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ARTICLE



The role of evidence-based therapy relationships on treatment outcome for adults with trauma: A systematic review

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ABSTRACT

Objective: The purpose of this paper was to systematically review and synthesize the empirical literature on the effects of evidence-based therapy relationship (EBR) variables in the psychological treatment for adults who experienced trauma-related distress. *Method:* Studies were identified using comprehensive searches of PsycINFO, Medline, Published International Literature on Traumatic Stress, and Cumulative Index to Nursing and Allied Health Literature databases. Included in the review were articles published between 1980 and 2015, in English that reported on the impact of EBRs on treatment outcome in clinical samples of adult trauma survivors. *Results:* Nineteen unique studies met inclusion criteria. The bulk of the studies were on therapeutic alliance and the vast majority found that alliance was predictive of or associated with a reduction in various symptomatology. Methodological concerns included the use of small sample sizes, little information on EBRs beyond alliance as well as variability in its measurement, and non-randomized assignment to treatment conditions or the lack of a comparison group. *Conclusions:* More research is needed on the roles of client feedback, managing countertransference, and other therapist characteristics on treatment outcome with trauma survivors. Understanding the role of EBRs in the treatment of trauma survivors may assist researchers, clinicians, and psychotherapy educators to improve therapist training as well as client engagement and retention in treatment.

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KEYWORDS

Alliance; evidence-based relationship; nonspecific factors; posttraumatic stress disorder; trauma

There is a large and growing body of empirical research on elements of effective therapy relationships and their association with psychotherapy treatment outcome (for review, see Norcross & Wampold, 2011). Indeed, it is estimated that the evidence-based relationship (EBR) variables account for up to 12% of the variance in treatment outcome (Laska, Gurman, & Wampold, 2014). Extensive reviews of the general psychotherapy literature

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indicate that the EBRs that have been found demonstrably effective include alliance, cohesion in group therapy, empathy, and collecting and applying client feedback; EBRs that were probably effective include goal consensus, collaboration, and positive regard; and ones that are seen as promising but as yet have insufficient research to judge are congruence/genuineness, repairing alliance ruptures, and managing countertransference (for definitions and reviews of all these EBRs, see Norcross & Wampold, 2011).

Although the research on EBRs on treatment outcomes is extensive, there is no particular mention of trauma and the role that it plays in this relationship. The treatment of trauma survivors (especially those affected by interpersonal and betrayal trauma) may require additional attention to relationship issues in order to be effective. Repeated, prolonged, and/or severe trauma-exposed individuals are more likely than those without a trauma history to have difficulties with trust, emotion regulation, and distress tolerance (Cloitre et al., 2011). They are also more likely to report suicidal ideation and to engage in non-suicidal self-inflicted behaviors (e.g., Krysinska & Lester, 2010). It has also been suggested that those with a history of trauma, particularly trauma that is interpersonal in nature, may have more difficulty forging close and trusting relationships with others, which may likely affect the development of a strong therapeutic relationship (Doukas, D'Andrea, Doran, & Pole, 2014).

In addition, the material that trauma survivors discuss in treatment may contain images that frighten, disgust, horrify, or otherwise challenge their therapist (e.g., Adams & Riggs, 2008; Salston & Figley, 2003) resulting in emotional detachment and distancing from the client in some way that can reinforce clients' often negative and contaminated self-image. On the other hand, some therapists are attracted by their clients' narratives and may become overly inquisitive about their experiences to the detriment of empathizing with the client. Thus, issues that arise in psychological treatment of trauma survivors may challenge relational components of psychotherapy for the client as well as the therapist. Further clinical and research attention to EBRs in trauma treatment is therefore likely to be of great value (Dalenberg, 2014).

The purpose of this paper is to systematically review and synthesize the empirical literature on the impact of EBRs on psychotherapy treatment outcome in individuals with trauma and trauma-related disorders. The primary research question was whether there is a relationship between EBRs (namely alliance, cohesion, empathy, collecting and applying client feedback, goal consensus, collaboration, positive regard, congruence/genuineness, repairing alliance ruptures, and managing countertransference) and psychotherapy treatment outcomes in survivors of trauma. Information on EBRs with trauma survivors may be used to help clients engage in, complete, and benefit from psychotherapy, such as evidence-based psychotherapies for posttraumatic

stress disorder (PTSD). In addition, it may assist in education and training programs to ensure that students are learning about the various techniques that enhance, as well as the factors that may impede, the development of EBRs. The current psychotherapy dissemination and implementation zeitgeist has been for graduate students and practicing clinicians to acquire training in specific interventions that have empirical support (APA Presidential Task Force on Evidence-Based Practice, 2006). However, this has also resulted in some calling for the provision of training in evidence-based therapy relationship variables more specifically (Norcross & Wampold, 2011).

Method

Search strategies

A systematic review of the empirical literature was conducted using the following electronic databases: Medline, PsycINFO, Published International Literature on Traumatic Stress (PILOTS), and Cumulative Index to Nursing and Allied Health. Research published between 1980 and 2015 were included in the search. Combinations of the following sets of search terms were used: (1) PTSD, trauma, emotional trauma, posttraumatic; (2) working alliance, therapeutic alliance, client feedback, cohesion, empathy, collecting client feedback, goal consensus, collaboration, positive regard, congruence, genuineness, alliance ruptures, countertransference; and (3) nonspecific factors, therapist characteristics, common factors. These search terms were utilized following Norcross and Wampold's (2011) review of demonstrably, probably effective, and promising EBRs in the literature.

Selection of studies

Inclusion criteria included: peer-reviewed journal articles, published in English, sample contained at least 50% or more adults (e.g., 18 years of age or older), with trauma and/or trauma-related disorders, and the impact of at least one EBR on at least one outcome measure had to have been measured and statistically examined (there were no specific criteria for how these variables were measured). Search terms were entered as quoted phrases; in cases of synonyms being utilized, as evidenced by the first set of search terms, the use of an "or" classifier was utilized. Since this was a systematic review, dissertations, theses, commentaries and reviews, books, chapters, erratum, and conference abstracts were all excluded; however, it is to be noted that this literature often contains information about these issues and they are valuable in contributing to future research efforts and associated systematic reviews.

Titles and abstracts attained from the initial searches were coded independently by two trauma psychologists (redacted) to assess for eligibility for the

review. If a disagreement existed between the two raters, it was then discussed with the third author (redacted) to reach a joint consensus. A total of 727 articles were found. Of these, 65 were duplicates and an additional 62 were removed as they were published erratum, corrections, replies, commentaries, or selected abstracts, leaving 600 articles. From this grouping of articles, 477 were excluded upon a review of the title and abstract. The remaining 123 were retained and screened more closely, and an additional 98 were excluded (see Figure 1).

A cumulative 575 articles were excluded for the following reasons: did not measure EBR variables ($n = 297$, 51.7%), were non-empirical or case studies ($n = 182$, 31.7%), did not include a trauma-specific population ($n = 38$, 6.6%), did not examine EBRs' impact on treatment outcome ($n = 38$, 6.6%), were non-adult samples ($n = 19$, 3.3%), and could not be found in English translations ($n = 1$, ~1%). This resulted in 25 articles that met inclusion criteria and were formally reviewed. Of these, five duplicated findings presented in early publications, and one is included as a footnote as it found contradictory results to a later iteration of analyses, resulting in 19 unique studies.

Data analysis

This review adhered to the principles outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, an evidence-based set of guidelines for conducting systematic reviews and meta-analyses and reporting data from these studies (for additional information,

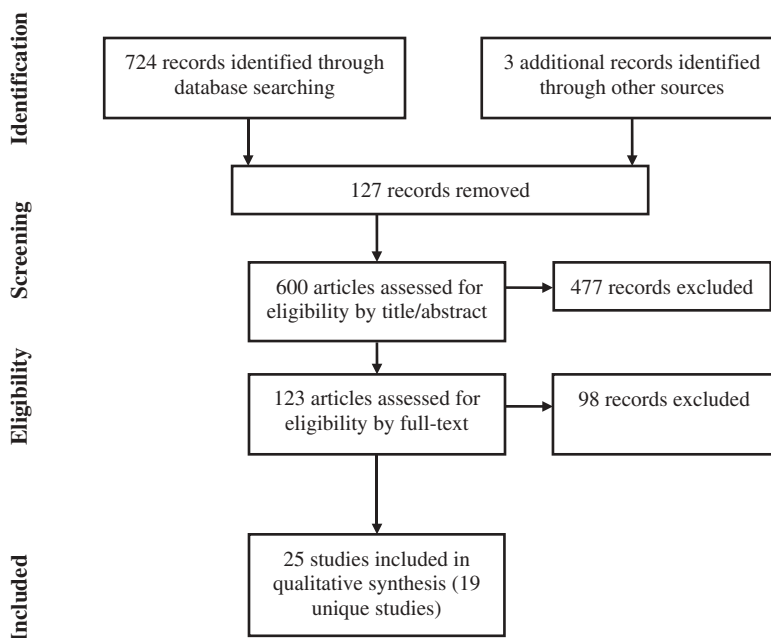


Figure 1. Number of studies included in systematic review.

see Moher, Liberati, Tetzlaff, Altman, & Grp, 2009). A statistical meta-analysis of the data was not possible given the large degree of heterogeneity between studies (e.g., small number of articles with overlapping EBRs, outcome measurements, and reported participant demographics).

Results

Participants

A total of 1,623 individuals are represented in the present review. Participants ranged in age from 16 to 72 ($M = 38.9$)¹ and 34.7% ($n = 348$)² were from non-white racial/ethnic groups. Approximately 61.5% ($n = 998$)³ were female, with three of the studies using female-only samples, and three studies using a male-only sample. Less than 20% used military samples (i.e., active duty or veterans; $n = 3$, 15.8%). Almost one third reported that the most frequent trauma was childhood sexual abuse ($n = 6$; 31.6%), followed by childhood physical abuse ($n = 3$, 18.8%) and adult sexual assault ($n = 3$, 18.6%).⁴ Eight studies recruited participants with a diagnosis of PTSD (42.1%), whereas another 11 studies did not require a diagnosis of PTSD for inclusion in the study (57.9%). Few reported on or included comorbid psychiatric disorders; of those that did, the following were included: dissociative disorders ($n = 1$), presence of personality disorders ($n = 1$), psychosis ($n = 1$), depression and suicidality ($n = 4$), anxiety disorders ($n = 5$), and drug and alcohol use ($n = 6$). Many of the treatment studies reported that they excluded clients with particular disorders, including psychosis and/or serious mental illness, substance abuse or dependence, dissociation and/or associated disorders, and suicidal ideation and/or risk (see Table 1 for a full listing of participant demographics across studies).

EBRs

Table 2 describes the various methodologies, measures, inclusion and exclusion criteria for participation, and primary results across studies. Therapeutic and working alliance was by far the most widely discussed EBR and was researched in all studies present in the review ($n = 19$). The most widely used measure was the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989; $n = 17$), a well-established assessment with high reliability and validity. The measure contains three subscales (i.e., agreement on the goals of therapy, agreement on the tasks of therapy, and bond between client and therapist); thus, keywords such as collaboration and goal consensus were subsumed

¹One study did not report on mean age of participants.

²Eight studies did not report on ethnicity.

³One study did not report on gender.

⁴Four studies did not specify the exact percentages of types of trauma experienced.



Table 1. Demographic and Sample Characteristics of Studies Examining Empirically-Supported Relationship Variables in Trauma Listed in Chronological Order.

Study	N	Sample	Mean Age (SD); Range	% Female	Ethnicity	Trauma Type	Diagnoses
Paivio and Patterson (1999)	33	Self-referred clients with child abuse history	39 (19–72)	78	91% Caucasian	21% CPA, 36% CEA, 42% CSA	27% Axis II Disorder
Paivio et al. (2001)	–	–	–	–	–	–	–
Brown and O’Leary (2000)	140	Husband-to-wife violent couples seeking services	Husbands: 38 (8.99) Wives: 35 (8.35)	50	97% White, 2% African American, 1% Hispanic	50% IPV survivors; 50% IPV perpetrators	–
Cloitre et al. (2004) ^a	34	Clients with a history of childhood abuse seeking services	33 (7.02)	100	56% White, 21% African American, 12% Hispanic, 11% Other	29% CPA and CSA; 56% CSA, 15% CPA	100% PTSD; 53% MDD or dysthymia; 44% GAD; 18% Panic Disorder; 9% SUD
Cloitre et al. (2002) ^a	–	–	–	–	–	–	–
Cooper et al. (2002)	45	Client-therapist dyads across 35 university counseling centers	24	77	66% White, 11% African American, 8% Hispanic American, 8% international, 4% Native American, <1% multiracial, <1% Asian American	100% “stressful family experience”, 64% CSA	–
van Minnen et al. (2002) ^b	59	Clients seeking services from an university outpatient clinic specializing in anxiety disorders	34 (9.8, 16–60)	60	–	Car and other accidents, finding a person after homicide/suicide, sexual abuse, battering, rape, work-related trauma, severe violence, witnessing an accident or violence	100% PTSD
Taft et al. (2003)	107	IPV (men-to-women)	36.22 (8.89)	0	45.8% minority status	100% Perpetrators of IPV court-mandated to attend treatment	–
Walling et al. (2012)	–	–	–	–	–	–	–
Knaevelsrud and Maercker (2007)	96	Clients seeking services for trauma	35 (18–68)	90	–	32% sexual abuse/rape; 42% death of a close person; 1% accident; 1% physical disease	–

(Continued)

Table 1. (Continued).

Study	N	Sample	Mean Age (SD; Range)	% Female	Ethnicity	Trauma Type	Diagnoses
Forbes et al. (2008)	103	Male Vietnam Veterans	53.3 (7.5)	0		100% combat trauma	100% PTSD; 41% SUD; 37% MDD; 7% Anxiety Disorder
Rogers et al. (2008)	71	Community-based case management sample	19.4 (1.7, 16–22)	66	77% Australian, 7% European, 10% South East Asian, 1% New Zealander, 3% Pacific Islander, 2% Aboriginal	–	27% PTSD, 27% MDD; 10% Panic Disorder; 75% SUD; 38% Co-occurring
Germain et al. (2010)	46	Self-referred clients with primary diagnosis of PTSD	18–65	–		Trauma varied (car accident, war, armed robbery, physical or sexual aggression)	100% PTSD
Greene et al. (2010)	112	Combat veterans	55.1 (9)	0	47% Pacific Islander	92% combat	–
Mackintosh et al. (2014)	–	–	–	–	–	–	–
Keller et al. (2010)	188	Clients seeking services for trauma	37.1 (11.3, 18–65)	76.6	–	43.6% history of CSA	100% PTSD
McLaughlin et al. (2014) ^c	116	–	–	–	–	–	–
Ruglass et al. (2012)	223	Community-based substance use treatment program	40 (9.3)	100	44% Caucasian; 33% African American; 7.6% Latina; 15.7% Other	–	Severe levels of PTSD
Smith et al. (2012)	70	CSA survivors with depression	36.39 (9.86; 19–57)	100	–	100% CSA	Depression
Wagner et al. (2012)	47	Self-referred sample recruited from Iraq	27.7 (7)	81	70% Iraqi	24% torture/violence; 9% murder of family member; 41% war-related sexual violence; 23% other	–

(Continued)



Table 1. (Continued).

Study	N	Sample	Mean		Ethnicity	Trauma Type	Diagnoses
			Age (SD; Range)	% Female			
Hoffart et al. (2013)	67	Non-psychotic individuals in residential treatment	45.2 (9.7)	56		Women: 31.6% nonsexual assault by a familiar person; 23.7% sexual assault by a familiar person; 21.1% sexual assault by a stranger Men: 25.9% combat; 22.2% assault by a familiar person; 14.8% accident	Comorbid depression; panic disorder; social phobia; OCD; alcohol abuse/dependence
Cronin et al. (2014) ^d	132	Client-therapist dyads (see Brand et al., 2009 for larger study details)	45.57 (18–72)	96	89% Caucasian; 2% African American; 2% Hispanic; 2% Asian; 5% Other	79% CPA; 49% witnessed DV as child; 94% CEA; 68% neglected as child; 86% CSA	100% DD or DDNOS; 89% PTSD; 50% anxiety disorder; 83% mood disorder; 22% SUD; 2% Schizophrenia spectrum; 52% other
Ellis et al. (2014)	38	Active-duty military personnel admissions to an inpatient PTSD facility	31 (6.81; 21–43)	2		100% combat trauma	68.4% alcohol-related diagnosis; 24.3% chemical dependency
Brady et al. (2015)	58	Participants seeking treatment for primary diagnosis of PTSD	39.2 (11.4)	43	57% White; 28% Black; 15% Other	62% IPV; 28% accident; 5% witnessed harm to another person; 5% other	100% Primary diagnosis of PTSD

Note: Ethnicity categories are reported as described in original article.

^aReported sample sizes are for treatment completers.

^bThe original study included two separate groups of participants. Group 1, which appears in this table, directly measured alliance, whereas the second group did not.

^cThis study expands on previous results in the 2010 study but does include the SSRI group in analyses.

^dThis study was part of a larger naturalistic study; reported ethnicity, comorbidities, and type of abuse are from a larger sample of 280 individuals.

under this EBR. Differentiating between total score on the WAI and the various subscales was relatively uncommon in these studies. The WAI has several versions that allow for the client, therapist, or an objective observer to report alliance. In the review, the client's report was the most commonly utilized version with the short form ($n = 8$) or the long form ($n = 6$). Two studies utilized the observer form and five studies utilized the therapist form.

Other less commonly used therapeutic alliance measures included the California Psychotherapy Alliance Scale-Group version (Gaston & Marmar, 1994; $n = 2$), Combined Alliance short form (Hatcher & Barends, 1996; $n = 1$), Group Therapy Alliance Scale (Marziali, Munroe-Blum, & McCleary, 1997; $n = 1$), Revised Helping Alliance Scale (Luborsky et al., 1996; $n = 1$), and the Barrett-Lennard Relationship Inventory (Barrett-Lennard, 2015; $n = 1$). Group cohesion and repairing alliance ruptures were other EBRs also represented in one study each. However, none of the retained articles empirically examined EBR constructs such as managing countertransference, collecting client feedback, having positive regard or genuineness in the therapeutic relationship, or empathy.

Research has suggested that alliance ratings often differ depending on the rater (e.g., therapist, client, or observer), with most research supporting that client rating of alliance are more predictive of outcome (Martin, Garske, & Davis, 2000). Cronin, Brand, and Mattanah (2014) utilized both therapist and client ratings, and found these to be moderately correlated with one another, and furthermore, they corroborated past research findings that clients' perceptions of the alliance were more predictive of improvement in symptoms.

Methodology of studying alliance varied greatly (see Table 2). There appear to be two primary directions in studying alliance: (1) early alliance as a predictor of treatment outcome; and (2) alliance as a dynamic variable that changes over the course of treatment and these patterns of changes can predict outcome. For example, alliance was often utilized as a static variable by either averaging it across multiple sessions or utilizing only one time-point early in treatment (Brown & O'Leary, 2000; Cooper, Rowland, & Esper, 2002; Ellis, Peterson, Bufford, & Benson, 2014; Forbes et al., 2008; Greene et al., 2010; Paivio & Patterson, 1999; Rogers, Lubman, & Allen, 2008; Ruglass et al., 2012; Smith et al., 2012; van Minnen, Arntz, & Keijsers, 2002). The time at which alliance was measured it also varied by study. For example, the first assessment of alliance was measured as early as the first session (e.g., Brady, Warnock-Parkes, Barker, & Ehlers, 2015) and as late as the seventh session (Cooper et al., 2002).

Treatments

Several studies examined the effects of EBRs on treatment outcome utilizing specific treatment protocols. The majority of studies utilized cognitive and cognitive-behavioral therapies (CBT): CBT delivered via an online platform ($n = 2$), CBT delivered via video-teleconferencing (VTC;



Table 2. Methodologies and Results of Studies Examining Empirically-Supported Relationship Variables in Trauma Listed in Chronological Order.

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Paivio and Patterson (1999)	Immediate assignment to EFT ($n = 21$) or following a waitlist period ($n = 12$)	Individual; Average sessions = 20 (range 12–27)	WALL (client)	Administered at sessions 3, 4, 10, and termination	Inclusion: motivation; capacity to form a therapeutic relationship; capacity to focus on presenting issue; client agreement with treatment goal Exclusion: under 18 years of age; inability to recall abuse; current violent relationship; current drug/alcohol problem; current aggressive or self-harm behavior	Initial alliance was strong and steadily improved over time; Early alliance associated with reduced trauma symptoms; Alliance at termination associated with a reduction in PTSD symptoms and increased posttreatment self-acceptance; Axis II diagnosis significantly predicted alliance difficulties but also greater average posttreatment improvement
Paivio et al. (2001)	–	–	–	Completed analyses with session 4 only	–	Strong alliance in session four associated with improvements in global self-esteem; No other outcome measures were significantly associated with alliance
Brown and O'Leary (2000)	Random assignment ($n = 70$) to a conjoint CBT group or gender-specific CBT group	Group; 14 weeks (2 hours each); Mean number of sessions attended was 12.31	WAI-O	Completed analyses of Session 1 ratings due to majority of dropouts occurring before Session 4; Video was coded by two independent raters; Observations based on composite alliance of both therapists	Inclusion: couples living together and not seeking separation/divorce; wives reported at least 2 acts of husband-to-wife physical aggression in past year; husbands reported at least 1 act of husband-to-wife physical aggression in past year Exclusion: women who reported being fearful of husband; women who reported receiving medical attention as a result of husband's aggression	Alliance was unrelated to treatment completion; Husbands' alliance predicted decreased psychological and physical aggression; Husbands' alliance did not predict posttreatment marital satisfaction; Wives' alliance was unrelated to outcome measures

(Continued)

Table 2. (Continued).

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Cooper et al. (2002)	Assignment to psychoeducation and short-term trauma-related CBT	Individual; median = 7 sessions	WAI-L (client)	Administered once; median number of sessions at time of assessment = 7	Inclusion: stressful family experiences during childhood Exclusion: none reported	Alliance was best represented by therapist-client <i>Goal Agreement</i> ; In predicting therapist-rated social/occupational functioning for clients with CSA: <i>Goal Consensus</i> was the only one that showed significant contribution Quality of the patient-therapist relationship was not correlated with postassessment Early alliance not associated with session attendance; Later alliance ratings significantly predicted decreased conflict tactics scores on physical abuse, psychological abuse frequency, and emotional abuse frequency
van Minnen et al. (2002) ^a	Assignment to Prolonged Imaginal Exposure (n = 59)	Individual; 9 weeks (90 min.)	Barrett-Lennards Relationship Inventory	Administered at end of 3 rd session	Inclusion: PTSD diagnosis for at least 3 months Exclusion: none reported	
Taft et al. (2003)	Assignment to CBT program (n = 107)	Group; 16 weeks (120 min.)	WAI-L (client); WAI-S (therapist)	Administered at sessions 3 and 5; Administered at sessions 11 and 13; Averaged scores to create average early alliance and average later alliance	Inclusion: 18 years of age or older; collateral partner assented to participate; documented problem with relationship abuse Exclusion: ineligibility for treatment; not referred for group treatment; refusal to consent/assent	
Walling et al. (2012)	—	—	—	Administered at sessions 3, 5, 11, and 13; Created a curve analysis of alliance.	—	Average therapist-ratings of alliance over time indicated that these scores changed within participants, but did so differently across participants

(Continued)



Table 2. (Continued).

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Cloître et al. (2004) ^b	Random assignment to STAIR with modified PE ($n = 22$) or minimal attention waitlist ($n = 24$)	Individual; 12 weeks (16 sessions)	WAI-5 (client)	Administered every session; Averaged sessions 3, 4, and 5	Inclusion: female; history of sexual or physical abuse by a caretaker or person in authority; primary PTSD diagnosis; literate in English; 18–70 years of age Exclusion: current or past organic mental disorder, schizophrenia, paranoid disorder; current diagnosis of substance dependence, bipolar disorder, dissociative disorder	Higher working alliance was associated with lower degree of PTSD symptoms; Therapeutic alliance and outcome effect size was 0.47; On average, non-completers dropped out prior to beginning Phase 2 but there were no differences in alliance scores for completers vs. non-completers Alliance predicted improvement in reducing PTSD symptoms when beginning prolonged exposure exercises
Cloître et al. (2002)	–	–	–	–	–	–
Knaevelsrud and Maercker (2007) ^c	Random assignment ($n = 96$) to waitlist control or experimental	Interapy (online/email); 5 weeks	WAI-5 (client); WAI-5 (therapist)	Administered at sessions 4 and 10	Inclusion: experienced a traumatic event at least 1 month prior to treatment and met PTSD criteria; 18 years of age or older; within cutoff scores for dissociation and psychosis; no current abuse of alcohol or other drugs; no consumptions of neuroleptics; fluent in written German; not be receiving treatment elsewhere Exclusion: none reported	Alliance at end of therapy predicted 15% of variance in PTSD posttreatment scores; Those who had a better therapeutic relationship benefited more from treatment. Patient ratings predicted decreased symptoms at posttreatment.

(Continued)

Table 2. (Continued).

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Forbes et al. (2008)	–	–	WAI-S (client)	Administered 3-weeks after intake	–	Alliance did not predict treatment outcome; No correlations between therapist- or client-rated alliance and outcome
Rogers et al. (2008)	Assignment to drug treatment case management services (n = 71)	Individual; Average time in treatment 20.3 months	WAI-S (client); WAI-S (therapist)	Administered at baseline	None reported	PTSD lifetime diagnosis was a predictor of lower client-ratings on baseline WAI; Baseline WAI scores predicted changes in decreased depression
Germain et al. (2010)	Non-random assignment (n = 46) to CBT in-person therapy or CBT VTC	Individual; 16–25 weeks (60 min.)	WAI-L (client)	Administered at sessions 1, 5, before exposure, after exposure, and posttreatment; Computed linear and quadratic trends	Inclusion: primary diagnosis of PTSD; between the ages of 16–85 Exclusion: diagnosis of schizophrenia, dementia, severe personality disorder, intellectual disability, substance abuse, physical condition (e.g., epilepsy or visual problems)	No significant difference in alliance development between the two conditions; No significant difference in alliance from beginning to the exposure module; Continuous progression in alliance over time

(Continued)



Table 2. (Continued).

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Greene et al. (2010)	Random assignment ($n = 112$) to group anger management treatment via VTC or in-person	Group; 12 sessions; all participants attended at least 9 sessions	Group Therapy Alliance Scale (GTAS)	Administered mid-treatment	Inclusion: lifetime diagnosis of PTSD; moderate to severe anger symptoms; if applicable, on a stable psychiatric medication regimen for at least 2 months Exclusion: Active alcohol or substance dependence or psychosis; unwillingness to refrain from substance abuse during treatment, history of organic mental disorder; significant cognitive impairment; active homicidal or suicidal ideation.	Significant differences between in-person and VTC alliance with the group leader, with VTC being lower
Mackintosh et al. (2014)	-	-	-	-	-	Arousal/Calmng skills mediated the relationship between alliance and Arousal Anger, between alliance and Cognitive Anger, and alliance and Behavioral Anger, Cognitive Coping skills and Behavioral Control did not mediate the relationship between alliance and anger; Positive therapeutic alliance did not directly predict anger symptom change in any model

(Continued)

Table 2. (Continued).

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Keller et al. (2010)	Random assignment (n = 188) to treatment condition of PE or SSRI	Individual; 10 weeks (PE 90–120 min., SSRI 30–45 min.)	WAI-S (client)	Administered at beginning of sessions 2 and 4	Inclusion: primary diagnosis of PTSD; 18–65 years of age Exclusion: diagnosis of psychosis or unstable bipolar disorder; current substance dependence; high suicide risk; ongoing relationship with perpetrators	CSA history not predictive of a lower alliance early alliance; PE group reported stronger alliance than SSRI group; early alliance correlated with PE homework adherence; positive trauma-related social support was sole predictor of strong early alliance above and beyond treatment modality
McLaughlin et al. (2014) ^d	Client assigned to PE treatment condition (n = 116)	Individual; 10 weeks (PE 90–120 min.)	CALPAS	Administered at sessions 2, 4, 6, 8, 10; Each individual was analyzed with a mean alliance score, slope, and standard deviation	–	Unrepaired ruptures in alliance predicted highest posttreatment PTSD severity; higher alliance was correlated with lower posttreatment PTSD severity

(Continued)



Table 2. (Continued).

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Ruglass et al. (2012)	Random assignment to seeking safety or Women's Health Education group	Group; two sessions per week delivered over 6 weeks (75–90 min.)	Revised Helping Alliance questionnaire (HAQ-II)	Administered at sessions 4 and 12; Session 4 scores used for analyses	Inclusion: At least one lifetime traumatic event; current or lifetime diagnostic criteria for full or subthreshold PTSD; 18–65 years of age; used alcohol/illicit substances within 6 months and met current diagnosis of drug/alcohol abuse/dependence; provided informed consent Exclusion: impaired cognition; significant risk of suicidal/homicidal intent or behavior; history of schizophrenia-spectrum diagnosis or active psychosis in the past 2 months; involved in litigation related to PTSD; non-English speaking Inclusion: female; current Major Depressive episode; childhood sexual abuse history Exclusion: Active psychosis; diagnosis of schizophrenia, bipolar disorder, mental retardation, active substance abuse/dependence	Early alliance (regardless of group condition) predicted reduction in PTSD and retention in the program
Smith et al. (2012)	Random assignment to IPT or TAU	Individual	WAI-S (client)	Administered at the end of session 3		Higher working alliance associated with greater improvements in depressive symptoms for IPT but not TAU

(Continued)

Table 2. (Continued).

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Wagner et al. (2012)	Random assignment to Internet-based CBT or wait-list control	Individual	WAI-S (client; Arabic version)	Administered at the end of sessions 4 and 10	Inclusion: Access to computer history of torture or trauma; knowledge of Arabic; 18–65 years of age Exclusion: severe depression with serious suicidal intent; psychotic tendencies; severe dissociation	Alliance remained stable; Early alliance associated with reduced posttraumatic symptoms at posttreatment
Hoffart et al. (2013)	Random assignment to standard PE (with imaginal exposure, $n = 30$) or modified PE (with imaginal rescripting, $n = 31$)	Individual; 10 weeks (90 min.)	WAI-S (client)	Administered weekly	Inclusion: PTSD diagnosis; 18–67 years of age; accepting withdrawal of all psychotropic meds Exclusion: extensive dissociative symptoms; current suicidal risk; current psychosis; ongoing trauma	Time-specific change in <i>Task Agreement</i> was related to change in PTSD symptoms; initial bond was also important for overall outcome in exposure-based therapy
Cronin et al. (2014) ^e	Examine treatment outcomes for clients receiving TAU	Individual; in treatment on average for 5 years with current therapist	Combined Alliance Short Form (client); WAI (therapist)	Administered at 18 months and 30 months	Inclusion: ongoing treatment for at least 3 months; DD or DD-NOS diagnosis; 18 years of age; able to read in English Exclusion: none reported	Patient-rated and therapist-rated alliance were moderately correlated; patient-rated and therapist-rated alliance was associated with fewer symptoms and better overall functioning; patient-rated alliance predict improvement over time.
Ellis et al. (2014)	Examine treatment outcomes in a sample treated with CPT ($n = 38$)	Group; 2–4 hours of daily therapy for 28-days	CALPAS-Group Version	Administered at termination	Inclusion: presence of combat exposure; PTSD diagnosis Exclusion: none reported	Patient working capacity predicted 20.2% of the variance in PTSD symptomatology at posttreatment

(Continued)

Table 2. (Continued).

Study	Study Design	Treatment Type and Duration	EBRV Measure	Assessment Schedule	Inclusion/Exclusion Criteria	Results
Brady et al. (2015)	Comparison of poor ($n = 24$) and good ($n = 34$) responders to CT-PTSD (measured by reduction in PTSD symptoms)	Individual; at least 5 sessions (50–116 min)	WAI-O-S	No information provided	Inclusion: PTSD diagnosis; attended at least 5 treatment sessions with a qualified therapist or nurse therapist; working audio tapes Exclusion: none reported	Therapeutic alliance was high in both groups; <i>Task Agreement</i> was significantly higher in those who responded well versus poor; correlations found between alliance and treatment delivery efficiency/competency

^aThe original study included two separate groups of participants. Group 1, which appears in this table, directly measured alliance, whereas the second group did not.

^bReported sample sizes are for treatment completers. The active condition originally had 31 participants (9 dropped out), and the waitlist condition had 27 participants (3 dropped out).

^cPortions of this study were previously presented in Knaevelsrud and Maercker (2006) in which only the treatment group was analyzed. Findings from the 2006 study indicated that alliance was not found to directly influence posttraumatic symptoms.

^dThis study expands on previous results in the 2010 study but does include the SSRI group in analyses.

^eReported sample sizes are for treatment completers. The IR group originally had 33 participants (2 dropped out), and the IE group originally had 31 participants (1 dropped out) This study was part of a larger naturalistic study; reported ethnicity, comorbidities, and type of abuse are from a larger sample of 280 individuals.

^fCALPAS = California Alliance Psychotherapy Alliance Scale WAI = Working Alliance Inventory; WAI-L = Working Alliance Inventory-Long Form; WAI-O = Working Alliance Inventory-Observer; WAI-O-S = Working Alliance Inventory-Observer Short Form; WAI-S = Working Alliance Inventory-Short Form;

CBT = cognitive behavioral therapy; CEA = childhood emotional abuse; CMHC = Community Mental Health Center; CPA = childhood physical abuse; CPT = cognitive processing therapy; CSA = childhood sexual abuse; CT-PTSD = cognitive therapy for PTSD; DD = dissociative disorder; DD-NOS = dissociative disorder not otherwise specified; DV = domestic violence; EFT = emotionally focused therapy; GAD = generalized anxiety disorder; IE = imaginal exposure; IPT = interpersonal therapy; IPV = intimate partner violence; MDD = major depressive disorder; OCD = obsessive compulsive disorder; PE = prolonged exposure; PTSD = posttraumatic stress disorder; SSRI = selective serotonin reuptake inhibitor; STAIR = skills training in affective and interpersonal regulation; SUD = substance use disorder; TAU = treatment as usual; VTC = video tele-conferencing

$n = 2$), cognitive therapy-PTSD ($n = 1$), CBT with psychoeducation ($n = 1$), CBT via group format ($n = 1$), and CBT in couples counseling format ($n = 1$). Prolonged exposure (PE; Foa, Hembree, & Rothbaum, 2007; $n = 4$), interpersonal psychotherapy (IPT; Weissman, Markowitz, & Klerman, 2000; $n = 1$), skills training in affective and interpersonal regulation (STAIR; Levitt & Cloitre, 2005; $n = 1$), emotionally-focused therapy (EFT; Johnson, 2004; $n = 1$), and seeking safety (Najavits, 2002; $n = 1$) were also utilized. Three studies utilized “treatment as usual” (TAU) or another unspecified modality.

A higher working alliance was associated with greater improvements in depression for individuals assigned to IPT over those receiving TAU, in a comparison of the two treatments, as reported by Smith et al. (2012). Relatedly, Paivio and Patterson (1999) found that a strong early alliance during EFT was associated with reduced trauma symptoms and increased self-acceptance posttreatment as well as improved self-esteem (Paivio, Hall, Holowaty, Jellis, & Tran, 2001).

Similar associations have been found when examining the effects of EBRs in PE. For example, task agreement on the WAI was associated with a reduction in PTSD symptoms (Hoffart, Oktedalen, Langkaas, & Wampold, 2013), as was a strong working alliance (McLaughlin, Keller, Feeny, Youngstrom, & Zoellner, 2014). When comparing individuals receiving PE therapy with those receiving only anti-depressant medication, a strong alliance was correlated with homework adherence for the PE group (Keller, Zoellner, & Feeny, 2010). Furthermore, the authors found that those subjects receiving PE had a significantly stronger therapeutic alliance with their therapists as compared to participants receiving anti-depressant medication in the context of 30–45 minute sessions with the psychiatrist that included general support and encouragement. In therapies that target trauma-related issues such as PTSD and co-morbid interpersonal relationship problems (i.e., STAIR) and substance abuse (i.e., seeking safety), the therapeutic alliance was also predictive of improvement in PTSD symptoms (Cloitre, Chase Stovall-McClough, Regina, & Chemtob, 2004; Cloitre, Koenen, Cohen, & Han, 2002; Ruglass et al., 2012).

Of the four studies that utilized PE, only two indicated that clients’ experienced significant dropout rates. van Minnen et al. (2002) noted that 14 patients dropped out (23.7%), 10 of whom did so prior to session three where imaginal exposure typically first occurs. The difference in self-reported therapy relationship between completers and dropouts, at baseline, was not reported in the article. In the Cloitre et al. (2004, 2002) studies, nine participants ($n = 29\%$) dropped out of the PE condition and alliance was only reported on for the treatment completers. Thus, any conclusions that are made about alliance are limited, as it can be surmised that those who stay in treatment are likely to report a strong therapeutic alliance. It should also

be noted, however, that the Keller et al. (2010) study did not experience any dropout, but did state that there was missing data.⁵ Furthermore, Hoffart et al. (2013) only noted one and two dropouts ($n = 3$, <1%) from each of the PE groups, respectively, suggesting that dropout was not a significant barrier. These results should be interpreted with caution however, as the sample consisted of patients referred to a PTSD-specific inpatient program, which may have precluded some from withdrawing their participation due to feeling they have little choice. Two of those who dropped out in the Hoffart et al. (2013) study cited complications with their therapist as the primary reason for dropout.

The results were somewhat mixed regarding the ability to form a therapeutic alliance in telepsychology interventions with trauma survivors. For example, Germain, Marchand, Bouchard, Guay, and Drouin (2010) compared in-person therapy with videoconferencing and found that there were no significant differences in alliance scores between either condition, suggesting that alliance can be built through telehealth applications. However, Greene and colleagues (2010) found that the video teleconferencing (VTC) group indicated lower self-leader alliance scores than that of the in-person condition. Alliance also predicted 15% of the variance in posttreatment scores in PTSD symptoms with a better relationship posttreatment showing that self-referred individuals reporting trauma benefitted more from an online CBT-based treatment program than those who were on the waitlist (Knaevelsrud & Maercker, 2007). However, in one study comparing in person group treatment with VTC a lower level of alliance was found between the clients and group leader in the VTC condition (Greene et al., 2010). Additionally, Mackintosh, Morland, Frueh, Greene, and Rosen (2014) found that a positive alliance did not directly predict anger symptom change following the delivery of video therapy for anger issues secondary to PTSD.

EBRs on treatment outcome

All but two studies utilized correlational research designs to determine if there were effects of EBRs on pre- to post-changes in outcome measures (see Cloitre et al., 2002; Hoffart et al., 2013). Only two studies out of 25 did not find that EBRs had a positive impact on therapeutic outcome. One focused on the therapeutic alliance and treatment outcome in a sample of male Vietnam veterans from Australia (Forbes et al., 2008) and the other was on an outpatient population attending treatment specializing in anxiety disorders in the Netherlands (van Minnen et al., 2002).

⁵McLaughlin et al. (2014) is a later iteration of Keller et al. (2010) and notes that there is missing data, but does not specify that this is due to attrition, resulting in inconsistency in the degrees of freedom reported. Keller et al. (2010) note that missing data were not imputed and only one case was deleted for being an outlier.

More specifically, of the studies that found a significant relationship of an EBR on treatment outcome, most found a notable significant positive working alliance between the therapist and client and associated reduction in PTSD symptoms. For example, higher alliance was associated with lower posttreatment PTSD symptoms (Cloitre et al., 2004; McLaughlin et al., 2014; Paivio & Patterson, 1999; Ruglass et al., 2012) and depression (Smith et al., 2012). Furthermore, when alliance ruptures were not repaired, this predicted higher posttreatment severity in PTSD symptoms (McLaughlin et al., 2014). Early alliance was also predictive of greater adherence with homework in PE and positive trauma-related social support (i.e., positive trauma support offered on the part of the therapist) was the sole predictor of strong early alliance above and beyond treatment modality (Keller et al., 2010). Factors that contributed to a strong working alliance varied across type of treatment and delivery format (i.e., group, individual, couples). Furthermore, WAI *Task Agreement* between the therapist and client was significantly higher for those clients with a greater reduction in PTSD symptoms (Brady et al., 2015). In this same study, a lack of improvement in PTSD symptom reduction, high levels of perseveration, and reduced expression of emotion were statistically negatively associated with the working alliance.

In a study of combined CBT and psychoeducation for PTSD, the WAI *Goal Consensus* subscale was associated with a significant contribution to improved social and occupational functioning (Cooper et al., 2002). In a group format, a positive working alliance was predictive of lower rates of physical and psychological abuse in a sample of male perpetrators referred for treatment following intimate partner violence (Taft, Murphy, King, Musser, & DeDeyn, 2003). In couples treatment, Brown and O'Leary (2000) found that although wives' alliance was not predictive of treatment outcome, husband's alliance predicted decreases in mild psychological and physical aggression.

Despite having affective and interpersonal difficulties that may make fostering a strong therapeutic relationship more difficult, Paivio and Patterson (1999) found that personality disorder symptomatology was linked, on average, with greater posttreatment improvement, despite the fact that these individuals reported the weakest alliances at the onset of therapy. Other pre-therapy factors—such as interpersonal sensitivity, PTSD and global symptom severity, number of types of trauma exposures, and age of onset of trauma exposure—also appear to be unrelated to alliance (Doukas et al., 2014), suggesting that these are not barriers to the formation of a strong therapeutic relationship. The results of the empirical studies in this review suggest that alliance is not related to dropout (see Brown & O'Leary, 2000), nor was it associated with differentiation between treatment completers and those who dropped out prior to initiating the second phase of treatment that included exposure therapy (Cloitre et al., 2002). However,

an early alliance was correlated with the number of treatment sessions completed (Keller et al., 2010).

Discussion

The results of this systematic review indicate that, at present, there are few empirical studies examining the impact of the majority of EBRs on psychological treatment outcome for adults with trauma and trauma-related disorders such as PTSD and dissociation. Although theoretical discussions and some empirical investigations were found in the literature search, there were no empirical investigations specifically on collecting client feedback, managing countertransference, therapist genuineness and positive regard, and their potential impact on treatment outcome with trauma survivors.

The bulk of the studies of an EBR variable on treatment outcome in trauma survivors were on therapeutic alliance. The majority found that alliance was predictive of or associated with a reduction in various types of symptomatology. Due to the interpersonal nature of many traumas, it has been hypothesized that a treatment alliance is more difficult to establish with trauma survivors than in a general treatment population. The majority of studies identified in the literature search concluded that clients with a history of trauma were able to form trusting interpersonal connections (Cronin et al., 2014) and having a history of childhood sexual abuse was not predictive of a lower early alliance (Keller et al., 2010). Despite the strong consensus in the literature that PTSD is not a barrier to the formation of alliance in adult samples, it should be noted that in a sample of young adults, PTSD symptoms predicted worse ratings on alliance; this may indicate that such a diagnosis is more influential in the development of alliance for younger populations (Rogers et al., 2008).

Few studies examined both client and therapist ratings of alliance, citing past research that indicates client ratings are the best predictor of treatment outcome (Martin et al., 2000). For those studies that utilized both therapist and client ratings, the majority found that individuals with a trauma history showed more variance over time as compared to therapist ratings (Knaevelsrud & Maercker, 2007), and steadily increase over time (Walling, Suvak, Howard, Taft, & Murphy, 2012).

Results of studies on the relationship between a working alliance and reduction in PTSD and related issues are equivocal. These results extended to alternative delivery formats. For example, two studies of Internet-based therapy found that working alliance was predictive of PTSD outcomes (Knaevelsrud & Maercker, 2007; Wagner, Brand, Shulz, & Knaevelsrud, 2012).

It is hypothesized that alliance is curvilinear or quadratic in nature; that is, it is not expected to steadily increase over time, but rather, ebb and flow with ruptures and repairs (Gelso & Carter, 1994). Several studies addressed this by

administering assessment measures repeatedly throughout the treatment (see Hoffart et al., 2013; McLaughlin et al., 2014). Though repeated measures designs are difficult and costly to carry out, correlational research between two time points may fail to adequately capture the relational nuances of working with a trauma population. For instance, McLaughlin et al. (2014) found that unrepaired alliance ruptures predicted the highest PTSD symptom severity at posttreatment; interestingly, not having a rupture predicted the lowest severity of PTSD symptoms. These findings suggest that unrepaired ruptures result in worse outcomes for individuals. However, alliance ruptures are not a necessary requisite of successful treatment (e.g., decreased PTSD symptomatology).

Previous literature has posited that childhood abuse, and other forms of interpersonal trauma, can greatly impair individuals' abilities to forge meaningful connections. However, the findings of the treatment studies included in this review offer preliminary data suggesting that a history of interpersonal trauma may not be a contributing factor to a low therapeutic alliance. For example, the results of several studies of subjects with a history of childhood sexual abuse did not find lower alliance (see Keller et al., 2010; Paivio & Patterson, 1999). An alternative explanation that remains to be studied may be that trauma leads to comorbid diagnoses, and the symptoms associated with those diagnoses act as a barrier to the formation of a strong working relationship. Multiple studies in this review excluded trauma survivors with co-occurring diagnoses of serious mental illness, personality disorders, and/or substance abuse as well as histories of psychiatric hospitalizations or suicidality, thus leaving the question open and unexamined. Gottlieb, Mueser, Rosenberg, Xie, and Wolfe (2011), in comparing individuals with psychotic depression to those without psychosis, found that the former had higher levels of depression and anxiety, a weaker therapeutic relationship, and increased maladaptive cognitions and negative beliefs. Thus, more information is needed on clients with severe and complex symptom pictures as these clients may have weaker alliances.

Only two studies in the review did not support the positive impact of EBRs on therapeutic outcome. Forbes and colleagues (2008) examined a sample of Australian Vietnam veterans receiving residential treatment for PTSD. They found that a strong therapeutic alliance did not predict treatment outcome in regards to PTSD symptomatology. The authors do not specify the particular intervention, length of time in treatment, or duration or type of contact with the therapist, which results in difficulty deducing what factors may be contributing to the non-significant findings. In the second study, van Minnen and colleagues (2002) studied a sample of outpatients in a specialized clinic for anxiety disorders in the Netherlands. Results indicated that there was no correlation between the therapeutic relationship and postassessment or follow-up outcome measures. This study utilized the Barrett-

Lennard Relationship Inventory (Barrett-Lennard, 2015). In a systematic review of the most used measures of alliance, the aforementioned scale was not referenced (Ardito & Rabellino, 2011), indicating that it may not be a common assessment tool. Furthermore, the Barrett-Lennard Relationship Inventory was developed to assess relationships in general and may not sufficiently tap into the construct of EBRs.

There are several limitations of our review that should be noted. One is that we did not include studies with children due to differences between adults and children in regards to treatment recommendations and symptom manifestation of PTSD and trauma-related disorders. Second, the sample of studies that were selected for review only included those that explicitly measured trauma. However, it is well known that there are high rates of trauma in individuals in a broad range of clinical populations, including those with eating disorders, personality disorders, and addiction. A third limitation includes the relatively small number of studies with overlapping study features (e.g., sample demographics, therapy type), thereby limiting generalizability.

Several areas for future research were identified through this systematic review. First, studies should utilize both client and therapist-ratings of alliance. Research has supported the notion that client-ratings are more predictive as compared to therapist-ratings in general samples. In our review, few studies utilized therapist-ratings, citing this past evidence. Future research may want to examine both therapist and client-ratings on alliance to determine if one significantly predicts treatment outcome over and above the other. Second, early alliance (e.g., typically measured between the third and fifth sessions) has been implicated as a predictor of treatment outcome. It is recommended that studies utilize a measure of later alliance as well to test for ruptures and repairs, continued steady increases in alliance, as well as impact on dropout rates. Also, studies should seek to increase external validity and generalizability of samples in lieu of rigorously controlling for internal validity. Many of the studies utilized strict exclusion criteria that may reduce the ability to generalize to a clinical population typically seen in outpatient or mental health centers.

Although EBRs include a myriad of variables, results of the studies included in this review produced findings primarily focused on the development of a working alliance or in one case, group cohesion. Further research is needed to examine how other relationship factors, such as genuineness, managing countertransference, and collecting client feedback, may be better understood as predictors of outcome and/or potential mechanisms of action that foster psychotherapeutic change and growth.

In general, dissemination and implementation of evidence-based psychotherapies for PTSD have also not emphasized the importance of EBR variables beyond the therapist's ability to deliver the manualized intervention

with fidelity. However, one recent naturalistic study by Laska, Smith, Wislocki, Minami, and Wampold (2013) speaks to the importance of paying attention to the therapist in the delivery of these types of treatments. Using an archival database of 192 veterans (172 male, 20 female; aged 21 to 79) who had completed 12 sessions of cognitive processing therapy delivered in an individual format in a VA PTSD specialty clinic, they found that approximately 12% of the variability in large reductions of self-reported PTSD symptoms at the end of treatment was attributable to therapist variables.

Dalenberg (2014) posits that several EBRs are of particular relevance to trauma clinicians: warmth, genuineness, and goal consensus are a few. The results of the current review suggest that clinical practitioners should consider the importance of rapport-building. In fact, Wampold et al. (2010) determined that many of these EBR variables are likely important in the successful treatment of PTSD (i.e., collaborative agreement on tasks and goals of therapy, developing a strong and trusting therapeutic alliance). However, there are remaining questions that are left unanswered with the current scope of the research, namely, what is the role of managing countertransference, client feedback, and goal consensus, to name a few, in managing treatment outcome for individuals with trauma disorders? Asnaani and Foa (2014) call for the need to conduct empirical comparisons testing the influence of relationship variables over and beyond specific treatment ingredients. In order to determine the most effective therapy and improve the quality of mental health services and training, clinical investigators should strongly consider adding measurement of both the technique and the relationship for their separate and synergistic impacts. Additionally, clinicians may benefit from using both pre-treatment and progress monitoring measurements of alliance and goal consensus (e.g., WAI) and therapeutic distance (see Mallinckrodt, Choi, & Daly, 2015) as a gauge of intervention success. Scientific knowledge of the psychotherapy relationship is essential to deepening the capacity of trauma therapists to effectively treat individuals who may have experienced the relational ruptures present in many kinds of interpersonal trauma.

References

- Adams, S. A., & Riggs, S. A. (2008). An exploratory study of vicarious trauma among therapist trainees. *Training and Education in Professional Psychology, 2*, 26–34. doi:10.1037/1931-3918.2.1.26
- APA Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist, 61*, 271–285. doi:10.1037/0003-066X.61.4.271
- Ardito, R. B., & Rabellino, D. (2011). Therapeutic alliance and outcome of psychotherapy: Historical excursus, measurements, and prospects for research. *Frontiers in Psychology, 2*, 1–11. doi:10.3389/fpsyg.2011.00270

- Asnaani, A., & Foa, E. B. (2014). Expanding the lens of evidence-based practice in psychotherapy to include a common factors perspective: Comment on Laska, Gurman and Wampold. *Psychotherapy, 51*, 487–490. doi:10.1037/a0036891
- Barrett-Lennard, G. (2015). *The Relationship Inventory: A complete resource and guide* (1st ed.). Malden, MA: John Wiley & Sons, Ltd.
- Brady, F., Warnock-Parkes, E., Barker, C., & Ehlers, A. (2015). Early in-session predictors of response to trauma-focused cognitive therapy for posttraumatic stress disorder. *Behaviour Research and Therapy, 75*, 40–47. doi:10.1016/j.brat.2015.10.001
- Brand, B. L., Classen, C. C., Lanius, R., Loewenstein, R. J., McNary, S. W., Pain, C., & Putnam, F. (2009). A naturalistic study of dissociative identity disorder and dissociative disorder not otherwise specified patients treated by community clinicians. *Psychological Trauma: Theory, Research, Practice, & Policy, 1*, 153–171. doi:10.1037/a0016210
- Brown, P. D., & O'Leary, D. (2000). Therapeutic alliance: Predicting continuance and success in group treatment for spouse abuse. *Journal of Consulting and Clinical Psychology, 68*, 340–345. doi:10.1037/0022-006X.68.2.340
- Cloitre, M., Chase Stovall-McClough, K., Regina, M., & Chemtob, C. M. (2004). Therapeutic alliance, negative mood regulation, and treatment outcome in child abuse-related post-traumatic stress disorder. *Journal of Consulting and Clinical Psychology, 72*, 411–416. doi:10.1037/0022-006X.72.3.411
- Cloitre, M., Courtois, C. A., Charuvastra, A., Carapezza, R., Stolbach, B. C., & Green, B. L. (2011). Treatment of complex PTSD: Results of the ISTSS expert clinician survey on best practices. *Journal of Traumatic Stress, 24*, 615–627. doi:10.1002/jts.20697
- Cloitre, M., Koenen, K. C., Cohen, L. R., & Han, H. (2002). Skills training in affective and interpersonal regulation followed by exposure: A phase-based treatment for PTSD related to childhood abuse. *Journal of Consulting and Clinical Psychology, 70*, 1067–1074. doi:10.1037/0022-006X.70.5.1067
- Cooper, S. E., Rowland, D. L., & Esper, J. A. (2002). The relevance of family-of-origin and sexual assault experience to therapeutic outcomes with college students. *Psychotherapy: Theory, Research, Practice, Training, 39*, 324–343. doi:10.1037/0033-3204.39.4.324
- Cronin, E., Brand, B. L., & Mattanah, J. F. (2014). The impact of the therapeutic alliance on treatment outcome in patients with dissociative disorders. *European Journal of Psychotraumatology, 5*, 1–9. doi:10.3402/ejpt.v5.22676
- Dalenberg, C. (2014). On building a science of common factors in trauma therapy. *Journal of Trauma & Dissociation, 15*, 373–383. doi:10.1080/15299732.2014.903458
- Doukas, A., D'Andrea, W., Doran, J., & Pole, N. (2014). Psychophysiological predictors of working alliance among treatment-seeking women with complex trauma exposure. *Journal of Traumatic Stress, 27*, 672–679. doi:10.1002/jts.21968
- Ellis, C. C., Peterson, M., Bufford, R., & Benson, J. (2014). The importance of group cohesion in inpatient treatment of combat-related PTSD. *International Journal of Group Psychotherapy, 64*, 209–226. doi:10.1521/ijgp.2014.64.2.208
- Foa, E. B., Hembree, E. A., & Rothbaum, B. O. (2007). *Prolonged Exposure Therapy for PTSD: Therapist guide*. New York, NY: Oxford University Press.
- Forbes, D., Parslow, R., Creamer, M., Allen, N., McHugh, T., & Hopwood, M. (2008). Mechanisms of anger and treatment outcome in combat veterans with posttraumatic stress disorder. *Journal of Traumatic Stress, 21*, 142–149. doi:10.1002/jts.20315
- Gaston, L., & Marmar, C. R. (1994). The California psychotherapy alliance scales. In A. O. Horvath, & L. S. Greenberg (Eds.), *The working alliance: Theory, research, and practice* (pp. 85–108). New York, NY: John Wiley and Sons.

- Gelso, C. J., & Carter, J. A. (1994). Components of the psychotherapy relationship: Their interaction and unfolding during treatment. *Journal of Counseling Psychology, 41*, 296–306. doi:10.1037/0022-0167.41.3.296
- Germain, V., Marchand, A., Bouchard, S., Guay, S., & Drouin, M.-S. (2010). Assessment of the therapeutic alliance in face-to-face or videoconference treatment for posttraumatic stress disorder. *Cyberpsychology, Behavior, and Social Networking, 13*, 29–35. doi:10.1089/cyber.2009.0139
- Gottlieb, J. D., Mueser, K. T., Rosenberg, S. D., Xie, H., & Wolfe, R. S. (2011). Psychotic depression, posttraumatic stress disorder, and engagement in cognitive-behavioral therapy within an outpatient sample of adults with serious mental illness. *Comprehensive Psychiatry, 52*, 41–49. doi:10.1016/j.comppsy.2010.04.012
- Greene, C. J., Morland, L. A., Macdonald, A., Frueh, B. C., Grubbs, K. M., & Rosen, C. S. (2010). How does tele-mental health affect group therapy process: Secondary analysis of a noninferiority trial. *Journal of Consulting and Clinical Psychology, 78*, 746–750. doi:10.1037/a0020158
- Hatcher, R. L., & Barends, A. W. (1996). Patient's view of the alliance in psychotherapy: Exploratory factor analysis of three alliance measures. *Journal of Consulting and Clinical Psychology, 64*, 1326–1336. doi:10.1037/0022-006X.64.6.1326
- Hoffart, A., Oktedalen, T., Langkaas, T. F., & Wampold, B. E. (2013). Alliance and outcome in varying imagery procedures for PTSD: A study of within-person processes. *Journal of Counseling Psychology, 60*, 471–482. doi:10.1037/a0033604
- Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working Alliance Inventory. *Journal of Counseling Psychology, 36*, 223–233. doi:10.1037/0022-0167.36.2.223
- Johnson, S. M. (2004). *Creating connection: The practice of emotionally focused therapy* (2nd ed.). New York, NY: Brunner/Routledge.
- Kanninen, K., Salo, J., & Punamaki, R.-L. (2000). Attachment patterns and working alliance in trauma therapy for victims of political violence. *Psychotherapy Research, 10*, 435–449. doi:10.1093/ptr/10.4.435
- Keller, S. M., Zoellner, L. A., & Feeny, N. C. (2010). Understanding factors associated with early therapeutic alliance in PTSD treatment: Adherence, childhood sexual abuse history, and social support. *Journal of Consulting and Clinical Psychology, 78*, 974–979. doi:10.1037/a0020758
- Knaevelsrud, C., & Maercker, A. (2006). Does the quality of the working alliance predict treatment outcome in online psychotherapy for traumatized patients? *Journal of Medical Internet Research, 8*, e31. doi:10.2196/jmir.8.4.e31
- Knaevelsrud, C., & Maercker, A. (2007). Internet-based treatment for PTSD reduces distress and facilitates the development of a strong therapeutic alliance: A randomized controlled clinical trial. *BMC Psychiatry, 7*. doi:10.1186/1471-244X-7-13
- Krysinska, K., & Lester, D. (2010). Post-traumatic stress disorder and suicide risk: A systematic review. *Journals of Archives of Suicide Research, 14*, 1–23. doi:10.1080/13811110903478997
- Laska, K. M., Gurman, A. S., & Wampold, B. E. (2014). Expanding the lens of evidence-based practice in psychotherapy: A common factors perspective. *Psychotherapy, 51*, 467–481. doi:10.1037/a0034332
- Laska, K. M., Smith, T. L., Wislocki, A. P., Minami, T., & Wampold, B. E. (2013). Uniformity of evidence-based treatments in practice? Therapist effects in the delivery of cognitive processing therapy for PTSD. *Journal of Counseling Psychology, 60*, 31–41. doi:10.1037/a0031294
- Levitt, J. T., & Cloitre, M. (2005). A clinician's guide to STAIR/MPE: Treatment for PTSD related to childhood abuse. *Cognitive and Behavioral Practice, 12*, 40–52. doi:10.1016/S1077-7229(05)80038-0

- Luborsky, L., Barber, J. P., Siqueland, L., Johnson, S., Najavits, L. M., Frank, A., & Daley, D. (1996). The revised helping questionnaire (HAQ-II). *Journal of Psychotherapy Practice & Research*, 5, 260–271.
- Mackintosh, M., Morland, L. A., Frueh, B. C., Greene, C. J., & Rosen, C. S. (2014). Peeking into the black box: Mechanisms of action for anger management treatment. *Journal of Anxiety Disorders*, 28, 687–695. doi:10.1016/j.janxdis.2014.07.001
- Mallinckrodt, B., Choi, G., & Daly, K. (2015). Pilot test of a measure to assess therapeutic distance and its association with client attachment, and corrective experience in therapy. *Psychotherapy Research*, 25, 505–517. doi:10.1080/10503307.2014.928755
- Martin, D. J., Garske, J. P., & Davis, K. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 68, 438–450. doi:10.1037/0022-006X.68.3.438
- Marziali, E., Munroe-Blum, H., & McCleary, L. (1997). The contribution of group cohesion and group alliance to the outcome of group psychotherapy. *International Journal of Group Psychotherapy*, 47, 475–497. doi:10.1080/00207284.1997.11490846
- McLaughlin, A. A., Keller, S. M., Feeny, N. C., Youngstrom, E. A., & Zoellner, L. A. (2014). Patterns of therapeutic alliance: Rupture-repair episodes in prolonged exposure for post-traumatic stress disorder. *Journal of Consulting and Clinical Psychology*, 82, 112–121. doi:10.1037/a0034696
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Grp, P. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *Plos Medicine*, 6(7). doi:10.1371/journal.pmed.1000097
- Najavits, L. M. (2002). *Seeking safety: A treatment manual for PTSD and substance abuse*. New York, NY: Guildford Press.
- Norcross, J. C., & Wampold, B. E. (2011). Evidence-based therapy relationships: Research conclusions and clinical practices. *Psychotherapy*, 48, 98–102. doi:10.1037/a0022161
- Paivio, S. C., Hall, I. E., Holowaty, K. A. M., Jellis, J. B., & Tran, N. (2001). Imaginal confrontation for resolving child abuse issues. *Psychotherapy Research*, 11, 433–453. doi:10.1093/ptr/11.4.433
- Paivio, S. C., & Patterson, L. A. (1999). Alliance development in therapy for resolving child abuse issues. *Psychotherapy: Theory, Research, Practice, & Training*, 36, 343–354. doi:10.1037/h0087843
- Rogers, N., Lubman, D. I., & Allen, N. B. (2008). Therapeutic alliance and change in psychiatric symptoms in adolescents and young adults receiving drug treatment. *Journal of Substance Use*, 13, 325–339. doi:10.1080/14659890802092063
- Ruglass, L. M., Miele, G. M., Hien, D. A., Campbell, A. N. C., Hu, M.-C., Caldieri, N., ... Nunes, E. V. (2012). Helping alliance, retention, and treatment outcomes: A secondary analysis from the NIDA Clinical Trials Network Women and Trauma Study. *Substance Use & Misuse*, 47, 695–707. doi:10.3109/10826084.2012.659789
- Salston, M., & Figley, C. R. (2003). Secondary traumatic stress effects of working with survivors of criminal victimization. *Journal of Traumatic Stress*, 16, 167–174. doi:10.1023/A:1022899207206
- Smith, P. N., Gamble, S. A., Cort, N. A., Ward, E. A., He, H., & Talbot, N. L. (2012). Attachment and alliance in the treatment of depressed, sexually abused women. *Depression and Anxiety*, 29, 123–130. doi:10.1002/da.20913
- Taft, C. T., Murphy, C. M., King, D. W., Musser, P. H., & DeDeyn, J. M. (2003). Process and treatment adherence factors in group cognitive-behavioral therapy for partner violent men. *Journal of Consulting and Clinical Psychology*, 71, 812–820. doi:10.1037/0022-006X.71.4.812

- van Minnen, A., Arntz, A., & Keijsers, G. P. J. (2002). Prolonged exposure in patients with chronic PTSD: Predictors of treatment outcome and dropout. *Behaviour Research and Therapy*, *40*, 439–457. doi:[10.1016/S0005-7967\(01\)00024-9](https://doi.org/10.1016/S0005-7967(01)00024-9)
- Wagner, B., Brand, J., Shulz, W., & Knaevelsrud, C. (2012). Online working alliance predicts treatment outcome for posttraumatic stress symptoms in Arab war-traumatized patients. *Depression and Anxiety*, *29*, 646–651. doi:[10.1002/da.21962](https://doi.org/10.1002/da.21962)
- Walling, S. M., Suvak, M. K., Howard, J. M., Taft, C. T., & Murphy, C. M. (2012). Race/ethnicity as a predictor of change in working alliance during cognitive behavioral therapy for intimate partner violence perpetrators. *Psychotherapy*, *49*, 180–189. doi:[10.1037/a0025751](https://doi.org/10.1037/a0025751)
- Wampold, B. E., Imel, Z. E., Laska, K. M., Benish, S., Miller, S. M., Fluckiger, C., . . . Budge, S. (2010). Determining what works in the treatment of PTSD. *Clinical Psychology Review*, *30*, 923–933. doi:[10.1016/j.cpr.2010.06.005](https://doi.org/10.1016/j.cpr.2010.06.005)
- Weissman, M. M., Markowitz, J. C., & Klerman, G. L. (2000). *Comprehensive guide to interpersonal psychotherapy*. New York, NY: Basic Books.