Cognitive Trauma Therapy for Battered Women: Replication and Extension

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Objective: To replicate and extend findings from a previous controlled trial of Cognitive Trauma Therapy for Battered Women (CTT-BW; Kubany et al., 2004), the current study presents data on the treatment of 8 women with PTSD related to intimate partner violence (IPV). Method: CTT-BW was administered weekly, using the manual provided by Kubany and a multiple baseline across participants design. Participants were assessed for PTSD and depression, as well as secondary outcomes. Results: Significant decreases from pre- to posttreatment were noted in PTSD (Hedges g = 1.90) and depression (Hedges g = 1.52), the primary outcomes. Obtained effect sizes for PTSD and depression can be classified as large. Anxiety, self-esteem, and quality of life improved significantly during the pre- to posttreatment interval. Conclusions: Results are discussed in light of treatment needs for women with PTSD related to IPV and the potential for CTT-BW to be used in diverse settings.

Keywords: CTT-BW, domestic violence, intimate partner violence, PTSD, treatment

Intimate partner violence (IPV) is a major public health problem in the United States, with an estimated 25% of women experiencing IPV at some point during their lives (Breiding, Black, & Ryan, 2008). IPV involves “physical violence, sexual violence, stalking and psychological aggression (including coercive tactics) by a current or former intimate partner” (Breiding, Basile, Smith, Black, & Mahendra, 2015, p. 11) and often is followed by increased medical, psychological, and social impairment (Browne, Salomon, & Bassuk, 1999; Dutton et al., 2006). Although men and women both experience IPV, emphasis has been placed on women’s adaptation following IPV, given their higher likelihood of physical and psychological injury. Women who have experienced IPV may be less able to work and less likely to seek education, owing to ongoing mental health problems (e.g., Riger & Stags, 2004). As a result, they may rely on public assistance or continue working in low-paying jobs (Lloyd & Taluc, 1999). Longitudinal studies indicate that mental health problems are long-standing following IPV (e.g., Sutherland, Bybee, & Sullivan, 1998), particularly posttraumatic stress disorder (PTSD). Fortunately, effective treatments have been developed for PTSD. In this article, we present data on the treatment of PTSD related to IPV using an evidence-based treatment developed for community-dwelling female IPV survivors.

PTSD is a well-recognized outcome of trauma exposure. This disorder is characterized by reexperiencing symptoms (e.g., involuntary memories about the trauma), avoidance symptoms (e.g., effortful attempts to stay away from trauma reminders), negative alterations in cognitions and mood (e.g., exaggerated negative beliefs about oneself or the world), and hyperarousal (e.g., easily startled; American Psychiatric Association, 2013). A meta-analysis suggests that approximately 64% of women who have experienced IPV report very high levels of PTSD symptoms (Golding, 1999). Perez and Johnson (2008) have documented that PTSD symptoms set the stage for a downward spiral in IPV victims, which includes loss of social support from family and friends and failure to seek help from community resources. Related research indicates that these symptoms tend to be long-lasting (Mertin & Mohr, 2001) without effective treatment. Fortunately, significant progress has occurred in the treatment of PTSD in the past two decades (Institute of Medicine, 2008). Several well-tested interventions are available for PTSD, including Prolonged Exposure (PE; Nayak, Powers, & Foa, 2012) and Cognitive Processing Therapy (CPT; Chard, Schuster, & Resick, 2012). Both PE and CPT are evidence-based treatments (Department of Veterans Affairs/Department of Defense, 2010; Institute of Medicine, 2008). PE focuses primarily on reducing avoidance, with extensive reliance on imaginal and in vivo exposure conducted within and outside of therapy sessions. CPT focuses primarily on dysfunctional thoughts and beliefs stemming from the trauma and also includes homework assignments conducted in the patient’s day-to-day environment. Both PE and CPT are designed to be administered by mental health professionals, with considerable training required. Elements from both PE and CPT are incorporated into a treatment protocol for PTSD related to IPV, Cognitive Trauma Therapy for Battered Women (CTT-BW; Kubany, Hill, & Owens, 2003; Kubany & Ralston, 2008). This treatment is designed for community-dwelling women who have PTSD related to IPV exposure, are no longer involved with an abusive partner, have not been physically or sexually abused by anyone in the previous 30 days, and are not being stalked. Importantly, CTT-BW is designed to be administered by individuals without extensive training required.
mental health training, which makes it a good candidate to be used in community service agencies that serve female IPV victims. The protocol contains numerous handouts, to structure both in-session content and between-session practice.

CTT-BW was originally pilot-tested by Kubany, Hill, and Owens (2003) in a small, quasi-randomized trial, with promising results. Subsequently, CTT-BW was tested in a randomized, controlled trial with 125 women who had been out of violent relationships for an average of 5 years (Kubany et al., 2004). Significant reductions of PTSD (to nondiagnostic levels) were noted in 87% of the sample, with a large obtained effect size reflecting the mean reduction pre- to posttreatment ($Hedges g = 2.40$, via a clinician-assessed measure of PTSD). Accompanying reductions in depression from pre-to-posttreatment also were noted ($Hedges g = 2.40$, via a self-report measure of depression). Kubany et al. (2004) documented reductions in guilt, and shame following CTT-BW, with gains on all measures maintained at 3- and 6-month follow-up assessments. Secondary analyses indicated that the outcome of CTT-BW was not affected by the clients' race, nor by therapists' educational level or sex. More recently, Aupperle et al. (2013) reported a case study of CTT-BW, involving 14 women with PTSD related to IPV. Significant reductions from pre- to posttreatment were noted in clinician-assessed and self-reported PTSD, as well as depression. Based on these studies, CTT-BW seems to hold considerable promise for the treatment of PTSD among women who have experienced IPV. Given that the CTT-BW treatment protocol can be used by nonprofessionals, additional empirical support from investigators other than the treatment developer is warranted to document anticipated effects of this intervention.

Aside from these investigations of CTT-BW, there are few other studies examining treatment of IPV-related PTSD. First, Helping to Overcome PTSD through Empowerment (HOPE) is a program designed and tested by Johnson, Zlotnick, and Perez (2011) for delivery in domestic violence shelters. HOPE was designed to include a hierarchy of targets, including reducing immediate physical risks, addressing PTSD symptoms that interfere with achieving stable shelter and devising treatment goals, and planning postshelter goals, including safety. Johnson describes HOPE as a “first stage” intervention (p. 237), reflecting the many needs that are present among women housed in shelters, particularly safety. HOPE differs considerably from CTT-BW in emphasis and is not designed for community-dwelling women, given its emphasis on boosting skills for postshelter living. Johnson et al. (2011) note that following completion of the HOPE program, participants had significantly reduced PTSD symptoms and importantly, a decreased likelihood of IPV revictimization. Second, Iverson and colleagues (Iverson, Gradus, et al., 2011; Iverson, Resick, Suvak, Walling, & Taft, 2011) conducted secondary analyses of data from a large dismantling trial of CPT (Resick et al., 2008). In the first report, IPV exposure was examined as a predictor of treatment engagement and treatment response (Iverson, Resick, et al., 2011). Among women who began CPT, IPV exposure influenced treatment response, such that more frequent IPV predicted larger reductions in PTSD and depression. In the second report, Iverson, Gradus, and colleagues (2011) reported that reductions in PTSD and depression during treatment were associated with a decreased likelihood of revictimization during the 6-month follow-up interval. Taken together, these studies suggest that women who are currently experiencing IPV and living in shelters may benefit from treatment with HOPE, while both HOPE and CPT may help to prevent future IPV exposure. Notably, CPT requires considerable training to be implemented by mental health personnel, suggesting that it may not be a good choice for integration into community agencies that serve IPV victims.

At present, most cities in the United States have agencies designed specifically to provide legal advocacy, social services, and counseling to women who have experienced IPV. Although these agencies differ in leadership and source of funding, most are staffed by individuals with minimal mental health training (e.g., Simmons, Whalley, & Beck, 2014). Counseling, when available, tends to be supportive in nature. Although of benefit, supportive counseling may not effectively address the specific mental health symptoms that are common in the aftermath of IPV, such as PTSD. As such, protocols that can be delivered by individuals without considerable mental health training could prove useful in community agencies that serve women IPV victims.

Thus, CTT-BW is an evidence-based treatment that has been developed for women with PTSD stemming from exposure to IPV that is appropriate for use by individuals without advanced mental health training. In an effort to expand the available literature on this treatment, we conducted a small treatment trial using a multiple baseline across participants design (Barlow, Hayes, & Nelson, 1984). In this design, each participant serves as their own control, with each case considered a “replication.” Eight women with PTSD related to IPV exposure, diagnosed by a trained clinician, were randomly assigned to one of three baseline conditions and treated using CTT-BW. Women were assessed before treatment, after treatment, and at 1-month follow-up. Both quantitative analyses and graphical depiction were utilized.

Two hypotheses were examined in this report. First, it was hypothesized that CTT-BW would be effective in reducing symptoms of PTSD and depression, replicating the findings of Kubany et al. (2004) and Aupperle et al. (2013). Both quantitative analyses and graphical depiction were utilized to examine this hypothesis. Additional secondary outcomes included anxiety, self-esteem, and quality of life and were hypothesized to show improvements after CTT-BW. These variables augment the findings of Kubany, by expanding the range of examined outcomes. Second, we extended the range of measures in this report to include assessment of additional negative posttrauma thoughts and feelings. We hypothesized that following CTT-BW, reductions in dysfunctional trauma-related cognitions about the self, the world, and self-blame would be noted, in addition to reductions in guilt and shame.

Method

Participants

Women were eligible for participation in CTT-BW treatment if they met the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM–IV) diagnostic criteria for PTSD stemming from IPV (APA, 2000), were at least 18 years old, were not romantically involved with an abusive partner for at least 30 days with no intention of reconciling, had not been physically or sexually abused or stalked by anyone for at least 30 days, were not currently substance use–dependent as judged by diagnostic interview, had not been diagnosed with schizophrenia or bipolar disorder, did not report hallucinations or delusions, were not actively
suicidal, and resided in the community. All participants provided consent for treatment sessions to be recorded. These criteria were identical to those employed by Kubany et al. (2004), with the exception that we did not require elevated scores on a guilt measure.

Potential participants were recruited following assessment at a research clinic for women who had experienced IPV and had ongoing mental health concerns. In each case, PTSD related to IPV was the principal diagnosis and was evaluated using the Clinician Administered PTSD Scale. Assessment of PTSD stemming from exposure to other extreme events was evaluated in the original assessment and differentiated from PTSD related to IPV (see Beck et al., 2014, 2015 for additional details). Announcements for the clinic were circulated at local churches, advocacy centers, and college campuses, as well as using public service announcements. Women who contacted the research clinic began their participation with completion of structured interviews to assess for PTSD, anxiety and mood disorders, substance use disorders, and psychotic symptoms, as well as a battery of questionnaires (see Beck et al., 2014, 2015 for additional details). If a woman satisfied the inclusionary criteria, she was offered CTT-BW. Of 14 women who were offered treatment, eight completed the study. Of the six inclusionary criteria, she was offered CTT-BW. Of 14 women who contacted the research clinic, 10 were included in the study, with completion of structured interviews to assess for PTSD, anxiety and mood disorders, substance use disorders, and psychotic symptoms, as well as a battery of questionnaires (see Beck et al., 2014, 2015 for additional details). If a woman satisfied the inclusionary criteria, she was offered CTT-BW. Of 14 women who were offered treatment, eight completed the study. Of the six women who did not complete, three dropped out during baseline. Three additional participants dropped out during treatment. This rate of drop-out during treatment (21%) is similar to rates obtained in clinical trials of other treatments (Imel, Laska, Jakupcak, & Simpson, 2013). Comparison of completers versus drop-outs indicated no significant differences in age, household income, length of the relationship with their most recent abuser, the number of months away from the most recent abuser, and severity of PTSD (all p > .15). However, completers reported significantly higher levels of education, relative to women who dropped out of treatment, t = 2.29, p = .04. The complete sample ranged in age from 28 to 55 (mean age = 43.50, SD = 8.37). In addition to IPV, this sample reported exposure to an average of 3.88 (SD = 1.87) stressful life events (assessed with the Life Events Checklist [LEC; Gray, Litz, Hsu, & Lombardo, 2004], see Table 1). Additional sample characteristics are shown in Table 1.

Treatment

CTT-BW was provided using the same format utilized by Kubany et al. (2004) and relied on the treatment manual provided in Kubany and Ralston (2008). Women were seen individually once per week with sessions lasting 90 minutes. Treatment spanned 11 to 12 weeks, depending on the client’s progress and preference. Additional information on the CTT-BW protocol can be found in previously published studies (Kubany & Watson, 2002; Kubany et al., 2004).

Treatment was provided by six therapists, one of whom was a licensed psychologist and five of whom were graduate students in clinical psychology. Student therapists were trained by carefully reading the treatment manual, watching at least one complete treatment case via video, and didactic instruction from the first author. Supervision was provided by the first author, a clinical psychologist with considerable experience conducting treatment research; this individual watched video recordings of each session and met weekly with therapists to provide feedback. A portion of the interviews (n = 27, 31%) was randomly selected and reviewed by the first author to determine therapist adherence to three aspects of the treatment: adherence to nonspecific therapeutic factors (e.g., “to what extent did the therapist convey or communicate that he/she was an active listener”), adherence to procedures of CTT-BW that are not module-specific (e.g., “did the therapist review previously assigned homework with the client?”), and module-specific CTT-BW procedures (e.g., “was the therapist convincing or ‘motivational’ in communicating that negative self-talk is not in the client’s best interests or a habit that she should try to hard to break?”) using the same measure employed by Kubany et al. (2004). Specific items in each adherence domain were rated on a scale from 0 (little or no adherence) to 4 (very high level of adherence), with 2 representing an acceptable level of adherence. All reviewed sessions were rated as having at least an acceptable level of adherence (rating of 2 or higher) on items in each of the three adherence domains, with an average rating of 3.70 (SD = 0.56).

Measures

A battery of self-report questionnaires was used to assess PTSD, depression, anxiety, self-esteem, and quality of life. To assess negative posttrauma thoughts and feelings, measures of guilt, shame, and negative posttrauma cognitions were also included. Primary outcome measures included assessment of PTSD and depression. To assess PTSD, the Post-Traumatic Checklist was administered, which is a 17-item self-reported questionnaire based on the DSM–IV (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL uses a Likert scale of 0 (not at all) to 5 (extremely) for symptoms present over the last month. The measure asks the individual to rate how bothered she is by each specific symptom and was anchored to her IPV experiences. The scale has high internal consistency ranging from .94 to .97 (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Weathers et al., 1993). The internal consistency for the current sample was above .73 across time points.

To assess depression, the Beck Depression Inventory II was used (BDI-II; A. T. Beck, Steer, & Brown, 1996). This scale is a self-report measure containing 21 questions that assess affective, behavioral, and somatic symptoms. The BDI-II uses a Likert scale ranging from 0 (minimal symptoms) to 4 (severe symptoms). Internal consistency is high with a Cronbach’s alpha of .93. It exhibits excellent reliability and validity across sample types (Beck et al., 1996; Grothe et al., 2005). For the current population, internal consistency did not fall below .73 across time points.

Secondary outcome measures included assessment of anxiety, self-esteem, and quality of life. To assess anxiety, the Beck Anxiety Inventory was administered (BAI; A. T. Beck, Epstein, Brown, & Steer, 1988). The BAI is a 21-question self-report measure that relies on a 4-point Likert scale ranging from 0 (not at all affected) to 3 (severely affected). The BAI has been shown to have good test–retest reliability and convergent and divergent

1 Of these drop-outs from treatment, one woman obtained a full-time job which made attendance at treatment difficult, while a second woman accepted a job assignment that was considerably further away and reduced her available time. The third client who dropped-out stated that she did not like the treatment.

2 We thank Dr. Edward Kubany for providing the CTT-BW Adherence and Competency measure.
Validity (A. T. Beck et al., 1988; Fydrich, Dowdall, & Chambless, 1992). The current sample had high internal consistency (.80 or higher) across all time points except in the follow-up assessment, where Cronbach’s alpha was .66.

To assess self-esteem, the Rosenberg Self-Esteem scale was used (RSE; Rosenberg, 1989). The RSE is a 10-item self-report measure which includes questions such as “I feel I do not have much to be proud of,” and “I wish I could have more respect for myself” that are rated on a Likert scale ranging from 0 (strongly disagree) to 3 (strongly agree). The RSE has good internal consistency ranging between .77 and .88 (Blascovich & Tomaka, 1993). The reliability for the current sample was above .92.

To assess quality of life, the Quality of Life Inventory was administered (QOLI; Frisch, Cornell, Villanueva, & Retzlaff, 1992). The QOLI examines perceived quality of life using satisfaction ratings across 17 life areas such as health, self-regard, and philosophy of life. The QOLI assesses perceived importance for each item ranging from 0 (not at all important) to 2 (extremely important). Each item is then rated on a scale from −3 (very dissatisfied) to 3 (very satisfied). The scale has support for its validity (Frisch et al., 1992). Internal consistency of the scale in the current sample was .83.

Assessment of negative posttrauma thoughts and feelings involved three questionnaires. To examine guilt, the Trauma Related Guilt Inventory (TRGI; Kubany et al., 1996) was used. The TRGI examines trauma related guilt using 32 items, distributed on three subscales (Global Guilt, Guilt Cognitions, and Guilt Distress). The measure relies on a Likert scale ranging from 1 (not at all true) to 5 (extremely true). The measure has good internal consistency across the subscales ranging from .90 to .94 (Kubany et al., 1996). Internal consistency in the current sample remained above .75. To assess shame, the Internalized Shame Scale (ISS; Cook, 1994, 2001; del Rosario & White, 2006) was administered. The ISS is a 30-item questionnaire that includes two subscales. For the current study, the 24-item shame subscale was used, which includes questions such as “I scold myself and put myself down.” The ISS uses a Likert scale ranging from 0 (never) to 5 (almost always). The scale has high internal consistency of .95 (del Rosario & White, 2006). For the current sample, internal consistency remained above .84. To assess negative posttrauma cognitions, the Posttraumatic Cognitions Inventory was administered (PTCI; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). The PTCI is a 36-item measure with three subscales: Negative Thoughts about the Self (e.g., “I am a weak person”), Negative Thoughts about the World (e.g., “people cannot be trusted”), and Self-Blame (e.g., “the event happened because of the way I acted”). The PTCI uses a Likert scale ranging from 1 (totally disagree) to 7 (totally agree) to assess these three domains of negative posttrauma cognitions. It has good internal consistency with a range of .86 to .97 across subscales (e.g., Foa et al., 1999). Internal consistency in the current sample remained above .95.

### Procedure
After provision of informed consent, each woman was randomly assigned to a two-, four-, or six-week baseline wait interval in which their symptoms were monitored by phone using the PCL and the BDI-II (baseline data). Once the end of the assigned baseline was reached, treatment began, provided clients’ symptoms had stabilized for at least two consecutive weeks. Stabilization was defined based on the final two PCL data points in the baseline interval; if the participant showed a stable level (scores within 4 points of one another) or a deteriorating trend (worsening during the final two baseline points), stability was achieved (Barlow, Nock, & Hersen, 2009). For two participants, this requirement resulted in the baseline being extended for an additional week. Clients’ final baseline appointment was an in-person pretreatment
orientation where treatment was outlined and the PCL and BDI-II were readministered. All measures except the QOLI were completed at the end of treatment (posttreatment assessment). One month after treatment had ended (1-month follow-up assessment), all measures were completed including the QOLI, allowing examination of stability of change. The PCL and BDI-II were also completed every session to monitor clients’ progress throughout treatment.

Results

Examination of Primary and Secondary Outcomes of CTT-BW

To quantitatively examine primary (PTSD, depression) and secondary (anxiety, self-esteem, quality of life) outcomes across treatment, repeated measures MANOVAs were performed within families of variables. Given concerns about reduced statistical power and the fact that multivariate analyses are quite uncommon in the analysis of multiple baseline data (Barlow et al., 2009), we formed families of variables to conceptually group various outcomes. Primary outcomes (PCL and BDI-II) were analyzed in one family. A second family of variables involved the secondary outcome measures, the BAI and RSE. The QOL was analyzed separately as only two time points were available for this variable; this analysis involved a univariate ANOVA conducted using the multivariate algorithm. A third family of variables included the guilt and shame measures (the Global Guilt, Guilt Cognitions, and Guilt Distress subscales of the TRGI as well as the ISS shame subscale). The fourth family of variables focused on negative posttrauma cognitions and included the three subscales of the PTCI. Given high levels of intercorrelation among the variables in each family, Roy’s Greatest Root (RGR) was selected as the multivariate statistic as it is the more powerful test when differences are expected along one dimension and is best for highly correlated dependent variables (Olson, 1976). In the event of a significant multivariate effect, univariate analyses were conducted, focusing on the effect of Time on each outcome measure. When the assumption of sphericity was violated (which is expected with time-series data given the high degree of autocorrelation), Greenhouse-Geiser correction was used, which is preferable for small sample sizes (Hedges, 2011). In the event of a significant Time effect, univariate analyses were conducted, focusing on change from pre- to posttreatment and pretreatment to follow-up.

Hypothesis 1: It was hypothesized that CTT-BW would be effective in reducing symptoms of PTSD and depression (primary outcomes). Moreover, additional secondary outcomes (anxiety, self-esteem, and quality of life) were hypothesized to show improvements after CTT-BW.

Primary outcomes. Consideration of the family of primary outcome measures indicated a significant multivariate test (RGR (2, 14) = 16.34, p < .001). Significant sphericity was noted only for the BDI. Significant univariate Time effects were found for both the PCL, F(2, 14) = 16.337, p = .001, and the BDI-II, F(1.02, 7.15) = 13.45, p = .008. As noted in Table 2, the PCL exhibited significant reductions between pre- and posttreatment, p = .003 and significant reductions between pretreatment and follow-up, p = .02. On the BDI-II, significant contrasts were noted between pre- and posttreatment p = .009, and pretreatment and 1-month follow-up, p = .02.

Data for the PCL and BDI-II are plotted individually by client in Figure 1, the more traditional approach to a multiple baseline design (Barlow et al., 2009). Data from the initial assessment (labeled Pre in Figure 1) are included as a reference point. As can be seen, several clients showed reductions in PCL and BDI-II scores during baseline (e.g., Nicole, Sarah, Kate), as often occurs when weekly symptoms are monitored prior to treatment. Importantly, notable reductions in PTSD and depression occurred from the end of baseline to posttreatment. Patterns of change varied across clients. Irrespective of the level of PTSD symptoms during baseline, each participant obtained a PCL score less than 40 at posttreatment, a cut-off score that has diagnostic efficiency in differentiating PTSD+ from PTSD− (Blanchard et al., 1996). Considering the process of change, Nicole reported a sizable increase in PTSD symptoms at Session 9, which was attributable to tackling a very difficult exposure item (see Figure 1). A similar pattern was noted in Session 8 for Beth, for the same reason. When elevated depression was present (e.g., Kim, Rachel, Ann), changes in BDI-II scores appeared to parallel the pattern of change observed with the PCL data.

Table 2 Means (SDs) for Primary (PTSD, Depression) and Secondary (Anxiety, Self-Esteem, and Quality of Life) Outcome Measures, as Well as Measures of Negative Posttrauma Thoughts and Feeling

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pretreatment</th>
<th>Posttreatment</th>
<th>One-month follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary measures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCL</td>
<td>48.40 (14.09)</td>
<td>23.88 (5.08)</td>
<td>27.00 (5.55)</td>
</tr>
<tr>
<td>BDI-II</td>
<td>28.51 (15.64)</td>
<td>8.75 (6.14)</td>
<td>7.88 (5.03)</td>
</tr>
<tr>
<td>Secondary measures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAI</td>
<td>21.57 (13.22)</td>
<td>5.00 (3.83)</td>
<td>5.43 (3.69)</td>
</tr>
<tr>
<td>RSE</td>
<td>14.00 (7.55)</td>
<td>23.57 (5.26)</td>
<td>23.71 (5.79)</td>
</tr>
<tr>
<td>QOLI</td>
<td>−.45 (1.37)</td>
<td>—</td>
<td>1.40 (1.01)</td>
</tr>
<tr>
<td>Negative posttrauma thoughts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRGI–Global guilt</td>
<td>2.29 (1.41)</td>
<td>1.01 (.77)</td>
<td>.68 (.64)</td>
</tr>
<tr>
<td>TRGI–Guilt distress</td>
<td>3.45 (.50)</td>
<td>1.74 (.73)</td>
<td>1.48 (.75)</td>
</tr>
<tr>
<td>TRGI–Guilt cognitions</td>
<td>2.24 (.44)</td>
<td>.90 (.80)</td>
<td>.79 (.97)</td>
</tr>
<tr>
<td>ISS–Shame</td>
<td>60.15 (25.75)</td>
<td>27.86 (21.37)</td>
<td>21.00 (17.34)</td>
</tr>
<tr>
<td>PTCI–Self</td>
<td>4.08 (1.48)</td>
<td>2.01 (.82)</td>
<td>1.70 (.72)</td>
</tr>
<tr>
<td>PTCI–World</td>
<td>5.81 (9.41)</td>
<td>3.65 (1.56)</td>
<td>3.51 (1.79)</td>
</tr>
<tr>
<td>PTCI–Self-blame</td>
<td>4.31 (1.98)</td>
<td>2.69 (1.56)</td>
<td>2.20 (1.46)</td>
</tr>
</tbody>
</table>

Note. N ranges from 7 to 8. PCL = Posttraumatic Checklist; BDI-II = Beck Depression Inventory II; BAI = Beck Anxiety Inventory; RSE = Rosenberg Self-Esteem scale; QOLI = Quality of Life Inventory; TRGI = Trauma-Related Guilt Inventory; ISS = Internalized Shame Scale; PTCI = Posttraumatic Cognitions Inventory.
the effect size for the BDI-II was 0.57. Because the baseline interval reflects within-subject control for the passage of time, potential therapeutic benefits of symptom monitoring, and minimal therapist contact, some reduction in primary outcomes was anticipated, as also noted in between-groups trials using minimal contact control conditions (e.g., Beck, Coffey, Foy, Keane, & Blanchard, 2009; Galovski, Blain, Mott, Elwood, & Houle, 2012). Considering the effect size of change during treatment (computed from the first treatment session to the post treatment assessment point), $g = 1.52$ for both the PCL and the BDI-II was noted.

Secondary outcomes. In the second family of outcome measures, a significant multivariate effect was noted (RGR (2, 10) = 7.84, $p = .009$). Both the BAI and the RSE had significant sphericity. A nonsignificant effect was noted for Time on the BAI, $F(1.05, 5.23) = 5.52, p = .06$. A significant Time effect was noted for the RSE, $F(1.08, 5.41) = 7.59, p = .04$. As noted in Table 2, the RSE exhibited a significant reduction between pre- and post-treatment, $p = .049$, and a nonsignificant reduction between pretreatment and follow-up, $p = .07$. On the QOLI, participants reported a significant increase in quality of life between pretreatment and 1-month follow-up (using Wilk’s criteria, $F(1, 6) = 14.86, p = .008$).

Hypothesis 2: It was hypothesized that following CTT-BW, reductions in dysfunctional trauma-related cognitions about

Figure 1. PTSD and depression scores across time, represented by individual client. Pre = Initial assessment, B = Baseline, PT = Pretreatment, S = Session, Po = Post, FU = Follow up, ● PTSD Checklist, ▲ Beck Depression Inventory II.
the self, the world, and self-blame would be noted, in addition to reductions in guilt and shame.

**Examination of changes in dysfunctional cognitions and emotions.** On the third family of measures (three guilt subscales and shame), a significant multivariate effect was found (RGR (4, 10) = 25.18, \( p < .001 \)). Significant sphericity was noted for the TRGI Global Guilt subscale, the TRGI Guilt Distress subscale, and the ISS-Shame subscale. A nonsignificant Time effect was noted for the Global Guilt subscale, \( F(1.02, 6.13) = 4.51, \ p = .08 \). Significant Time effects were noted for the Guilt Distress subscale, \( F(1.09, 6.56) = 28.25, \ p = .001 \), the Guilt Cognitions subscale, \( F(2, 12) = 26.66, \ p < .001 \), and the Shame subscale, \( F(1.16, 6.94) = 11.87, \ p = .01 \). Follow-up contrasts revealed a significant reduction in Guilt Distress from pre- to posttreatment (\( p = .002 \)) and from pretreatment to follow-up (\( p = .005 \)). Follow-up contrasts for Guilt Cognitions indicated a significant reduction between pre- and posttreatment (\( p = .001 \)) and between pretreatment and follow-up (\( p = .004 \)). Lastly, follow-up contrasts indicated a significant reduction in shame between pre- and posttreatment (\( p = .03 \)) and between pretreatment and follow-up (\( p = .02 \)).

Lastly, the fourth family of measures was examined, consisting of negative posttrauma cognitions. A significant multivariate effect was noted (RGR (3, 11) = 12.40, \( p = .001 \)). Significant sphericity was present on all three subscales of the PTCL. Significant Time effects were obtained for the PTCL Negative thoughts about the Self subscale, \( F(1.04, 6.22) = 18.02, \ p = .005 \), the PTCL Negative thoughts about the World subscale, \( F(1.15, 6.92) = 10.32, \ p = .01 \), and the Self-blame subscale of the PTCL, \( F(1.25, 7.47) = 9.98, \ p = .01 \). Follow-up contrasts for the Negative thoughts about the Self subscale indicated a significant reduction from pre- to posttreatment (\( p = .03 \)) and between pretreatment and follow-up (\( p = .009 \)). Follow-up contrasts for the Negative thoughts about the World subscale indicated a significant reduction between pre- and posttreatment (\( p = .02 \)) and a significant reduction pretreatment to follow-up (\( p = .009 \)). On the Self-blame subscale, follow-up contrasts indicated a significant reduction pre- and posttreatment (\( p = .03 \)) and between pretreatment and follow-up (\( p = .009 \)).

**Discussion**

The current report replicates a previous randomized, clinical trial of CTT-BW and provides independent support for the effectiveness of this treatment for PTSD in women survivors of IPV. Similar to results reported by Kubany et al. (2004) and Aupperle et al. (2013), we obtained significant reductions in PTSD, depression, and anxiety between pre- and posttreatment assessments, while noting significant increases in self-esteem and quality of life during this same interval. Additionally, reductions in negative posttrauma cognitions, guilt, and shame were noted between pre- and posttreatment. As such, this report provides independent replication of Kubany et al. (2004) using a controlled time-series design. In addition to replication, this report extended the research on CTT-BW through closer examination of changes in negative posttrauma thoughts and emotions.

As noted in Figure 1, variability was noted across clients with respect to the pattern of change during CTT-BW. The issue of rate and pattern of change in treatment has attracted attention of late. For example, in a sample of U.S. military veterans, Schumm, Walter, and Chard (2013) noted different response patterns to cognitive–behavioral treatment for PTSD. Schumm et al. (2013) reported that veterans who began CPT with high levels of PTSD and depression were likely to have remaining treatment needs at the end of treatment, despite showing a positive response to treatment. This pattern was not clearly seen in the current study, although the small sample size precludes further consideration. Additional large-scale efforts are needed to understand further the role of change trajectories and outcome in the treatment of PTSD, particularly with nonveteran populations. Despite the differences noted in change trajectories in the current study, all clients showed significant reductions in PTSD and depression over the course of treatment and afterward. Importantly, treatment was provided primarily by doctoral students in clinical psychology, with the exception of one case who was treated by a licensed clinical psychologist. In the current trial, therapist training involved reading the manual and watching taped sessions, which was considerably less time-intensive relative to the training used by Kubany et al. (2004) which included a workshop, reading the manual, watching (or listening to) numerous treatment sessions, and serving as a cotherapist in the treatment of two separate cases. As such, CTT-BW can be effectively administered with structured training and supervision that is not as extensive as that provided by Kubany et al. (2004). This finding supports additional exploration of dissemination of CTT-BW to community agencies who serve women who have experienced IPV. The obtained effect sizes in the current study were in the large range, which suggests the utility of this treatment for PTSD related to IPV among women in the community who have left the abusive relationship. The current data add to available empirical support for CTT-BW and can be used to bracket anticipated effect sizes for future research.

The current study extends available research on CTT-BW through consideration of changes in negative cognitions and emotions as well as changes in PTSD and depression. Because CTT-BW targets guilt and self-blame, we anticipated that reductions in these emotions and cognitions would occur following treatment. Results indicated that changes in all forms of negative cognitions and emotions (not singularly guilt and self-blame) were noted following treatment. Related research documents that successful treatment of PTSD in veterans using CPT is accompanied by reductions in negative trauma-related thoughts (e.g., Holliday, Link-Malcolm, Morris, & Surís, 2014), similar to the results of the current study. In light of these studies, it appears that common mechanisms may undergird various treatment approaches for PTSD, particularly CTT-BW and CPT. Additional efforts designed more specifically to examine common mechanisms across various interventions for PTSD could help to advance understanding of how treatment works, as well as guide interventions for underserved populations.

**Limitations**

In considering this report, it is important to note its limitations. First, the sample size is small, in comparison with samples typically used in randomized, controlled trials. Although one cannot generalize from the results of eight clients, these data augment Kubany’s previous trial (2004) and provide inde-
pendent supportive evidence for CTT-BW. Second, the results are limited to women who report PTSD stemming from IPV exposure. It is unclear whether CTT-BW would be effective with male IPV survivors. Third, these data are limited by reliance on self-report measures. Optimally, future examinations of CTT-BW will include clinician-administered interviews for the assessment of PTSD, depression, and anxiety disorders, a methodological feature that exceeded the resources of the current study. Fourth, the follow-up interval in the current study was relatively short. It will be important for additional study of CTT-BW to consider longer-term outcomes of this treatment. Future research in this domain also should examine the influence of salient posttrauma features such as the amount of time elapsed since IPV exposure, extent of physical injuries received during IPV, current employment, and ongoing contact with the formerly abusive partner owing to joint child custody. The current report did not have the sample size to support a systematic examination of these features. Lastly, the current report would have been strengthened by a constant-series control condition (Barlow et al., 1984).

Research Implications

The present study adds to the existing support for CTT-BW through provision of controlled time-series data using a multiple baseline design with randomization, reliance on a treatment manual, clearly delineated inclusionary and exclusionary criteria, reliable self-report measures to assess outcomes, and replication across eight series (clients). These methodological features are salient when considering the empirical support for a given treatment (e.g., Chambless & Hollon, 1998). Because treatment of PTSD related to IPV has been relatively neglected in the literature, these data help to demonstrate that CTT-BW is effective and can be administered without extensive training or supervision efforts. The CTT-BW manual is publically available (Kubany & Ralston, 2008) and could become an important resource for agencies that serve IPV survivors. Importantly, CTT-BW fits well with the HOPE program (Johnson et al., 2011), which is delivered in domestic violence shelters. If integrated into community agencies that serve women following shelter stays, CTT-BW could help to augment existing services for IPV survivors and begin to address the substantial mental health needs in this population. Looking further ahead, it might be useful to compare the efficacy of CTT-BW with other evidence-based treatments for PTSD within this environment, although a number of practical issues would need to be addressed, including provision of extensive training in CPT or PE for agency staff who have little or no mental health training.

Clinical and Policy Implications

In considering this work, there were a number of “lessons learned.” First, women who have experienced IPV often are beset with multiple problems, such as being unemployed or underemployed, having unstable living situations, and/or experiencing ongoing contact with their ex-partner owing to joint child custody. These practical obstacles can impact delivery of mental health treatment in many ways. For example, as noted in this study, two women prematurely left treatment owing to a change in their work circumstances. In each case, their new employment increased their pay and opportunity. Given the every-day struggles that these clients experience, it is understandable that mental health treatment may be perceived by them as a “luxury.” It is possible that integration of motivational enhancement strategies may be a useful addition to CTT-BW, in light of these lifestyle challenges. Second, each client who completed treatment reported to her therapist that the therapy helped to ‘empower’ them. Although we did not include a psychometrically grounded measurement of empowerment, it is notable that women reported feeling stronger, more confident, and more assertive following completion of treatment. One may wonder whether this perceived sense of empowerment may be the underlying mechanism that explains why successful treatment of PTSD is associated with reduced likelihood of future IPV exposure. This hypothesis has important clinical implications, particularly with respect to understanding why CTT-BW works. Lastly, CTT-BW needs to be disseminated to the usual-care environment for IPV victims, specifically community social service agencies. Although the current study observed significant improvements in many outcomes following CTT-BW, it was situated within a research clinic on a university campus. The next step in the study of CTT-BW is to examine its effectiveness when used by staff within community agencies that serve IPV victims. It is only when this step is taken that we will truly have information about the potential of this intervention.

In concluding this report, it is important to note that IPV historically has been regarded as a difficult, perhaps intractable social problem. Recently, data have emerged documenting that successful treatment of PTSD reduces the likelihood of revictimization (e.g., Iverson, Gradus, et al., 2011). Although an effective solution to eradicating IPV is complex, developing efficacious psychological strategies to reduce the mental health problems of survivors clearly represents one important part of this solution. CTT-BW is a structured protocol that is designed to be delivered by individuals who do not have advanced mental health training. In this vein, increased attention to dissemination and implementation of CTT-BW within usual care environments is an important next step. Although psychological science has made remarkable gains in developing effective treatments for PTSD, it is important that these interventions be made available to a larger number of trauma survivors, particularly underserved populations such as survivors of IPV (Kazdin & Rabbits, 2013). The present report represents one small step toward this goal.

References


