



“Teaching Moments” in Psychotherapy: Addressing Emergent Life Events Using Strategies From a Modular Evidence-Based Treatment

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Emergent life events (ELEs) are unexpected, acute client stressors reported in psychotherapy sessions that are associated with reduced evidence-based treatment (EBT) integrity and client progress. As a potential solution, this study examined the extent to which ELEs could be appropriately addressed using existing EBT strategies. Participants were 34 low-income youth (ages 5–15, 50% male, 85% Latino) seen by 18 therapy providers in the modular EBT condition (MATCH) of a community effectiveness trial. MATCH experts rated descriptions of 75 ELEs from therapy sessions on how well they might be addressed clinically by any of MATCH’s 33 strategies for youth anxiety, depression, trauma, or conduct problems (i.e., “addressability”). MATCH-expert ratings were compared with observationally coded provider responses to ELEs. Results revealed that when assuming the presence of youth and caregiver in session, two-thirds of ELEs were identified as fully addressable and nearly all ELEs (96%) were partially addressable. ELEs related to *family issues* were most common but least likely to be addressable. Problem Solving and Relaxation skills could address the

greatest percentage (87%) of ELEs. The most common supplemental content not explicitly prescribed in MATCH, but identified as necessary to fully address ELEs, was “assessing and empathic listening.” Provider responses were often incongruent with MATCH-expert raters regarding which strategies to use for which ELEs. In summary, most ELEs reported in a diverse community sample could be theoretically harnessed as “teaching moments” for skills within an existing, multi-problem EBT. However, providers may benefit from development of a structured resource to guide them in choosing the most effective response when these unexpected events arise.

Keywords: emergent life events; evidence-based treatment; treatment integrity; community mental health; implementation

DESPITE MANY ADVANCES in the development of evidence-based psychosocial treatments (EBTs) in the United States, the prevalence of mental health problems in children continues to hover around 20% (O’Connell, Boat, & Warner, 2009). One reason for the less-than-desired impact of EBTs is that even when families in community care access EBTs, they frequently do not reap the full benefits (Kazdin & Blase, 2011). Recipients of EBTs in community care often have poorer outcomes compared to those seen in efficacy trials or university settings (e.g., Barrington, Prior, Richardson, & Allen, 2005). Lack of resources, limited compatibility of treatments with community care contexts (e.g., insurance and workforce restrictions), and poor fit with the complex needs of clients (Aarons, Hurlburt, & Horwitz, 2011; Reding et al., 2016; Schoenwald

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et al., 2008) are among the factors that likely contribute to the limited performance of EBTs sometimes encountered in community care.

EMERGENT LIFE EVENTS

With regard to client complexity, community mental health providers report that client crises or emergent life events (ELEs) are a significant barrier to delivering EBTs (Reding et al., 2016). Drawing from the life stress literature (e.g., Rudolph & Hammen, 1999), ELEs are defined as unexpected, acute client stressors reported in treatment sessions (Chorpita, Korathu-Larson, Knowles, & Guan, 2014). Examples of ELEs reported in therapy include a fight among family members, death of a loved one, youth violence, and school suspension. ELEs are common: in a community sample of youth, providers reported ELEs in 69% of clients and 8% of sessions, with a mean of 2.52 ELEs per treatment episode (Chorpita et al., 2014). Consistent with the nature of highly stressed communities often served in community care (Southam-Gerow, Chorpita, Miller, & Gleacher, 2007; Urgelles, Donohue, Wilks, Hasselt, & Azrin, 2012), families with reported ELEs are significantly more likely to be low-income than those without ELEs (Guan, Levy, et al., 2017). The impact of stress on the mental health of low-income, urban youth has been widely documented; for instance, stressful life events significantly predict higher levels of aggression among youth (Attar, Guerra, & Tolan, 1994) as well as higher levels of depression and anxiety (Sheidow, Henry, Tolan, & Strachan, 2014). Although there is substantial literature on how life stressors can affect symptomatology in youth, less is known about how these stressors impact the delivery of psychotherapy.

Provider Responses to ELEs and Potential Impact on EBT

A small pilot study examining data on provider responses to ELEs reported in therapy provides insight into how these events may impact in-session delivery of EBT. In the absence of systematic guidance for how to handle ELEs, providers delivering a modular EBT in community settings nearly always responded with unstructured activities such as empathic listening and information gathering, which were neither explicitly prescribed nor proscribed by the treatment protocol. Forty percent of the time, their response consisted entirely of unstructured responses, without using any strategies from the EBT protocol (Guan, Levy, et al., 2017). Indeed, when compared with sessions without an ELE, ELE occurrence was associated with significant reductions in provider adherence to EBT in the session in which the ELE was first reported (Guan,

Levy, et al., 2017; Guan, Kim, et al., submitted for publication) as well as the following session (Guan, Park, & Chorpita, 2017). Although providers' nonprotocol responses may be attempts to meet clients where they are rather than pushing ahead with a potentially inappropriate session plan from the EBT, research shows that a complete lack of EBT content in response to an ELE is associated with a 20% slower rate of clinical progress on symptoms and functioning for community youth (Guan, Park, et al., 2017).

ELE as a Teaching Moment

In an effort to balance treatment integrity with responsiveness to client complexity, some EBTs have successfully developed strategies to address comorbidity and provide flexibility in sequencing of sessions using modular approaches (e.g., Weisz et al., 2012). However, most EBTs do not currently offer guidance to effectively address ELEs. As a middle ground between fully structured (i.e., pushing ahead with the EBT regardless of the ELE) and unstructured (e.g., extensive supportive listening) responses, a potentially more effective response to ELEs could involve using the ELE as a "teaching moment" for relevant EBT skills (e.g., using a cognitive restructuring procedure to address an unexpected bad grade on a test). This type of response could allow for in-session rehearsal and generalization of therapeutic skills from the existing EBT. Research demonstrates that community providers naturally employ a "teaching moment" response with roughly half of reported ELEs (Guan, Levy, et al., 2017). Specifically, providers who used this type of response were most likely to teach problem-solving skills, which are taught in many EBTs (e.g., Boustani et al., 2015; Linehan, 2015). It is possible that other content from EBT manuals could be relevant to address ELEs, such as relaxation skills to manage distress caused by an ELE. Additionally, it remains unknown whether providers who respond in a fully unstructured manner to ELEs are doing so because the EBT strategies at hand are inappropriate to address the ELE, or because they lack the necessary training and guidance to apply EBT strategies to ELEs.

THE CURRENT STUDY

Thus, the overall aim of the current study was to provide a rich description of whether and how ELEs reported in psychotherapy sessions with minority, low-income community youth could be appropriately addressed using any of 33 evidence-based treatment strategies from a modular treatment for anxiety, depression, trauma, and conduct problems (Modular Approach to Therapy for Children with Anxiety, Depression, Trauma, or Conduct Problems

[MATCH]; Chorpita & Weisz, 2009). “Addressability” was conceptualized as the extent to which an ELE could be logically and sufficiently handled by MATCH strategies. Using ratings from MATCH experts, our goals were to: (1) provide a thorough description of the addressability of ELEs by MATCH, (2) examine differences in addressability between ELE content categories, (3) identify additional content needed when ELEs were not fully addressable by MATCH, and (4) compare MATCH-expert ratings of addressability with actual provider responses to ELEs in session. Although we were primarily interested in patterns of descriptive results, we had two preliminary predictions for inferential questions: ELEs involving client risk behaviors would be least likely to be addressable by MATCH (due to requiring a safety planning response), and MATCH-expert ratings of addressability would not significantly predict provider responses to ELEs (due to providers receiving no training to explicitly use ELEs as a “teaching moment” for MATCH strategies). Investigation of these study goals is necessary to better understand whether existing EBT strategies can be leveraged to address a commonly occurring threat to successful EBT implementation in community care.

Method

PARTICIPANTS

Participants were selected from the modular EBT condition (MATCH) of the Child STEPs in California study, a randomized clinical trial (RCT) conducted at three large community mental health agencies in urban California (Chorpita et al., 2017). Participants from the usual care condition of the trial were not included in the present study due to the inability to compare these providers’ responses to ELEs with ratings of ELE addressability using MATCH. MATCH (Chorpita & Weisz, 2009) is a collection of 33 treatment modules organized according to five coordinating decision flowcharts. Within the protocol, providers focus on an initial problem area (e.g., depression) by following a flowchart of suggested treatment modules. If interference arises, for instance in the form of an emergent comorbid problem area (e.g., anxiety), providers can address the interference by systematically employing other treatment modules. Appendix A presents all MATCH treatment modules and their intended purposes.

All study procedures were approved by the IRB of UCLA as well as by IRBs of participating service agencies that requested independent reviews.

Inclusion and Exclusion Criteria

Youth between the ages of 5 and 15 referred to their local public mental health agency were included if

their primary clinical concerns involved anxiety, depression, disruptive behavior, or traumatic stress ($N = 138$). Youth were excluded if they had mental health concerns that could not be addressed with MATCH, including intellectual disability, autism, psychosis, recent suicide attempt, severe trauma, and juvenile justice involvement. Additional details and the flow of youth into the study according to CONSORT guidelines are reported in the original outcome paper (Chorpita et al., 2017).

Youth and Caregiver Participants

Given our focus on ELEs and provider responses to them, the present study utilized the subsample of participants from the MATCH condition who experienced at least one ELE reported in the first half of session during their treatment episode (thus allowing a reasonable amount of time remaining in session for providers to respond using a MATCH strategy if desired). There were no significant differences in youth or caregiver characteristics between MATCH participants selected ($n = 34$) and not selected ($n = 44$) for the current study. The selected 34 youth were 50% male and averaged 10.23 years of age ($SD = 2.70$) at intake. Their reported race/ethnicity was 85% Latino/Hispanic, 9% Black/African American, and 6% Mixed Race/Ethnicity. Based on an initial assessment by study personnel, youths’ primary problem areas prior to treatment were categorized as 38% disruptive behavior, 38% depression, 21% anxiety, and 3% traumatic stress.

Caregivers of the 34 youth were predominantly female (79%) with an average age of 35.55 years ($SD = 7.21$, range = 26–63). Caregivers reported their marital status as 27% never married, 21% separated, 18% married, 18% living with partner, 15% divorced, and 3% not reported. The majority of families (79%) reported their household income to be in the range of \$0–\$19,000, with 18% in the \$20,000–\$39,000 range and 3% in the \$40,000–\$59,000 range.

Provider Participants

The 18 providers included in the present study were 94% female and averaged 32.39 years of age ($SD = 4.30$, range = 25–42). Providers reported their race/ethnicity as 39% Latino/Hispanic, 39% Caucasian, 17% Mixed Race/Ethnicity, and 6% Asian. All providers (100%) reported their highest degree completed as a master’s degree. On average, providers had 3.17 years of professional experience ($SD = 2.04$) following the completion of their highest degree. Regarding theoretical orientation, 39% of providers identified as eclectic, 39% as cognitive-behavioral, 11% as humanistic/client centered, 6% as family systems, and 6% as other.

Providers received a 5-day training in MATCH by the treatment developer, followed by individual weekly consultation with MATCH consultants over the course of the trial (Chorpita et al., 2017).

MEASURES AND CODING PROCEDURES

Emergent Life Events (ELEs)

ELEs were identified using the Emergent Life Events Coding System–Revised (ELECS-R), an observational coding system for therapy sessions. Coder training and procedures are described in detail elsewhere (Guan, Kim, et al., submitted for publication). In a larger sample of therapy recordings that includes the present sample, identification of ELEs in session demonstrated substantial interrater reliability ($\kappa = .78$; Landis & Koch, 1977) and moderate agreement with provider report of ELEs ($\kappa = .46$; Guan, Kim, et al., submitted for publication). An ELE was operationally defined as a discrete event that occurred recently (i.e., within the past few sessions), was outside of therapy, was disclosed during a treatment session, and had moderate to severe negative impact on the child or family's daily life or functioning. Specifically, only events with ratings of 3 (*moderate*: beginning to have a noticeable impact on daily life or functioning; e.g., youth failed a final exam), 4 (*marked*: significant impact on daily life or functioning; e.g., youth was suspended for one week), or 5 (*severe*: significant, pervasive, and enduring impact on daily life or functioning; e.g., family was evicted from home) on a 1–5 negative impact scale for coding stressful events (adapted from the Youth Life Stress Interview; Rudolph & Flynn, 2007) qualified as ELEs. Interrater reliability for ELE negative impact was good ($ICC = .72$; Guan, Kim, et al., submitted for publication).

Excluded from the definition of an ELE were chronic issues (e.g., youth's declining grades), attendance or engagement issues (e.g., late arrival to session), symptoms of psychopathology not tied to a discrete event with at least a moderate negative impact (e.g., suicidal ideation without an accompanying life event), medication changes related to the youth's mental health treatment, and future events.

Category. To categorize the content of each ELE, coders selected all that applied from 10 subcategories derived from reviews of previous literature capturing ELEs in the same RCT (Chorpita et al., 2014) and youth life stress in general (Rudolph & Flynn, 2007). To increase statistical power for analyses, we combined subcategories based on conceptual similarity and significant positive correlations ($r = .19-.39$) between categories in the sample. The following four broad categories were used for analyses: (1) family issues (including subcategories

of *family conflict, change in family routine or structure, and housing/financial issues*), (2) trauma and health issues (including subcategories of *injury, health-care problem, or death of a loved one or the client(s), exposure to an incident of community violence or crime, and child abuse or neglect*), (3) peer and school problems (including subcategories of *problems at school and peer or social problems*), and (4) client risk behavior (including subcategory of *client engaging in risk behavior*). ELEs identified in the *other* subcategory were excluded from the broader categories due to low frequency (3% of ELEs) and lack of similarity with other categories. Interrater reliability for ELE categories was good ($\kappa = .63-.80$; Guan, Kim, et al., submitted for publication).

Addressability of ELEs by MATCH

Observational coders of ELE session recordings provided a detailed narrative description of each ELE and its impact on the client. The resulting descriptions ranged widely in length ($M = 132.03$ words, $SD = 77.03$, $range = 11-408$) based on the information presented in the recordings. To rate addressability, ELE descriptions were provided to MATCH experts along with information on who reported the ELE, time elapsed in session, youth and caregiver distress, and youth dependence (i.e., the extent to which youths' behaviors contributed to the occurrence of the ELE).

MATCH experts who coded addressability of ELEs were two doctoral-level clinical psychologists with significant clinical experience in MATCH (i.e., trained in MATCH by developer, delivered MATCH as therapists, and supervised MATCH cases). MATCH experts had no preconceptions about what the coding would reveal. MATCH experts met weekly with one of the MATCH treatment developers to discuss the addressability coding manual and item content as applied to practice ELEs. Following these discussions, a revised version of the coding manual was produced, and MATCH experts continued to meet with the treatment developer until acceptable interrater reliability ($ICCs > .60$) was achieved. They then independently rated the entire sample of 75 ELEs for addressability, with 50% double coded to assess interrater reliability. MATCH experts continued to meet biweekly throughout this time to discuss issues and prevent drift.

The addressability coding manual was used alongside the MATCH protocol. For each ELE, coders were asked if the ELE could be addressed using any of the 33 MATCH modules. Specifically, MATCH modules originally written for the youth (i.e., anxiety, depression, and trauma modules with

the exception of caregiver psychoeducation modules) were given two 0–3 addressability ratings: one for the youth and one for the caregiver. The latter set of ratings was intended to capture whether youth modules (e.g., Problem Solving) could be adapted to the caregiver as a way to address the ELE. The MATCH modules originally written for the caregiver (i.e., conduct modules) were only assigned a caregiver rating, given the logical difficulty in adapting parenting modules (e.g., giving effective instructions to youth) for use by youth. Levels of addressability, which measured the extent to which MATCH modules could appropriately and sufficiently respond to ELEs, are defined and described in Table 1.

The coding manual instructed coders to assign ratings based solely on the information provided in the description of the ELE and to assume that all MATCH modules would be developmentally appropriate for the youth in question. For maintenance and termination modules (Maintenance, Plans for Coping, Looking Ahead, Wrap Up, and Booster), coders were instructed to assume that all prerequisite modules had been previously covered.

Interrater reliability on the 0–3 addressability ratings for all modules was in the good to excellent ranges, as was the sum of the number of modules coded at a 2 or above ($ICCs > .60$; Cicchetti, 1994). Discrepancies between coders across double-coded recordings were resolved by randomly preselecting one coder's data to be used for each session in the analyses. Due to coders' difficulty distinguishing between the similar relaxation skills offered within the Learning to Relax and Quick Calming modules, ratings on these two modules were averaged for all

following analyses; interrater reliability was in the good range for the averaged ratings.

Theoretical Addressability. Theoretical addressability refers to addressability ratings assigned with the assumption that both the youth and caregiver were present in session; as such, all modules were eligible to be coded as addressing the ELE. After rating the addressability of the ELE by each module, coders assigned an overall *yes* or *no* rating to the ELE based on whether any combination of the appropriate MATCH modules would be sufficient to address the ELE. Five different theoretical addressability ratings were assigned to measure whether or not the ELE was fully addressable by any combination of MATCH modules that were: (a) used as originally written for the caregiver, (b) used as originally written for the youth, (c) used as originally written for the caregiver or youth, (d) originally written for the youth, but adapted for the caregiver, and (e) used as originally written or adapted. The latter metric was the broadest measure of theoretical addressability and was used for analyses of ELE categories predicting theoretical addressability. Interrater reliability for all ratings was high ($\kappa > .60$).

To assign the above ratings, coders utilized several rules. A *yes* for addressability would be assigned if at least one of the relevant modules was rated as 3 or at least two modules rated at a 2 or 1 could be used in tandem to fully address the ELE. *Yes* responses assumed that a limited amount of appropriate non-MATCH responses, such as empathy and information gathering about the ELE, could be combined with these modules to create an optimal response. A *no* for addressability would be assigned if all of the

Table 1
Description and Examples of Addressability Ratings of ELEs by MATCH Modules

Addressability Rating	Description	Example ELE	Example MATCH module
3	Module is very appropriate and probably sufficient to address ELE. Limited use of other responses needed.	Youth received detention for talking back to the teacher at school.	The purpose of Daily Report Card exactly fits the content of this ELE (disruptive behavior at school).
2	Module is appropriate and possibly sufficient to address ELE. Another response may be equally or more appropriate for the ELE.	Youth had a fight with her best friend, resulting in the youth expressing suicidal ideation.	Quick Calming is appropriate to manage emotions, but not sufficient – would also need to conduct a safety plan for suicidal ideation.
1	Module could be appropriate, but is probably insufficient. Must be combined with significant use of other responses.	Youth had a school meeting informing him that he will have to transfer schools if he does not raise his grades.	Praise may help with motivation to improve grades, but significant use of other modules needed (e.g., Problem Solving, Daily Report Card).
0	Module is not appropriate to address the ELE. Module addresses issues unrelated to ELE.	Youth got bullied in school and feels depressed and hopeless.	Time Out is not an appropriate response at all in this situation.

relevant modules were rated as 0, the only module coded as appropriate was a 1 or 2, or at least two modules were rated at a 2 or 1 but could not be used in tandem to fully address the ELE.

Actual Addressability. Actual addressability refers to addressability ratings assigned based on the youth and caregiver's actual presence in session. For example, if the session recording showed that only the youth was present in session, only modules intended for the youth were eligible to be coded as addressing the ELE. Thus, ELEs coded as actually addressable were a subset of those coded as theoretically addressable. Using the same rules as for theoretical addressability, a single measure of actual addressability (*yes* or *no*) was assigned based on whether or not the ELE was fully addressable by any combination of eligible MATCH modules as written or adapted.

Additional Therapy Content Identified as Necessary When ELEs Were Not Fully Addressable by MATCH. When an ELE was rated as not fully theoretically addressable by any combination of MATCH modules as written or adapted, coders were asked to write in what other responses were needed to constitute a sufficient response. An inductive qualitative coding methodology was applied to the collected responses in order to better understand emergent themes (e.g., Palinkas, 2014). Specifically, the raw data were categorized into base codes by the two coders, who met to reach consensus on a code set and definitions. Coders also agreed upon the organization of base codes into higher categories. Once consensus was reached, coders independently rated each response. Interrater reliability of the base codes was high ($\kappa = .95$).

Provider Responses to ELEs

As with identification of ELEs, provider responses to ELEs were observationally coded from session recordings using the ELECS-R (Guan, Kim, et al., submitted for publication). For the purposes of the present study, we were interested in two broad categories of provider responses: using a MATCH module to address the ELE (the "teaching moment" response) and responding to the ELE with non-MATCH activities. In the former category of response, providers made statements to tie the ELE to a module from the protocol, using the skills from the module to demonstrate how to handle the ELE. When this response occurred, coders identified the specific MATCH module(s) used to address the ELE. Interrater reliability for the occurrence of this response was good ($\kappa = .74$; Guan, Kim, et al., submitted for publication). With regard to non-MATCH responses,

coders rated the occurrence of the following 12 specific responses: (1) *supportive or empathic statements*, (2) *relating the ELE to past life experiences*, (3) *information gathering about the event*, (4) *information gathering about the subjective impact of the ELE on client*, (5) *informal advice giving*, (6) *informal problem solving*, (7) *psychoeducation about the ELE*, (8) *informal reframing statement*, (9) *safety protocol*, (10) *provision of supportive resources outside of therapy*, (11) *provision of supportive resources by therapist*, or (12) *other*, with a write-in of the content. Interrater reliability for each of these responses was in the acceptable ranges (ICCs = .49–.97; Guan, Kim, et al., submitted for publication).

Agreement Between MATCH-Expert Ratings of Actual Addressability and Provider Responses

For each ELE, a *yes* or *no* rating was assigned to indicate whether or not at least one provider response agreed with MATCH experts' ratings of actual addressability. Specifically, if MATCH experts rated an ELE as a *yes* for actual addressability, a *yes* on the agreement variable was assigned if the provider used at least one recommended MATCH module (i.e., coded as a 2 or above on addressability) to address the ELE. The threshold of 2 or above was chosen to ensure that only modules that were considered appropriate and near-sufficient to address the ELE were considered an agreement. Conversely, if MATCH experts rated an ELE as a *no* for actual addressability, a *yes* on the agreement variable was assigned if the provider used at least one MATCH module recommended as partially addressing the ELE or the provider used at least one recommended response from the qualitative coding of additional therapy content required to constitute a sufficient response. For instance, if MATCH experts identified additional content of *supportive listening* as necessary, providers who responded with *supportive or empathic statements* were assigned a *yes* on the agreement variable; if MATCH experts identified additional content of *crisis/safety planning* as necessary, providers who responded with *safety protocol* were assigned a *yes* on the agreement variable; and so on. Interrater reliability for the agreement between recommended additional content and provider responses was excellent ($\kappa = .90$). Cases in which none of the recommended MATCH modules or additional content was possible due to the absence of a required client (e.g., caregiver not present, but caregiver practices required to address the ELE; $n = 2$) were excluded from analyses of agreement given the impossibility of providers conducting the recommended practices. For all ELEs assigned a *yes* on the agreement variable, a further delineation was made to specify the reason

for the agreement: agreed on at least one recommended MATCH module, agreed on at least one recommended non-MATCH response, or both.

Provider Responses—Type of MATCH Content. To further understand how providers' responses to ELEs incorporated MATCH, responses were also categorized as follows: (1) ELE addressed with at least one recommended MATCH module, (2) ELE addressed with nonrecommended MATCH module(s) (i.e., provider used a MATCH module rated by experts as 1 or 0 for its potential to address the ELE), and (3) addressed using only non-MATCH responses.

ANALYSES

Descriptive statistics of ELE addressability for all study goals were conducted in SPSS 20. Figure 1 depicts the MATCH modules that could collectively address the highest percentage of ELEs at a partial or full level and was intended to demonstrate the number of separate strategies required to adequately address most ELEs. Statistics for Figure 1 were computed by beginning with the individual MATCH module that could address the highest percentage of ELEs, followed by the MATCH module that could address the highest percentage of ELEs not addressable by the first module, followed by the MATCH module that could address the highest percentage of

ELEs not addressable by the first or second; and so on until the highest possible percentage of ELEs addressed was reached.

For predictive models in Goals 2 and 4, analyses were conducted in HLM 7. Specifically, for Goal 2, four dichotomous ELE categories were entered as simultaneous, ELE-level predictors of ELE-level addressability in a multilevel random coefficient model (with 75 ELEs nested within 34 clients nested within 18 providers). Note that all four categories were entered rather than dummy codes due to the fact that each ELE could have multiple categories. The initial model included random intercepts and ELE-level predictor slopes at both the client and provider levels; nonsignificant variance components were subsequently removed to achieve a more parsimonious structure. The same multilevel random coefficient modeling process was used for the analysis of actual addressability (ELE-level) as a predictor of provider use of a MATCH skill (ELE-level) to address the ELE in Goal 4.

Results

GOAL 1: DESCRIBE ADDRESSABILITY OF ELES

Characteristics of ELEs

A detailed description of the ELEs in this study is reported elsewhere (Guan, Kim, et al., submitted for publication). In brief, 75 ELEs were reported in the first half of session across 67 session recordings. ELEs varied widely with regard to category (see Table 2).

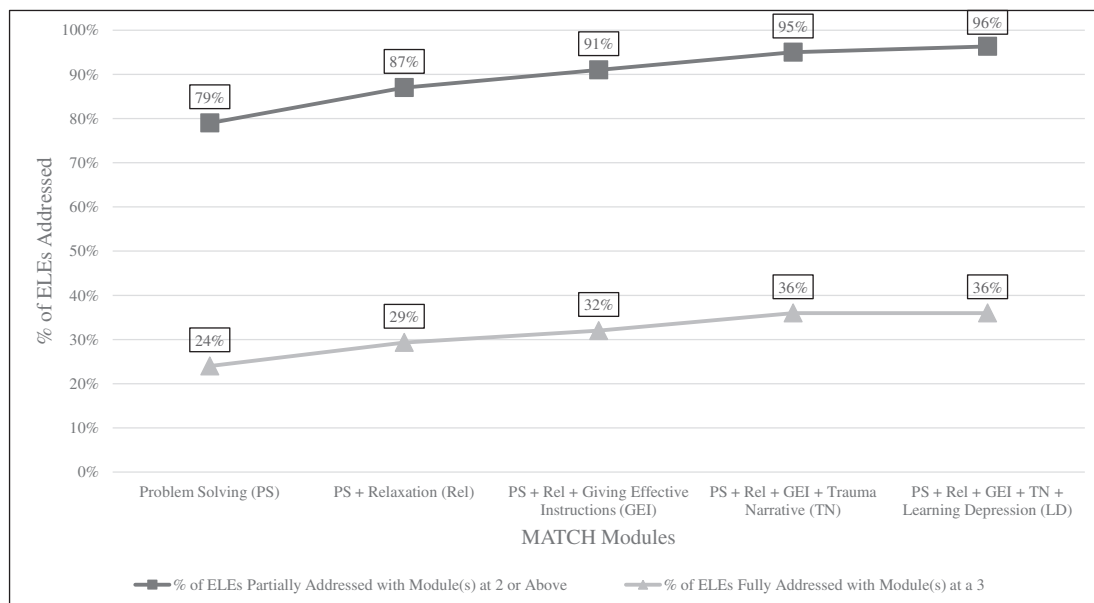


FIGURE 1 MATCH modules that can theoretically address the highest percentage of ELEs

Note. "Relaxation" refers to the combination of the Learning to Relax and Quick Calming modules. Partial and full addressability refer to which individual MATCH modules were able to address ELEs (i.e., individual modules rated at a 2 or 3), rather than which modules could be combined to address ELEs (e.g., two modules rated at a 2 combining to fully address the ELE). Plans for Coping and Making a Plan were excluded from this figure because they are summary modules that combine multiple skills from the problem areas of depression and conduct, respectively.

Table 2
Theoretical Addressability of ELEs by Category ($n = 75$ ELEs)

ELE Category	ELEs Fully Addressable by MATCH Modules as Written for Caregiver	ELEs Fully Addressable by MATCH Modules as Written for Youth	ELEs Fully Addressable by Any MATCH Modules as Written	ELEs Fully Addressable by MATCH Modules Adapted for Caregiver	ELEs Fully Addressable by Any MATCH Modules as Written or Adapted	Mean Number of Modules that Could At Least Partially Address ELE (2 or above)
Family Issues ($n = 38$)	8 (21%)	7 (18%)	12 (32%)	8 (21%)	19 (50%)	7.11 (3.95)
Family Conflict ($n = 26$)	7 (27%)	7 (27%)	11 (42%)	5 (19%)	13 (50%)	8.35 (3.84)
Change in Family Routine or Structure ($n = 15$)	2 (13%)	1 (7%)	2 (13%)	4 (27%)	8 (53%)	5.73 (3.39)
Housing/Financial Issues ($n = 6$)	0 (0%)	1 (17%)	1 (17%)	3 (50%)	4 (67%)	5.33 (3.45)
Trauma and Health Issues ($n = 27$)	3 (11%)	6 (22%)	8 (30%)	8 (30%)	15 (56%)	6.78 (4.42)
Injury, Health-Care Problem, or Death ($n = 22$)	1 (5%)	5 (23%)	5 (23%)	8 (36%)	12 (55%)	6.82 (4.16)
Child Abuse or Neglect ($n = 6$)	2 (33%)	1 (17%)	3 (50%)	0 (0%)	3 (50%)	7.50 (5.17)
Exposure to Community Violence or Crime ($n = 2$)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3.50 (0.71)
Peer and School Problems ($n = 21$)	9 (43%)	9 (43%)	15 (71%)	4 (19%)	15 (71%)	6.90 (3.38)
Problems at School ($n = 18$)	9 (50%)	8 (44%)	14 (78%)	4 (22%)	14 (78%)	7.17 (3.42)
Peer or Social Problems ($n = 7$)	0 (0%)	3 (43%)	3 (43%)	0 (0%)	3 (43%)	4.14 (2.27)
Client Risk Behavior ($n = 17$)	8 (47%)	4 (24%)	10 (59%)	5 (29%)	11 (65%)	10.24 (3.29)
Other ($n = 2$)	0 (0%)	0 (0%)	0 (0%)	1 (50%)	2 (100%)	8.00 (1.41)
All ELEs ($n = 75$)	18 (24%)	22 (29%)	34 (45%)	21 (28%)	48 (64%)	7.05 (3.96)

Note. Categories are listed from most to least common and are not mutually exclusive. Columns are not mutually exclusive. All percentages are row percentages with a denominator of the number of ELEs in that category. Bolded categories represent broader categories used for analyses of ELE category predicting addressability.

On average, ELEs were rated as having a *moderate to marked* negative impact ($M = 3.55$, $SD = 0.55$).

Addressability of ELEs by MATCH

Theoretical addressability of ELEs by the four categories and 10 subcategories is presented in Table 2, with total percentages for all ELEs at the bottom. Assuming that both youth and caregiver were present in session, 64% of all ELEs were coded as being fully addressable by any MATCH modules as written or adapted. Of note, ELEs in the *family issues* category were the most frequently identified, but only half (50%) were coded as fully addressable by any MATCH modules as written or adapted. This rate of addressability, which was lower than the overall rate of 64% across all ELEs, appeared to be driven by ELEs in the *family conflict* and *change in family routine or structure* subcategories (50% and 53% fully addressable, respectively). ELEs categorized as *trauma and health issues* (56%) also fell below the overall percentage of full addressability.

Using a lower threshold for addressability, 96% of ELEs could be at least partially addressed by at least one MATCH module as written or adapted (at a 2 [appropriate and possibly sufficient to address the ELE] or 3 [very appropriate and probably sufficient to

address the ELE]). The average number of MATCH modules that could at least partially address each ELE was 7.05 ($SD = 3.96$). Table 3 presents the most common MATCH modules identified as able to address ELEs at that level; of note, all modules identified as able to address 10% or greater of ELEs came from the depression and conduct protocols. Figure 1 depicts the MATCH modules that could address the highest percentage of ELEs at a partial or full level. As seen in the figure, Problem Solving or Learning to Relax/Quick Calming could at least partially address the vast majority (87%) of ELEs, with only incremental gains in addressability achieved through adding other modules.

GOAL 2: ELE CATEGORIES AS PREDICTORS OF ADDRESSABILITY

The final model for ELE categories predicting theoretical addressability was a three-level binary logistic regression with random intercepts at the client and provider levels. Of the four ELE categories entered as simultaneous predictors, only membership in the *family issues* category significantly predicted whether or not the ELE was theoretically fully addressable by MATCH as written or adapted ($b = -1.77$, $SE = 0.79$, $OR =$

Table 3
Most Common MATCH Modules Identified as Able to Address Emergent Life Events ($n = 75$ ELEs)

MATCH Module (in order of % addressed)	ELEs Able to Address (%)*	Mean ELE Addressability Score for Youth (0-3)	Mean ELE Addressability Score for Caregiver (0-3)
1. Depression: Plans for Coping [^]	61 (81%)	1.72 (0.99)	1.48 (1.19)
2. Depression: Problem Solving	59 (79%)	1.72 (0.86)	1.80 (0.80)
3. Depression: Learning to Relax/Quick Calming	50 (67%)	1.33 (0.90)	1.11 (0.98)
4. Conduct: Making A Plan [^]	26 (35%)	N/A	0.88 (1.01)
5. Depression: Cognitive TLC	25 (33%)	0.68 (0.77)	0.63 (0.87)
6. Conduct: Rewards	22 (29%)	N/A	0.89 (1.01)
7. Conduct: Giving Effective Instructions	20 (27%)	N/A	0.83 (0.95)
8. Conduct: Praise	17 (23%)	N/A	0.80 (0.79)
9. Conduct: Time Out	16 (21%)	N/A	0.67 (0.99)

Note. *The second column represents the percentage of ELEs coded as theoretically addressable by that module at a 2 (appropriate and possibly sufficient) or a 3 (very appropriate and probably sufficient) for either the youth or caregiver. Only modules at 10% or above on this metric were listed. [^]Summary module that combines multiple, previously taught skills from that problem area. For reference, the purpose of each module is listed in [Appendix A](#).

0.17, 95% CI [0.03, 0.88], $p = .036$). Specifically, the odds of being theoretically addressable by MATCH decreased by 5.86 times for ELEs belonging to the *family issues* category as compared to ELEs not categorized as *family issues*. ELE categories of *trauma and health issues* ($b = -1.26$, $SE = 0.76$, $OR = 0.28$, 95% CI [0.06, 1.41], $p = .116$), *peer and school problems* ($b = -0.28$, $SE = 1.03$, $OR = 0.76$, 95% CI [0.09, 6.48], $p = .789$) and *client risk behavior* ($b = 0.17$, $SE = 0.81$, $OR = 1.18$, 95% CI [0.22, 6.45], $p = .838$) did not significantly predict theoretical addressability.

GOAL 3: ADDITIONAL RECOMMENDED CONTENT FOR ELES NOT FULLY ADDRESSABLE BY MATCH

Table 4 reveals results from qualitative coding of additional therapy content identified as necessary when ELEs were not fully addressable by MATCH. Because the vast majority (96%) of ELEs were at least partially addressable by MATCH, this additional content was most often recommended to supplement rather than replace MATCH content. Additional content most often fell in the broader category of “Assessing and Empathic Listening” (recommended for 52% of ELEs that were rated as not fully addressable).

GOAL 4: ADDRESSABILITY IN RELATION TO PROVIDER RESPONSES TO ELES

Actual Addressability

When considering the actual presence of youth and caregiver clients in each session (“actual addressability”), 56% of ELEs were coded as being fully addressable by any MATCH modules as written or adapted. The average number of MATCH modules that could at least partially address a single ELE at a 2 or above was 5.51 ($SD = 3.79$).

Provider Responses to ELEs

A detailed description of provider responses to ELEs is reported in a separate article ([Guan, Kim, et al., submitted for publication](#)). Briefly, providers

Table 4
Additional Therapy Content Identified as Necessary When ELEs Were Not Fully Addressable by MATCH

Therapy Content	Percentage of Not Fully Addressable ELEs ($n = 27$ ELEs)
Assessing and Empathic Listening	52%
Supportive Listening	30%
Emotional Processing	26%
Information Gathering about the ELE	7%
Information Gathering about	7%
Impact of the ELE	
Advice Giving	4%
Acknowledging and Redirecting	4%
Crisis/Safety Planning	26%
Self-harm/Suicide	19%
Harming Others	7%
Running Away	4%
Client Skill Building	22%
Communication Skills	11%
Family Therapy	7%
Social Skills	4%
Assertiveness Training	4%
Anger Management	4%
Psychoeducation for Trauma	4%
Psychoeducation for Grief	4%
Administrative Tasks	22%
Child Abuse/Neglect Report	15%
Case Management	4%
Logistical Problem Solving by Provider	4%

Note. Multiple categories could be assigned to each ELE that was not fully addressable by MATCH; thus, percentages do not add up to 100.

addressed the ELE using a MATCH skill (the “teaching moment” response) 40% of the time. Because providers could respond in multiple ways to ELEs, they also addressed the ELE using non-MATCH responses (not explicitly prescribed nor proscribed in the MATCH manual) 100% of the time, with the most common non-MATCH responses being *information gathering about the event* (93%), *supportive/empathic statements* (89%), *information gathering about the subjective impact of the ELE on client* (77%), and *informal advice giving* (57%).

Comparison of Actual Addressability with Provider Responses

In total, MATCH-expert recommendations of actual addressability agreed with at least one provider response in 49% of ELE cases. Of the cases that agreed, 47% agreed based on recommended non-MATCH responses only, 42% agreed based on MATCH responses only, and 11% agreed based on both non-MATCH and MATCH responses.

Table 5 presents a comparison of MATCH-expert recommendations of actual addressability with provider responses based on type of MATCH content. Notably, providers were more likely to address the ELE using only non-MATCH responses when MATCH experts identified the ELE as fully addressable (69%) as opposed to partially addressable by MATCH (50%), which runs counter to expectations.

Lastly, the final model for actual addressability (ELE fully addressable by MATCH or not) as a predictor of provider use of a MATCH skill to address the ELE was a two-level binary logistic regression (sessions within providers) with a random intercept at the provider level. MATCH-expert coding of actual addressability of an ELE by MATCH as written or adapted did not significantly predict whether or not the provider used MATCH to address the ELE ($b = -0.59$, $SE = 0.49$, $OR = 0.56$, 95% CI [0.21, 1.48], $p = .235$).

Discussion

In the context of a largely low-income, ethnic minority population of youth served in community mental health agencies, the present study described whether and how ELEs reported in therapy sessions could be used as “teaching moments” for existing content from MATCH, a modular EBT for multiple problem areas. Results from our first study goal demonstrated that when assuming the presence of both youth and caregiver, roughly two-thirds of ELEs could be fully addressed in a logical and sufficient manner using MATCH content. This rate of addressability increased to nearly all ELEs (96%) when allowing for partial addressability by MATCH (i.e., MATCH was not necessarily the most logical or sufficient way to respond to the ELE, but could still be reasonably applied). Problem Solving and Relaxation were the skills from MATCH that could address the greatest percentage of ELEs. Findings from our second goal revealed that ELEs categorized as *family issues* were significantly less likely to be addressable by MATCH. Thirdly, the most common supplemental content not explicitly prescribed by MATCH, but recommended to fully address ELEs, was “Assessing and Empathic Listening.” Finally, results from our fourth goal demonstrated less-than-chance agreement between MATCH-expert ratings of how to address ELEs and providers’ actual responses to ELEs.

These findings are encouraging in that even in a low-income, minority population facing an array of stressors, the majority of ELEs could be potentially addressed using existing, common EBT strategies for youth. Thus, although community providers may perceive MATCH and other EBTs as difficult to apply to ELEs (Reding et al., 2016), the current study suggests that it is often *possible* to do so. Of note, the rates of addressability identified in this study are protocol-dependent and may be inflated for MATCH relative to other protocols, given that

Table 5
Agreement Between MATCH-Expert Ratings of Actual Addressability and Provider Responses to ELEs

MATCH-Expert Rating of Actual Addressability	Provider Response - Type of MATCH Content		
	Addressed with at Least 1 Recommended MATCH Module	Addressed with Non-Recommended MATCH Module(s)	Addressed Using Only Non-MATCH Responses
ELE Fully Addressable by MATCH Module(s) as Written or Adapted	9 (21%)	4 (10%)	29 (69%)
ELE Partially Addressable by MATCH Module(s)	10 (31%)	6 (19%)	16 (50%)
ELE Not at All Addressable by MATCH Module(s)	N/A	0 (0%)	1 (100%)

Note. A “recommended” MATCH module refers to a module that was coded by MATCH experts as a 2 or 3 on for its ability to address the ELE, whereas a “non-recommended MATCH module” was coded as a 0 or 1. Percentages are row percentages.

MATCH covers a range of presenting problems. However, using MATCH as an example, over a quarter of ELEs were identified as addressable through adapting youth skills to caregivers (e.g., teaching a caregiver the youth Problem Solving module), which requires a greater level of flexibility than is prescribed in MATCH and many other youth treatment protocols. This finding suggests that in cases of crisis, it may be beneficial for treatment developers to provide more explicit structure or support regarding general principles to adapt EBT skills to different age groups. In addition, ELEs in the *family issues* category—particularly the subcategories of *family conflict* and *change in family routine or structure*—were the most common, yet least addressable, type of ELE using MATCH. Solutions to addressing ELEs for non-family-focused EBTS such as MATCH may therefore benefit from incorporating interactive family strategies such as communication skills. Although these types of strategies were not present in MATCH, EBTS with a greater family focus, such as Multisystemic Therapy (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009), may be better able to address stressors at the family level.

Although multiple modules were identified as able to address ELEs, Problem Solving and Relaxation were identified as the two treatment strategies that could address the highest percentage of ELEs; use of these strategies could at least partially address the vast majority (87%) of varied ELEs presented in this sample. These two strategies are notable for their potential to cut across diagnoses (e.g., depression and conduct; Melvin et al., 2006; Sanders, Markie-Dadds, Tully, & Bor, 2000), severity levels (e.g., prevention to serious mental illness; Boustani et al., 2015; Diamond et al., 2010), and ages (e.g., child to adult; Chorpita & Weisz, 2009; Linehan, 2015), providing the “biggest bang for the buck.” Because versions of these two skills can be found in many EBTS, it is possible that existing content from whichever EBT is being delivered in a given situation could be leveraged to address ELEs as they arise, with no additional content necessary. Thus, although the current study focused on MATCH, results may generalize to using many interventions with these common skills to address ELEs.

In addition to specific MATCH skills, nonspecific therapeutic strategies in the “Assessing and Empathic Listening” category were frequently identified as necessary to fully address ELEs. These strategies, such as supportive listening and emotional processing, may not be explicitly written into MATCH and other treatment protocols, but they are often implied and certainly not proscribed by developers. Most providers are likely to have

adequate training in these domains. However, given findings that providers sometimes respond to ELEs using solely these types of strategies, which may in turn limit clinical progress (Guan, Park, et al., 2017), further explication or training on the judicious use of these skills in response to ELEs may be beneficial. Strategies falling in the “Crisis/Safety Planning” and “Administrative Tasks” areas already exist within organizations (e.g., protocols for addressing suicide risk or reporting abuse) and could be readily incorporated into a toolkit for addressing ELEs. Finally, strategies identified in the “Client Skill Building” content area are indicative of treatment skills that are not offered within the MATCH protocol, but could be added to more comprehensively address ELEs. These skills are likely to change depending on the specific protocol being used.

Given the lack of guidance in the MATCH protocol (and many other EBTS) on how to address ELEs, results showing low rates of agreement between MATCH-expert recommendations and providers’ actual responses to ELEs are not surprising. Indeed, in a usual care context, one might expect an even lower rate of agreement than in this study, in which providers were encouraged to maintain treatment integrity as part of an effectiveness trial. Our findings that providers were more likely to use only non-MATCH content when ELEs were identified as fully addressable by MATCH highlight the need for treatment developers to offer providers training to recognize when the EBT protocol can be appropriately applied to the ELE, including which protocol skills are most relevant. In addition, as previously mentioned, recognition of the appropriate dose of non-MATCH strategies may also be needed given that entirely non-MATCH responses to ELEs are associated with worse client outcomes over time (Guan, Park, et al., 2017). Whereas some non-MATCH strategies, such as “Crisis/Safety Planning,” are necessarily time-consuming in response to an ELE, others, such as supportive listening and information gathering, could likely be time-limited. However, the impact of specific non-MATCH responses on client outcomes remains a direction for future investigation.

Relatedly, although the majority of ELEs in this study could be addressed using MATCH strategies, an important caveat exists for the present findings: just because it is *possible* to address an ELE using these strategies does not necessarily mean that a “teaching moment” is the most effective response. For instance, Relaxation could be logically applied to many ELEs, but if it was outside of the primary focus of treatment, it might reduce the provider’s use of “active” treatment ingredients and therefore reduce treatment effectiveness. In this case, it could be preferable to use

non-MATCH responses (e.g., empathetic listening) in a time-limited manner before moving on to an originally planned skill relevant to the treatment focus. Thus, it will be important for future research to examine potential differences in the effectiveness of various EBT strategies (part of the original treatment plan or not; used as a “teaching moment” or not) following report of an ELE in session.

Taken together, results from the present study could be used to develop and test various iterations of a decision-making resource or toolkit for providers to respond to ELEs in session in a structured manner, which ideally could be generically applied to any EBT. Content could include commonly identified strategies such as assessing and empathic listening, crisis/safety planning, problem solving, and relaxation as appropriate to the ELE at hand, as well as options to utilize select responses before moving on to originally planned EBT skills. Future research could compare the effectiveness of providers trained in variations of such a toolkit to usual-care providers in terms of provider satisfaction, EBT integrity, and client outcomes.

LIMITATIONS

The current study offers novel information on potential solutions to ELEs, an oft-reported barrier to EBT implementation in community settings (Reding et al., 2016). However, findings should be interpreted in light of several limitations. Addressability ratings were assigned after MATCH-expert raters read a description of the ELE, rather than during a session itself. While we attempted to provide as much detail as possible about the ELE from the session recording, it was not possible to provide raters with the same level of knowledge as providers who were not only in the session, but had cumulative knowledge of the client from previous sessions. For instance, higher levels of client distress in response to ELEs are associated with lower provider adherence to MATCH (Guan, Kim, et al., submitted for publication), but raters reading a description of that distress may have been less impacted than providers confronted with it. Further, raters had ample time to reflect upon how to

address ELEs, whereas providers needed to respond “in the heat of the moment.” Addressability ratings therefore have somewhat limited ecological validity, as it is unknown whether raters would have recommended the same content to address ELEs if they were the actual providers. In addition, addressability ratings were meant to encompass all possible treatment content, and as such did not consider the amount of content that would be feasible to cover in a single session. Rates of addressability may therefore be somewhat inflated given that some ELEs required the combination of several treatment strategies to be fully addressed. Another limitation is that our “additional therapy content” codes utilized a qualitative write-in approach that was constrained by the coders’ primarily cognitive-behavioral clinical backgrounds and may not have captured all possible non-MATCH responses to ELEs. Thus, findings should be interpreted within this context. Finally, our descriptive analyses were not able to account for nesting of ELEs within clients; as a result, certain complex clients with multiple ELEs are overrepresented in the reported rates of ELEs and their addressability. This may mean that results are more generalizable to highly stressed clients than those with only one ELE across treatment.

CONCLUSION

The present study demonstrated that treatment strategies within an existing, multiproblem EBT can potentially be harnessed to address most ELEs that arise in a diverse community youth sample; however, additional content is needed to fully address other ELEs. Given the discrepancy between MATCH-expert recommendations and provider behaviors in addressing ELEs, providers may benefit from structured training and guidance to select their responses to ELEs and utilize the ELE as an opportunity to teach EBT content when appropriate. Such guidance in addressing ELEs would enhance the ability of EBTs to be flexibly applied to community populations who typically experience a high degree of unexpected life stressors.

Conflict of Interest Statement

The authors declare that there are no conflicts of interest.

Appendix A. MATCH Modules and Their Purpose

MATCH Module	Purpose (“Use This...”)
<i>Anxiety Modules</i>	
Getting Acquainted	At the beginning of anxiety treatment to establish a relationship and a plan.
Fear Ladder	To develop a list of fears that will guide treatment formulation and evaluation.
Learning Anxiety – Child	To teach the child how anxiety works and to introduce concepts needed for treatment.

Appendix A (continued)

MATCH Module	Purpose ("Use This...")
Learning Anxiety – Parent Practicing Maintenance	To introduce the parent to the planned course of treatment for his or her child's anxiety. To reduce anxious responding to feared situations or items through gradual exposure. At the end of a course of treatment for anxiety or traumatic stress to consolidate gains and prepare for termination.
Cognitive STOP	To address negative thinking that can interfere with the course of treatment for anxiety or traumatic stress.
Wrap Up	To conclude a course of treatment for anxiety.
<i>Depression Modules</i>	
Getting Acquainted	At the beginning of depression treatment to establish a relationship and a plan.
Learning Depression – Child	To teach the child about the nature of depression and to introduce concepts needed for treatment.
Learning Depression – Parent	To introduce the parent to the planned course of treatment for his or her child's depression.
Problem Solving	To teach the child steps to solve problems more effectively.
Activity Selection	To help the child identify and use positive activities to improve his or her mood.
Learning to Relax	To teach the child to relax via slowed breathing, deep muscle relaxation, and guided imagery.
Quick Calming	To reduce stress and improve mood when time is short or when in a public place.
Positive Self	To address self-presentations that can negatively impact mood and interpersonal relationships.
Cognitive BLUE	To identify and revise unrealistic negative thoughts in order to improve mood.
Cognitive TLC	To learn how to get perspectives from friends, identify silver linings, and use distraction to improve mood.
Plans for Coping	To identify the child's three favorite skills and to teach perseverance.
Wrap Up	To conclude a course of treatment for depression.
<i>Trauma Modules</i>	
Safety Planning	To increase the child's ability to maintain personal safety when there are known risks in the environment.
Trauma Narrative	To develop a diary pertaining to traumatic events in order to reduce anxious responding to memories and related events.
<i>Conduct Modules</i>	
Engaging Parents	At the beginning of treatment for conduct problems to establish a relationship and a plan.
Learning about Behavior	To help the parent understand the complex factors that underlie misbehavior and noncompliance.
One-on-One Time	To increase positive interaction between parent and child.
Praise	To teach the parent how to give effective praise to his or her child.
Active Ignoring	To teach caregivers skills to reduce the occurrence of mild negative behaviors.
Giving Effective Instructions	To teach the parent how to give instructions in a way that will improve the child's follow-through.
Rewards	To establish a program of rewards to increase desired behaviors.
Time Out	To introduce a skill to reduce the occurrence of unwanted behavior through time away from rewards and attention.
Making a Plan	To teach the parent skills for anticipating and minimizing behavior problems before they happen.
Daily Report Card	To establish a way to monitor behavior at school so it can be linked to an existing home reward program.
Looking Ahead	At the conclusion of treatment for conduct problems to review and prepare for termination.
Booster	To follow up with parent after treatment for his or her child's conduct problems.

Note. Content reprinted from the MATCH-ADTC protocol (Chorpita & Weisz, 2009).

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