, 0.83]	0.90	1.12
							Ethnicity	-0.09	0.24	[-0.42, 0.05]	0.91	1.11
							Family income	0.08	0.00	[-0.00, 0.00]	0.81	1.23
3	0.325	0.106	0.004	1.55	1	75	Age*	0.32*	0.05	[0.01, 0.28]	0.85	1.18
							Biological sex	-0.02	0.36	[-0.97, 0.85]	0.89	1.12
							Ethnicity	-0.08	0.24	[-0.78, 0.42]	0.90	1.11
							Family income	0.08	0.00	[-0.00, 0.00]	0.80	1.25
4	0.348	0.121	0.015	1.53	1	74	Pre C ERQ	-0.13	0.04	[-0.13, 0.05]	0.92	1.09
							Pre C DTS	0.06	0.06	[-0.11, 0.17]	0.96	1.04
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Age	0.27	0.06	[-0.02, 0.27]	0.76	1.33
							Biological sex	-0.03	0.36	[-1.01, 0.81]	0.89	1.13
							Ethnicity	-0.07	0.24	[-0.76, 0.44]	0.90	1.12
							Family income	0.07	0.00	[-0.00, 0.00]	0.80	1.25
5	0.348	0.121	0.000	1.33	1	73	Pre C ERQ	-0.13	0.04	[-0.13, 0.05]	0.91	1.11
							Pre C DTS	0.11	0.06	[-0.10, 0.21]	0.80	1.25
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
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							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
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							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
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							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
5	0.348	0.121	0.000	1.33	1	73	Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38
							Pre C RCADS Dep	0.15	0.04	[-0.05, 0.13]	0.73	1.38

SE Standard error, *CI* Confidence interval (98.75%), *Tol* Tolerance, *VIF* Variance inflation factor, *Pre C ERQ* Pre-treatment child cognitive flexibility, *Pre C DTS* Pre-treatment child distress tolerance, *Pre C RCADS Dep* Pre-treatment child anxiety, *Child TP Change* Child Top Problem rating change, *Parent TP Change* Parent Top Problem rating change.

* $p < 0.0125$, indicating statistical significance after Bonferroni correction for multiple comparisons.

change in depression and anxiety symptoms from pre- to post-treatment. Age was not significantly associated with change in child depression or anxiety symptoms from pre- to post-treatment.

Discussion

Overall, these findings demonstrate that change in child and parent TP ratings can be detected within the first four weeks of treatment using the UP-C or UP-A, and that this change can be explained in part by certain demographic and pre-treatment variables.

As hypothesized, both child and parent average TP ratings decreased significantly from session 1 to session 4, which indicates that treatment using the UP-C and UP-A was perceived to be effective in ameliorating client-identified problems during the first four weeks. Younger child age was associated with greater child TP rating improvement, which is consistent with some other studies of ETR [41, 42], and age explained a significant amount of the variance in both child and parent TP rating change. This finding suggests that CBT may be more efficient and/or more effective for younger than older children [67–70], although some other studies have found the opposite [90], and some have found no difference in treatment effects for younger versus older children [91]. A post-hoc analysis indicated

Table 4 Parent TP rating change

Model	R	R ²	R ² Change	F	df1	df2	Predictor	Beta	SE	CI (98.75%)	Tol	VIF
1	0.343	0.117	0.117	2.30	4	69	Age*	0.31*	0.06	[0.00, 0.29]	0.89	1.12
							Biological sex	-0.03	0.39	[-1.05, 0.88]	0.94	1.06
							Ethnicity	0.17	0.24	[-0.26, 0.95]	0.91	1.10
							Family income	0.21	0.00	[-0.00, 0.00]	0.83	1.21
2	0.438	0.192	0.075	3.22*	1	68	Age*	0.32*	0.06	[0.02, 0.28]	0.89	1.12
							Biological sex	-0.00	0.37	[-0.94, 0.93]	0.94	1.07
							Ethnicity	0.20	0.23	[-0.16, 0.63]	0.93	1.11
							Family income	0.17	0.00	[-0.00, 0.00]	0.81	1.23
3	0.439	0.193	0.001	2.65	1	67	Pre P ERQ*	-0.28*	0.02	[-0.11, -0.00]	0.95	1.05
							Age*	0.32*	0.06	[0.01, 0.29]	0.88	1.13
							Biological sex	-0.00	0.38	[-0.95, 0.94]	0.92	1.08
							Ethnicity	0.20	0.24	[-0.16, 0.64]	0.90	1.12
4	0.440	0.194	0.001	2.25	1	66	Family income	0.17	0.00	[-0.00, 0.00]	0.79	1.26
							Pre P ERQ	-0.28	0.02	[-0.12, 0.01]	0.94	1.07
							Pre P DTS	-0.01	0.07	[-0.17, 0.16]	0.94	1.06
							Age*	0.31*	0.06	[0.00, 0.29]	0.84	1.19
5	0.447	0.200	0.006	2.02	1	65	Biological sex	0.00	0.38	[-0.95, 0.97]	0.90	1.11
							Ethnicity	0.19	0.24	[-0.21, 0.99]	0.88	1.13
							Family income	0.17	0.00	[-0.00, 0.00]	0.79	1.27
							Pre P ERQ	-0.28	0.02	[-0.12, 0.00]	0.94	1.07
6	0.479	0.229	0.029	2.12	1	64	Pre P DTS	-0.00	0.07	[-0.17, 0.17]	0.93	1.07
							Pre C ERQ	0.03	0.04	[-0.09, 0.11]	0.90	1.12
							Pre C DTS	-0.08	0.06	[-0.19, 0.10]	0.93	1.08
							Age*	0.31*	0.06	[0.00, 0.29]	0.84	1.19
7	0.483	0.233	0.004	1.91	1	63	Biological sex	-0.00	0.39	[-0.98, 0.95]	0.90	1.12
							Ethnicity	0.18	0.24	[-0.23, 0.98]	0.88	1.14
							Family income	0.19	0.00	[-0.00, 0.00]	0.77	1.30
							Pre P ERQ	-0.28	0.02	[-0.12, 0.00]	0.94	1.07
8	0.479	0.229	0.029	2.12	1	64	Pre P DTS	0.00	0.07	[-0.17, 0.17]	0.93	1.08
							Pre C ERQ	0.04	0.04	[-0.08, 0.11]	0.89	1.13
							Pre C DTS	-0.08	0.06	[-0.19, 0.10]	0.93	1.08
							Age	0.25	0.06	[-0.03, 0.27]	0.76	1.31
9	0.479	0.229	0.029	2.12	1	64	Biological sex	-0.03	0.39	[-1.05, 0.88]	0.88	1.13
							Ethnicity	0.19	0.24	[-0.20, 0.99]	0.88	1.14
							Family income	0.18	0.00	[-0.00, 0.00]	0.77	1.30
							Pre P ERQ	-0.27	0.02	[-0.11, 0.00]	0.93	1.08
10	0.479	0.229	0.029	2.12	1	64	Pre P DTS	0.04	0.07	[-0.15, 0.19]	0.89	1.12
							Pre C ERQ	0.04	0.04	[-0.08, 0.11]	0.89	1.13
							Pre C DTS	0.01	0.06	[-0.16, 0.17]	0.74	1.35
							Pre C RCADS Dep	0.22	0.04	[-0.03, 0.15]	0.68	1.47
11	0.483	0.233	0.004	1.91	1	63	Pre C RCADS Dep	0.22	0.04	[-0.03, 0.15]	0.68	1.47
							Age	0.24	0.06	[-0.04, 0.27]	0.74	1.35
							Biological sex	-0.02	0.39	[-1.04, 0.91]	0.87	1.15
							Ethnicity	0.21	0.25	[-0.18, 1.03]	0.84	1.19
12	0.483	0.233	0.004	1.91	1	63	Family income	0.18	0.00	[-0.00, 0.00]	0.76	1.31
							Pre P ERQ	-0.28	0.02	[-0.12, 0.00]	0.89	1.12
							Pre P DTS	0.05	0.07	[-0.15, 0.20]	0.86	1.16
							Pre C ERQ	0.05	0.04	[-0.08, 0.11]	0.87	1.15
13	0.483	0.233	0.004	1.91	1	63	Pre C DTS	-0.01	0.07	[-0.17, 0.16]	0.71	1.40
							Pre C RCADS Dep	0.28	0.05	[-0.05, 0.21]	0.36	2.78
							Pre C RCADS Dep	0.28	0.05	[-0.05, 0.21]	0.36	2.78
							Pre C RCADS Dep	-0.09	0.01	[-0.04, 0.03]	0.39	2.60

SE Standard error, CI Confidence interval (98.75%), Tol Tolerance, VIF Variance inflation factor, Pre C ERQ Pre-treatment child cognitive flexibility, Pre C DTS Pre-treatment child distress tolerance, Pre C RCADS Anx Pre-treatment child anxiety, Child TP Change Child Top Problem rating change, Parent TP Change Parent Top Problem rating change.

* $p < 0.0125$, indicating statistical significance after Bonferroni correction for multiple comparisons.

Table 5 Child post-treatment depression symptoms

Model	R	R ²	R ² Change	F	df1	df2	Predictor	Beta	SE	CI (98.75%)	Tol	VIF
1	0.295	0.087	0.087	1.66	4	69	Age	0.17	0.19	[- 0.23, 0.71]	0.89	1.13
							Biological sex	0.15	1.24	[- 1.56, 4.65]	0.94	1.06
							Ethnicity	0.18	0.77	[- 0.82, 3.03]	0.91	1.10
							Family income	0.01	0.00	[- 0.00, 0.00]	0.83	1.21
2	0.297	0.088	0.001	1.32	1	68	Age	0.16	0.19	[- 0.25, 0.72]	0.85	1.18
							Biological sex	0.16	1.27	[- 1.60, 4.76]	0.92	1.09
							Ethnicity	0.18	0.78	[- 0.86, 3.04]	0.90	1.12
							Family income	0.03	0.00	[- 0.00, 0.00]	0.82	1.21
3	0.431	0.186	0.098	2.56	1	67	Pre C ERQ	0.02	0.12	[- 0.29, 0.33]	0.91	1.10
							Age	0.18	0.18	[- 0.20, 0.72]	0.85	1.18
							Biological sex	0.13	1.21	[- 1.69, 4.39]	0.91	1.10
							Ethnicity	0.15	0.75	[- 0.94, 2.79]	0.89	1.12
4	0.564	0.318	0.132	4.33*	1	66	Family income	0.07	0.00	[- 0.00, 0.00]	0.81	1.24
							Pre C ERQ	0.05	0.11	[- 0.23, 0.33]	0.90	1.11
							Pre C DTS	- 0.15	0.19	[- 0.71, 0.24]	0.79	1.27
							Pre C RCADS Dep*	0.42*	0.11	[0.09, 0.64]	0.73	1.37
5	0.580	0.336	0.018	4.15*	1	65	Age	0.01	0.18	[- 0.45, 0.47]	0.72	1.39
							Biological sex	0.10	1.13	[- 1.84, 3.81]	0.90	1.12
							Ethnicity	0.19	0.69	[- 0.55, 2.90]	0.88	1.13
							Family income	0.05	0.00	[- 0.00, 0.00]	0.80	1.25
6	0.582	0.339	0.003	3.67*	1	64	Pre C ERQ	0.08	0.11	[- 0.20, 0.36]	0.88	1.14
							Pre C DTS	- 0.17	0.19	[- 0.73, 0.21]	0.78	1.29
							Pre C RCADS Dep*	0.39*	0.11	[0.06, 0.61]	0.71	1.42
							Child TP Change	0.16	0.34	[- 0.36, 1.36]	0.85	1.17
							Age	0.01	0.19	[- 0.45, 0.47]	0.72	1.40
							Biological sex	0.10	1.13	[- 1.84, 3.82]	0.90	1.12
							Ethnicity	0.19	0.72	[- 0.63, 2.97]	0.83	1.20
							Family income	0.05	0.00	[- 0.00, 0.00]	0.77	1.29
							Pre C ERQ	0.08	0.12	[- 0.21, 0.37]	0.85	1.17
							Pre C DTS	- 0.17	0.19	[- 0.74, 0.21]	0.78	1.29
							Pre C RCADS Dep*	0.39*	0.11	[0.06, 0.62]	0.70	1.44
							Child TP change	0.16	0.42	[- 0.55, 1.54]	0.65	1.55
							Parent TP change	- 0.01	0.44	[- 1.12, 1.14]	0.64	1.55

SE Standard error, CI Confidence interval (98.75%), Tol Tolerance, VIF Variance inflation factor, Pre C ERQ Pre-treatment child cognitive flexibility, Pre C DTS Pre-treatment child distress tolerance, Pre C RCADS Anx Pre-treatment child anxiety, Child TP Change Child Top Problem rating change, Parent TP Change Parent Top Problem rating change.

* $p < 0.0125$, indicating statistical significance after Bonferroni correction for multiple comparisons.

no associations between age and change in depression or anxiety symptoms from pre- to post-treatment, which suggests that treatment using the UP-C or UP-A may not be more *effective*, but rather may be more *efficient*, for younger rather than older children. In this vein, previous

research indicates that older children may present more complex problems for treatment (e.g., depression, which often does not onset until middle adolescence) [92] that slow or complicate treatment course. Older children also may be more resistant to treatment or less motivated for

Table 6 Child post-treatment anxiety symptoms

Model	R	R ²	R ² Change	F	df1	df2	Predictor	Beta	SE	CI (98.75%)	Tol	VIF
1	0.337	0.114	0.114	2.22	4	69	Age	-0.02	0.51	[-1.34, 0.1.21]	0.89	1.13
							Biological sex	0.26	3.5	[-0.99, 16.49]	0.94	1.08
							Ethnicity	0.24	2.15	[-0.92, 9.84]	0.91	1.10
							Family income	0.01	0.00	[-0.00, 0.00]	0.83	1.21
2	0.341	0.116	0.002	1.79	1	68	Age	-0.03	0.52	[-1.41, 1.20]	0.86	1.17
							Biological sex	0.27	3.56	[-0.90, 16.88]	0.92	1.09
							Ethnicity	0.24	2.18	[-1.09, 9.80]	0.90	1.11
							Family income	0.01	0.00	[-0.00, 0.00]	0.82	1.22
3	0.383	0.147	0.031	1.92	1	67	Pre C ERQ	0.06	0.35	[-0.72, 0.1.02]	0.91	1.10
							Age	-0.02	0.52	[-1.37, 1.22]	0.85	1.17
							Biological sex	0.26	3.53	[-1.20, 16.43]	0.91	1.09
							Ethnicity	0.23	2.17	[-1.32, 9.50]	0.89	1.12
4	0.522	0.272	0.125	3.55*	1	66	Family income	0.04	0.00	[-0.00, 0.00]	0.80	1.25
							Pre C ERQ	0.07	0.35	[-0.66, 1.06]	0.90	1.11
							Pre C DTS	-0.18	0.53	[-2.13, 0.52]	0.95	1.05
							Age	-0.05	0.49	[-1.43, 0.99]	0.85	1.18
5	0.529	0.280	0.008	3.16*	1	65	Biological sex	0.22	3.31	[-1.97, 14.56]	0.90	1.11
							Ethnicity	0.19	2.03	[-1.69, 8.44]	0.88	1.13
							Family income	0.00	0.00	[-0.00, 0.00]	0.80	1.26
							Pre C ERQ	0.02	0.32	[-0.73, 0.88]	0.89	1.13
6	0.529	0.280	0.000	2.78*	1	64	Pre C DTS	-0.01	0.54	[-1.39, 1.33]	0.78	1.28
							Pre C RCADS Anx*	0.40*	0.09	[0.08, 0.51]	0.78	1.28
							Age	-0.08	0.51	[-1.63, 0.94]	0.76	1.31
							Biological sex	0.22	3.32	[-1.89, 14.72]	0.90	1.11
7	0.529	0.280	0.000	2.78*	1	64	Ethnicity	0.19	2.04	[-1.57, 8.62]	0.87	1.14
							Family income	-0.01	0.00	[-0.00, 0.00]	0.79	1.26
							Pre C ERQ	0.04	0.33	[-0.70, 0.94]	0.86	1.16
							Pre C DTS	-0.01	0.55	[-1.42, 1.30]	0.78	1.29
8	0.529	0.280	0.000	2.78*	1	64	Pre C RCADS Anx*	0.39*	0.09	[0.07, 0.50]	0.78	1.29
							Child TP Change	0.09	1.01	[-1.75, 3.31]	0.87	1.15
							Age	-0.08	0.52	[-1.65, 0.96]	0.76	1.32
							Biological sex	0.22	3.35	[-1.96, 14.80]	0.90	1.11
9	0.529	0.280	0.000	2.78*	1	64	Ethnicity	0.19	2.11	[-1.76, 8.80]	0.84	1.20
							Family income	-0.01	0.00	[-0.00, 0.00]	0.77	1.30
							Pre C ERQ	0.04	0.34	[-0.72, 0.96]	0.84	1.19
							Pre C DTS	-0.01	0.55	[-1.43, 1.31]	0.77	1.29
10	0.529	0.280	0.000	2.78*	1	64	Pre C RCADS Anx*	0.39*	0.09	[0.06, 0.51]	0.76	1.31
							Child TP change	0.09	1.18	[-2.19, 3.73]	0.65	1.54
							Parent TP change	0.00	1.21	[-3.00, 3.05]	0.65	1.55
							Age	-0.08	0.52	[-1.65, 0.96]	0.76	1.32

SE Standard error, CI Confidence interval (98.75%), Tol Tolerance, VIF Variance inflation factor, Pre C ERQ Pre-treatment child cognitive flexibility, Pre C DTS Pre-treatment child distress tolerance, Pre C RCADS Anx Pre-treatment child anxiety, Child TP Change Child Top Problem rating change, Parent TP Change Parent Top Problem rating change.

* $p < 0.0125$, indicating statistical significance after Bonferroni correction for multiple comparisons.

change than younger children [93], either as a result of depressive symptoms or as a result of a third variable. In our sample, younger child age was associated with lower child-rated pre-treatment depression symptom severity. Still, contrary to our hypothesis, pre-treatment depression

did not explain a significant amount of the variance in child TP rating change when controlling for age, although this is consistent with previous research [94] that found no association between pre-treatment depression and treatment outcomes using the UP-C.

The only pre-treatment variable that was associated with parent TP rating change was parent cognitive flexibility. Controlling for demographic variables, greater pre-treatment parent cognitive flexibility explained a significant amount of the variance in parent TP rating change. This indicates that parental ability to reappraise situations may lead to a likelihood of perceiving change in treatment outcomes. It is possible that, in attending sessions with their children, parents learned to reappraise their child's difficulties in a more neutral light, and that greater parental cognitive flexibility may lead to better support of the intervention effects for the child. Similarly, it is possible that parents who are more cognitively flexible are more sensitive to the perception of early change than other parents.

As hypothesized, biological sex, ethnicity, and family income were not associated with child or parent TP rating change, which is consistent with some other studies of ETR [38, 47]. However, our sample was relatively homogenous in terms of ethnicity and income, so it is unclear if these findings would be replicated in a more ethnically or socio-economically diverse sample.

Lastly, while child and parent TP rating improvement were associated with lower child-rated depression symptom severity at post-treatment, they were not associated with lower anxiety symptom severity at post-treatment. Moreover, contrary to our hypothesis, child and parent TP rating change did not explain a significant amount of the variance in child post-treatment depression or anxiety when controlling for demographic and pre-treatment variables. This indicates that ETR measured by TP ratings may not be uniquely associated with post-treatment symptom outcomes in the UP-C and UP-A. While many studies have found ETR to predict improved treatment outcomes [43–47], previous research has also highlighted other possible trajectories of change [66, 95, 96], particularly in a transdiagnostic sample such as that of participants receiving the UP-C and UP-A. For example, Kennedy and colleagues [66] found three distinct trajectories of response to the UP-C and UP-A, each of which indicated symptom improvement but differed by rate of improvement. It is possible that our study design may not have allowed for the most nuanced examination of the effects of ETR on post-treatment outcomes and that early TP change may indicate greater treatment efficiency rather than effectiveness. The current findings should be used to inform future research on the predictive validity of ETR to the UP-C and UP-A and on the use of the TP assessment to inform treatment planning and personalization.

In this vein, this study has some limitations worth noting. This study is limited in that it did not include all available TP data; the only TP data that were analyzed were those from sessions 1 and 4, and ratings were averaged in order to assess average change. The reduction in TP ratings from sessions 1 to 4 suggests treatment effectiveness at targeting

TP during these weeks, but it is possible that TP trajectories were not linear (e.g., problem severity ratings spiked on sessions 2 or 3) or that this trajectory does not predict TP ratings from sessions 5 to 16. Additionally, this study is limited in that it did not tease apart differences in early TP change or the effects of early TP change on post-treatment outcomes between different treatment modalities (i.e., UP-C or UP-A individual or group treatment), although treatment content does not vary by treatment modality and there is no evidence to suggest differences in treatment effects between treatment modalities.

Nonetheless, this study provides novel information about the relationship between demographic, pre-treatment, and post-treatment symptoms and early TP improvement in the UP-C and UP-A. Future studies should examine individual TP ratings rather than session averages and analyze TP trajectories across all treatment sessions in order to most accurately define and examine ETR and to gain a more nuanced understanding of TP rating change over treatment. Future studies should also examine mechanisms that lead to TP rating change in order to assure that treatment addresses client-identified problems. Analyzing TP rating trajectories and mechanisms of change would allow for a more detailed analysis of the ways in which different treatment modules target different client problems and could facilitate the creation of norms of TP rating progress over time and during specific modules. Clinicians could use this information to tailor treatment to client concerns, monitor TP rating change during specific modules, and adjust treatment accordingly to focus greater attention on problems that are resistant to change. Using the TP assessment to inform treatment planning and personalization in these ways could help reduce deterioration and improve client outcomes [14].

Future studies could also assess the role of parent–child agreement in the effectiveness of TP data to explain variance in treatment outcomes. While child and parent TP ratings indicated high parent–child agreement on problem severity in this study, previous research has found that poor parent–child agreement is far more common [97, 98]. If parent–child agreement on target problems and problem severity is poor, TP ratings may not be able to provide accurate information about treatment progress and outcome. For example, if parents tend to emphasize more behavioral or externalizing concerns [99], we would not expect parent TP rating improvement to be associated with a decrease in their child's internalizing symptoms. Understanding differences in child and parent concerns and perceptions of treatment progress would facilitate efforts to create agreement and could provide insight into the parents' role in child psychotherapy.

Finally, future research should examine the way in which the use of the TP assessment in treatment can by itself impact treatment goals, planning, and outcome. Through this research, we can gain a deeper understanding of client-driven

assessment and treatment interventions and work to bridge the gap between research and clinical practice.

Summary

While many studies have found that early treatment response can predict improved treatment outcomes, current research is inconclusive on what factors predict early treatment response and whether early treatment response presents differently in different clinical populations. For this reason, efforts should be made to examine early response to a transdiagnostic treatment. The Top Problems assessment is uniquely suited for this purpose as it captures client-generated problems across diagnostic categories and allows for the examination of early treatment response in one sample of participants with a range of presenting problems. Few studies have examined early response to a transdiagnostic treatment using the Top Problems assessment. The current study examined early response to the Unified Protocols for Transdiagnostic Treatment of Emotional Disorders in Children and Adolescents (UP-C and UP-A) using the Top Problems assessment. We examined change in child and parent Top Problems ratings from session 1 to session 4, the role of demographic and pre-treatment variables in early Top Problems rating change, and the role of early Top Problems rating change in in post-treatment symptom outcomes. Both child and parent average Top Problems ratings decreased significantly from session 1 to session 4, indicating treatment effectiveness in targeting client-identified problems during these weeks. Younger child age and higher parent cognitive flexibility were associated with early Top Problems rating improvement. Child and parent Top Problems rating improvement were associated with lower child-rated post-treatment depression symptom severity but did not explain a significant amount of the variance in post-treatment depression or anxiety symptom outcomes when controlling for pre-treatment variables. Future studies should examine Top Problems rating trajectories over treatment course in order to gain a more nuanced understanding of client progress during treatment.

Compliance with Ethical Standards

Conflicts of interest Dr. Ehrenreich-May is the first author of the therapist guide and workbooks for the Unified Protocols for Transdiagnostic Treatment of Emotional Disorders in Children and Adolescents (UP-C and UP-A) and receives royalties from these publications. She also receives payments for UP-C and UP-A clinical trainings, consultation and implementation support services. All other authors report no conflicts of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964

Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

References

1. Weisz JR, Chu BC, Polo AJ (2004) Treatment dissemination and evidence-based practice: strengthening intervention through practitioner-researcher collaboration. *Clin Psychol Sci Proc* 11:300–307
2. Guyatt G, Rennie D (eds) (2002) *Users guides: essentials of evidence-based clinical practice*. American Medical Association, Chicago
3. Cook SC, Schwartz AC, Kaslow NJ (2017) Evidence-based psychotherapy: advantages and challenges. *Neurotherapeutics* 14:537–545
4. American Psychological Association (2006) *Evidence-based practice in psychology*. APA President Task Force Evid Based Pract Psychol 61:271–285
5. Chorpita BF, Donkervoet C (2005) Implementation of the Felix Consent Decree in Hawaii: the impact of policy and practice development efforts on service delivery. In: Steele RG, Roberts MC (eds) *Handbook of mental health services for children, adolescents, and families*. Kluwer Academic/Plenum, New York, pp 317–332
6. Jensen-Doss A, Hawley KM, Lopez M, Osterberg LD (2009) Using evidence-based treatments: the experiences of youth providers working under a mandate. *Prof Psychol Res* 40:417–424
7. Hunsley J, Mash EJ (2007) Evidence-based assessment. *Annu Rev Clin Psychol* 3:29–51
8. Jensen-Doss A, Hawley KM (2010) Understanding barriers to evidence-based assessment: clinician attitudes toward standardized assessment tools. *J Clin Child Adolesc Psychol* 39:885–896
9. Achenbach TM (2010) Advancing assessment of children and adolescents: commentary on evidence-based assessment of child and adolescent disorders. *J Clin Child Adolesc Psychol* 34:541–547
10. Bickman L (2008) A measurement feedback system (MFS) is necessary to improve mental health outcomes. *J Am Acad Child Adolesc Psychiatry* 47:1114–1119
11. Bickman L, Kelley SD, Breda C, de Andrade AR, Riemer M (2011) Effects of routine feedback to clinicians on mental health outcomes of youths: results of a randomized trial. *Psychiatr Serv* 62:1423–1429
12. Fortney JC, Unützer J, Wrenn G, Pyne JM, Smith GR, Schoenbaum M et al (2017) A tipping point for measurement-based care. *Psychiatr Serv* 68:179–188
13. Gondek D, Edbrooke-Childs J, Fink E, Deighton J, Wolpert M (2016) Feedback from outcome measures and treatment effectiveness, treatment efficiency, and collaborative practice: a systematic review. *Adm Policy Ment Health* 43:325–343
14. Lambert MJ, Whipple JL, Hawkins EJ, Vermeersch DA, Nielsen SL, Smart DW (2003) Is it time for clinicians to routinely track patient outcome? A meta-analysis. *Clin Psychol Sci Proc* 10:288–301
15. Weisz JR, Vaughn-Coaxum RA, Evans SC, Thomassin K, Hersh J, Ng MY et al. (2019) Efficient monitoring of treatment response during youth psychotherapy: the behavior and feelings survey. *J Clin Child Adolesc Psychol* 49:737–751
16. Hatfield DR, Ogles BM (2004) The use of outcome measures by psychologists in clinical practice. *Prof Psychol Res* 35:485–491
17. Phelps R, Eisman EJ, Kohout J (1998) Psychological practice and managed care: results of the CAPP practitioner survey. *Prof Psychol Res* 29:31–36

18. Garland A, Kruse M, Aarons GA (2003) Clinicians and outcome measurement: what's the use? *J Behav Health Serv Res* 30:393–405
19. Gilbody SM, House AO, Sheldon TA (2002) Psychiatrists in the UK do not use outcomes measures: national survey. *Br J Psychiatry* 180:101–103
20. Hatfield DR, Ogles BM (2007) Why some clinicians use outcome measures and others do not. *Adm Policy Ment Health* 34:283–291
21. Margison F, Barkham M, Evans C, McGrath G, Clark JM, Audin K, Connell J (2000) Measurement and psychotherapy: evidence-based practice and practice-based evidence. *Br J Psychiatry* 177:123–130
22. Sales C, Alves PC (2012) Individualized patient-progress systems: why we need to move towards a personalized evaluation of psychological treatments. *Can Psychol* 53:115–121
23. Wasil A, Venturo-Conerly K, Gillespie S, Osborn T, Weisz JR (2019) Identifying culturally relevant problems: using the idiographic Top Problems assessment to identify the concerns of resource-poor Kenyan adolescents. *PsyArxiv*.
24. Ng MY, Weisz JR (2016) Building a science of personalized intervention for youth mental health. *J Child Psychol Psychiatry* 57:216–236
25. Ashworth M, Evans C, Clement S (2008) Measuring psychological outcomes after cognitive behavior therapy in primary care: a comparison between a new patient-generated measure “PSYCHLOPS” (Psychological Outcome Profiles) and “HADS” (Hospital Anxiety and Depression Scale). *J Ment Health* 18:1–9
26. Jensen-Doss A, Smith AM, Becker-Haimes EM, Ringle VM, Walsh LM, Nanda M et al (2018) Individualized progress measures are more acceptable to clinicians than standardized measures: results of a national survey. *Adm Policy Ment Health* 45:392–403
27. Weisz JR, Chorpita BF, Frye A, Ng MY, Lau N, Bearman SK et al (2011) Youth top problems: using idiographic, consumer-guided assessment to identify treatment needs and to track change during psychotherapy. *J Consult Clin Psychol* 79:369–380
28. Nezu AM, Nezu CM (1993) Identifying and selecting target problems for clinical interventions: a problem-solving model. *Psychol Assess* 5:254–263
29. Dour HJ, Chorpita BF, Lee S, Weisz JR (2013) Sudden gains as a long-term predictor of treatment improvement among children in community mental health organizations. *Behav Res Ther* 51:564–572
30. Guan K, Park AL, Chorpita BF (2019) Emergent life events during youth evidence-based treatment: impact on future provider adherence and clinical progress. *J Clin Child Adolesc Psychol* 48:202–214
31. Weisz JR, Chorpita BF, Palinkas LA, Schoenwald SK, Miranda J, Bearman SK, Daleiden EL et al (2012) Testing standard and modular designs for psychotherapy treating depression, anxiety, and conduct problems in youth: a randomized effectiveness trial. *Arch Gen Psychiatry* 69:274–282
32. da Conceição Costa DL, Shavitt RG, Cesar RCC, Joaquim MA, Borcato S, Valério C et al (2013) Can early improvement be an indicator of treatment response in obsessive-compulsive disorder? Implications for early-treatment decision-making. *J Psychiatr Res* 47:1700–1707
33. Wilson GT (1999) Rapid response to cognitive behavior therapy. *Clin Psychol Sci Proc* 6:289–292
34. Lambert MJ (2007) Presidential address: what we have learned from a decade of research aimed at improving psychotherapy outcome in routine care? *Psychother Res* 17:1–14
35. Hardi SS, Craighead WE (1994) The role of nonspecific factors in cognitive-behavior therapy for depression. *Clin Psychol Sci Proc* 1:138–156
36. Rush AJ, Kovacs M, Beck AT, Weissenburger J, Hollon SD (1981) Differential effects of cognitive therapy and pharmacotherapy on depressive symptoms. *J Affect Disord* 3:221–229
37. Persons JB, Thomas C (2019) Symptom severity at week 4 of cognitive-behavior therapy predicts depression remission. *Behav Ther* 50:791–802
38. Bradford A, Cully J, Rhoades H, Kunik M, Kraus-Schuman C, Wilson N et al (2011) Early response to psychotherapy and long-term change in worry symptoms in older adults with generalized anxiety disorder. *Am J Geriatr Psychiatry* 19:347–356
39. Kropfingier JW, Monaghan SC, Gironda CM, Garner LE, Crosby JM, Brennan BP et al (2017) Early response is predictive of outcome in intensive behavioral treatment for obsessive compulsive disorder. *J Obsess Compul Rel Disord* 15:57–63
40. Torp NC, Skarphedinsson G (2017) Early responders and remitters to exposure based CBT for pediatric OCD. *J Obsess Compul Rel Disord* 12:71–77
41. Torp NC, Weidle B, Thomsen PH, Skarphedinsson G, Aalberg M, Nissen JB, et al. (2019) Is it time to rethink standard dosage of exposure-based cognitive behavioral therapy for pediatric obsessive-compulsive disorder? *Psychiatry Res* 281:11600
42. Wamser-Nanney R, Scheeringa MS, Weems CF (2016) Early treatment response in children and adolescents receiving CBT for trauma. *J Pediatr Psychol* 41:128–137
43. Beard JI, Delgadillo J (2019) Early response to psychological therapy as a predictor of depression and anxiety treatment outcomes: a systematic review and meta-analysis. *Depress Anxiety* 36:866–878
44. Crits-Christoph P, Connolly MB, Gallop R, Barber JP, Tu X, Gladis M et al (2001) Early improvement during manual-guided cognitive and dynamic psychotherapies predicts 16-week remission status. *J Psychother Pract Res* 10:145–154
45. Haas E, Hill RD, Lambert MJ, Morrell B (2002) Do early responders to psychotherapy maintain treatment gains? *J Clin Psychol* 58:1157–1172
46. Rech M, Weinzimmer S, Geller D, McGuire JF, Schneider SC, Patyk KC, De Nadai AS, Cepeda SC, Small BJ, Murphy TK, Wilhelm S, Storch EA (2020) Symptom trajectories of early responders and remitters among youth with OCD. *J Obsess Compul Rel Disord* 27
47. Schlagert HS, Hiller W (2017) The predictive value of early response in patients with depressive disorders. *Psychother Res* 27:488–500
48. Higa CK, Chorpita BF (2008) Evidence-based therapies: translating research into practice. In: Steele RG, Elkin TD, Roberts MC (eds) *Handbook of evidence-based therapies for children and adolescents: bridging science and practice*. Springer, New York, pp 45–61
49. Riemer M, Rosof-Williams J, Bickman L (2005) Theories related to changing clinician practice. *Child Adolesc Psychiatr Clin N Am* 14:241–254
50. Marchette LK, Weisz JR (2017) Practitioner review: empirical evolution of youth psychotherapy toward transdiagnostic approaches. *J Child Psychol Psychiatry* 58:970–984
51. Barlow DH, Allen LB, Choate ML (2004) Toward a unified treatment for emotional disorders. *Behav Ther* 35:205–230
52. Harvey AG, Watkins E, Mansell W, Shafran R (2004) Cognitive behavioural processes across psychological disorders: a transdiagnostic approach to research and treatment. Oxford University Press, Oxford
53. Morris L, Mansell W (2018) A systematic review of the relationship between rigidity/flexibility and transdiagnostic cognitive and behavioral processes that maintain psychopathology. *J Exp Psychopathol* 9:1–40
54. Sighvatsson MB, Salkovskis PM, Sigurdsson E, Valdimarsdottir HB, Thorsdottir F, Sigurdsson JF (2019) ‘You should always look

- at the washing machine without actually being in it' Thematic framework analysis of patients' understanding of transdiagnostic cognitive behaviour therapy and its mechanisms. *Psychol Psychother* 93:258–275
55. Chasson GS, Bello MS, Luxon AM, Graham TAA, Leventhal AM (2017) Transdiagnostic emotional vulnerabilities linking obsessive-compulsive and depressive symptoms in a community-based sample of adolescents. *Depress Anxiety* 34:761–769
 56. McHugh RK, Kertz SJ, Weiss RB, Baskin-Sommers A, Hearon BA, Björgvinsson T (2014) Changes in distress intolerance and treatment outcome in a partial hospital setting. *Behav Ther* 45:232–240
 57. Barlow DH, Sauer-Zavala S, Carl JR, Bullis JR, Ellard KK (2014) The nature, diagnosis, and treatment of neuroticism: Back to the future. *Clin Psychol Sci* 2:344–365
 58. Tonarely NA, Sherman JA, Grossman R, Shaw AM, Ehrenreich-May J (in press) Neuroticism as an underlying construct in youth emotional disorders. *Bull Menninger Clin*
 59. Ehrenreich-May J, Kennedy SM, Sherman JA, Bilek EL, Buzzella BA, Bennett SM et al (2018) Unified protocols for transdiagnostic treatment of emotional disorders in children and adolescents: therapist guide. Oxford University Press, New York
 60. Sherman JA, Ehrenreich-May J (in press) An analysis of change processes in the transdiagnostic treatment of emotional disorders in adolescents.
 61. Ehrenreich JT, Goldstein CM, Wright LR, Barlow DH (2009) Development of a unified protocol for the treatment of emotional disorders in youth. *Child Fam Behav Ther* 31:20–37
 62. Ehrenreich-May J, Rosenfield D, Queen AH, Kennedy SM, Remmes CS, Barlow DH (2017) An initial waitlist-controlled trial of the unified protocol for the treatment of emotional disorders in adolescents. *J Anxiety Disord* 46:46–55
 63. Ehrenreich-May J, Queen AH, Bilek EL, Remmes CS, Marciel KK (2014) The unified protocols for the treatment of emotional disorders in children and adolescents. In: Ehrenreich-May J, Chu BC (eds) (2013) *Transdiagnostic treatments for children and adolescents: principles and practice*. Guilford Press, New York, pp 267–293
 64. Kennedy SM, Bilek EL, Ehrenreich-May J (2019) A randomized controlled pilot trial of the unified protocol for transdiagnostic treatment of emotional disorders in children. *Behav Modif* 43:330–360
 65. Queen AH, Barlow DH, Ehrenreich-May J (2014) The trajectories of adolescent anxiety and depressive symptoms over the course of a transdiagnostic treatment. *J Anxiety Disord* 28:511–521
 66. Kennedy SM, Halliday E, Ehrenreich-May J (2020) Trajectories of change and intermediate indicators of non-response to transdiagnostic treatment for children and adolescents. *J Clin Child Adolesc Psychol* 1–15
 67. Bodden DHM, Bogels SM, Nauta MH, De Haan E, Ringrose J, Appelboom C et al (2008) Child versus family cognitive-behavioral therapy in clinically anxious youth: an efficacy and partial effectiveness study. *J Am Acad Child Adolesc Psychiatry* 47:1384–1394
 68. Curry J, Rohde P, Simons A, Silva S, Vitiello B, Kratochvil C, Reinecke M, Feeny N, Wells K, Pathak S, Weller E (2006) Predictors and moderators of acute outcome in the treatment for adolescents with depression study (TADS). *J Am Acad Child Adolesc Psychiatry* 45:1427–1439
 69. Southam-Gerow MA, Kendall PC, Weersing VR (2001) Examining outcome variability: correlates of treatment response in a child and adolescent anxiety clinic. *J Clin Child Psychol* 30:422–436
 70. Weisz JR, Weiss B, Alicka MD, Klotz ML (1987) Effectiveness of psychotherapy with children and adolescents: a meta-analysis for clinicians. *J Consult Clin Psychol* 55:542–549
 71. Silverman WK, Albano AM (1996) *Anxiety disorders interview schedule for DSM-IV, child and parent versions*. Physiological Corporation, San Antonio, TX
 72. Silverman WK, Albano AM (in preparation) *Anxiety disorders interview schedule for DSM-5, child and parent versions*.
 73. American Psychiatric Association (1994) *Diagnostic and statistical manual of mental disorders: DSM-IV*. Author, Washington DC
 74. American Psychiatric Association (2013) *Diagnostic and statistical manual of mental disorders: DSM-5*. Author, Washington DC
 75. Lyneham HJ, Abbott MJ, Rapee RM (2007) Interrater reliability of the anxiety disorders interview schedule for DSM-IV: child and parent version. *J Am Acad Child Adolesc Psychiatry* 46:731–736
 76. Silverman WK, Saavedra LM, Pina AA (2001) Test-retest reliability of anxiety symptoms and diagnoses with the anxiety disorders interview schedule for DSM-IV: child and parent versions. *J Am Acad Child Adolesc Psychiatry* 40:937–944
 77. 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. *J Clin Child Adolesc Psychol* 31:335–342
 78. Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E et al (1998) The mini-international neuropsychiatric interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry* 59:22–33
 79. Duncan L, Georgiades K, Wang L, Van Lieshout RJ, MacMillan HL, Ferro MA et al (2018) Psychometric evaluation of the mini international neuropsychiatric interview for children and adolescents (MINI-KID). *Psychol Assess* 30:916–928
 80. Sheehan DV, Sheehan KH, Shytle RD, Janavs J, Bannon Y, Rogers JE et al (2010) Reliability and validity of the mini international neuropsychiatric interview for children and adolescents (MINI-KID). *J Clin Psychiatry* 71:313–326
 81. Gross JJ, John OP (2003) Individual differences in two emotion regulation processes: implications for affect, relationships, and wellbeing. *J Pers Soc Psychol* 85:348–362
 82. Gullone E, Taffe J (2012) The emotion regulation questionnaire for children and adolescents (ERQ-CA): a psychometric evaluation. *Psychol Assess* 24:409–417
 83. Simons JS, Gaher RM (2005) The distress tolerance scale: development and validation of a self-report measure. *Motiv Emot* 29:83–102
 84. Leyro TM, Bernstein A, Vujanovic AA, McLeish AC, Zvolensky MJ (2011) Distress tolerance scale: a confirmatory factor analysis among daily cigarette smokers. *J Psychopathol Behav Assess* 33:47–57
 85. Tonarely NA, Ehrenreich-May J (2019) Confirming the factor structure and validity of the distress tolerance scale (dts) in youth. *Child Psychiatry Hum Dev* 51:514–526
 86. Chorpita BF, Yim L, Moffitt C, Umemoto LA, Francis SE (2000) Assessment of symptoms of DSM-IV anxiety and depression in children: a revised child anxiety and depression scale. *Behav Res Ther* 38:835–855
 87. Chorpita BF, Moffitt CE, Gray J (2005) Psychometric properties of the revised child anxiety and depression scale in a clinical sample. *Behav Res Ther* 43:309–322
 88. Barlow DH, Ellard KK, Fairholme C, Farchione TJ, Boisseau C, Allen L et al (2011) *Unified protocol for transdiagnostic treatment of emotional disorders*. Oxford University Press, New York
 89. Corp IBM (2017) *IBM SPSS statistics for windows, version 2.50*. IBM Corp, Armonk
 90. Reynolds S, Wilson C, Austin J, Hooper L (2012) Effects of psychotherapy for anxiety in children and adolescents: a meta-analytic review. *Clin Psychol Rev* 32:251–262

91. Weisz JR, McCarty CA, Valeri SM (2006) Effects of psychotherapy for depression in children and adolescents: a meta-analysis. *Psychol Bull* 132:132–149
92. Lewinsohn PM, Clarke GN, Seeley JR, Rohde P (1994) Major depression in community adolescents: age at onset, episode duration, and time to recurrence. *J Am Acad Child Adolesc Psychiatry* 33:809–818
93. DiGiuseppe R, Linscott J, Jilton R (1996) Developing the therapeutic alliance in child-adolescent psychotherapy. *Appl Prev Psychol* 5:85–100
94. Kennedy SM, Tonarely NA, Sherman JA, Ehrenreich-May J (2018) Predictors of treatment outcome for the unified protocol for transdiagnostic treatment of emotional disorders in children (UP-C). *J Anxiety Disord* 57:66–75
95. Scott K, Lewis CC, Marti CN (2019) Trajectories of symptom change in the treatment for adolescents with depression study. *J Am Acad Child Adolesc Psychiatry* 58:319–328
96. Skriner LC, Chu BC, Kaplan M, Bodden DH, Bögels SM, Kendall PC, Nauta MH, Silverman WK, Wood JJ, Barker DH, De La Torre J (2019) Trajectories and predictors of response in youth anxiety CBT: integrative data analysis. *J Consult Clin Psychol* 87:198–211
97. Hawley KM, Weisz JR (2003) Child, parent, and therapist (dis) agreement on target problems in outpatient therapy: the therapist's dilemma and its implications. *J Consult Clin Psychol* 71:62–70
98. Yeh M, Weisz JR (2001) Why are we here at the clinic? Parent-child (dis)agreement on referral problems at outpatient treatment entry. *J Consult Clin Psychol* 69:1018–1025
99. Edelbrock C, Costello AJ, Dulcan MK, Conover NC, Kala R (1986) Parent-child agreement on child psychiatric symptoms assessed via structured interview. *J Child Psychol Psychiatry* 27:181–190

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