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The Role of Relationship Adjustment in an Integrated Individual Treatment for PTSD and Substance Use Disorders among Veterans: An Exploratory Study

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Abstract

Objective—Identifying factors that influence treatment outcomes of emerging integrated interventions for co-occurring Posttraumatic stress disorder (PTSD) and substance use disorder (SUD) is crucial to maximize Veterans' health. Dyadic adjustment suffers among individuals with PTSD and SUD, and may be an important mechanism of change in treatment. This exploratory study examined the association between dyadic adjustment and treatment outcomes in individual integrated treatment for co-occurring PTSD and SUD.

Methods—Participants were treatment-seeking veterans ($N = 15$) participating in a larger randomized controlled trial examining the efficacy of a novel integrated treatment for co-occurring PTSD and SUD. Multiple regression analyses controlling for baseline symptom severity and independent sample *t*-tests were used to examine the relation between dyadic adjustment and treatment outcome variables including PTSD, SUD, and depression symptom severity.

Results—Baseline dyadic adjustment was associated with session 12 PTSD symptom severity as measured by both the Clinician-Administered PTSD scale (CAPS) and PTSD Checklist (PCL), such that participants with high dyadic adjustment had significantly lower session 12 CAPS and PCL scores compared to participants with low dyadic adjustment. Baseline dyadic adjustment was not associated with session 12 depression symptoms or frequency of substance use.

Conclusions—These findings suggest that while the primary determinant of treatment outcome in this sample is the application of an evidence-based intervention, dyadic adjustment may play a role in individual treatment outcome for some treatment-seeking veterans.

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Keywords

Posttraumatic stress; couples; addiction; dyadic adjustment; integrated treatment

Introduction

Posttraumatic stress disorder (PTSD) and substance use disorders (SUD) are chronic, debilitating conditions that commonly co-occur, particularly among veterans (Petrakis, Rosenheck, & Desai, 2011). Several integrated interventions to treat PTSD and SUD concurrently have been developed with promising outcomes (Roberts, Roberts, Jones, & Bisson, 2015; Torchalla, Nosen, Rostam, & Allen, 2012). Concurrent Treatment of PTSD and Substance Use Disorders Using Prolonged Exposure (COPE; Back et al., 2015), is one such treatment with growing empirical support (Back et al., under review; Badour et al., 2017; Mills et al., 2012). However, this literature remains in the nascent stage, and it is therefore important to identify factors that influence treatment outcomes in the context of integrated interventions for co-occurring PTSD and SUD.

One factor that may influence treatment outcomes is romantic relationship adjustments (e.g., couples' consensus, satisfaction, cohesion, and affectional expression) (Monson, Taft, & Fredman, 2009; Sayers, 2011). Greater PTSD severity is associated with poor relationship adjustment and functioning among veterans (Koenen, Stellman, Sommer, & Stellman, 2008; Miller et al., 2013; Taft et al., 2007). Notably, the association between PTSD symptoms and poor relationship adjustment is stronger among veterans compared to civilians (Taft, Watkins, Stafford, Street, & Monson, 2011).

The association between SUD and relationship adjustment among couples is complex. However, there is consensus in the literature that SUD negatively impacts relationship adjustment (Ostermann, Sloan, & Taylor, 2005; Whisman, Uebelacker, & Bruce, 2006) and that maladaptive relationship adjustment impedes effective SUD treatment (Chermack et al., 2009; Quigley, Crane, & Testa, 2013). The growing literature demonstrating efficacy of dyadic interventions for PTSD (Monson et al., 2012), SUD (O'Farrell & Schein, 2011), and co-occurring PTSD and SUD (Schumm, Monson, O'Farrell, Gustin, & Chard, 2015) suggests that relationship adjustment may be an important mechanism of change in treatment. However, few studies have examined this question directly. The studies examining the role of relationship adjustment in individual treatment outcomes have focused on treating single diagnoses rather than complex comorbidities. Findings suggest that relationship adjustment and individual symptom severity for single diagnoses co-vary over time (Kouros, Papp, & Cummings, 2008; Whitton, Stanley, Markman, & Baucom, 2008), and poor relationship adjustment at treatment completion is associated with higher rates of future relapse (Whisman & Baucom, 2012). Thus, relationship adjustment is an important factor to consider in the treatment of psychological comorbidities.

The goal of this study was to examine 1) change in veterans' relationship status and relationship adjustment during COPE treatment for co-occurring PTSD and SUD, and 2) associations between baseline relationship adjustment and treatment outcome (i.e., PTSD symptom severity, substance use, depression). We hypothesized that veterans with high

relationship adjustment would report better treatment outcomes compared to veterans with low relationship adjustment.

Method

Participants

Participants were veterans ($N = 15$) participating in a larger randomized controlled trial examining COPE versus standard care (i.e., SUD only treatment). Participants were 18–65 years old, met diagnostic criteria for current PTSD and SUD, reported substance use in the past 90 days, and were capable of providing informed consent. Participants included in the current analyses were 1) randomized to receive COPE treatment, 2) completed all 12 weekly, 90-minute sessions, and 3) reported having a romantic partner at baseline.

Procedure

All study procedures were conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board (IRB) of the Medical University of South Carolina. Participants provided informed consent following a description of study procedures. Respondents were screened by telephone and individuals meeting preliminary eligibility criteria completed an in-person baseline assessment.

Measures

Dyadic Adjustment—The Dyadic Adjustment Scale (DAS; Spanier, 1976) is a 32-item self-report questionnaire with excellent psychometric properties (Graham, Liu, & Jeziorski, 2006). The DAS was collected at baseline and session 12 with reference to participants' current romantic partner. Total scores range from 1 to 151. Higher scores reflect better relationship adjustment. In this study, DAS scores were dummy coded such that individuals with scores ≥ 97 ($n = 6$) were coded as high (Jacobson et al., 1984). Those with scores ≤ 97 ($n = 9$) were coded as low. Baseline Cronbach's $\alpha = .94$. Session 12 Cronbach's $\alpha = .96$.

Posttraumatic Stress Disorder—PTSD diagnosis consistent with the Diagnostic and Statistical Manual for Mental Disorders-IV (DSM-IV) was assessed using the Clinician Administered PTSD Scale (CAPS; Blake et al., 1995) administered at baseline, session 6, and session 12. The CAPS is a standardized structured clinical interview that indexes past-month PTSD diagnostic status and provides a continuous measure of PTSD symptom severity consistent with DSM-IV diagnostic criteria (American Psychiatric Association, 1994). The CAPS has demonstrated excellent psychometric properties (Weathers, Ruscio, & Keane, 1999). Baseline Cronbach's $\alpha = .61$. Session 12 Cronbach's $\alpha = .89$.

The PTSD Checklist-Military version (PCL-M; Weathers, Huska, & Keane, 1991) is a 17-item self-report measure which uses a 5-point scale to assess the frequency and severity of PTSD symptoms. The PCL-M was administered weekly. Scores ≥ 50 are suggestive of a PTSD diagnosis (Forbes, Creamer, & Biddle, 2001). Baseline Cronbach's $\alpha = .79$. Session 12 Cronbach's $\alpha = .94$.

Substance Use—The Time Line Followback (TLFB; Sobell & Sobell, 1992) is a calendar-assisted semi-structured interview assessing alcohol and drug use. Frequency (percent days using any substances) was assessed during the 60 days prior to the baseline assessment and weekly during treatment.

Depression—Depression symptom severity was measured weekly using the 21-item self-report Beck Depression Inventory, 2nd edition (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II uses a 0–3 point Likert scale. Responses are summed to obtain total scores. Baseline Cronbach's $\alpha = .92$. Session 12 Cronbach's $\alpha = .91$.

Data Analysis

One-way ANOVAs were utilized to identify baseline group differences among participants with high versus low baseline relationship adjustment. Paired samples *t*-tests were used to examine overall changes in relationship adjustment and treatment outcomes. A Reliable Change Index was calculated consistent with the method described by Jacobson & Truax (1991) in order to assess changes in relationship adjustment. Multiple regression analyses were employed to examine the association between baseline relationship adjustment and treatment outcome variables.

Results

Sample characteristics

Participants in this sample were predominantly male ($n = 14$; 93.3%), and the mean age was 40.93 years ($SD = 11.41$). Participants were Caucasian ($n = 10$; 66.7%) or African American ($n = 5$; 33.3%). Five participants (33.3%) were currently married to their partner. The remaining participants reported being legally divorced ($n = 6$, 40.0%), or either separated or never married ($n = 4$, 26.6%), but had a current romantic partner. All participants completed a high school level of education, and 86.7% ($n = 13$) had some college education. Most of the sample was employed either part-time ($n = 4$, 26.7%) or full-time ($n = 7$, 46.7%). Most participants ($n = 11$, 73.3%) had served in the Iraq/Afghanistan conflicts. Among those who had served in Iraq or Afghanistan, the mean number of deployments was 1.67 ($SD = 1.63$).

Changes in dyadic adjustment and symptom severity during treatment

Preliminary analyses did not reveal group differences on demographic or clinical variables. Results of *t*-tests examining changes in relationship adjustment and treatment outcomes are presented in Table 1. Veterans in this sample improved significantly in PTSD, depression, and substance use. Changes in relationship adjustment varied widely in this sample. Two veterans separated from their partner during treatment and thus did not complete the DAS at session 12. Among the 13 remaining veterans with complete session 12 DAS data, three participants reported a reliable decline or improvement, respectively, in relationship adjustment during treatment. Of the three participants who declined, one reported high relationship adjustment at baseline while two reported low baseline relationship adjustment. Of the three participants who improved, one reported high relationship adjustment at baseline while two reported low baseline relationship adjustment.

Association between baseline DAS and treatment outcome

Results of regressions examining associations between baseline relationship adjustment and treatment outcomes are presented in Table 2. Controlling for baseline symptom severity, baseline DAS uniquely explained 17.2% of the variance in session 12 CAPS scores ($R^2 = .29$, $F(2, 13) = 2.68$, $p = .05$) and 14.4% of variance in session 12 PCL-M scores ($R^2 = .36$, $F(2, 13) = 3.72$, $p < .05$), above and beyond the effect of baseline CAPS and PCL-M scores, respectively. Baseline DAS was significantly associated with session 12 CAPS and PCL-M scores such that participants with high relationship adjustment had significantly lower session 12 CAPS and PCL-M scores compared to participants with low relationship adjustment. Baseline DAS was not associated with session 12 depression symptoms or frequency of substance use.

Discussion

Findings from this exploratory study suggest that COPE treatment outcomes for some veterans may be influenced by relationship adjustment. Most participants, including those who entered treatment with poor relationship adjustment, achieved substantial treatment gains. However, there were differences in treatment gains between veterans with high versus low baseline relationship adjustment. Despite similar baseline PTSD severity between the two groups, veterans with poor relationship adjustment experienced weaker improvements in PTSD severity. As a result, mean session 12 PCL-M scores remained in the subthreshold range (e.g., PCL scores between 35 and 49) among veterans with poor baseline relationship adjustment, while veterans with good baseline relationship adjustment were below subthreshold at session 12. Subthreshold PTSD has been associated with substantial distress and impairment in a variety of domains (Pietrzak, Goldstein, Malley, Johnson, & Southwick, 2009).

These findings are consistent with existing literature indicating that adaptive social support among veterans facilitates positive PTSD treatment outcomes (Price, Gros, Strachan, Ruggiero, & Acierno, 2013; Tsai, Harpaz-Rotem, Pietrzak, & Southwick, 2012). Other research indicates that supportive dyadic functioning facilitates individual SUD outcomes, while maladaptive dyadic functioning hinders it (McCrary, Hayaki, Epstein, & Hirsch, 2002; Owens et al., 2013). These findings are also consistent with previous studies suggesting that relationship adjustment does not always improve with individual therapy for other disorders including depression (Whisman & Baucom, 2012). Thus, future studies should examine the influence of relationship adjustment on individual treatment outcomes with a specific focus on PTSD symptom gains, and explore whether poor relationship adjustment indicates that a dyadic treatment should be considered.

Tailoring individual interventions to improve relationship adjustment might facilitate treatment engagement and outcomes. For example, in the context of exposure-based interventions such as COPE, engaging partners in some in vivo exercises may improve relationship adjustment while targeting PTSD symptoms directly; this approach has been successful in dyadic treatment of PTSD (Monson & Fredman, 2012).

Previous literature has also documented efficacy of engaging some partners in psychoeducation and motivational enhancement strategies and implementing post-treatment maintenance goals (Batten et al., 2009; O’Farrell & Fals-Stewart, 2013). Interventions to aid communication skills and making more accurate attributions about symptoms (e.g., lack of engagement in family outings due to PTSD-related avoidance rather than disinterest in the family) might promote positive treatment outcome and prevent inadvertent interference with treatment (Fredman et al., 2016). Engaging partners in some aspects of individual treatment may be helpful among individuals who are unwilling or unable to engage effectively in dyadic interventions (Monson et al., 2009).

Relationship adjustment was not associated with substance use in this sample. One possible explanation for this finding is that most participants were recruited from the substance abuse treatment clinic at the local Veterans Affairs hospital and had made recent strides to reduce or abstain from substance use. Thus, influential factors in SUD treatment gains may be difficult to detect in this sample. Future studies should examine associations between relationship adjustment (including changes during treatment) and other meaningful outcomes such as changes in symptom severity, motivations to change substance use, homework compliance, motivations to discontinue treatment prematurely, or time to diagnostic remission.

Limitations

The absence of data on cohabitation status, relationship duration, and partner functioning limits our ability to characterize participants’ relationships. The small sample size restricted the range of statistical analyses utilized and the generalizability of the findings. However, mean baseline PTSD severity was similar between groups, lending confidence to the finding that PTSD symptom trajectories between groups diverged during treatment. Additional baseline differences may have also existed between groups which were not tested. A small proportion ($n = 3$; 20%) of this sample reported non-military index traumas. Thus, PTSD symptom severity captured by the CAPS and PCL-M may not overlap precisely for these participants. In order to examine treatment outcomes assessed only at end of treatment, the current sample was limited to those participants who completed treatment. This study is also limited by the absence of assessment of substance-related consequences. Our findings might differ among participants who did not complete treatment, or those who were randomized to the treatment as usual condition.

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References

- American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4. Washington, D.C: American Psychiatric Publishing, Inc; 1994.
- Back, SE., Foa, EB., TK, Mills, K., Teesson, M., Carroll, K., ... Brady, KT. Concurrent Treatment of PTSD and Substance Use Disorders using Prolonged Exposure (COPE). Therapist Manual. New York, New York: Oxford University Press; 2015.

- Back SE, Killeen TK, Badour C, Foa EB, Flanagan JC, Allan NP, ... Brady KT. Integrated Exposure-Based Therapy for PTSD and Co-Occurring Substance Use Disorders among Veterans: A Randomized Controlled Trial. (under review).
- Badour C, Flanagan JC, Gros DF, Killeen TK, Perico-Valverde I, Korte K, ... Back SE. Habituation of Distress and Craving During Treatment as Predictors of Change in PTSD Symptoms and Substance Use Severity. *Journal of Consulting and Clinical Psychology*. 2017; 85(3):274–281. DOI: 10.1037/ccp0000180 [PubMed: 28221062]
- Batten SV, Drapalski AL, Decker ML, DeViva JC, Morris LJ, Mann MA, Dixon LB. Veteran interest in family involvement in PTSD treatment. *Psychological Services*. 2009; 6(3):184.doi: 10.1037/a0015392
- Beck, A., Steer, R., Brown, G. BDI-II, Beck depression inventory: manual. Psychological Corp; San Antonio, TX: 1996.
- Blake DD, Weathers FW, Nagy LM, Kaloupek DG, Gusman FD, Charney DS, Keane TM. The development of a clinician-administered PTSD scale. *Journal of Traumatic Stress*. 1995; 8(1):75–90. DOI: 10.1002/jts.2490080106 [PubMed: 7712061]
- Chermack ST, Murray RL, Winters JJ, Walton MA, Booth BM, Blow FC. Treatment Needs of Men and Women with Violence Problems In Substance Use Disorder Treatment. *Substance Use & Misuse*. 2009; 44(9–10):1236–1262. DOI: 10.1080/10826080902960007 [PubMed: 19938916]
- Forbes D, Creamer M, Biddle D. The validity of the PTSD checklist as a measure of symptomatic change in combat-related PTSD. *Behaviour research and therapy*. 2001; 39(8):977–986. DOI: 10.1016/S0005-7967(00)00084-X [PubMed: 11480838]
- Fredman SJ, Pukay-Martin ND, Macdonald A, Wagner AC, Vorstenbosch V, Monson CM. Partner accommodation moderates treatment outcomes for couple therapy for posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology*. 2016; 84(1):79.doi: 10.1037/ccp0000061 [PubMed: 26501498]
- Graham JM, Liu YJ, Jeziorski JL. The dyadic adjustment scale: A reliability generalization meta-analysis. *Journal of Marriage and Family*. 2006; 68(3):701–717. DOI: 10.1111/j.1741-3737.2006.00284.x
- Jacobson NS, Follette WC, Revenstorf D, Baucom DH, Hahlweg K, Margolin G. Variability in outcome and clinical significance of behavioral marital therapy: A reanalysis of outcome data. *Journal of Consulting and Clinical Psychology*. 1984; 52(4):497–504. DOI: 10.1037/1522-3736.3.1.315a [PubMed: 6470276]
- Jacobson NS, Truax P. Clinical significance: a statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*. 1991; 59(1):12. [PubMed: 2002127]
- Koenen KC, Stellman SD, Sommer JF, Stellman JM. Persisting posttraumatic stress disorder symptoms and their relationship to functioning in Vietnam veterans: A 14-year follow-up. *Journal of Traumatic Stress*. 2008; 21(1):49–57. DOI: 10.1002/jts.20304 [PubMed: 18302174]
- Kouros CD, Papp LM, Cummings EM. Interrelations and moderators of longitudinal links between marital satisfaction and depressive symptoms among couples in established relationships. *Journal of Family Psychology*. 2008; 22(5):667–677. DOI: 10.1037/0893-3200.22.5.667 [PubMed: 18855503]
- McCrary BS, Hayaki J, Epstein EE, Hirsch LS. Testing hypothesized predictors of change in conjoint behavioral alcoholism treatment for men. *Alcoholism: Clinical and Experimental Research*. 2002; 26(4):463–470. DOI: 10.1111/j.1530-0277.2002.tb02562.x
- Miller MW, Wolf EJ, Reardon AF, Harrington KM, Ryabchenko K, Castillo D, ... Heyman RE. PTSD and conflict behavior between veterans and their intimate partners. *Journal of Anxiety Disorders*. 2013; 27(2):240–251. DOI: 10.1016/j.janxdis.2013.02.005 [PubMed: 23523947]
- Mills KL, Teesson M, Back SE, Brady KT, Baker AL, Hopwood S, ... Rosenfeld J. Integrated Exposure-Based Therapy for Co-occurring Posttraumatic Stress Disorder and Substance DependenceA Randomized Controlled TrialExposure Therapy for PTSD and Substance Dependence. *JAMA: the journal of the American Medical Association*. 2012; 308(7):690–699. DOI: 10.1001/jama.2012.9071 [PubMed: 22893166]

- Monson, CM., Fredman, SJ. Cognitive-behavioral conjoint therapy for posttraumatic stress disorder: Therapist's manual. New York, NY: Guilford Press; 2012.
- Monson CM, Fredman SJ, Macdonald A, Pukay-Martin ND, Resick PA, Schnurr PP. Effect of cognitive-behavioral couple therapy for ptsd: A randomized controlled trial. *JAMA: The Journal of the American Medical Association*. 2012; 308(7):700–709. DOI: 10.1001/jama.2012.9307 [PubMed: 22893167]
- Monson CM, Taft CT, Fredman SJ. Military-related PTSD and intimate relationships: From description to theory-driven research and intervention development. *Clinical Psychology Review*. 2009; 29(8):707–714. DOI: 10.1016/j.cpr.2009.09.002 [PubMed: 19781836]
- O'Farrell, TJ., Fals-Stewart, W. Behavioral Couples Therapy for Alcoholism and Drug Abuse. Guilford Press; 2013.
- O'Farrell TJ, Schein AZ. Behavioral Couples Therapy for Alcoholism and Drug Abuse. *Journal of Family Psychotherapy*. 2011; 22(3):193–215. DOI: 10.1080/08975353.2011.602615
- Ostermann J, Sloan FA, Taylor DH. Heavy alcohol use and marital dissolution in the USA. *Social Science & Medicine*. 2005; 61(11):2304–2316. DOI: 10.1016/j.socscimed.2005.07.021 [PubMed: 16139939]
- Owens MD, Hallgren KA, Ladd BO, Rynes K, McCrady BS, Epstein E. Associations between Relationship Satisfaction and Drinking Urges for Women in Alcohol Behavioral Couples and Individual Therapy. *Alcoholism Treatment Quarterly*. 2013; 31(4):415–430. DOI: 10.1080/07347324.2013.831668
- Petrakis IL, Rosenheck R, Desai R. Substance Use Comorbidity among Veterans with Posttraumatic Stress Disorder and Other Psychiatric Illness. *The American Journal on Addictions*. 2011; 20(3): 185–189. DOI: 10.1111/j.1521-0391.2011.00126.x [PubMed: 21477045]
- Pietrzak RH, Goldstein MB, Malley JC, Johnson DC, Southwick SM. Subsyndromal posttraumatic stress disorder is associated with health and psychosocial difficulties in veterans of Operations Enduring Freedom and Iraqi Freedom. *Depression and Anxiety*. 2009; 26(8):739–744. DOI: 10.1002/da.20574 [PubMed: 19496075]
- Price M, Gros DF, Strachan M, Ruggiero KJ, Acierno R. The role of social support in exposure therapy for Operation Iraqi Freedom/Operation Enduring Freedom veterans: A preliminary investigation. *Psychological Trauma: Theory, Research, Practice, and Policy*. 2013; 5(1):93.
- Quigley BM, Crane CA, Testa M. Dyadic alcohol use as a moderator of the relationship between partner conflict and subsequent day relationship functioning: a daily diary analysis. *Alcoholism: Clinical and Experimental Research*. 2013; 37:24A–24A. DOI: 10.1111/acer.12162
- Roberts NP, Roberts PA, Jones N, Bisson JI. Psychological interventions for post-traumatic stress disorder and comorbid substance use disorder: a systematic review and meta-analysis. *Clinical Psychology Review*. 2015; 38:25–38. DOI: 10.1016/j.cpr.2015.02.007 [PubMed: 25792193]
- Sayers SL. Family Reintegration Difficulties and Couples Therapy for Military Veterans and Their Spouses. *Cognitive and Behavioral Practice*. 2011; 18(1):108–119. DOI: 10.1016/j.cbpra.2010.03.002
- Schumm JA, Monson CM, O'Farrell TJ, Gustin NG, Chard KM. Couple treatment for alcohol use disorder and posttraumatic stress disorder: pilot results from US military veterans and their partners. *Journal of Traumatic Stress*. 2015; 28(3):247–252. DOI: 10.1002/jts.22007 [PubMed: 25965768]
- Sobell, LC., Sobell, MB. Timeline follow-back: A technique for assessing self-reported alcohol consumption. Litten, RZ., Allen, JP., editors. Totowa, NJ: Humana Press; 1992.
- Spanier GB. Measuring Dyadic Adjustment: New Scales for Assessing the Quality of Marriage and Similar Dyads. *Journal of Marriage and Family*. 1976; 38(1):15–28. DOI: 10.2307/350547
- Taft CT, Kaloupek DG, Schumm JA, Marshall AD, Panuzio J, King DW, Keane TM. Posttraumatic stress disorder symptoms, physiological reactivity, alcohol problems, and aggression among military veterans. *Journal of Abnormal Psychology*. 2007; 116(3):498–507. DOI: 10.1037/0021-843X.116.3.498 [PubMed: 17696706]
- Taft CT, Watkins LE, Stafford J, Street AE, Monson CM. Posttraumatic stress disorder and intimate relationship problems: a meta-analysis. *Journal of Consulting and Clinical Psychology*. 2011; 79(1):22.doi: 10.1037/a0022196 [PubMed: 21261431]

- Torchalla I, Nosen L, Rostam H, Allen P. Integrated treatment programs for individuals with concurrent substance use disorders and trauma experiences: A systematic review and meta-analysis. *Journal of Substance Abuse Treatment*. 2012; 42(1):65–77. DOI: 10.1016/j.jsat.2011.09.001 [PubMed: 22035700]
- Tsai J, Harpaz-Rotem I, Pietrzak RH, Southwick SM. The role of coping, resilience, and social support in mediating the relation between PTSD and social functioning in veterans returning from Iraq and Afghanistan. *Psychiatry*. 2012; 75(2):135–149. DOI: 10.1521/psyc.2012.75.2.135 [PubMed: 22642433]
- Weathers, FW., Huska, J., Keane, TM. The PTSD checklist military version (PCL-M). Boston, MA: National Center for PTSD; 1991.
- Weathers FW, Ruscio AM, Keane TM. Psychometric properties of nine scoring rules for the Clinician-Administered Posttraumatic Stress Disorder Scale. *Psychological Assessment*. 1999; 11(2):124–133. DOI: 10.1037/1040-3590.11.2.124
- Whisman MA, Baucom DH. Intimate relationships and psychopathology. *Clinical Child and Family Psychology Review*. 2012; 15(1):4–13. DOI: 10.1007/s10567-011-0107-2 [PubMed: 22124792]
- Whisman MA, Uebelacker LA, Bruce ML. Longitudinal association between marital dissatisfaction and alcohol use disorders in a community sample. *Journal of Family Psychology*. 2006; 20(1):164. doi: 10.1037/0893-3200.20.1.164 [PubMed: 16569102]
- Whitton SW, Stanley SM, Markman HJ, Baucom BR. Women's weekly relationship functioning and depressive symptoms. *Personal Relationships*. 2008; 15(4):533–550. DOI: 10.1111/j.1475-6811.2008.00214.x

Table 1

Changes in Dyadic Adjustment and Treatment Outcome Variables

	Baseline Range	Baseline Mean (<i>SD</i>)	Session 12 Mean (<i>SD</i>)	<i>t</i>
Dyadic Adjustment	53.00–133.00	107.36 (20.83)	103.13 (24.36)	.75
PTSD severity				
CAPS	54.00–92.00	75.84 (14.75)	21.20 (17.32)	9.58 *
PCL-M	40.00–74.00	55.80 (8.81)	33.13 (14.62)	5.66 *
Depression	.00–37.00	22.00 (10.30)	10.33 (8.93)	3.49 *
PDU Any Substance	.00–100.00	48.11 (36.66)	20.32 (28.60)	3.45 *

Note. PTSD = posttraumatic stress disorder; PDU = percent days using; CAPS = Clinician Administered PTSD Scale; PCL-M = PTSD Checklist-Military Version; *SD* = Standard deviation.

*
 $p < .001$

Table 2

Association between Baseline Dyadic Adjustment and Treatment Outcome Variables Controlling for Baseline Symptom Severity

	Baseline Mean (<i>SD</i>)		Session 12 Mean (<i>SD</i>)		β	95% CI
	High Baseline DAS	Low Baseline DAS	High Baseline DAS	Low Baseline DAS		
PTSD severity						
CAPS	75.56 (13.31)	71.33 (12.13)	13.66 (13.07)	30.00 (17.42)	-.52 *	[-36.82, 1.73]
PCL-M	55.00 (7.81)	57.00 (10.81)	25.89 (9.55)	42.40 (14.06)	-.59 *	[-31.70, -3.68]
Depression	21.67 (10.03)	22.50 (11.64)	8.22 (9.77)	13.50 (7.09)	.09	[-0.44, -0.59]
PDU Any Substance	49.29 (37.07)	46.34 (39.46)	2.00 (2.78)	2.33 (3.50)	.47	[-0.01, -0.12]

Note. PTSD = posttraumatic stress disorder. PDU = percent days using; CAPS = Clinician Administered PTSD Scale; PCL-M = PTSD Checklist-Military Version; *SD* = Standard deviation; CI = Confidence interval.

* $p < .05$