The relationship between borderline personality, coping, and posttraumatic stress disorder in Dutch veterans seeking treatment

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Abstract

Posttraumatic stress disorder (PTSD) is a serious health problem observed among veterans. There is a need to investigate determinants that affect treatment outcome for veterans with PTSD, in order to make treatment more beneficial for them. Borderline Personality Disorder (or features) and maladaptive coping are two important factors that affect treatment outcome. The present study focuses on these factors and their relation to PTSD. Self-report measures of PTSD were obtained before and after six months of treatment. Passive and Avoidant coping and features of Borderline were assessed by self-report measures before veterans received treatment. Data of 43 Dutch veterans were assessed using a mixed design ANOVA. Results reveal that veterans scoring high on Passive coping, had more PTSD symptoms before treatment than veterans scoring average on Passive coping. Veterans with Borderline features did not have more PTSD severity before treatment or less treatment-related symptom reduction, compared to veterans without Borderline features. The same results apply to veterans using high Avoidant coping, compared to veterans using average Avoidant coping. Maladaptive coping did not moderate the relationship between Borderline features and PTSD. The findings of this study suggest that interventions targeting Passive coping may help reduce combat-related PTSD symptoms in this population.

Samenvatting

Posttraumatische stress stoornis (PTSS) vormt een belangrijk probleem voor veteranen. Meer kennis over determinanten die van invloed zijn op de behandeluitkomst voor veteranen is nodig, zodat de doelgroep meer baat zou kunnen hebben bij behandeling. Twee belangrijke factoren die de behandeluitkomst kunnen beïnvloeden zijn borderline persoonlijkheidsstoornis en mal-adaptieve coping. De huidige studie onderzoekt deze factoren en hun relatie met PTSS. Mal-adaptieve coping en borderline symptomen werden voorafgaand aan de behandeling gemeten aan de hand van vragenlijsten. PTSS symptomen werden voorafgaand aan de behandeling en na zes maanden behandeling gemeten. Gegevens van 43 Nederlandse veteranen werden geanalyseerd met behulp van een mixed design ANOVA. Uit de resultaten blijkt dat veteranen die hoog scoorden op passieve coping, meer PTSS symptomen hadden dan veteranen die gemiddeld scoorden. Veteranen met borderline symptomen hadden niet meer PTSS symptomen voorafgaand aan de behandeling en niet minder PTSS afname na behandeling, dan veteranen zonder borderline symptomen. Dezelfde resultaten werden gevonden voor hoog vermijdende coping, vergeleken met gemiddeld vermijdende coping. Er is geen moderatie effect gevonden van mal-adaptieve coping op de relatie tussen borderline symptomen en PTSS. Interventies gericht op passieve coping zijn van belang om PTSS symptomen van veteranen te verminderen.

Introduction

One of the most common mental health problems observed among veterans is posttraumatic stress disorder (PTSD) (Ormerod, 2009). Currently, there are approximately 115.000 veterans in the Netherlands ("Veteranen Instituut," 2014). An estimated 3 to 4 % of Dutch veterans will suffer from PTSD at some point after returning to civilian life (Engelhard et al., 2007). PTSD is an anxiety disorder that is characterized by experiencing a traumatic event that involves (threatened) death or injury to self or to others. Symptoms following the traumatic event can be: intrusive and distressing memories, nightmares, or dissociative reactions, such as flashbacks. People with PTSD actively avoid internal and external reminders of the traumatic event. Other symptoms are negative alterations in cognition, mood, arousal and reactivity associated with the traumatic event (American Psychiatric Association [APA], 2013). Because combat-related PTSD is often chronic and results in serious functional impairment (Richardson, Elhai, & Sarreen, 2011), there is a need for better understanding of factors that may improve treatment outcome.

Treatment for PTSD includes psychotherapeutic and pharmacologic interventions (Lloyd et al., 2014). Trauma-focused psychotherapy includes a range of interventions, such as prolonged exposure, that are promising psychotherapeutic interventions for veterans (Dickstein, Walter, Schumm, & Chard, 2013; Yehuda, Vermetten, McFarlane, & Lehrner, 2014). Still, veterans benefit less from treatment than other populations with PTSD, indicating that treatment does not always lead to recovery (Richardson, Elhai, & Sarreen, 2011; Walter, Bolte, Owens, & Chard, 2012). To improve treatment outcome for veterans with PTSD, it is important to investigate factors that may impact treatment outcome (Richardson, Elhai, & Sarreen, 2011). An important predictor of treatment outcome is the presence of one or more personality disorders (Lloyd et al., 2014).

Bollinger, Riggs, Blake, and Ruzek (2000) revealed that 79 % of Vietnam inpatient veterans with PTSD suffered from at least one personality disorder. Another study measuring a sample of outpatient veterans with PTSD, found that 45 % had at least one personality disorder (Dunn et al. 2004). Most frequent personality disorders associated with PTSD are borderline, obsessive-compulsive, avoidant, and paranoid personality disorder (Southwick, Yehuda, & Giller, 1993). Particularly Borderline Personality Disorder (BPD) negatively affects treatment outcome in the avoidance and hyper arousal symptom clusters of PTSD (Forbes et al., 2003). BPD is defined by emotional instability, lack of impulse control, disturbance in self-image, chronic feelings of emptiness, intense and unstable interpersonal relationships, and self-destructive behavior including suicide gesture attempts (APA, 2013). Several studies have reported BPD or BPD features ranging from 37 to 68 % in veterans with PTSD (Shea, Zlotnick, & Weisberg, 1999; Sherwood, Funari, & Piekarski, 1990; Southwick, Yehuda, & Giller, 1993).

Another important identified predictor of PTSD treatment outcome is coping (Stein et al., 2005). People react in various ways when they encounter stressful situations (Olff, Langeland, & Gersons, 2005). Coping with stressful situations is described by Lazarus (1991) as a constantly changing process of cognitive and behavioral efforts employed by an individual to deal with the demands that are created by the stressful person–environment transaction. Numerous different coping strategies have been identified, and different classifications have been made in an attempt to categorize them (Armeli & Cimbolic, 2001). A useful distinction can be made between adaptive coping and maladaptive coping (Aldao & Nolen-Hoeksema, 2012). There is limited longitudinal research examining the relationship between maladaptive coping and PTSD over time. The current study focuses on the effect of maladaptive coping on PTSD symptoms and the effect of maladaptive coping on PTSD symptoms over time. Identifying specific maladaptive coping strategies may suggest particular targets for clinical interventions.

Maladaptive coping includes passive coping strategies such as avoidant coping and emotion focused coping. These strategies are frequently used by veterans to cope with war memories (Blake, Cook, & Keane, 1992; Hyer, McCranie, Boudewyns, & Sperr, 1996; Schreurs, Van de Willige, Brosschot, Tellegen, & Graus, 1993). Avoidant coping is a strategy oriented away from unpleasant experiences and emotions (Tiet et al., 2006). This strategy includes withdrawing from others, attempting to disengage or suppress thoughts and feelings about the experience, and even denying that the experience occurred, or denying one's thoughts or feelings about the experience (Snyder & Pulvers, 2001). Studies have found that patients with PTSD try to manage the enormous psychological demands of their trauma by using avoidant coping which paradoxically increases their symptoms (e.g. Tiet et al., 2006; Badour, Blonigen, Boden, Feldner, & Bonn-Miller, 2012). Tiet et al. (2006) found that cognitive avoidant coping predicted PTSD symptoms, which in turn predicted more behavioral avoidance. Another study of Badour, Blonigen, Boden, Feldner, and Bonn-Miller (2012) found that avoidant coping measured before treatment, predicted PTSD symptom severity after treatment in veterans with chronic PTSD. Benotsch et al. (2000) evaluated the relationship between avoidance coping and PTSD symptoms in a sample of Gulf War veterans. They found that avoidance coping at the first assessment predicted time two PTSD symptoms.

Little research involving veterans focused on the relationship between coping, PTSD, and BPD. A study of Johnson, Sheahan, and Chard (2003) found that Avoidant coping was related to both PTSD severity and BPD. Some personality traits may predispose individuals to engage in less successful coping strategies. For instance, the tendency to react to stressful situations with somatic complaints may be the result of an avoidant coping style (Bramsen, Dirkzwager, & Van der Ploeg, 2000). Rademaker (2009) found that the inability to cope effectively with a traumatic event, can

contribute to changes in personality of veterans. The inability to cope effectively with a traumatic event may affect an individual's level of self-esteem and other self-schemas. Personality traits may also impact on the appraisal of stress and the utilization of particular coping recourses (Folkman & Moskowitz, 2004). Lazarus and Folkman's (1984) Transactional Model of Stress and Coping stated that a stressful event will trigger the primary appraisal process in which an individual assesses the degree of threat in relation to his or her wellbeing. When an event is perceived as threatening, the secondary appraisal process provides a global assessment of the individual's coping resources and ability to manage the threat. In other words, a stress response depends upon the individual's interpretation of the stressor and the ability to cope with it. A longitudinal study of Pineles et al. (2011) revealed that the relationship of trauma reactivity and PTSD symptoms was moderated by avoidant coping. Hyer, McCranie, Boudewyns, and Sperr (1996) concluded that the relation between personality disorders, coping strategies and PTSD symptoms is complicated. To date, there is no straightforward interpretation of the relationship between BPD, coping, and PTSD in the veteran population.

In the current longitudinal study, the relationship between coping, BPD, and PTSD was further examined. Because high rates of BPD comorbidity were identified in several studies (Shea, Zlotnick, & Weisberg, 1999; Sherwood, Funari, & Piekarski, 1990; Southwick, Yehuda, & Giller, 1993), and the negative effect of BPD in treatment outcome has been identified (Forbes et al., 2003), it was hypothesized that veterans with BPD features will have higher PTSD symptom severity before treatment (1 a) and less PTSD symptom reduction after 6 months of treatment (1 b), than veterans without BPD features. It is important to note that the current study focuses on Borderline Personality features, rather than meeting full criteria for a diagnosis of BPD. Axelrod, Morgan, and Southwick (2005) did not find a relationship between veterans with BPD features and postwar PTSD symptoms. However, their measure of BP features was pre-war, whereas the current study makes use of a post-war measure of BPD features. Furthermore, maladaptive coping strategies have been associated with PTSD symptom severity and with treatment outcome (Tiet et al., 2006; Badour, Blonigen, Boden, Feldner, & Bonn-Miller, 2012). It is therefore hypothesized that veterans scoring high on maladaptive coping will have higher PTSD severity before treatment (2 a), and less PTSD symptom reduction after treatment (2 b), than veterans scoring low on maladaptive coping. To our knowledge, no other studies examined BPD features, maladaptive coping, and their relationship on PTSD treatment outcome with veterans. Maladaptive coping may influence the association between BPD and PTSD symptom severity, as maladaptive coping has been associated with both BPD and PTSD. It was hypothesized that maladaptive coping will moderate the relationship between BPD features and PTSD, in the sense that the relationship between BPD features and PTSD severity will be stronger

under conditions of high maladaptive coping and weaker under conditions of low maladaptive coping (3).

Method

Participants

The participants were 43 Dutch military veterans who met full diagnostic criteria for PTSD at pretreatment, as indicated by the DSM-IV-TR. Demographic characteristics of 7 veterans were missing. Therefore, the sample was composed of 35 males and 1 female ranging from 25 to 56 years of age. The mean age was 39.2 years (*SD* = 9.5). The majority of the veterans was male (81.4%), and married (32.6%). Further characteristics are presented in table 1. Data were collected from January 2013 through December 2015 at 3 locations in the Netherlands: Stichting Centrum '45; an institution specializing in diagnosing and treating individuals with psychological trauma (*n* = 30; 69.8%), the Militaire Geestelijke Gezondheidszorg (MGGZ); a governmental institution for military people and veterans (*n* = 6; 14.0%), and Reinier van Arkel (RvA); an institution for individuals with psychological complaints (*n* = 7; 16.3%).

Measures

This study used a series of self-report questionnaires that measured patient's PTSD symptom severity, coping strategies and borderline personality organization. Self-report measures are frequently used to assess treatment success in clinical practice (Forbes, Creamer, & Biddle, 2001).

The Utrechtse Coping Lijst (UCL; Schreurs, van de Willige, Brosschot, Tellegen, & Graus, 1993) was used to determine which coping strategies were used by the veterans. It is one of the most commonly used coping questionnaires in the Netherlands. Similar reliability coefficients (ranging from .67 to .84), and scale stability overtime were found for different populations (Schreurs, van de Willige, Brosschot, Tellegen, & Graus, 1993). Schaufeli and Dierendonck (1992) concluded that the UCL is a reliable and valid instrument for the assessment of coping strategies (Schaufeli & Dierendonck, 1992). The UCL consists of 47 items comprising 7 forms of coping: Active coping, Palliative coping, Avoidance, Seeking social support, Passive coping, Expressing emotions, and Reassuring thoughts (Schreurs, van de Willige, Brosschot, Tellegen, & Graus, 1993). The current study focuses on maladaptive coping. Based on described previously literature, Avoidant coping and Passive coping were defined as maladaptive coping strategies. Avoidant coping is described by the UCL as not facing problems, evading situations, and waiting for something to happen. Passive coping is described as worrying about the past, not having control over ones problems, and fearing the

future. The current study found low internal consistency for Avoidant coping (Cronbach's α = .66) and Passive coping (Cronbach's α = .64).

The Nederlandse Verkorte MMPI (NVM; Luteijn & Kok, 1985) was used to measure BPD features. The NVM is the Dutch version of the MMPI-2, which is frequently used to measure personality traits in PTSD patients (Forbes et al., 2003). The NVM contains 83 items of which 76 items belong to the MMPI-2 and 7 to the original MMPI. The items are divided into scales: Negativism, Somatization, Shyness, Severe psychopathology, and Extraversion (Luteijn & Kok, 1985). In Dutch populations, the scales have been found to be internally consistent and to have test-retest reliability and validity (Luteijn, & Kok, 1985). The current study finds reasonably good internal consistency for Shyness (Cronbach's α = .71) and Severe psychopathology (Cronbach's α = .70). Negativism (Cronbach's α =.48), Somatization (Cronbach's α =.27), and Extraversion (Cronbach's α =.66) has low internal consistency.

Some individuals seen in clinical settings experience personality disturbances which cannot be categorized as a personality disorder (Finn, Arbisi, Erbes, Polusny, & Thuras, 2014). Eurelings-Bontekoe and Snellen (2003) developed several personality organizations (PO), assessed by theory-driven profile interpretations of the NVM. A PO indicates vulnerability for the development of personality pathology (Eurelings-Bontekoe & Snellen, 2003). Different combinations of three of the scales of the NVM (Negativism, Severe psychopathology, and Shyness) are used to assess the level of PO. Kernberg describes three levels of PO: neurotic (NPO), psychotic (PPO), and borderline (BPO). Five subgroups are distinguished within the BPO domain (Eurelings-Bontekoe et al., 2009). In increasing order of severity of personality pathology, these domains are: Immature BPO, Narcissistic BPO, High-level BPO, Low-level BPO, and Psychotic BPO (Scholte et al., 2014).

To rate the severity of PTSD, the Schokverwerkingslijst-22 (SVL-22) was used. The SVL-22 is the Dutch version of the Impact of Event Scale-Revised (IES-R), and can be used to diagnose individuals who have had traumatic experiences or to evaluate treatment. The instrument has three subscales: intrusion, avoidance, and hyper arousal with 7, 8, and 7 items respectively (Brom & Kleber, 1985). The previous Dutch version of the IES-R was developed by Brom and Kleber (1985), and has been proven to be a valid instrument with a robust factor structure (Van der Ploeg, Mooren, Kleber, Van der Velden & Brom, 2004). The subscales of the IES-R have excellent internal consistency reliability, ranging from .80s to .90s. The internal consistency reliability of the full scale of the IES-R has been reported as .96 (Weiss & Marmar, 1996). The current study found good internal consistency of intrusion and avoidance subscales, with a Cronbach's α reported of .89 and .80, respectively. Cronbach's α coefficient of hyper arousal was .63.

Procedure

Veterans diagnosed with war-related PTSD during their intake were asked to complete a series of self-report questionnaires that had been composed by the National Care System for Veterans (LZV). The questionnaires included the UCL, NVM, and SVL-22. Demographic characteristics were also collected. Completion of the intake measure took approximately 1.5 hours (Time 1). Subsequently, the veterans began their treatment for PTSD. The treatment program for veterans consisted of different types of therapy, of which trauma-focused therapy, such as Eye Movement Desensitization and Reprocessing (EMDR), and Narrative Exposure Therapy (NET) were very important. Other therapies such as psychodynamic therapy, were also offered, individually or in a group with other veterans. After 6 months of treatment, a follow-up measure was completed that took approximately 15 minutes (Time 2). It included the SVL-22, which was used to determine whether PTSD symptoms of intrusion, avoidance, and hyper arousal were altered during treatment. When veterans dropped out before completing 6 months of treatment, an exit measure was conducted when veterans were still able to visit the institution or when they agreed to complete the questionnaires by telephone. The exit measure was similar to the follow-up measurement.

Data analysis

Data from the questionnaires were entered into SPSS 20. Parametric statistics were used for the analyses. All tests of significance were performed at $\alpha = .05$. Sum scores were calculated for the UCL, NVM, and SVL-22 at Time 1 and Time 2. Veterans scoring on any of the five subtypes of BPO, were counted as scoring on BPO.

Kolmogorov-Smirnov and Shapiro–Wilk tests were conducted to examine distributions of all variables. For most of the variables, the tests showed non-significant results, and Q-Q Plots showed straight lines, indicating that the assumption of normality was met. Variables that were not normally distributed were transformed using Reflect and square root (Tabachnick & Fidell, 2001). Skewness and kurtosis scores were improved and histograms showed acceptable normal distributions. The data were checked for outliers throught boxplots. There were some missing values for the UCL and the NVM. Little's Missing Completely at Random (MCAR) Test was performed to check whether data were missing at random or not. The test was found to be non-significant, which allowed for a Missing Values Analysis to replace the missing values with predicted values.

The data were analyzed using a mixed design ANOVA, also referred to as mixed between-within subjects ANOVA, because it combines an independent design with repeated measures (Field, 2009). Firstly, the assumptions for ANOVA were checked. The assumption of independence of observations was met. The assumption of homoscedasticity was tested with Levene's test. It was not necessary to perform Mauchly's test of sphericity, because the model contained only 2 within

subjects variables. The assumption of homogeneity of intercorrelations was tested with Box's Test of Equality of Covariance Matrices. Non-significant results were found for all analyses, indicating that the assumption was met.

For the first hypothesis, differences between veterans with and without a BPO were examined, and the interaction of BPO and Time was examined. The within subjects factor PTSD symptom severity was entered into the model as a dependent, continuous variable. The between subjects factor BPO was entered as an independent, categorical variable. For the second hypothesis, the procedure used for the first hypothesis was repeated, but instead of BPO, maladaptive coping was the between subjects factor. Raw scores of Avoidant and Passive coping were converted into low, average, and high scores according to the guidelines. To measure a moderation effect for the third hypothesis, a three way interaction variable of Coping x Time x BPO was added to the model of mixed design ANOVA.

Results

Table 1 displays demographic characteristics of the veterans at intake measure (Time 1). Nom scores of the SVL-22 and the UCL were used to compare scores of the current sample.

Table 1

Pretreatment characteristics of veterans (n = 43)

Variable	N	%	*M*	*SD*
Age (years)			39.2	9.5
Sex				
Men	35	81.4		
Women	1	2.3		
Marital status[a]				
Married	14	32.6		
Unmarried with partner	11	25.6		
Unmarried without partner	8	18.6		
Divorced	2	4.7		
Employment status				
Full time paid job	17	39.5		
Disabled	17	39.5		
Unemployed	2	4.7		
Education				
University	4	9.3		
Middle education	14	32.6		
Low education	18	41.9		
BPO[b]				
Immature	4	9.3		
Narcissistic	6	14.0		
High-level	0	0		
Low-level	9	21.0		
Psychotic	11	25.6		
Adaptive Coping				
Seeking social support			10.1[c]	3.2
Active			16.7[c]	3.9
Maladaptive Coping				
Avoidant			18.5[d]	3.7
Passive			18.5[d]	3.4
PTSD symptoms				
Intrusion			20.3[c]	5.8
Avoidance			17.7[c]	6.1
Hyper arousal			18.2[d]	3.8

Note. PTSD = posttraumatic stress disorder; BPO = Borderline Personality Organization. [a]Marital status included other (2.3%). [b]BPO (*n*=30; 69.8%), no BPO (*n*=13; 30.2). [c]Average norm score. [d]High norm score.

Considering hypothesis 1a, no significant main effect of BPO was found, indicating that having a BPO did not affect symptom severity, $F(1,41) = .956$, $p = .334$. This implicated that veterans with a BPO do not have higher PTSD symptom severity than veterans without a BPO, before treatment. For hypothesis 1b, the interaction of BPO and Time was analyzed to investigate whether veterans with a BPO had more symptom reduction after six months of treatment. The interaction of BPO and Time was not significant, $F(1,41) = .156$, $p = .695$, indicating that veterans with a BPO did not

have more symptom reduction than veterans without a BPO. The analyses were repeated for the Hyper arousal, Intrusion, and Avoidance domains, but with these variables no significant effects were found either.

The second hypothesis examined the difference between veterans scoring high and scoring low on maladaptive coping. Maladaptive coping in the present study includes Avoidant coping and Passive coping. The analyses were executed separately for Passive and Avoidant coping. Hypothesis 2a argued that veterans scoring high on maladaptive coping will have higher PTSD symptoms before treatment than veterans scoring low on maladaptive coping. Nobody had a low norm score for Avoidant coping, therefore only average (n = 18) and high (n = 25) scores were compared. There was no significant main effect of Avoidant coping, indicating that scoring average or high on Avoidant coping did not affect PTSD symptoms before treatment, $F(1,41)$ = .295, p = .590. The analysis was repeated for Passive coping. Only one person had a low score on Passive coping, therefore only average (n = 18) and high scores (n = 24) were compared. A significant main effect was found for Passive coping, $F(2,40)$ = 3.626, p = .036. Partial Eta Squared had a value of .15, which suggested a large effect size. The significant main effect indicated that veterans scoring average on Passive coping have lower PTSD symptoms before treatment than veterans scoring high on Passive coping.

Hypothesis 2b concerned the interaction effect of maladaptive coping and Time. The interaction of Avoidant coping and Time was not significant, $F(1,41)$ = .099, p = .755. The interaction of Passive coping and Time was not significant either, $F(2,40)$ = .486, p = .619. It can be concluded that there was no improvement of PTSD symptoms over time for veterans using average maladaptive coping compared to high maladaptive coping. The cell sizes, means, and standard deviations for the 2x2 mixed design ANOVA are presented in Table 2.

Table 2

Descriptive statistics for BPO and Coping with statistic test scores for PTSD at Time 1 and Time 2

	PTSD Time 1			PTSD Time 2		
	N	*M*	*SD*	N	*M*	*SD*
BPO	30	58.0	13.2	30	56.3	24.3
No BPO	13	52.2	11.7	13	53.2	12.9
Avoidant coping						
Low	-	-	-	-	-	-
Average	18	55.4	16.0	18	53.4	22.7
High	25	56.8	10.5	25	56.7	18.1
Passive coping						
Low	-	-	-	-	-	-
Average	18	51.6*	12.1	18	48.2	22.7
High	24	60.3*	12.4	24	60.7	16.5

Note. Time 1 = before treatment, Time 2 = after six months of treatment. *p < .05.

A three way interaction was added to the model for the third hypothesis, which measured BPO x maladaptive coping x Time. The interaction indicated whether the combined effect of BPO and Time is the same for veterans with average norm scores and high norm scores of maladaptive coping. The analyses were executed separately for Avoidant and Passive coping. There was no significant interaction found for BPO x Passive coping x Time, $F(1,38) = .378$, $p = .542$. No significant interaction was found for BPO x Avoidant coping x Time either, $F(1,39) = 1.656$, $p = .206$. Considering hypothesis 3 it can be concluded that no moderation effect was found for maladaptive coping. There is no difference between veterans scoring average or high on maladaptive coping for the relation between having a BPO or not and PTSD severity.

Discussion

The current study has found that veterans using high Passive coping have more PTSD symptoms before treatment than veterans using average Passive coping. Avoidant coping and BPO were not associated with PTSD symptoms and PTSD symptom change over time. The strength of the current study is that it has not looked merely at the relationship between single factors and PTSD treatment outcome, as was often the case in previous research. This study is the first to investigate the relationship between BPO, PTSD and maladaptive coping. A methodological strength of this study was the longitudinal design. No significant moderation was found of maladaptive coping on the relation between BPO and PTSD.

The finding that Avoidant coping was not associated with PTSD severity before treatment and with PTSD symptom change, was unexpected. Avoidant coping was frequently used by the veterans in this study. However, studies cited before also found that pretreatment avoidant coping predicted PTSD symptom severity after treatment (e.g. Badour, Blonigen, Boden, Feldner, and Bonn-Miller, 2012). According to Lazarus (1991), avoidant coping strategies are not always maladaptive. Avoidance used initially, may be even a useful strategy for coping with stressful events. A study of Snyder and Pulvers (2001) found that avoidant coping may reduce distress in the short-term, but when used on the long term, it was conceptualized as being maladaptive. According to the Transactional model of Stress and Coping (Lazarus and Folkman, 1984), individuals with minimal psychological resources due to traumatic experiences tend to use more maladaptive coping. The explanation for this phenomenon is that initially, an individual may be too emotionally overwhelmed to engage in adaptive coping (Snyder and Pulvers, 2001). It is possible that the period of six months in which the veterans were measured was too short, as such that Avoidant coping was helping them to deal successfully with the distress caused by ongoing treatment.

While Avoidant coping has been described clearly in literature, Passive coping is often not. Therefore, it remains difficult to indicate which part of Passive coping is successful of predicting more PTSD symptoms for those who score high on Passive coping. The UCL describes Passive coping as worrying about the past, not having control over ones problems, and fearing the future. Ruminative coping is similar to 'worrying about the past' of Passive coping. Ruminative coping involves repetitively and passively thinking about a traumatic experience, such as imagining ways in which the traumatic experience could have been avoided or prevented (Littleton, Axsom, & Grills-Taquechel, 2011). Rumination is associated with PTSD symptoms in veterans (Borders, McAndrew, Quigley, & Chandler, 2012). Possibly, rumination is the part of Passive coping which explains the relation between high Passive coping and more PTSD symptoms in the current study.

Veterans with a BPO do not have more PTSD severity and do not benefit less from treatment than veterans without a BPO. These findings are not in line with previous research, which indicated that BPD negatively affects treatment outcome in the avoidance and hyper arousal symptom clusters of PTSD (Forbes et al., 2003). Axelrod, Morgan, and Southwick (2005) did find similar results as the current study; a relationship between veterans with BPD features and PTSD symptoms after treatment was not found. Importantly, the result of the current study that having a BPO does not affect PTSD symptoms and treatment outcome, may not generalize to a group diagnosed formally with BPD. Eurelings-Bontekoe, Peen, Noteboom, Alkema, and Dekker (2012) investigated patients diagnosed with a BPO, who were treated for their symptoms. Results demonstrated that more than 40 % of those with a BPO did not suffer from BPD. They also demonstrated that of all BPO subtypes, patients with the high-level BPO profile showed the largest increase in well-being and the largest decrease in severity of symptoms after 6 months of treatment. Severity of symptoms and well-being of patients with psychotic BPO profiles did not change over time. The current study makes no distinction between the different BPO subtypes. It may be that different subtypes of BPO lead to differences in PTSD symptom severity as well. Future research may investigate the implications of different subtypes of BPO on PTSD symptoms.

Currently there is an ongoing debate about a new category propesed by the World Health Organization's International Classification of Diseases (WHO ICD, 2007), named Complex PTSD (CPTSD). CPTSD is characterized by the three core symptoms of PTSD (re-experiencing, avoidance, and hyper arousal), accompanied by enduring disturbances in the domains of affect, self, and interpersonal relationships (Maercker et al., 2013). Veterans belong to a population that meets the criteria for this category (Cloitre, Garvert, Brewin, Bryant, & Maercker, 2013). The World Health Organization (WHO) has proposed the inclusion of CPTSD as a new diagnosis related to, but separate from PTSD. Complex trauma is important to consider as a diagnosis, because the clinical presentation

of patients with complex trauma exposure may be distinct from those with PTSD as defined in the DSM. There is overlap in symptoms between CPTSD and BPD but their key features differ and lead to different treatment implications (Cloitre, Garvert, Weiss, Carlson, & Bryant, 2014). Making a distinction between PTSD and CPTSD does not seem relevant to do for veterans with a BPO, since the current study found no relation between BPO and PTSD.

The current study measured Borderline features based on the Borderline Personality Organization, developed by Eurelings-Bontekoe and Snellen (2003), who claimed BPO and other PO's to be valid instruments which are often used in clinical practice. Smid and Kamphuis (2005) were among the first to criticize the PO's by stating that not enough empirical evidence was found to validate the practical use of the PO's. They suggested that more empirical research needs to be done.

The results of the present study need to be viewed in the context of several limitations. First, this was a naturalistic study, which did not include a control group. Therefore, this study needs to be replicated with randomized trials. Second, the number of veterans with a BPO was very high ($n = 30$), whereas veterans without a BPO ($n = 13$) were underrepresented; this imbalance may have affected the results. The effect of unbalanced groups may have reduced or violated the power of the hypothesis comparing veterans with and without a BPO. It is possible that the non-significant results found in this study, were due to insufficient power because of small group sizes. Moreover, this study's only measure was self-report measures. By definition, these are more vulnerable to response bias (Shedler, Mayman, & Manis, 1993). For future studies it may be interesting to combine self-report and clinician-rated assessment. Possibly, the number of therapy sessions and the number of trauma-focused therapy sessions can have affected the results. Trauma-focused therapy has been proven to be effective for veterans with PTSD (Kitchiner, Roberts, Wilcox, & Bisson, 2012). Hundt et al. (2014) explained that investigating the association between treatment response and duration of psychotherapy is useful. This may answer the question whether patients receiving more psychotherapy sessions will benefit from this extensive treatment.

It is recommended that the current study will be replicated with a bigger sample size, with equally sized groups, and controlled for number of therapy sessions and trauma-focused therapy sessions. Because veterans with average Passive coping scores have less severe PTSD symptoms than veterans with high Passive coping scores, clinicians should focus on ways to diminish the use of Passive coping. Future studies should also investigate which part of Passive coping is determining the relation with PTSD symptoms. It seems important that the treatment of veterans emphasize the teaching of more healthy coping strategies. More longitudinal research is needed to more thoroughly understand the relationships between BPO, maladaptive coping, and PTSD.

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