

# Cognitive Behavioral Therapy for Depressed Adolescents Exposed to Interpersonal Trauma: An Initial Effectiveness Trial

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Four clinical trials have shown that a history of interpersonal trauma is associated with diminished response to cognitive-behavioral therapy (CBT) for adolescent depression. An efficacious CBT protocol for adolescent depression was modified to address cognitive deficits and distortions associated with interpersonal trauma. Initial feasibility, acceptability, and treatment impact of the modified treatment (m-CBT) were evaluated in a randomized effectiveness trial conducted in community clinics. Clients were 43 referred adolescents with a depressive disorder and a history of interpersonal trauma. Adolescents either received m-CBT or usual care (UC) therapy. Results indicated that m-CBT was delivered with good fidelity by community clinicians, but that number of sessions completed was attenuated in both m-CBT and UC. Adolescents reported high levels of treatment satisfaction and acceptability for the new treatment. There were significant reductions in depressive symptoms over time, but no differences in outcomes between groups. Although the new treatment produced promising results, it did not outperform UC. Implications for treatment development are considered.

*Keywords:* cognitive-behavioral therapy, mindfulness, trauma, depression, adolescent

Major depression is a common, recurrent, and impairing condition that often first emerges during adolescence (Klein, Torpey, & Bufferd, 2008). Although there are multiple pathways to depressive disorders, a substantial body of evidence links childhood interpersonal trauma to depression in adolescence and adulthood (Kaplou & Widom, 2007; Kendler et al., 2000; Kendler, Gardner, & Prescott, 2002; Kendler, Kuhn, & Prescott, 2004). Large scale prospective studies have revealed a twofold to fivefold increase in risk for depression among adolescents exposed to physical abuse, sexual abuse, or neglect (Brown, Cohen, Johnson, & Smailes, 1999; Schraedley, Gotlib, & Hayward, 1999). Witnessing family violence also confers increased risk for adolescent depression (Russell, Springer, & Greenfield, 2010). Research in community clinics indicates high rates of interpersonal trauma among referred children and adolescents (Lau & Weisz, 2003), including depressed adolescents (Hammen, Rudolph, Weisz, Rao, & Burge, 1999).

Although cognitive-behavioral therapy (CBT) produces moderate-to-large treatment effects for adolescent depression (Klein, Jacobs, & Reinecke, 2007), four studies have documented diminished effects among adolescents exposed to interpersonal trauma. Specifically, Barbe, Bridge, Birmaher, Kolko, and Brent (2004) found that depressed adolescents with sexual abuse histories were more likely to have a psychiatric hospitalization and depression recurrence at 2 years posttreatment than nonabused peers, even after controlling for maternal depression, race, referral status (referred vs. recruited), and family conflict. Initial treatment response rates were lower among adolescents with a sexual abuse history (33%) than those without (55%), though this difference did not attain statistical significance. Similarly, in a school-based trial of CBT, Shirk, Kaplinski, and Gudmundsen (2009) found that depressed adolescents who had been exposed to trauma showed a significantly lower response rate (54%) compared with those without trauma exposure (73%) at posttreatment. Findings from the Treatment of Adolescent Depression Study (TADS), the largest randomized controlled trial of CBT and pharmacotherapy for adolescent depression, revealed that depression scores remained in the clinical range among sexually abused adolescents treated with CBT, and, among physically abused adolescents, CBT was no more effective than placebo at posttreatment (Lewis et al., 2010). Finally, results from the Treatment of Resistant Depression in Adolescence (TORDIA) trial indicated that adolescents who responded to the addition of CBT to medication were *less* likely to have reported trauma exposure (Shamsedeen et al., 2011).

Taken together, these results indicate that interpersonal trauma exposure complicates the treatment of adolescent depression and dampens the impact of CBT. Therefore, the primary aim of this

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study was to evaluate a modified CBT (m-CBT) protocol specifically designed to treat depressed adolescents with interpersonal trauma histories. Consistent with the CBT model of depression, treatment modification focused on both cognitive deficits and distortions found among youth exposed to interpersonal trauma. An augmentation strategy was used to modify an existing CBT protocol that had been shown to be efficacious in prior clinical trials with depressed adolescents (Rosselló & Bernal, 1999; Shirk et al., 2009).

In terms of cognitive deficits, the m-CBT protocol targeted attention abilities that are important to CBT, such as directing and shifting attention, thinking flexibly, manipulating information in working memory, and self-monitoring (Mohlman & Gorman, 2005). Indeed, CBT places significant demands on such executive function skills by requiring adolescents to monitor mood, attend to automatic thoughts, shift perspectives, and generate alternative cognitions in emotionally evocative situations. These cognitive procedures draw on attention abilities that are likely to be inefficient or compromised in youth exposed to interpersonal trauma. In fact, a growing body of evidence links difficulties in such attention abilities to interpersonal violence exposure in both youth and adults (e.g., DePrince, Weinzierl, & Combs, 2009; Stein, Kennedy, & Twamley, 2002; Samuelson, Krueger, & Wilson, 2012; Spann et al., 2012). Further, attention difficulties are linked with depressive symptoms among individuals exposed to interpersonal trauma (e.g., Hebenstreit, DePrince, & Chu, in press).

Therefore, the first modification to the protocol was to integrate attention training into all treatment modules through mindfulness-based exercises that focused on observing internal and external stimuli, shifting attention, and monitoring skills (DePrince & Shirk, 2013). Mindfulness exercises were not simply added as a separate component, rather they were integrated into each of the three core treatment modules—cognitions (mood monitoring and cognitive restructuring), actions (behavioral activation), and interpersonal relations (see DePrince & Shirk, 2013 for a complete description of the protocol). For example, mindfulness principles were integrated into discussions of links between depression and pleasant activities, as illustrated here by one of the study therapist's comments to a client, "One of the things that happens a lot when we're depressed, is that things that we used to like doing aren't so much fun. And then it makes us more depressed, and we have less motivation to do stuff . . . So when we do activities—we want you to practice doing things mindfully [gives example] . . . doing things and doing things without letting your mind carry you where you're not."

In terms of cognitive distortions, the second modification involved the explicit targeting of trauma-related beliefs. Most CBT protocols for adolescent depression focus cognitive interventions at the level of automatic thoughts and not on maladaptive beliefs that engender negative cognitive responses (Weersing, Rozenman, & Gonzalez, 2009). However, interpersonal trauma exposure is linked with core trauma-related beliefs regarding shame, self-blame, helplessness, and trust. Research demonstrates that trauma-exposed youth develop maladaptive cognitions about themselves, their trauma, and the social world (Lumley & Harkness, 2009; Mannarino, Cohen, & Berman, 1994). In a study of youth exposed to a variety of traumatic or frightening events Meiser-Stedman et al. (2009) found two primary dimensions of trauma-related beliefs: the first involving a sense of permanent and disturbing change to

the self, and the second involving a view of the self as fragile in a dangerous world. Others (Spaccarelli, 1995; Stallard & Smith, 2007) have found that cognitions pertaining to alienation from others, self-blame, and a dangerous future are heightened among trauma-exposed youth, a pattern consistent with findings in the adult literature (DePrince, Zurbriggen, Chu, & Smart, 2010; DePrince, Chu, & Pineda, 2011). Studies have documented links between specific clusters of trauma-related beliefs and depression (DePrince et al., 2011; Lumley & Harkness, 2009).

Although trauma-related material can be identified in automatic thoughts as part of traditional CBT (e.g., "I don't feel safe when I'm alone."), core trauma-related beliefs often remain unexamined (e.g., "I'm damaged by what happened to me."). To address such beliefs, two sessions were devoted to exploring trauma-related cognitions and emotions. Therapists were explicitly directed to use common trauma-related beliefs as examples of maladaptive assumptions and to show how such beliefs could generate negative automatic thoughts. Therapists, then, explored patterns in the adolescent's automatic thoughts for recurrent themes that could reflect a core trauma-related belief. Although therapists could use cognitive restructuring techniques to modify beliefs, mindfulness strategies such as nonjudgmental observation could be used as well (e.g., Segal, Williams, & Teasdale, 2002). For example, a therapist talking with an adolescent client about trauma-related thoughts used the metaphor of automatic trauma-related thoughts as the brain on autopilot: "It's hard for you to not think of things judgmentally . . . and you're working to build your attention muscles so you aren't on autopilot . . ." In another example, the therapist describes "So it's not changing what happened, it's looking at it differently so you have some power to move in a different direction. But if you're beating yourself up about [the stressor being discussed], then you're going down the downward spiral . . . Sometimes when we have those strong thoughts and we blame ourselves and feel bad for ourselves, then we're on autopilot, and we're not [in the here and now]. And when that happens, it's really hard to move forward." After both examples, the therapist worked with the adolescent to notice when they were in autopilot and thereby shift the train of thought: "So you just catch yourself and make a different choice." (For additional examples of therapist/client interchanges, see Table 1.

To evaluate the feasibility, acceptability, and initial treatment impact of the new protocol, a randomized controlled trial comparing m-CBT with usual care therapy (UC) was conducted in two clinics of an urban community mental health center. Because depressed adolescents with interpersonal trauma are frequently treated in community clinics, a *deployment-focused* treatment development strategy was used (Weisz, Jensen, & McLeod, 2004). The aim of a deployment-focused approach is to develop "clinic-ready" treatments by assessing feasibility, acceptability, and potential impact in the context in which they will be implemented. Thus, rather than evaluating the new treatment in a university- or hospital-based specialty clinic with *recruited* adolescents and *study* therapists, the treatment was delivered to *referred* adolescents treated in community clinics by *clinic-based* therapists. Although comparison with standard CBT for adolescent depression was considered, the primary aim of the initial trial was to evaluate feasibility and estimate potential effects before embarking on a large comparative trial designed to detect differences between treatments with shared features.

Table 1  
Major Session Themes for mCBT Protocol

Session number	Session theme	Examples of guiding text from manual for therapists
1	Introduction to Therapy, Depression, and Mindfulness Sources: Kabat-Zinn, 1990; Segal et al., 2002	Depression often causes our minds to go on “autopilot.” Have you ever noticed that you sometimes can’t focus on the things you want to pay attention to (feelings, thoughts, and activities) and sometimes focus too much on things you don’t want to (like negative thoughts). It’s as if our minds are on autopilot and aren’t letting us direct what we want to think, feel, and attend to. Instead, our autopilot minds take us unexpected and often unwanted places! We’re going to use mindfulness to help you get your mind off of autopilot.
2	Mindfulness: Learning to Observe Sources: Kabat-Zinn, 1990; Linehan, 1993; Segal et al., 2002	The first step to stopping autopilot is to notice what we’re thinking and feeling in our minds, bodies and hearts. . . . It can be hardest to build up our attention muscles to notice our thoughts and feelings, so we’re going to start with noticing things around us and in our bodies.
3	Mindfulness of Sights and Sounds: Learning to Describe Sources: Kabat-Zinn, 1990; Linehan, 1993; Segal et al., 2002; Semple et al., 2005	Another way we can end up on autopilot is by letting judging thoughts direct us. For example, if you go to see a concert and think to yourself, “This song is awful” or “The people at this concert are lame,” what are you likely to feel? What are you likely to do? What will those feelings and actions lead you to think? . . . Probably to think more judgmental thoughts. So, we’re back on that autopilot plane again; we wanted to have fun at a concert, but are thinking negative thoughts and feeling bad. So, we’re going to work our attention muscles so that we can notice and then describe things in a neutral nonjudgmental way.
4	Mindfulness Now: Learning to Participate Sources: Linehan, 1993; Segal et al., 2002	When we’re on autopilot, we can be flown to the past or the future—daydreaming, remembering. Sometimes remembering or daydreaming is pleasant; other times, we just think about bad things that happened over and over again or worry about bad things that might happen in the future. It’s like being stuck in a movie with an image of the past (or worry about the future) playing over and over again. That movie can get in the way of seeing and experiencing what is happening in our lives here and now. . . . Our next step is to train our attention muscles to focus on being here and now—not in a movie of the past or future.
5	Mindfulness of Thoughts Sources: Cloitre et al., 2006; Resick & Schnicke, 1996; Segal et al., 2002	Often when we have reactions to events we also have a stream of thoughts that go along with our feelings. These thoughts can occur really fast, and sometimes we don’t even notice them. We call them AUTOMATIC THOUGHTS because they happen so quickly, and without any effort.
6	Noticing Thoughts: Hey, They’re Not Facts! Sources: Cloitre et al., 2006; Resick & Schnicke, 1996; Segal et al., 2002	I know it can be hard to catch negative automatic thoughts (NATS), but they really can turn stressful situations into bad (depressed) moods. We all run into stress, but what we say to ourselves when we do has a lot to do with how we’ll feel.
7	What to Do with All those Fish in the Fish Tank? Sources: Cloitre et al., 2006; Resick & Schnicke, 1996; Segal et al., 2002	You have lots of skills in observing now—we observed colors and sounds. When we observed colors and sounds, we didn’t try to change those colors and sounds; we just noticed they were there. It’s the same with thoughts. We can just notice they are there. We can actually just observe them moving by us. Imagine that your thoughts are fish in a fish tank.
8	Mindfulness of Trauma-Related Thoughts and Emotions Sources: Cloitre et al., 2006	A few sessions ago, we talked about common types of NATS, like mind reading or black and white thinking. Today, we’re going to talk about some NATS that teens who’ve experienced violence and trauma tell us about. These are common NATS in people who have been exposed to violence and trauma. Lots of these NATS are related to feelings we have. For example, teens might feel scared and then a fear-NAT pops in their head (or vice versa).
9	More on Mindfulness of Trauma-Related Thoughts and Emotions Sources: Cloitre et al., 2006; Resick & Schnicke, 1996	For lots of teens, these trauma NATs can set off behaviors that seem helpful in the short run, but really aren’t in the long run. For example, teens might drink more because the NATs set off emotions that are tough to tolerate. Other teens might blow up at girlfriend/boyfriend because the NATs make it seem like it’s impossible to trust other people. What about you?

(table continues)

Table 1 (continued)

Session number	Session theme	Examples of guiding text from manual for therapists
10	Mindfulness of Relationships Sources: Cloitre et al., 2006	Just like when we go on autopilot and our thoughts drive our feelings and behavior, the same thing can happen with thoughts about relationships. For example, if a teen thinks "No one will ever love me because of what happened to me," what is she/he likely to feel? What will he/she do when someone asks them out or when he/she has a fight with a romantic partner?
11	Participating Mindfully in Relationships	We've talked about being mindful to your body language, not getting distracted by NATS when you're focusing on someone else, and so forth. Now let's talk about being mindful in tough social situations, such as X [situation client identified earlier in session]. What strategies can you use to stay mindful during a tough situation like this?
12	Where Have We Come From and Where Do We Go From Here? Staying on Active Pilot!"	Through this treatment you have learned a lot of skills and have done a lot of work that will help you cope with future depression or distress that comes along. What are some things that you can imagine that would get you down again? [Client identifies examples.] What things have you learned that you can do differently this time? Think about all three areas: thoughts, activities, and relationships.

Note. All mCBT sessions drew heavily from the original Adolescent Mood Project (AMP) protocol; additional sources for session content are specified.

## Method

### Participants

All adolescents were referred for outpatient treatment at a large urban community mental health center with two clinics serving children and adolescents. Participants were 43 adolescents (36 females) between the ages of 13 and 17 ( $M = 15.48$ ,  $SD = 1.53$ ). The sample consisted of 49% non-Hispanic Caucasian youth. Hispanic (33%) and African American (38%) youth comprised the largest ethnic/racial minority groups. Eligible adolescents met diagnostic criteria for a depressive disorder (major depressive disorder [ $n = 35$ ], dysthymic disorder [ $n = 3$ ], or depressive disorder—not otherwise specified [ $n = 5$ ]) based on structured diagnostic interview. All eligible adolescents reported at least one incident of physical abuse (49%), witnessing family violence (58%), sexual abuse (67%), and verbal/emotional abuse (47%) in response to a highly structured screening interview. A majority of the sample reported more than one type of interpersonal trauma throughout their lifetime: one type (23%); two types (28%); three or more types (49%). Forty-six percent of the sample met full diagnostic criteria for posttraumatic stress disorder. Fourteen percent of the sample reported using illegal substances at least three times a week.

Participants were excluded if: (1) they were receiving concurrent psychological treatment for depression, (2) attempted suicide within 3 months before intake, (3) engaged in self-injurious behavior that required hospitalization or emergency room treatment within the past 3 months, (4) met diagnostic criteria for bipolar disorder and/or substance dependence disorder, (5) presented with psychotic symptoms or intellectual deficit (i.e., estimated IQ below 70). The pattern of inclusion, exclusion, and allocation is depicted in Figure 1.

### Measures

**Kiddie-Schedule for Affective Disorders and Schizophrenia—Present and Lifetime Version.** The Kiddie-Schedule for Affective Disorders and Schizophrenia—Present and Lifetime

Version (K-SADS-LS) is a semistructured diagnostic interview that generates *DSM-IV* (APA, 2000) diagnoses including major depressive disorder, dysthymic disorder, bipolar disorder, posttraumatic stress disorder, and substance dependence (Kaufman et al., 1997). In the present study, the K-SADS was administered by master's degree level independent evaluators who were naïve to treatment condition. The K-SADS was used to diagnose depressive, posttraumatic stress, substance abuse, and dependence disorders, and to screen for bipolar disorder, suicide attempts, and psychotic symptoms. Based on double scoring of 25 pretreatment interviews, agreement on the presence or absence of a depressive disorder was 92%. Reliability was adequate for type of depressive disorder with a Kappa of .61.

**Trauma Experiences Screening Interview.** An abbreviated version of the Traumatic Events Screening Inventory—Child version (TESI-C) was administered by interview to adolescents to determine presence of prior trauma (National Center for PTSD/Dartmouth Child Trauma Research Group, 1996). The TESI is a structured 24-item scale that uses behaviorally defined items to assess exposure to a variety of events, including injuries, domestic violence, community violence, accidents, physical abuse, and sexual abuse; relationship to perpetrator, as well as age of first, last, and most stressful episode. Cross-informant reliability has been good for parent-child agreement on the measure ranging from 0.64 to 0.79 (Ford et al., 2000; Daviss et al., 2000), and interrater reliability has been good with Kappa's for items ranging from 0.79 to 1.00 (Ford et al., 2000).

**Beck Depression Inventory—Second Edition.** The Beck Depression Inventory—Second Edition (BDI-II), a 21-item self-report measure of depression, was used to assess severity of depressive symptoms (Beck, Steer, Ball, & Ranieri, 1996). The BDI-II is a widely used dimensional measure of depression and has demonstrated good psychometric properties. A significant body of research supports the use of the BDI-II with adolescents (e.g., Kumar, Steer, Teitelman, & Vallacis, 2002). Participants completed the measure at pre- and posttreatment assessments, as well as after completing Sessions 1, 4, 8, and 12. Although prior studies have yielded two- and three-factor solutions with adoles-

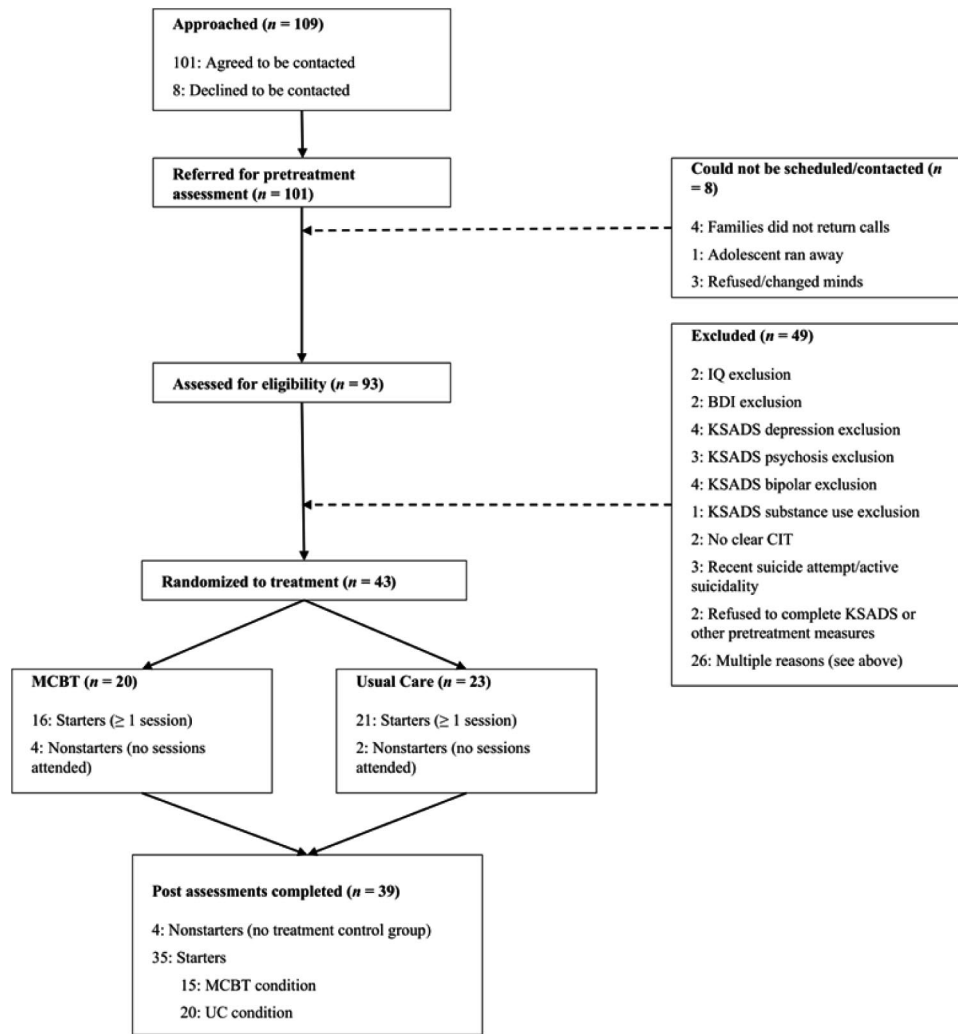


Figure 1. Participant flow from referral to posttreatment assessment.

cents (Steer & Beck, 2000), internal consistency with a large normative adolescent sample was found to be quite high,  $\alpha = .92$  (Osman, Barrios, Gutierrez, Williams, & Bailey, 2008). Benchmark values from the same normative sample indicate a mean of 12.50 and standard deviation of 10.50. Mean BDI-II scores for inpatient adolescents diagnosed with MDD via structured diagnostic interview are 33.00 ( $SD = 13.83$ ) and 32.70 ( $SD = 11.57$ ) for males and females, respectively (Kumar et al., 2002).

**Child Behavior Checklist.** The Child Behavior Checklist (CBCL) is a 118-item caregiver rating scale supported by extensive reliability and validity evidence (Achenbach & Rescorla, 2004). The CBCL was normed on a large nationally representative (U.S.) sample of >2,000 youth between the ages of 4 and 18. Specific norms have been developed for gender and age groups. Factor analyses of the CBCL across diverse cultures have produced highly consistent dimensional structure (Ivanova et al., 2007). Higher-order factor analyses of specific dimensions, for example, anxious depressed or attention problems, consistently yield two broadband factors, internalizing and externalizing symptoms. Given that many clinic-referred depressed adolescents pres-

ent with elevated externalizing symptoms, the CBCL was used to evaluate collateral disruptive behavior problems. The CBCL was completed by the adolescent's mother or guardian at pre- and posttreatment. Scores are reported as *T* scores based on gender and age norms. *T* score of 70 represents the clinical cutoff.

**Similarities and Block Design.** Verbal intelligence was estimated with the Similarities subtest of the Weschler Adult Intelligence Scale-IV or the Weschler Intelligence Scale for Children-IV. Scores from the Similarities subtest are positively correlated with verbal IQ, and provide a brief screen for verbal conceptual ability. Because the sample included a subgroup of adolescents for whom English was not the primary language spoken at home, similarities subtest was supplemented with the Block Design subtest if an adolescent scored <7 on Similarities. Adolescents (5) were included if the average of Similarities and Block Design was >7.

**Therapy Process Observational Coding System—Strategies Scale.** The Therapy Process Observational Coding System—Strategies Scale (TPOCS-S) was used to evaluate therapist interventions in the UC condition (McLeod & Weisz, 2010). Strategies from five subscales were coded—psychodynamic, cognitive, be-

havioral, client-centered, and family systems—on a 7-point extensiveness scale, that is, the extent to which the therapist used a strategy during a session (1 = none/not used to 7 = extensively used). A mindfulness strategies subscale was added to evaluate treatment differentiation. One session from the early (Sessions 1–4), middle (Sessions 5–8), and late phases (Sessions 8–12) of treatment were randomly selected from each case for coding. If adolescents completed <8 sessions, three sessions were randomly selected from early, middle, and late phases based on dividing the total sessions into thirds. Thirty-five percent ( $n = 53$ ) of all UC therapy sessions were coded. Coding of digital audio recordings was completed by two advanced doctoral candidates in clinical psychology. The primary coder was trained to reliability by the scale developer (B. McLeod). Reliability analyses demonstrated adequate interrater reliability with ICCs as follows: Cognitive = .59; Behavioral = .66; Psychodynamic = .67; Family = .74; and Client-Centered = .63.

**Adherence Checklist for m-CBT.** To evaluate therapist adherence to the m-CBT protocol, an adherence checklist was adapted from the adherence checklist developed for the original CBT protocol (Shirk et al., 2009). Core treatment elements, including new mindfulness-based elements, were listed for each session. Graduate-level coders evaluated whether elements were covered during sessions (yes/no, 1/0) from digital audio recordings. For participants who attended fewer than five sessions ( $n = 7$ ), two sessions were randomly selected; for those who attended five or more sessions, three sessions were randomly selected. A subset of double-coded sessions (50%;  $n = 26$ ) demonstrated good interrater reliability (ICC = .86).

**Client Satisfaction Questionnaire.** The 8-item Client Satisfaction Questionnaire (CSQ) assesses client satisfaction with clinical services (Larsen, Attkisson, Hargreaves, & Nguyen, 1979). Scores range from 8 to 32, with higher scores indicating greater satisfaction. The CSQ-8 has been widely used in studies of medical and psychological services (Frager et al., 1999). In this study, the internal consistency was Cronbach's alpha = .89. Adolescents completed the CSQ-8 at posttreatment. In a study with depressed adults, mean satisfaction score for CBT was 29.91, with a standard deviation of 3.09.

**Treatment Evaluation Inventory.** The Treatment Evaluation Inventory (TEI) was used to assess treatment acceptability at posttreatment (Kazdin, 1981). The scale consists of 15 acceptability items reflecting the degree to which treatment procedures are viewed as fair, appropriate, and reasonable. Scores range from 15 to 45, with higher scores indicating greater acceptability. Scale development and validation are reported in Kazdin (1980). Adolescents completed the TEI at posttreatment. The internal consistency of the scale in this study was  $\alpha = .94$ .

## Treatments, Sites, and Therapists

**Treatments.** The m-CBT protocol was a 12-session, manual-guided, individual therapy for depressed adolescents with interpersonal trauma histories (DePrince & Shirk, 2013). The treatment retained the core structure of the original CBT protocol (Rosselló & Benal, 1999; Shirk et al., 2009), with modules focused on mood and cognition, mood and activities, and mood and interpersonal relationships. Core CBT elements including mood monitoring, cognitive restructuring, relaxation training, activity scheduling,

and interpersonal problem-solving were augmented with mindfulness exercises and applications across all session. The treatment emphasized applying mindfulness-based strategies such as taking a nonjudgmental stance of observing, describing, and tolerating trauma-related emotions and cognitions (Linehan, 1993). These mindfulness-based strategies were hypothesized to improve self-monitoring and attention to cognitions, emotions, and behaviors, as well as attention to living in the presents (as opposed to ruminating about past events). The m-CBT protocol included explicit instruction for therapists to address cognitions related to the experience of interpersonal trauma. Table 1 provides an outline of session topics (See DePrince & Shirk, 2013, for a more detailed comparison with the original CBT protocol).

UC therapists agreed to use treatment strategies and procedures that they regularly used and believed to be effective in their clinical practice. UC therapists described themselves to be eclectic, with client-centered, psychodynamic, and family interventions favored. Treatment implemented in the UC condition did not follow a specific manual and was based on therapists' case formulations. UC sessions were coded with the TPOCS-S to characterize treatment strategies and to ensure differentiation from m-CBT.

Across both treatments, sessions were scheduled for once a week. Neither treatment was time-limited; adolescents could continue in either treatment after completing the research assessment at 16 weeks. Nine adolescents continued therapy in UC and eight continued in m-CBT. Sessions completed during the first 4 months were designated as the acute phase of treatment. Aside from the first session, all m-CBT sessions were conducted with individual adolescents; UC therapists were free to include other family members as they deemed clinically appropriate. Therapists in both conditions could refer adolescents for medication consultation at any point during the acute phase of treatment. Medication prescriptions were assessed through adolescent report at posttreatment. No adolescent in the randomized sample initiated therapy on antidepressant medication. Therapists in both conditions were informed of each adolescent's depression diagnosis and interpersonal trauma history before initiating therapy.

**Sites.** Therapists delivered m-CBT and UC treatments in two outpatient clinics of a community mental health center in a large ethnically diverse urban city in the Rocky Mountain west. The center is one of the largest mental health agencies in the metropolitan area, serving an economically and ethnically diverse population. The center offers a diverse range of clinical programs, including one focused on outpatient therapy for children, adolescents, and families at two clinics (north and south). Because of clinic location, the north clinic served a larger percentage of Latino/Hispanic clients than the south clinic. Both m-CBT and UC were delivered at each clinic.

**Therapists.** The m-CBT and UC treatments were implemented by four clinic-based therapists. Therapists were not randomly assigned to treatment condition but volunteered to deliver either m-CBT or UC. The m-CBT condition was delivered by two therapists (one male, doctoral-level psychologist with 28 years of clinical experience; one female, masters-level therapist with 10 years of experience). Therapists in the UC condition were two female doctoral-level psychologists (with 3 and 4 years of clinical experience, respectively). Therapists in the m-CBT condition had more general clinical experience, but m-CBT therapist neither had prior training with mindfulness-based strategies nor with the orig-

inal adolescent CBT protocol. Therapists in the m-CBT condition completed a 1-day workshop, conducted by an expert in mindfulness-based interventions (Elizabeth Roemer, PhD) and the treatment developers (Anne P. DePrince and Stephen R. Shirk). The workshop covered basic CBT principles, the components of m-CBT including practice with mindfulness exercises. Therapists in the m-CBT condition each completed a practice case under supervision (Anne P. DePrince) before the start of the clinical trial. During the trial, they received 1 hr of weekly supervision by Anne P. DePrince. UC therapists were supervised by the clinic team leader, consistent with clinic practices, which included weekly group supervision and individual consultation on an as needed basis. Specific case supervision for research clients was more targeted and frequent in the m-CBT condition.

**Procedures**

Before initiation of the clinical trial, all procedures were approved by the institutional review board at the University of Denver and the community clinic review board. Intake clinicians at the community clinics identified potential study participants during standard intake interviews. If symptoms of depression were among the presenting problems, the family was informed of their eligibility to participate in the study. The parent/guardian of the adolescent was then asked to provide consent to be contacted by research staff. Subsequently, participants and their parent/guardian were invited to a complete a pretreatment research assessment at the community clinic with an independent evaluator. This assessment evaluated all inclusion and exclusion criteria including presence of both a depressive disorder and prior trauma exposure.

Adolescents who met study inclusion criteria were assigned to treatment condition using a stratified randomization procedure with gender as the stratification variable. Clinicians were assigned based on clinic location, that is, there was one m-CBT and one UC therapist at each clinic location. Adolescents completed the BDI-II following Sessions 1, 4, 8, and 12. All Treatment sessions in both conditions were audio-recorded to evaluate treatment adherence and differentiation. Posttreatment assessments were completed 16 weeks after the first therapy session. At 16-week assessment, the adolescent completed the *K-SADS* depression and PTSD modules as well as the BDI-II and measures of treatment satisfaction and acceptability, with an independent evaluator. Adolescents and their parents were compensated for completion of pre- and 16-week assessments (US \$25 for each assessment).

**Results**

**Analysis Overview**

Planned analyses proceeded in four steps. Preliminary analyses were conducted to ensure treatment group comparability. Potential confounding variables were identified and their associations with primary outcomes were tested. Second, adolescents with missing posttreatment data were compared with those with posttreatment data on demographic, diagnostic/symptom, and treatment variables. Third, therapist differences were evaluated for the primary outcome variables, change in BDI-II scores, and change in depression diagnosis (remitted vs. retained). Finally, treatment effects were evaluated for the primary outcome variables. All treatment

effects were evaluated with the “intent-to-treat” sample ( $N = 43$ ) using either full maximum likelihood estimates and/or last-observation-carried forward methods.

**Group Comparability**

To examine the effectiveness of the stratified randomization design, pretreatment demographic, diagnostic/symptom, and treatment variables were compared across treatment conditions. Potential differences were assessed with *t tests* for continuous variables and  $\chi^2$  for categorical variables. Pretreatment descriptive data by treatment condition are presented in Table 2.

Two group differences attained statistical significance. A greater proportion of adolescents in m-CBT compared with UC were treated at the south clinic, and conversely, a greater proportion of adolescents in the UC compared with the m-CBT condition were treated at the north clinic,  $\chi^2(1) = 3.91, p < .05$ . Follow-up analyses revealed no significant clinic effects for depression outcomes, change on the BDI-II,  $t(1,40) = .99, p = .33$ , or depression diagnosis,  $\chi^2(1) = 1.83, p = .18$ . Second, a greater proportion of adolescents in the m-CBT compared with the UC condition were prescribed psychotropic medication,  $\chi^2(1) = 5.78, p < .01$ . Follow-up comparison of adolescents who were prescribed medication with those who were not showed no differences on depression outcomes for either change in BDI-II scores,  $t(1,30) = .11$ ,

Table 2  
*Pre and Post Characteristics by Treatment Condition*

Characteristic	m-CBT ( $n = 20$ )	UC ( $n = 23$ )
Age (yr)	15.25 (1.52)	15.69 (1.55)
% Female	85.00	82.61
% Ethnic minority	55.00	47.83
Pre-BDI-II	29.85 (10.56)	32.21 (12.99)
Post-BDI-II*	21.35 (11.62)	19.38 (13.47)
% MDD diagnosis (pre)	80.00	83.71
% Remitted Dep. Dx (post)	50.00	48.00
% PTSD diagnosis	30.00 <sup>a</sup>	60.87 <sup>b</sup>
% Sexually abused	66.66	68.18
% Physically abused	60.00	40.90
% Emotionally abused	55.00	42.80
% Witnessed domestic violence	65.00	54.50
Number of trauma types	2.80 (1.20)	2.45 (1.26)
Externalizing <i>T</i> score	68.00 (8.82)	65.65 (10.81)
Similarities	8.25 (1.86)	8.65 (2.21)
Number of sessions	5.53 (4.44)	6.22 (3.99)
% South clinic	65.00 <sup>a</sup>	34.70 <sup>b</sup>
% Prescribed medication	58.30 <sup>a</sup>	22.22 <sup>b</sup>

*Note.* % Female = percentage of female participants; % Ethnic minority = percentage of ethnic minority participants; Pre-BDI-II = pretreatment Beck Depression Inventory, second edition score; Post-BDI-II\* = posttreatment Beck Depression Inventory second edition, Last Observation scores; % MDD diagnosis = percentage with major depressive disorder diagnosis; % Remitted Dep. Diagnoses post = percentage who remitted all depressive diagnoses at posttreatment; % PTSD = percentage with post-traumatic stress disorder diagnosis; % Sexually abused = percentage of sexually abused participants; % Physically abused = percentage of physically abused participants; % Emotionally abused = percentage of emotionally abused participants; % Witnessed domestic violence = percentage who witnessed domestic violence; % South clinic = percentage treated at the south clinic; % Prescribed medication = percentage prescribed psychotropic medication.

<sup>a,b</sup> Significant group difference.

$p = .92$ , or depression diagnosis,  $\chi^2(1) = .81, p = .37$ . The percentage of adolescents who met full diagnostic criteria for PTSD varied across groups but did not attain statistical significance ( $p = .07$ ), with the UC group containing a larger percentage. Comparisons of depression outcomes showed a significant effect of PTSD diagnosis on change in depressive symptoms,  $t = 2.39, p = .03$ , but not for change in depression diagnosis,  $\chi^2 = .534, p = .46$ . Results indicated that youth with a PTSD diagnosis showed greater depressive symptom reduction ( $M_{chg} = 15.84, SD = 15.09$ ) than those who did not meet criteria for PTSD ( $M_{chg} = 6.34, SD = 10.53$ ).

### Missing Data

Of the 43 randomized participants, seven were missing 16-week outcome data (four in m-CBT and three in UC). To evaluate potential bias introduced by missing data, comparisons were conducted between participants missing or not missing posttreatment data. Across pretreatment demographic, diagnostic/symptom, and treatment variables, only one difference attained statistical significance—number of sessions completed— $t(41) = 4.23, p < .001$ . Those missing outcome data attended fewer sessions ( $M = 1.83, SD = 2.23$ ) than those who were not missing data ( $M = 6.65, SD = 3.35$ ). Number of completed sessions was not related to change in depressive symptoms ( $r = .01$ ) or diagnostic status ( $r = .08$ ).

### Therapist Differences

Therapist differences were evaluated by comparing mean change from pre to post (16 week) treatment on the BDI-II and change in depression diagnosis (retained vs. remitted) across the four therapists. A one-way analysis of variance yielded no significant differences across therapists for change in depressive symptoms,  $F(3, 40) = .92, p = .45$ , and a  $\chi^2$  showed no differences in change in diagnostic status,  $\chi^2(3) = 3.32, p = .35$ . There was a marginal difference for change in PTSD diagnostic status,  $\chi^2(3) = 7.38, p = .06$ ; one therapist in the m-CBT condition showed a 64% remission rate whereas the other three therapists were all above 92%.

### Treatment Adherence, Differentiation, and Dose

Results indicated that m-CBT was delivered with a high degree of adherence to the treatment protocol; across all m-CBT cases, 86% of all coded treatment elements were delivered as specified by the manual ( $SD = .14$ ; range = .58–1.00). Based on coding of UC sessions with the TPOCS-S, results revealed limited use of most therapeutic strategies except for client-centered techniques. Descriptive statistics of TPOCS-S extensiveness ratings were—*client-centered* ( $M = 5.33, SD = 0.97$ ); *cognitive* ( $M = 1.46, SD = .91$ ); *behavioral* ( $M = 1.56, SD = 1.07$ ); *psychodynamic* ( $M = 2.03, SD = 1.09$ ); and *family* ( $M = 1.41, SD = 1.03$ ). As anticipated, the UC condition included strategies from multiple approaches, but most were minimally applied. In terms of treatment differentiation, there was no evidence of mindfulness-based interventions in the UC condition ( $M = 1.00, SD = 0.00$ ), and as indicated by TPOCS scores, the use of cognitive and behavioral strategies was minimal. Finally, with regard to treatment dose, as

shown in Table 2, number of sessions completed did not differ significantly by condition,  $t(1,38) = .51, p = .61$ .

### Depression Outcomes

A repeated measures linear mixed-effects model was applied specifying condition and the linear effects of time and their interactions as factors and controlling for the main effects of clinic and pretreatment BDI-II score. BDI-II scores from pretreatment, Sessions 1, 4, 8, 12, and posttreatment were examined. Owing to the limited number of males in the sample (7) and the fact that no males had observations for Sessions 8 or 12 in the m-CBT group, only data from females were analyzed. A reevaluation of group comparability revealed no significant differences between treatment conditions for females except for clinic at the trend level  $F(1, 35) = 1.72, p = .19$ . Based on Akaike's Information Criteria, the best fitting error–covariance structure was an ar(1) structure for time. In the process of determining the best fitting error–covariance structure for the model, we considered modeling the error–covariance structure for clinic as a random effect; however, this did not result in a significant variance term ( $p = .24$ ), and it reduced the fit of the model. Contrast analysis was applied to the estimates from this model to test for treatment condition effects and tested linear contrast.

For scores on the BDI-II, no significant effects were observed for clinic [ $F(1, 45) = 2.65, p = .12$ ], treatment group [ $F(1, 54) = .09, p = .78$ ], or the interaction of treatment group with time [ $F(5, 128) = 1.80, p = .12$ ]. Pretreatment BDI-II score was a significant covariate  $F(1, 52) = 30.67, p < .001$ . The pattern of change in BDI-II scores by treatment group is presented in Figure 2.

To include all adolescents, a repeated measures analysis of variance with both males and females was computed with pre and post BDI-II scores (see Table 2). Last-observation-carried-forward (LOCF) was used for missing posttreatment BDI-II scores. Consistent with the results from the mixed-effects model, there was no

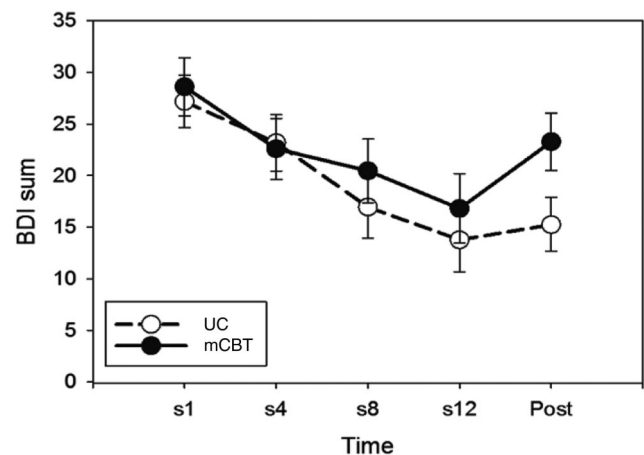


Figure 2. Depression symptoms over the course of treatment by condition. Note: Estimated means and standard deviations for female participants: Session 1: UC<sub>mean</sub> = 27.18 (2.55); mCBT<sub>mean</sub> = 28.61 (2.79); Session 4: UC<sub>mean</sub> = 23.18 (2.73); mCBT<sub>mean</sub> = 22.59 (2.95); Session 8: UC<sub>mean</sub> = 16.95 (3.01); mCBT<sub>mean</sub> = 20.47 (3.08); Session 12: UC<sub>mean</sub> = 13.76 (3.08); mCBT<sub>mean</sub> = 16.81 (3.36); Posttreatment (16 weeks): UC<sub>mean</sub> = 15.24 (2.62); mCBT<sub>mean</sub> = 23.28 (2.77).



significant effect for condition [ $F(1, 42) = .06, p = .81$ ] or time-by-condition interaction [ $F(1, 42) = 1.76, p = .19$ ]. The between-group effect size at posttreatment was  $d = .16$ , slightly, but not reliably, favoring UC  $t(42) = 1.27, p = .18$ . The effect for time was significant,  $F(1, 41) = 27.20, p < .001$ , reflecting symptom reduction in both groups over time. Inclusion of clinic and medication status as covariates did not change these results, and neither covariate was a significant predictor of outcome [ $F(1, 41) = .15, p = .76; F(1, 41) = .24, p = .84$  respectively]. On average between pre- and posttreatment, BDI-II scores dropped by 12.83 points ( $SD = 15.06$ ) in the UC condition and 8.50 ( $SD = 11.10$ ) in the m-CBT condition. Based on normative adolescent data (Osman et al. (2008), these changes represent pre-post  $z$  change scores of 1.22 and .81 for UC and m-CBT, respectively. Inclusion of PTSD total symptoms as a covariate produced a significant time by covariate interaction,  $F(1, 40) = 8.84, p < .005$ ; however, inclusion of this covariate did not result in a significant time by condition effect,  $F(1, 40) = .336, p = .57$ .

Fisher's exact test was used to assess the effect of treatment on depression diagnosis at posttreatment. For depression diagnosis, treatment condition was not differentially associated with remission status ( $p = .92$ ). Diagnostic remission rates for the full sample were 48% for UC and 50% for m-CBT.

### Treatment Satisfaction and Acceptability

A multivariate analysis of variance was used to evaluate group differences on the CSQ and TEI. In this analysis, data from adolescents ( $N = 36$ ) who completed the posttreatment assessment were used. Preliminary analyses showed that adolescents who completed posttreatment assessments did not differ from those who did not on all demographic ( $ps > .19$ ) and diagnostic/symptom ( $ps > .53$ ) variables, with the exception of number of treatment sessions completed ( $p < .007$ ). Early dropouts are underrepresented in these analyses.

Results indicated that m-CBT and UC groups did not differ on client satisfaction as measured by the CSQ or treatment acceptability as measured by the TEI,  $F(2, 31) = .02, p < .98$ . The magnitude of difference on the CSQ and TEI was negligible; for the CSQ, the m-CBT mean was 26.75 ( $SD = 4.19$ ) and the UC mean was 26.95 ( $SD = 4.03$ ). For the TEI, the m-CBT mean was 39.36 ( $SD = 5.89$ ) and the UC mean was 38.16 ( $SD = 8.94$ ). On average, these scores reflect relatively high satisfaction and acceptability in both conditions.

### Discussion

The primary aims of this study were to evaluate the feasibility, acceptability, and initial impact of a CBT protocol designed specifically for depressed adolescents with histories of interpersonal trauma. Prior research has shown dampened response to CBT in this important subgroup of depressed teens (Barbe et al., 2004; Lewis et al., 2010; Shirk et al., 2009). In an effort to address specific cognitive impairments found in this subgroup, an efficacious CBT protocol was modified by integrating mindfulness-based interventions to address attention abilities and by targeting trauma-related cognitions (DePrince & Shirk, 2013).

Results were mixed with regard to treatment feasibility. On the one hand, community clinicians delivered the new treatment with

a high degree of adherence to the manual. The combination of a 1-day workshop, a detailed manual, a supervised practice case, and ongoing weekly supervision appeared to provide a good foundation for successful treatment implementation. On the other hand, adolescent treatment attendance often was sporadic. On average, adolescents completed only about half of the planned m-CBT sessions. Sporadic attendance and early attrition have been identified as major obstacles to effective treatment delivery in community clinics serving children and adolescents (Kazdin & Wasell, 1999). Only two adolescents treated with m-CBT completed the full protocol. A similar pattern of attendance and completion characterized UC therapy, suggesting that lack of attendance in m-CBT was not owing to problems with the acceptability of the new intervention. In fact, both treatments received positive acceptability ratings from adolescents. Instead, the pattern of poor attendance documented across both groups is consistent with previous research demonstrating that poverty, minority status, and difficult life circumstances are associated with early attrition (Armbruster & Kazdin, 1994). Feasibility might be improved by distilling core interventions into a briefer protocol or by delivering m-CBT in a different context (e.g., in school-based clinics) where treatment barriers might be lower. Alternatively, the current protocol could be augmented with interventions aimed at improving attendance (Nock & Kazdin, 2005).

Despite relatively poor treatment attendance, adolescents reported high levels of treatment satisfaction and acceptability. Both m-CBT and UC were seen as reasonable, relevant, and appropriate by adolescent clients. High acceptability ratings for m-CBT are promising in that they indicate that adolescents viewed mindfulness-based interventions as relevant and potentially useful; however, because adolescents who dropped out early were less likely to report on acceptability and satisfaction, results could be somewhat positively biased. Nonetheless, the divergence between treatment satisfaction/acceptability and attendance is quite striking, and probably reflects the fact that parents and guardians play a major role in session attendance with youth (Hawley & Weisz, 2005). Although parent/guardian ratings of satisfaction and acceptability were not assessed in this study, it is possible that parents/guardians viewed treatment as less acceptable than adolescents because their involvement in sessions was minimal. The addition of a parent/guardian component could potentially enhance parent/guardian "buy in" and lead to improved attendance.

Changes in depressive symptoms and diagnostic status were the primary indicators of treatment impact. Over the 16-week acute phase of treatment, there were significant reductions in depressive symptoms in both treatment groups. From pre- to posttreatment, BDI-II scores changed by approximately one standard deviation unit, a large effect; however, symptom reduction did not differ across treatment groups. Similarly, diagnostic remission rates did not differ by group. Approximately half of treated adolescents in both conditions no longer met diagnostic criteria for any depressive disorder at the end of the acute phase of treatment. This percentage is higher than remission rates following treatment with pill placebo in prior clinical trials for adolescent depression (Cheung, Emslie, & Mayes, 2006). In fact, the remission rate in m-CBT was quite similar to the average response rate (51%) found in CBT efficacy trials (Shirk et al., 2009).

The absence of treatment effects for depression outcomes is consistent with findings from several CBT effectiveness trials. For

example, Kerfoot, Harrington, Harrington, Rogers, and Verduyn (2004) found that depressed adolescents treated in community settings with brief CBT showed similar levels of posttreatment depressive symptoms as adolescents treated with usual care methods. Similarly, in an effectiveness trial comparing usual care pharmacotherapy with pharmacotherapy plus CBT, Clarke, DeBar, Lynch, and colleagues (2005) found only minimal differences in depression outcomes across treatment conditions. Finally, results from an effectiveness trial comparing CBT with UC in urban public clinics failed to produce differences in depression outcomes for children and young adolescents (Weisz et al., 2009). Results from the current study reveal a similar pattern; youth treated with CBT show significant reductions in depressive symptoms over time, but the gains do not exceed the benefits of UC.

This pattern of findings is discrepant from results obtained in most efficacy trials of CBT for adolescent depression (Klein et al., 2007). There are several possible reasons for the discrepancy. One likely reason is that youth treated in community clinics differ significantly from those treated in research trials. Although research suggests that these groups may be comparable in terms of symptom severity and number of comorbid disorders, type of co-occurring problems may differ. For example, in efficacy studies that have evaluated the impact of trauma exposure on outcome, only a minority of youth report trauma histories. In community clinics, the percentage is much higher. Similarly, rates of co-occurring externalizing problems tend to be lower in efficacy trials for depressed adolescents than rates found in community-based studies (Shirk et al., 2009). In this study, the average level of disruptive problems was highly elevated and in the upper end of the borderline clinical range.

A recent effectiveness trial comparing standard manual-guided CBT with UC and flexible modular cognitive and behavioral therapy showed that the modular approach outperformed both standard CBT and UC, whereas standard CBT did not outperform UC (Weisz et al., 2012). The results suggested that therapist ability to flexibly use cognitive and behavioral interventions may be critical for treating multiproblem youth in community clinics. Therapists in the current study delivered a standard CBT protocol with high fidelity, and the modified protocol was adapted to address co-occurring problems, but therapists were not permitted to alter the content or sequencing of sessions.

Importantly, many adolescents received a relatively low dose of CBT in this study. Although number of sessions completed did not differ across conditions, sporadic and limited attendance might have contributed to diminished CBT response. In fact, some of the discrepancy between current results and results obtained with initial pilot cases (DePrince & Shirk, 2013) are likely to reflect substantial differences in number of sessions completed. Given the average number of sessions attended in the current study, 65% did not participate in sessions that explicitly targeted trauma-related beliefs. Consequently, a core CBT component, and one of the key modifications to the treatment protocol, was not delivered to a majority of adolescents.

Despite low doses of treatment, it is important to remember that both groups showed significant reductions in depressive symptoms. A prior benchmarking study suggested that the trajectory of change in UC therapy for adolescent depression followed the same pattern as treatment controls in efficacy trials (Weersing & Weisz, 2002). Yet results from this study suggest that UC may be more

effective than once believed. Similar to m-CBT, UC outcomes were within the confidence interval for change scores in prior CBT efficacy trials for adolescent depression (Shirk et al., 2009). The magnitude of change from pre- to posttreatment exceeded a standard deviation unit. In the current study, UC largely consisted of client-centered strategies combined with low levels of psychodynamic, family, cognitive, and behavioral interventions. Overall, UC fits the profile of an eclectic, supportive therapy. It is possible that the provision of support and validation in the context of eliciting emotional reactions may represent active therapeutic processes for depressed adolescents. A prior comparative outcome study showed that client-centered therapy produced reductions in depressive symptoms among adolescents (Brent et al., 1997). In the context of high degrees of family conflict and trauma as well as other adversities (e.g., poverty, inconsistent/changing caregivers) confronted by participants in the current study, emotional validation in the context of a safe and consistent relationship with an adult may be especially important.

The m-CBT protocol was designed to address adolescent depression in the presence of exposure to interpersonal trauma. Prior studies have revealed less favorable response to CBT among youth in this important subgroup. Results from the current community-based trial were disappointing in that outcomes were no more positive than results obtained in a prior CBT trial that included a large subsample of youth with trauma histories (Shirk et al., 2009). In fact, the prior study used the original protocol that was modified for this trial. Yet, it seems premature to conclude that treatment modifications are no more effective than standard CBT. Two important features distinguish the current study from the prior CBT trial; in the prior study, treatment was offered in school-based, rather than community clinics. Consequently, more adolescents completed treatment in the prior trial. Second, the trauma subgroup in the original study included youth with interpersonal and noninterpersonal trauma, for example, auto accidents or natural disasters. A direct comparison between m-CBT and standard CBT is needed to determine whether treatment modifications are beneficial to depressed trauma-exposed adolescents. In addition, given the reduction in depressive symptoms in the UC condition, it could be fruitful to examine *how* therapists addressed trauma material to strengthen UC.

Although this study had a variety of strengths, including high treatment adherence, reliable diagnostic assessment, and an ethnically diverse sample treated in usual service settings, a number of limitations must be addressed. First, therapists were not randomized to treatment condition. In fact, m-CBT therapists were more experienced than UC therapists. Although there were no therapist differences in outcome, it is possible that more experienced UC therapists could have produced better outcomes than the less experienced clinicians who participated in the study. Second, other factors appeared to “stack-the-deck” in favor of the m-CBT condition. As is common in effectiveness trials, therapists in the experimental condition (m-CBT) received a greater amount of highly targeted supervision for their cases than did UC therapists. Additionally, more youth in the m-CBT condition were prescribed antidepressant medication than those in UC therapy. Although the latter did not contribute to outcome, low levels of less targeted supervision might limit the effectiveness of UC and produce an underestimation of its potential effects. In brief, more than treatment approaches are compared in most effectiveness trials, includ-

ing this one. Future studies should ensure comparable levels and quality of supervision across treatments. Third, only two therapists delivered each type of treatment. Under these circumstances, it is difficult to separate the impact of treatment from the unique contribution of therapists. For example, it is not clear whether m-CBT adherence might have been as high with a greater number of therapists, or if the nature of UC therapy would have been different with a broader range of community clinicians. Fourth, small sample size significantly constrained our ability to evaluate potential moderators of treatment response. For example, analyses based on type of trauma exposure were not feasible. We did, however, examine the potential contribution of PTS symptoms to outcome, in part, because more youth in UC than m-CBT met full criteria for PTSD, and results indicated that collateral PTSD was associated with outcome. Surprisingly, youth with co-occurring PTSD showed *larger* reductions in depressive symptoms than those with lower levels of PTS symptoms. Therapists in both conditions were informed about trauma and collateral PTS symptoms before initiating therapy, and it is possible that therapists in both conditions focused on trauma material to a greater extent in the presence of a collateral PTSD diagnosis.

In conclusion, consistent with other effectiveness trials, both UC and m-CBT were associated with significant reductions in depressive symptoms and both treatments were viewed as acceptable by adolescents. Both treatments, however, were delivered at low doses. In the case of m-CBT, one of the key modifications to the CBT protocol was infrequently delivered as a result of early attrition. Efforts to improve outcomes for depressed trauma-exposed adolescents who are frequently treated in community clinics will need to address the problems of sporadic attendance and early attrition. Further work will need to be done to determine whether the specific modifications in the m-CBT treatment model improve the effectiveness of CBT for depressed trauma-exposed adolescents.

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### Correction to Laurensen et al. (2013)

In the article “Feasibility of Mentalization-Based Treatment for Adolescents With Borderline Symptoms: A Pilot Study” by Elisabeth M. P. Laurensen, Joost Hutsebaut, Dine J. Feenstra, Dawn L. Bales, Marc J. Noom, Jan J. V. Busschbach, Roel Verheul, and Patrick Luyten (*Psychotherapy*, Advanced Online Publication, September 23, 2013. doi: 10.1037/a0033513), the order of authorship was listed incorrectly. All versions of this article have been corrected.

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