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Disentangling the Relationship Between Posttraumatic Stress Disorder, Criminogenic Risk, and Criminal History Among Veterans

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Abstract

Objective: Posttraumatic stress disorder (PTSD) is positively associated with involvement in the criminal justice system among veterans. Research that examines whether this association is confounded by risk factors (“criminogenic needs”) from the risk-need-responsivity (RNR) model of correctional rehabilitation can inform risk management with this population.

Hypotheses: We hypothesized that (a) veterans with probable PTSD would score higher on all criminogenic needs than veterans without PTSD and (b) probable PTSD would be associated with criminal history but not after accounting for criminogenic needs.

Method: We conducted secondary analyses of data from 341 veterans (95.3% male; 57.8% White/non-Hispanic/Latinx; mean age = 46.2 years) with a history of criminal justice system involvement who were admitted to mental health residential treatment. At treatment entry, participants completed interviews to assess criminal history, RNR-based criminogenic needs, and PTSD symptom severity. Cross-sectional analyses tested for differences between participants with and without probable PTSD on criminogenic needs and criminal history, and a multiple regression model examined the unique contributions of probable PTSD and criminogenic needs on criminal history.

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This manuscript is based on data that were previously published in Blonigen et al. (2022) and Timko et al. (2022). Portions of the data used in the current research were previously disseminated at the 2023 meeting of the American Psychology-Law Society (Philadelphia, Pennsylvania). All data, analysis codes, and research material are available on request from the first author. Data are only available upon request because this procedure will allow VA Information Security and Privacy Officers to conduct individual reviews of each request.

Results: The majority of the sample (74%, $n = 251$) met probable criteria for PTSD. Compared with veterans without PTSD, those with probable PTSD scored significantly higher on criminogenic needs of antisocial personality patterns, antisocial cognitions, antisocial associates, substance use, and family/marital dysfunction but did not differ on multiple indices of criminal history (Cohen's d s = 0.60–0.86). In the regression model, higher age ($\beta = 0.52$, $p < .001$) and higher scores on measures of antisocial personality patterns ($\beta = 0.19$, $p = .04$) and antisocial cognitions ($\beta = 0.22$, $p = .02$) were significantly associated with higher scores on a criminal history index.

Conclusions: The findings suggest that veterans with probable PTSD may score higher on a number of criminogenic needs that are known to be drivers of recidivism. An approach that integrates trauma-informed and RNR principles to address veterans' dynamic criminogenic and clinical needs may be critical to risk management in this population.

Keywords

posttraumatic stress disorder; criminogenic risk; criminal history; veterans

Veterans account for 8% of incarcerated persons in the United States (Bronson et al., 2015). The prevalence of posttraumatic stress disorder (PTSD) among veterans is well documented, with estimates for lifetime prevalence ranging from 9% to 31%, higher than rates in the general U.S. population (Gradus, 2013; Wisco et al., 2022). A recent meta-analysis demonstrated a significant association between PTSD and criminal justice system involvement in the veteran population (Taylor et al., 2020). Further, the lifetime prevalence of PTSD among veterans incarcerated in jails and prisons (31% and 23%, respectively) is significantly higher than among nonveterans in these settings (15% and 11%, respectively; Bronson et al., 2015). Understanding the complex needs of veterans involved in the criminal justice system has important implications for policy and improving outcomes among this vulnerable population.

The risk-need-responsivity (RNR) model is a well-established framework for correctional rehabilitation (Bonta & Andrews, 2016). This model guides the assessment, case management, and intervention delivery practices that have the strongest empirical support for reducing risk for recidivism among individuals involved in the criminal justice system. The core principles of this model consist of *risk* (matching the intensity of services and interventions to an individual's level of risk for recidivism), *need* (focusing rehabilitation efforts on risk factors that are robust predictors of criminal recidivism but are modifiable), and *responsivity* (tailoring services and interventions to characteristics of an individual that may affect their engagement or response to treatment—e.g., learning styles, cultural factors, and co-occurring mental health conditions). Adherence to these principles is linked to reduced risk for recidivism across several reoffending outcomes (Dowden & Andrews, 2000; Hanson et al., 2009) and improved outcomes among patients in substance use treatment programs (Prendergast et al., 2013).

Per the RNR model, meta-analyses have shown that dynamic risk factors (or “criminogenic needs”) drive risk for criminal recidivism but are amenable to treatment and should be the focus of risk management efforts for justice-involved individuals (Bonta & Andrews,

2016). These criminogenic needs include antisocial personality patterns (e.g., interpersonal dominance, callousness, impulsivity), antisocial cognitions (e.g., attitudes, values, and beliefs supportive of criminal activity), antisocial associates (e.g., strong associations with peers engaged in crime), substance use, family/marital dysfunction, and employment problems. Though not a criminogenic need per se, criminal history (i.e., severity and frequency of prior offenses) is a static risk factor in the RNR model and a robust predictor of future criminal justice system involvement (Bonta & Andrews, 2016). Consistent with this, measurement of one's criminal history via the Addiction Severity Index (ASI) is a significant predictor of future risk of incarceration (Grahn & Padyab, 2020).

Although the RNR model is focused on risk of future criminal justice system involvement, the empirical literature on use of this model to examine criminogenic risk in the veteran population has largely focused on factors that are statistically associated with veterans' self-reports of prior criminal offenses (Blonigen et al., 2016; Edwards et al., 2023). Criminal history may be used as a proxy for criminogenic risk in this population because healthcare systems such as the Veterans Health Administration do not typically have access to either data on recidivism risk from validated measures or official records on criminal offending. In this vein, systematic reviews using the lens of the RNR model have found history of antisocial behavior and substance use to have the strongest associations with a history of criminal justice system involvement among veterans, with modest evidence for antisocial personality patterns, family/marital dysfunction, and employment problems as risk factors (Blonigen et al., 2016; Edwards et al., 2023). Few studies have examined antisocial cognitions or antisocial associates as predictors for a history of justice system involvement in veterans. In general, justice-involved veterans have access to services and treatments to address some RNR-based criminogenic needs, such as substance use, family/marital dysfunction, and employment problems (Blodgett et al., 2013). In contrast, veterans generally have less access to treatments that directly target the criminogenic needs of antisocial cognitions and antisocial associates (e.g., moral reconnection therapy [MRT]; Blonigen et al., 2017). Accordingly, most research on treatment of risk for criminal justice system contact has focused on mental health problems such as PTSD (Finlay et al., 2019). From an RNR perspective, mental health problems are not criminogenic needs but rather responsivity factors that may affect an individual's engagement or response to other treatment services. The significance of this is underscored by the fact that noncriminogenic needs tend not to be related to reoffending outcomes after dynamic risk factors from the RNR model are taken into account (Bonta & Andrews, 2016; Guebert & Olver, 2014). Similarly, justice-involved adults with mental illness have the same risk factors for recidivism as justice-involved adults more broadly (Skeem et al., 2015). These findings highlight the importance of research on justice-involved veterans that examines both noncriminogenic and criminogenic needs.

To date, research on the link between PTSD and criminal justice system involvement in veterans has not included an assessment of the role of criminogenic needs. Consequently, it is unknown whether the association between PTSD and criminal justice system involvement in veterans is confounded by criminogenic needs, given that such needs could be associated with both PTSD and criminal history. Disentangling these associations will be critical to risk management efforts for justice-involved veterans, which to date have primarily

focused on linking these veterans to behavioral services (Finlay et al., 2016). To this end, the present study examined (Aim 1) whether veterans with and without probable PTSD differ on RNR-based criminogenic needs and (Aim 2) the unique contributions of probable PTSD and criminogenic needs to criminal history in this population. We hypothesized that (Hypothesis 1) veterans with probable PTSD would score higher on all indices of RNR-based criminogenic needs than veterans without PTSD and (Hypothesis 2) probable PTSD would be significantly associated with criminal history but that inclusion of criminogenic needs in a regression model would attenuate this association.

Method

Sample and Procedures

We conducted secondary analyses on a sample of 341 veterans who were admitted to one of the three U.S. Department of Veterans Affairs (VA) substance use/mental health residential treatments programs and enrolled in a randomized controlled trial of MRT (Little & Robinson, 2013). The study design, analyses, and outcomes were preregistered at [ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT02524171) (NCT02524171) and described in a study protocol paper (Blonigen, Cucciare, et al., 2018). Main outcomes from this clinical trial were previously reported (Blonigen et al., 2022). In that larger clinical trial, veterans who (a) had been arrested and charged and/or released from incarceration in the past 5 years and (b) spoke English were eligible for the study. Those who demonstrated cognitive impairment, as determined from the Orientation section of the Montreal Cognitive Assessment (Nasreddine et al., 2005), or an inability to understand the study procedures were excluded. Veterans were enrolled from April 2016 to July 2018; a total of 469 veterans were assessed for eligibility, 47 were ineligible given the original study inclusion/exclusion criteria, 48 were eligible but declined to participate, and 33 were excluded for other reasons (e.g., already receiving MRT elsewhere, unable to be reached after screening). We did not remove any additional participants from the sample prior to conducting the analyses for the present study.

We conducted power analyses prior to enrolling participants to determine the sample size needed to detect differences in outcomes across study conditions (MRT and usual care) but not in regard to the secondary analyses conducted for the present study. After receiving an introduction on the study purpose, procedures, and risks and benefits, veterans provided written informed consent and completed an in-person baseline assessment within the first week of program admission and prior to randomization to the study conditions. Participants received \$50 for completing the baseline assessment. Bachelor's and master's level staff conducted this assessment. Prior to launching recruitment, the principal investigator, a licensed psychologist, provided these staff members with a day-long training. The principal investigator also regularly monitored these individuals throughout the study to ensure reliability of data collection. The VA Central Institutional Review Board reviewed and approved all study procedures (Study No. 15-04).

Measures

Sociodemographic Factors—Sociodemographic factors were measured at baseline via the Addiction Severity Index (ASI), a semistructured interview for patients in substance use

treatment programs (McLellan et al., 2006). These factors include age, sex, race/ethnicity, education, whether they lived in a controlled environment in the past 30 days (i.e., a hospital, jail, or other place intended to limit access to drugs/alcohol), and housing status (i.e., own residence, renting, living with friends/family, transitional housing, homeless/no stable living arrangement; or jail/incarcerated). Unstable housing was defined as being homeless or at risk of losing housing.

Criminal History—Criminal history, a static risk factor in the RNR model (Bonta & Andrews, 2016), was measured at baseline via the ASI (McLellan et al., 2006). Questions on the Legal Status module of the ASI assessed participants' lifetime number of (a) criminal charges, (b) convictions, and (c) months incarcerated. From these variables, we created a z-scored composite variable that reflected the average of these three variables (Criminal History Index). We decided to operationalize criminal history in this way because, in the RNR model, this risk factor is typically based on a combination of both the severity and frequency of one's history of antisocial behavior as well as the magnitude of the intercorrelations among these three indicators of criminal history (average intercorrelation = .35).

Antisocial Personality Pattern—This dynamic risk factor was assessed via the Triarchic Psychopathy Measure (TriPM; Patrick et al., 2009), a 58-item self-report questionnaire. The TriPM measures antisocial personality patterns across phenotypic constructs of boldness (e.g., dominance, low anxiety), meanness (e.g., callousness, aggression), and disinhibition (e.g., impulsivity, sensation-seeking). Each construct is measured by a separate subscale and summed to yield a total score ($\alpha = .78$). Higher TriPM total scores are associated with increased risk for criminal recidivism (Zabala-Banos et al., 2019). Prospective research has found that the TriPM is a dynamic measure of antisocial personality patterns (Garofalo et al., 2021).

Antisocial Cognitions—A 56-item version of the Psychological Inventory of Criminal Thinking Styles (PICTS) was administered at baseline to assess antisocial cognitions. Items in this self-report measure were rated on a 4-point Likert scale (1 = *disagree*, 4 = *strongly agree*). The measure includes subscales of Mollification (projecting blame for past and present criminal conduct onto external factors), Cutoff (acting impulsively), Entitlement (having a sense of ownership or privilege to justify violation of laws and/or the rights of other people), Power Orientation (a tendency to crave power and seek control over other people), Super-optimism (a belief that one will be able to avoid the negative consequences of a criminal lifestyle), Cognitive Indolence (a tendency to take short cuts and look for the easy way around problems), and Discontinuity (a propensity to lose sight of one's goals and be easily sidetracked by environmental events). Scores on these scales were summed to create an index of General Criminal Thinking ($\alpha = .92$), which has been validated as a robust predictor of criminal recidivism (Walters & Cohen, 2016; Walters & Lowenkamp, 2016). All PICTS scores were converted to a *t*-score metric ($M = 50$, $SD = 10$), calculated in reference to norms from samples of incarcerated adults (Walters, 2013). Guidelines for interpreting these scores are as follows: low (< 40), average (40–59), high/clinically significant (60–69), and very high (≥ 70 ; Walters, 2006).

Antisocial Associates—Scale A of the Measures of Criminal Attitudes and Associates (MCAA; Mills et al., 2002) was administered at baseline to quantify participants' associations with criminal peers—a strong predictor of criminal recidivism (Mills et al., 2004). Participants were asked to consider the four adults (excluding family, coworkers, or other residents in treatment) with whom they spend the majority of their free time in the community. For each adult, they were asked to indicate how much of their time is spent with the individual (1 = > 25%, 2 = 25%–50%, 3 = 51%–75%, 4 = 76%–100%) and answer four questions (yes/no) regarding the criminal involvement of the individual (e.g., “Has [name] ever tried to involve you in a crime?”). A Criminal Friend Index was calculated by multiplying the total from the questions of criminal involvement for each by the score for the amount of time spent with that friend and then summing the values across the four friends (possible range = 0–48).

Substance Use—A Timeline Follow-Back interview measured the quantity and/or frequency of alcohol and drug use in the past 6 months (Sobell et al., 1996). This retrospective, calendar-based measure has been validated for phone administration and up to 6 months of recall (Janssen et al., 2017; Sacks et al., 2003). We administered it at baseline to calculate the number of days in the past 6 months that participants used (a) alcohol and (b) any drugs (marijuana, cocaine, amphetamines, heroin, other opioids, benzodiazepines, barbiturates, inhalants, or hallucinogens).

Family/Marital Dysfunction and Employment Problems—The Family/Social Relationships and Employment/Support Status modules of the ASI were administered at baseline to assess problem severity in these domains in the past 30 days and over the participant's lifetime using composite score indices (range = 0–1). The ASI is a reliable and validated measure of functioning across various life domains; all ASI composite scores have been shown to significantly predict future risk of criminal justice system involvement (Grahn & Padyab, 2020). Higher scores indicate greater problem severity (McLellan et al., 2006). The composite score for the Family/Social Relationships module is based on five questions (e.g., “How many days in the past 30 have you had serious conflicts with your family?” “Are you satisfied with your current marital situation?” “How troubled or bothered have you been in the past 30 days by family problems?”). The composite score from the Employment/Support Status module of the ASI is based on four questions (e.g., “How many days were you paid for working in the past 30?” “How troubled or bothered have you been by employment problems in the past 30 days?”).

Posttraumatic Stress Disorder—The PTSD Checklist for *DSM-5* (PCL-5; Weathers et al., 2013), a 20-item self-report measure that assesses symptoms of PTSD from the *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition (American Psychiatric Association, 2013) was administered at baseline. Items were rated on 5-point scale (0 = *not at all*, 4 = *extremely*) and summed to create a total score ($\alpha = .98$). PCL-5 total scores of 30 or more have been shown to be associated with a probable diagnosis of PTSD (Blevins et al., 2015). This cutoff was used to categorize veterans with and without probable PTSD into a binary variable in the present study. Two additional binary variables were created for sensitivity analyses; these variables categorized veterans with probable PTSD by (a)

lowering the diagnostic threshold to 29 and (b) increasing the diagnostic threshold to 31 (see Tables S2 and S3 in supplemental materials).

Results

Data Analysis

Descriptive statistics (frequencies, percentages, means, and standard deviations) were calculated for the total sample of 341 veterans and separately for those with and without probable PTSD. To examine differences between participants with and without probable PTSD, we conducted bivariate analyses for sociodemographic characteristics of sex (male as the reference category), race (White as the reference category), and ethnicity (non-Hispanic as the reference category); criminal history; and RNR-based criminogenic needs. Independent-samples *t* tests were computed for continuous variables, and chi-square tests were computed for categorical variables. Sensitivity analyses examined potential misclassification of disease (in this case, probable PTSD or no PTSD) by repeating all bivariate analyses for criminal history and RNR-based criminogenic needs using both a lower threshold and a higher threshold for meeting probable PTSD criteria. We did not statistically correct for multiple comparisons (i.e., Bonferroni corrections). It should be noted that this approach increases the risk of Type I errors but reduces the risk of Type II errors (Perneger, 1998). Given the lack of research on associations among PTSD, criminogenic risk, and criminal justice system involvement among veterans, we chose to protect against Type II errors and considered the current analyses as exploratory.

To disentangle the unique contributions of probable PTSD and the RNR-based criminogenic needs on the Criminal History Index, we performed a multiple linear regression (Criminal History Index as the dependent variable; PCL-5 total scores and scores on the indices of criminogenic needs as the independent variables). Sociodemographic covariates that were significantly different at an α of .05 in the bivariate analyses between probable diagnosis of PTSD and no PTSD were included in the model. Across all analyses, there were no missing values for any variables that required missing-data approaches. Most continuous variables were normally distributed (i.e., the values for asymmetry and kurtosis fell between -2 and 2 , which is acceptable to demonstrate normal univariate distribution; Groeneveld & Meeden, 1984). Years of education and years of employment were slightly right-tailed (with no outliers), as expected with a sample that has a mean age of 46.2 years. Additionally, all data met statistical assumptions for computing *t* tests, chi-square tests, and multiple linear regression (i.e., linearity, homoscedasticity, independence of errors, normality, and independence of independent variables). Analyses were conducted using SPSS Statistics (Version 28).

Differences Between Veterans With and Without Probable PTSD

Sociodemographic Factors—Descriptive statistics for the sociodemographic characteristics are reported in Table 1, separately for the overall sample of 341 veterans and for the subgroups of veterans who met ($n = 251$; 73.6%) and did not meet ($n = 90$; 26.4%) probable criteria for PTSD. Participants were predominantly male (95.3%); identified as White/non-Hispanic (57.8%) or Black/African American (28.4%); and reported

being divorced (42.2%) or never married (28.7%), residing in unstable housing (97.4%), and having 12.5 years of formal education ($SD = 1.5$). The mean age of the sample was 46.2 years ($SD = 12.7$).

Veterans with probable PTSD were significantly more likely to be White/non-Hispanic and less likely to be Black/African American ($d = 0.20, p = .01$), compared with veterans without probable PTSD. Veterans with probable PTSD were also significantly younger at baseline ($d = 0.50, p < .001$) and had significantly more years of formal education ($d = 0.30, p = .02$) than those without probable PTSD.

Criminal History and Criminogenic Needs—Criminal history and scores on RNR-based criminogenic needs are presented in Table 2, separately for the overall sample and for the subgroups of veterans who did and did not meet probable criteria for PTSD. Over their lifetime, all participants reported an average of 14.26 criminal charges ($SD = 19.2$), 6.35 convictions ($SD = 9.6$), and 37.96 months of incarceration ($SD = 65.1$). There were no significant differences between veterans with and without probable PTSD on any indices of criminal history.

In terms of criminogenic needs, analyses comparing veterans with and without probable PTSD revealed that the former had higher levels of antisocial personality patterns—as indexed by TriPM total scores ($d = 0.85, p < .001$) and the subscales of meanness ($d = 0.67, p < .001$)—and disinhibition ($d = 0.86, p < .001$). Regarding antisocial cognitions, veterans with probable PTSD had significantly higher scores on all PICTS subscales ($d = 0.59–0.84, ps < .001$) as well as scores on the General Criminal Thinking index ($d = 0.80, p < .001$). With respect to antisocial associates, veterans with probable PTSD scored significantly higher on the MCAA Criminal Friend Index ($d = 0.37, p = .04$). Regarding substance use, veterans with probable PTSD reported significantly more days using drugs in the past 6 months at baseline ($d = 0.27, p = .03$) but no differences in number of days using alcohol during this period. Those with probable PTSD also had significantly greater levels of family/marital dysfunction, per scores on the ASI Family/Social composite ($d = 0.48, p < .001$) but not greater problems with employment.

We also conducted a multiple regression model to explore the unique associations between criminogenic needs in the prediction of PCL-5 scores, adjusting for demographics (see Table 3). Higher scores on the ASI Family/Social composite were significantly associated with higher PCL-5 scores ($\beta = 0.21, p = .01$). Higher scores on the TriPM, PICTS General Criminal Thinking Index, and the ASI Employment composite were also associated with higher PCL-5 scores, though at trend levels ($ps = .06–.09$).

Contributions of Probable PTSD Symptom Severity and Criminogenic Needs to Criminal History

Table 4 provides the results of a multiple linear regression model—adjusted for age (continuous), education (continuous), and race/ethnicity (White/non-Hispanic/Latinx as the reference category)—that we conducted to identify the unique contributions of probable PTSD and criminogenic needs on criminal history. Of note, we did not test a regression model with only PTSD symptoms and the sociodemographic factors as predictors of

criminal history because there was no bivariate association between probable PTSD and criminal history. To reduce multicollinearity, we entered the summary scores for the domains of antisocial personality patterns (TriPM total scores) and antisocial cognitions (PICTS General Criminal Thinking) into the model rather than the subscale scores from these measures. The full intercorrelation matrix of these variables is provided in Table S1 in the online supplemental materials (at the zero-order level, TriPM total scores, PICTS General Criminal Thinking scores, and age were positively associated with criminal history). The regression model explained 35.8% (adjusted $R^2 = .30$, $p < .001$) of the variance in outcome of criminal history. Among the sociodemographic factors, higher age was significantly associated with greater criminal history ($\beta = 0.52$, $p < .001$). Among the RNR-based criminogenic needs, higher total scores on the TriPM ($\beta = 0.19$, $p < .04$) and PICTS General Criminal Thinking ($\beta = 0.22$, $p < .02$) were significantly associated with greater criminal history. PTSD symptom severity, as measured by PCL-5 total scores, was not significantly associated with the Criminal History Index.

Discussion

The present study addressed a critical gap in the literature on justice-involved veterans by examining (Aim 1) whether veterans with and without probable PTSD differ on RNR-based criminogenic needs and (Aim 2) the unique contributions of probable PTSD and criminogenic needs to criminal history in this population. The majority of veterans in the present sample (74%) met probable criteria for a diagnosis of PTSD. We hypothesized that these veterans would be elevated on all indices of RNR-based criminogenic needs, relative to those without probable PTSD. This hypothesis was largely confirmed; veterans with probable PTSD scored significantly higher than those without PTSD on most criminogenic needs, with the exception of employment problems. In the multivariate analyses, however, family/social problems was the only criminogenic need factor that had a unique, significant association with PTSD symptom severity. We also hypothesized that probable PTSD would be significantly associated with criminal history but that inclusion of criminogenic needs in a regression model would attenuate this association. In contrast to this hypothesis, participants with probable PTSD did not have more extensive criminal histories than those without PTSD. Further, in the regression model, only age, antisocial personality patterns, and antisocial cognitions were positively associated with the Criminal History Index. The nonsignificant association between probable PTSD and criminal history in this sample may reflect the fact that all participants had a history of criminal justice system involvement. The findings may have been different if we had examined a broader pool of veterans. In addition, all participants were engaged in specialty mental health care, and most had a probable diagnosis of PTSD. It is possible that nontreatment samples may be more likely to detect a link between probable PTSD and criminal history because of the greater variance in the former. Consistent with this, several studies from Taylor and colleagues' (2020) meta-analysis that were based on samples of participants who were engaged in mental health care did not find a significant link between PTSD and criminal history (e.g., Bennett et al., 2018; McFall et al., 1991; Tsai & Rosenheck, 2016). In addition, significant links between PTSD and criminal history in prior studies have been strongest for a history of violent offenses (Taylor et al., 2020). Violent offenses may be less common than a history of

nonviolent offenses in samples of veterans in mental health treatment, which was true for the current sample (Blonigen et al., 2020).

Clinical Implications

Notwithstanding the lack of an association between probable PTSD and criminal history, the fact that only antisocial personality patterns and antisocial cognitions (and not probable PTSD) were uniquely associated with criminal history is analogous to past findings on criminogenic needs of justice-involved adults with severe mental illness (cf. Skeem et al., 2015). In this vein, the current findings support the applicability of the RNR model to justice-involved veterans and suggest that targeting treatment of general risk factors for criminal justice involvement in this population may be preferable than providing mental health treatment alone. Notably, criminogenic needs are viewed as dynamic risk factors for criminal justice system involvement and therefore amenable to treatment. Among the dynamic risk factors from the RNR model, antisocial personality patterns and antisocial cognitions are the strongest predictors of criminal recidivism (Bonta & Andrews, 2016; Gendreau et al., 1996). Regarding antisocial personality patterns, veterans with probable PTSD in the current study scored significantly higher on the TriPM, particularly on the subscales of meanness and disinhibition, than those without PTSD. Higher scores on these facets of antisocial personality reflect greater tendencies toward callousness, impulsivity, and irresponsibility (Patrick et al., 2009). Scores on these TriPM subscales have also been found to be higher among a sample of justice-involved individuals who reoffended, relative to those who did not reoffend (Zabala-Banos et al., 2019). Importantly, contemporary models conceptualize personality traits as dynamic constructs that are modifiable, even over brief periods of treatment (Roberts et al., 2017), and such change has also been found for antisocial traits (Blonigen et al., 2006). Cognitive-behavioral interventions, such as MRT, that directly target antisocial tendencies may be effective for treating this criminogenic need (Blonigen et al., 2021).

Veterans with probable PTSD also had significantly higher scores on all subscales of the PICTS—a well-validated measure of antisocial cognitions—than those without PTSD. Per guidelines for interpreting the *t* scores that were calculated in reference to the norms of incarcerated samples (Walters, 2006, 2013), scores across the PICTS scales for veterans with probable PTSD in the current study ranged from “average” to “high.” Notably, the mean *t* score for the General Criminal Thinking index ($M = 61.48$, $SD = 11.7$) was in the high category, which is regarded as a clinically significant level of antisocial cognitions. Given that scores on the General Criminal Thinking index are predictive of recidivism (Walters 2012; Walters & Lowenkamp, 2016) and can change over time (Walters & Cohen, 2016), the current findings highlight antisocial cognitions as an important treatment target among this subgroup of veterans. As with antisocial personality patterns, cognitive-behavioral interventions such as MRT may be effective for addressing antisocial cognitions. Behavioral health services in the VA do not typically include such interventions; however, the VA has expanded dissemination and training for MRT in recent years (Blonigen et al., 2021). The current findings provide support for these efforts and suggest that veteran service organizations, such as the VA or veteran treatment courts, may find it useful to provide or refer veterans to MRT.

Related to these treatment implications, the current findings do not suggest that treatment of antisocial cognitions should be the sole or even primary focus of treatment for justice-involved veterans. Behavioral health services in and outside the VA already address many of the criminogenic needs from the RNR model, including those that were not significant in our regression analyses (e.g., substance use, family/marital dysfunction, and employment problems) as well as other risk factors that have been proposed as unique to veterans' criminal justice involvement (e.g., traumatic brain injury, homelessness; Blonigen et al., 2019). Linkage to behavioral health services to address these other criminogenic needs would still be warranted for justice-involved veterans, given links between these needs and poor health outcomes in this population (Blodgett et al., 2013). Further, any potential disconnect between the goals of behavioral health services and the goals of correctional programs may be mitigated through education of behavioral health providers on the impact of criminogenic needs on recovery-oriented outcomes (e.g., homelessness; Blonigen, Rodriguez, et al., 2018).

Because of the cross-sectional design of the current study, the exact relationship between PTSD symptoms and criminogenic risk factors cannot be teased apart. Thus, it is still possible that trauma-focused interventions that target symptoms that overlap between PTSD and criminogenic needs (e.g., interpersonal problems) may reduce the presence of these risk factors. Indeed, the multivariate model of criminogenic needs predicting PTSD symptom severity suggested this possibility, given that family/social problems was the only significant predictor. Thus, the extent to which criminogenic needs contribute to PTSD symptoms may be a function of the broader impact of these needs on the family dynamics and social interactions of veterans. This notwithstanding, the current findings suggest that there may be value in developing and piloting approaches that integrate trauma-informed and RNR-based principles. Recent work on dialectal behavior therapy for justice-involved veterans is an example of such an approach (Edwards et al., 2022). These clinical approaches could then be compared with more traditional trauma-focused interventions to examine their comparative effectiveness at reducing risk for criminal recidivism.

These findings have other important clinical implications. The RNR approach is well suited to agencies serving veterans with criminal justice system involvement, as it draws from human services and core clinical principles and is built on basic tenets that programs, services, and interventions delivered to people involved with the justice system are evidence based. RNR also acknowledges that sanctions alone will not improve criminal justice outcomes among people who become involved with this system and that facilitating individualized treatment and rehabilitative services is imperative (Bonta & Andrews, 2016). From this standpoint, a comprehensive approach to screening and assessment of criminogenic needs, in addition to noncriminogenic needs, is critically important for the justice-involved veteran population. For example, it may be recommended that programs that service this population, such as the VA, have strong information-sharing agreements, procedures, and practices in place with local correctional agencies to obtain information about veterans' criminogenic needs, which are more commonly assessed by correctional agencies. Given the sensitivity of these data and the potential for stigma among providers who have less experience with justice-involved populations, it may be prudent for such information to be received and processed by outreach or reentry specialists in healthcare

systems such as the VA (Blue-Howells et al., 2013). Alternatively, noncorrectional agencies may consider adopting and implementing validated assessments of criminogenic risk and need, such as the Level of Service/Case Management Inventory (LS/CMI; Andrews et al., 2014). However, numerous studies have documented poor implementation of this practice in both correctional (e.g., Drawbridge et al., 2019; Viljoen et al., 2018) and noncorrectional (Rodriguez et al., 2019) settings. One implementation challenge, especially salient to veterans, is the tendency of practitioners to prioritize noncriminogenic needs in treatment planning and case management at the expense of services targeting dynamic risk factors (Vincent et al., 2021). Adoption and implementation of assessments of dynamic risk by agencies serving justice-involved veterans should coincide with a strong implementation support system to ensure fidelity to evidence-based practices.

Study Limitations

The current findings should be considered in light of several limitations. First, the analyses were cross-sectional and cannot speak to the relationship over time between probable PTSD, criminogenic needs, and criminal history in the veteran population. Consequently, it cannot be determined from these data whether probable PTSD contributes to the development of criminogenic needs or vice versa. In addition, the outcome variable in the current study—criminal history—was measured retrospectively. By contrast, the RNR model is typically applied in the context of assessment and management of risk for criminal recidivism, not prior offending. Notably, severity of criminal history is a static risk factor in the RNR model and one of the most robust predictors of future recidivism risk; however, it is not synonymous with criminal recidivism. Given the dynamic nature of criminogenic needs, participants' current needs may not be the same needs when they engaged in prior offending behavior. It will be critical for future studies on this topic to use a prospective study design and some form of recidivism as the outcome variable in order to evaluate the predictive utility of PTSD relative to criminogenic needs.

Second, although the various instruments used to assess criminogenic needs in the current study all have strong psychometric properties, many have not been explicitly tested with regard to their sensitivity and specificity as measures of dynamic risk factors for criminal recidivism per se. Given the basis of RNR as a model to facilitate positive change in justice-involved individuals, the ability of instruments to detect change in dynamic risks and inform effective intervention are important considerations for research and practice. Additionally, limited prosocial activities is also a dynamic risk factor from the RNR model but was not assessed in the current study. Future research on the intersection of PTSD and criminogenic needs should use validated measures, such as the LS/CMI, that capture all needs from the RNR model and can categorize individuals into risk levels of recidivism (e.g., low, medium, high).

Third, although the PCL-5 is a well-validated measure of PTSD symptom severity, it is not a formal diagnostic instrument. It may behoove future research to assess diagnosis of PTSD using licensed clinicians and/or structured diagnostic tools such as the *Structured Clinical Interview for DSM-5* (Osório et al., 2019). Finally, the current study used a sample of veterans with extensive histories of criminal justice involvement but who were not currently

incarcerated. Future research should seek to replicate the current findings with a sample of veterans actively involved in the criminal justice system.

Conclusions

Efforts to date to study the factors associated with veterans' involvement in the criminal justice system have focused primarily on PTSD and other noncriminogenic needs. Although such needs are important for clinical outcomes, they have not been consistently linked to risk of reoffending after criminogenic needs such as antisocial personality patterns and antisocial cognitions have been accounted for in analyses. Overemphasis on noncriminogenic needs may lead practitioners to miss opportunities to address criminogenic needs and consequently fail to adhere to evidence-based practices for improving criminal justice outcomes. In the current study, veterans with probable PTSD scored significantly higher on nearly all criminogenic needs than did veterans without PTSD. However, no differences were observed on any indices of criminal history, and only one criminogenic need (family/social problems) was a significant predictor of PTSD symptoms in the multivariate model. These findings underscore the complex treatment needs of this population. Assessment of both criminogenic and noncriminogenic needs is likely critical to the risk management of justice-involved veterans in mental health treatment settings. An approach that integrates trauma-informed and RNR-based principles to address these needs may improve public safety outcomes among this population.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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References

- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.).
- Andrews DA, Bonta J, & Wormith JS (2014). *The Level of Service/Case Management Inventory (LS/CMI)*. Multi-Health Systems.
- Bennett DC, Morris DH, Sexton MB, Bonar EE, & Chermack ST (2018). Associations between posttraumatic stress and legal charges among substance using veterans. *Law and Human Behavior*, 42(2), 135–144. [PubMed: 29072473]
- Blevins CA, Weathers FW, Davis MT, Witte TK, & Domino JL (2015). The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress*, 28(6), 489–498. 10.1002/jts.22059 [PubMed: 26606250]
- Blodgett JC, Fuh IL, Maisel NC, & Midboe AM (2013). A structured evidence review to identify treatment needs of justice-involved veterans and associated psychological interventions. Center for Health Care Evaluation, VA Palo Alto Health Care System.

- Blonigen DM, Bui L, Elbogen EB, Blodgett JC, Maisel NC, Midboe AM, Asch SM, McGuire JF, & Timko C (2016). Risk of recidivism among justice-involved veterans: A systematic review of the literature. *Criminal Justice Policy Review*, 27(8), 812–837.
- Blonigen DM, Cucciare MA, Byrne T, Shaffer PM, Giordano B, Smith JS, Timko C, Rosenthal J, & Smelson D (2022). A randomized controlled trial of moral reconnection therapy to reduce risk for criminal recidivism among justice-involved adults in mental health residential treatment. *Journal of Consulting and Clinical Psychology*, 90(5), 413–426. [PubMed: 35404638]
- Blonigen DM, Cucciare MA, Timko C, Smith J, Harnish A, Kemp L, Rosenthal J, & Smelson D (2018). Study protocol: A hybrid effectiveness-implementation trial of moral reconnection therapy in the US Veterans Health Administration. *BMC Health Services Research*, 18(1), Article 164. 10.1186/s12913-018-2967-3
- Blonigen DM, Hicks BM, Krueger RF, Patrick CJ, & Iacono WG (2006). Continuity and change in psychopathic traits as measured via normal range personality: A longitudinal-biometric study. *Journal of Abnormal Psychology*, 115(1), 85–95. [PubMed: 16492099]
- Blonigen DM, King CM, & Timko C (2019). Criminal justice involvement among veterans. In Tsai J & Seamone E (Eds.), *Intersections between mental health and law among veterans* (pp. 13–43). Springer Publishing.
- Blonigen DM, Macia KS, Smelson D, & Timko C (2020). Criminal recidivism among justice-involved veterans following substance use disorder residential treatment. *Addictive Behaviors*, 106, Article 106357. 10.1016/j.addbeh.2020.106357
- Blonigen DM, Rodriguez AL, Manfredi L, Britt J, Nevedal A, Finlay AK, Rosenthal J, Smelson D, & Timko C (2017). The availability and utility of services to address risk factors for recidivism among justice-involved veterans. *Criminal Justice Policy Review*, 28(8), 790–813. [PubMed: 26924887]
- Blonigen DM, Rodriguez AL, Manfredi L, Nevedal A, Rosenthal J, McGuire JF, Smelson D, & Timko C (2018). Cognitive-behavioral treatments for criminogenic thinking: Barriers and facilitators to implementation within the Veterans Health Administration. *Psychological Services*, 15(1), 87–97. 10.1037/ser000128 [PubMed: 28517949]
- Blonigen DM, Shaffer PM, Smith JS, Cucciare MA, Timko C, Smelson D, Blue-Howells J, Clark S, & Rosenthal J (2021). Recidivism treatment for justice-involved veterans: Evaluating adoption and sustainment of moral reconnection therapy in the US Veterans Health Administration. *Administration and Policy in Mental Health and Mental Health Services Research*, 48(6), 992–1005. 10.1007/s10488-021-01113-x [PubMed: 33515346]
- Blue-Howells JH, Clark SC, van den Berk-Clark C, & McGuire JF (2013). The U.S. Department of Veterans Affairs Veterans Justice programs and the sequential intercept model: Case examples in national dissemination of intervention for justice-involved veterans. *Psychological Services*, 10(1), 48–53. 10.1037/a0029652 [PubMed: 22924802]
- Bonta J, & Andrews DA (2016). *The psychology of criminal conduct* (6th ed.). Routledge.
- Bronson J, Carson AC, Noonan M, & Berzofsky M (2015). *Veterans in prison and jail, 2011–12*. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.
- Dowden C, & Andrews DA (2000). Effective correctional treatment and violent reoffending: A meta-analysis. *Canadian Journal of Criminology*, 42(4), 449–467.
- Drawbridge DC, Todorovic K, Winters GM, & Vincent GM (2019). Implementation of risk-need-responsivity principles into probation case planning. *Law and Human Behavior*, 43(5), 455–467. [PubMed: 31524434]
- Edwards ER, Dichiara A, Epshteyn G, Snyder S, Linzer S, Riglietti K, Weishoff N, Lee A, Tsai J, Marcano E, Geraci J, & Goodman M (2022). Dialectical behavior therapy for justice-involved veterans (DBT-J): Feasibility and acceptability. *Psychological Services*. Advance online publication. 10.1037/ser0000691
- Edwards ER, Epshteyn G, Connelly B, Redden C, Moussa CEH, Blonigen DM, Stimmel M, Holliday R, & Osterberg T (2023). Understanding criminogenic risk factors among United States military veterans: An updated literature review. *Criminal Justice Review*. Advance online publication. 10.1177/07340168231160862

- Finlay AK, Owens MD, Taylor E, Nash A, Capdarest-Arest N, Rosenthal J, Blue-Howells J, Clark S, & Timko C (2019). A scoping review of military veterans involved in the criminal justice system and their health and healthcare. *Health & Justice*, 7(1), Article 6. 10.1186/s40352-019-0086-9
- Finlay AK, Smelson D, Sawh L, McGuire J, Rosenthal J, Blue-Howells J, Timko C, Binswanger I, Frayne SM, Blodgett JC, Bowe T, Clark SC, & Harris AS (2016). U.S. Department of Veterans Affairs Veterans Outreach Program: Connecting justice-involved veterans with mental health and substance use disorder treatment. *Criminal Justice Policy Review*, 27(2), 203–222. 10.1177/0887403414562601
- Garofalo C, Weller JA, Kirisci L, & Reynolds MD (2021). Elaborating on the longitudinal measurement invariance and construct validity of the Triarchic Psychopathy Scales from the Multidimensional Personality Questionnaire. *Psychological Assessment*, 33(9), 890–903. [PubMed: 33939454]
- Gendreau P, Little T, & Goggin C (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology*, 34(4), 575–607.
- Gradus JL (2013). Epidemiology of PTSD (Version 3). National Center for Post-Traumatic Stress Disorder, Department of Veterans Affairs. https://www.mentalhealth.va.gov/coe/cih-visn2/Documents/Provider_Education_Handouts/Epidemiology_of_PTSD_Version_3.pdf
- Grahn R, & Padyab M (2020). The predictability of the Addiction Severity Index criminal justice assessment instrument and future imprisonment: A Swedish registry study with a national sample of adults with risky substance use. *Drug and Alcohol Dependence*, 217, Article 108396. 10.1016/j.drugalcdep.2020.108396
- Groeneveld RA, & Meeden G (1984). Measuring skewness and kurtosis. *Journal of the Royal Statistical Society: Series D (The Statistician)*, 33(4), 391–399.
- Guebert AF, & Olver ME (2014). An examination of criminogenic needs, mental health concerns, and recidivism in a sample of violent young offenders: Implication for risk, need, and responsivity. *International Journal of Forensic Mental Health*, 13(4), 295–310.
- Hanson RK, Bourgon G, Helmus L, & Hodgson S (2009). The principles of effective correctional treatment also apply to sexual offenders: A meta-analysis. *Criminal Justice & Behavior*, 36(9), 865–891.
- Janssen T, Braciszewski JM, Vose-O’Neal A, & Stout RL (2017). A comparison of long- vs. short-term recall of substance use and HIV risk behaviors. *Journal of Studies on Alcohol and Drugs*, 78(3), 463–467. 10.15288/jsad.2017.78.463 [PubMed: 28499115]
- Little GL, & Robinson KD (2013). *Winning the invisible war: An MRT workbook for Veterans*. Eagle Wing.
- McFall ME, Mackay PW, & Donovan DM (1991). Combat-related PTSD and psychosocial adjustment problems among substance abusing veterans. *Journal of Nervous and Mental Disease*, 179(1), 33–38. [PubMed: 1985146]
- McLellan AT, Cacciola JC, Alterman AI, Rikoon SH, & Carise C (2006). The Addiction Severity Index at 25: Origins, contributions and transitions. *American Journal on Addictions*, 15(2), 113–124.
- Mills JF, Kroner DG, & Forth AE (2002). Measures of Criminal Attitudes and Associates (MCAA): Development, factor structure, reliability, and validity. *Assessment*, 9(3), 240–253. 10.1177/1073191102009003003 [PubMed: 12216781]
- Mills JF, Kroner DG, & Hemmati T (2004). The Measures of Criminal Attitudes and Associates (MCAA): The prediction of general and violent recidivism. *Criminal Justice and Behavior*, 31(6), 717–733. 10.1177/0093854804268755
- Nasreddine ZS, Phillips NA, Bédirian V, Charbonneau S, Whitehead V, Collin I, Cummings JL, & Chertkow H (2005). The Montreal Cognitive Assessment, MoCA: A brief screening tool for mild cognitive impairment. *Journal of the American Geriatrics Society*, 53(4), 695–699. [PubMed: 15817019]
- Osório FL, Loureiro SR, Hallak JEC, Machado-de-Sousa JP, Ushirohira JM, Baes CV, Apolinario TD, Donadon MF, Bolsoni LM, Guimarães T, Fracon VS, Casagrande Silva-Rodrigues AP, Pizeta FA, Souza RM, Sanches RF, dos Santos RG, Martin-Santos R, ... Crippa JAS (2019). Clinical validity and intrarater and test–retest reliability of the Structured Clinical Interview for

- DSM-5 – Clinician Version (SCID-5-CV). *Psychiatry and Clinical Neurosciences*, 73(12), 754–760. 10.1111/pcn.12931 [PubMed: 31490607]
- Patrick CJ, Fowles DC, & Krueger RF (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Developmental Psychopathology*, 21(3), 913–938.
- Perneger TV (1998). What's wrong with Bonferroni adjustments? *BMJ*, 316(7139), 1236–1238. 10.1136/bmj.316.7139.1236 [PubMed: 9553006]
- Prendergast ML, Pearson FS, Podus D, Hamilton ZK, & Greenwell L (2013). The Andrews' principles of risk, need, and responsivity as applied in drug abuse treatment programs: Meta-analysis of crime and drug use outcomes. *Journal of Experimental Criminology*, 9(3), 275–300. [PubMed: 24058325]
- Roberts BW, Luo J, Briley DA, Chow PI, Su R, & Hill PL (2017). A systematic review of personality trait change through intervention. *Psychological Bulletin*, 143(2), 117–141. 10.1037/bul0000088 [PubMed: 28054797]
- Rodriguez AL, Manfredi L, Wong A, Nevedal A, Timko C, Rosenthal J, & Blonigen DM (2019). Implementation potential of structured risk assessments for criminal recidivism in the Veterans Health Administration: Qualitative perspectives from providers. *Criminal Justice Policy Review*, 30(6), 819–839. 10.1177/0887403417725567
- Sacks JA, Drake RE, Williams VF, Banks SM, & Herrell JM (2003). Utility of the Time-Line Follow-Back to assess substance use among homeless adults. *The Journal of Nervous and Mental Disease*, 191(3), 145–153. 10.1097/01.NMD.0000054930.03048.64 [PubMed: 12637840]
- Skeem JL, Steadman HJ, & Manchak SM (2015). Applicability of the risk-need-responsivity model to persons with mental illness involved in the criminal justice system. *Psychiatric Services*, 66(9), 916–922. [PubMed: 25930045]
- Sobell LC, Brown J, Leo GI, & Sobell MB (1996). The reliability of the Alcohol Timeline Followback when administered by telephone and by computer. *Drug and Alcohol Dependence*, 42(1), 49–54. 10.1016/0376-8716(96)01263-x [PubMed: 8889403]
- Taylor EN, Timko C, Nash A, Owens MD, Harris AHS, & Finlay AK (2020). Posttraumatic stress disorder and justice involvement among military veterans: A systematic review and meta-analysis. *Journal of Traumatic Stress*, 33(5), 804–812. [PubMed: 32516492]
- Timko C, Vest N, Cucciare MA, Smelson D, & Blonigen D (2022). Substance use and criminogenic thinking: Longitudinal latent class analysis of veterans with criminal histories. *Journal of Substance Abuse Treatment*, 143, Article 108893. 10.1016/j.jsat.2022.108893
- Tsai J, & Rosenheck RA (2016). Psychosis, lack of job skills, and criminal history: Associations with employment in two samples of homeless men. *Psychiatric Services*, 67(6), 671–675. [PubMed: 26766756]
- Viljoen JL, Cochrane DM, & Jonnson MR (2018). Do risk assessment tools help manage and reduce risk of violence and reoffending? A systematic review. *Law and Human Behavior*, 42(3), 181–214. 10.1037/lhb0000280 [PubMed: 29648841]
- Vincent GM, Perrault RT, Drawbridge DC, Landry GO, & Grisso T (2021). Risk-need-responsivity meets mental health: Implementation challenges in probation case planning. *Criminal Justice & Behavior*, 48(9), 1187–1207.
- Walters GD (2006). *The Psychological Inventory of Criminal Thinking Styles (PICTS): Professional manual*. Center for Lifestyle Studies.
- Walters GD (2012). Criminal thinking and recidivism: Meta-analytic evidence on the predictive and incremental validity of the Psychological Inventory of Criminal Thinking Styles (PICTS). *Aggression and Violent Behavior*, 17(3), 272–278. 10.1016/j.avb.2012.02.01
- Walters GD (2013). *The Psychological Inventory of Criminal Thinking Styles (PICTS)* [Unpublished manual]. Center for Lifestyle Studies.
- Walters GD, & Cohen TH (2016). Criminal thought process as a dynamic risk factor: Variable- and person-oriented approaches to recidivism prediction. *Law and Human Behavior*, 40(4), 411–419. 10.1037/lhb0000185 [PubMed: 26974366]

- Walters GD, & Lowenkamp CT (2016). Predicting recidivism with the Psychological Inventory of Criminal Thinking Styles (PICTS) in community-supervised male and female federal offenders. *Psychological Assessment*, 28(6), 652–659. 10.1037/pas0000210 [PubMed: 26237208]
- Weathers FW, Litz BT, Keane TM, Palmieri PA, Marx BP, & Schnurr PP (2013). The PTSD Checklist for DSM-5 (PCL-5). <https://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp>.
- Wisco BE, Nomamiukor FO, Marx BP, Krystal JH, Southwick SM, & Pietrzak RH (2022). Posttraumatic stress disorder in US military veterans: Results from the 2019–2020 National Health and Resilience in Veterans Study. *Journal of Clinical Psychiatry*, 83(2), Article 21m14029. 10.4088/JCP.20m14029
- Zabala-Banos C, Criado-Alvarez J-J, Lopez-Martin O, Martinez-Lorca M, Jimeno-Jimenez M-V, & Ricarte-Trives JJ (2019). Functioning of psychopathy and trait aggression as predictive variables of criminal recidivism. *Annals of Psychology*, 35(3), 364–370.

Public Significance Statement

In some prior research, involvement in the criminal justice system among veterans of the U.S. military has been linked to posttraumatic stress disorder (PTSD). This study found that veterans with PTSD and a history of criminal justice system involvement are likely to have other risk factors for justice system involvement but that PTSD by itself does not increase the likelihood of a criminal history. Risk management for justice-involved veterans should consider both the mental health needs of these veterans as well as risk factors for criminal justice system involvement that are typically monitored by correctional system staff.

Table 1
 Bivariate Analysis of Sociodemographic Characteristics by Probable Posttraumatic Stress Disorder (PTSD) Diagnostic Status

Variable	Full sample (N = 341)	Probable PTSD (n = 251)	No PTSD (n = 90)	χ^2 or <i>t</i> (df)	<i>p</i>	ES	95% CI
Sex, <i>n</i> (%)				0.51 (1)	.58	.04	
Male	325 (95.3%)	238 (94.8%)	87 (96.7%)				
Female	16 (4.7%)	13 (5.2%)	3 (3.3%)				
Age, <i>M</i> (<i>SD</i>)	46.2 (12.17)	44.7 (11.80)	50.50 (12.20)	4.00 (339)	<.001	0.50	[3.00, 8.76]
Education (in years), <i>M</i> (<i>SD</i>)	12.5 (1.54)	12.6 (1.40)	12.20 (1.90)	2.45 (338)	.02	0.30	[-0.54, -0.06]
Race/ethnicity, <i>n</i> (%)				13.72 (5)	.01	.20	
White (non-Hispanic)	197 (57.8%)	153 (61.0%)	44 (48.9%)				
Black or African American (non-Hispanic)	97 (28.4%)	60 (23.9%)	37 (41.1%)				
American Indian	6 (1.8%)	5 (2.0%)	1 (1.1%)				
Asian/Pacific Islander	6 (1.8%)	3 (1.2%)	3 (3.3%)				
Hispanic/Latinx	16 (4.7%)	15 (6.0%)	1 (1.1%)				
Other	19 (5.6%)	15 (6.0%)	4 (4.4%)				
Marital status, <i>n</i> (%)				5.21 (4)	.26	.13	
Married	29 (8.5%)	22 (8.8%)	7 (7.8%)				
Widowed	13 (3.8%)	6 (2.4%)	7 (7.8%)				
Separated	57 (16.7%)	44 (17.5%)	13 (14.4%)				
Divorced	144 (42.2%)	105 (41.8%)	39 (43.3%)				
Never married	98 (28.7%)	74 (29.5%)	24 (26.7%)				
Lived in a controlled environment in the past 30 days, <i>n</i> (%)				0.64 (1)	.47	.09	
No	24 (7%)	16 (6.4%)	8 (8.9%)				
Yes	317 (93%)	235 (93.6%)	82 (91.1%)				
Housing status, <i>n</i> (%)				1.55 (1)	.25	.07	
Stable housing	9 (2.6%)	5 (2.0%)	4 (4.4%)				
Unstable housing	332 (97.4%)	246 (98.0%)	86 (95.6%)				

Note. For variables with any cell less than a count of 5, Fisher's exact test was used. For effect size (ES), Cohen's *d* is reported for continuous variables, and Cramer's *V* is reported for categorical variables. CI = confidence interval.

Table 2

Bivariate Analysis of Criminal History and Criminogenic Needs by Probable Posttraumatic Stress Disorder (PTSD) Diagnostic Status

Variable	Full sample <i>M (SD)</i>	Probable PTSD <i>M (SD)</i>	No PTSD <i>M (SD)</i>	<i>t (df)</i>	<i>p</i>	Cohen's <i>d</i>	95% CI for the mean difference
Criminal history (ASI, Lifetime)							
Number of criminal charges	14.26 (19.21)	15.00 (21.27)	12.19 (11.54)	1.20 (339)	.23	0.15	[-7.46, 1.82]
Number of convictions	6.35 (9.63)	6.15 (9.38)	6.91 (10.31)	0.65 (335)	.52	0.08	[-1.57, 3.10]
Number of months incarcerated	37.96 (65.07)	35.60 (63.1)	44.70 (70.40)	1.12 (334)	.26	0.14	[-6.83, 24.93]
Criminal History Index ^a	-0.08 (2.13)	-0.11 (2.14)	-0.004 (2.12)	0.40 (330)	.69	0.05	[-0.42, 0.63]
Antisocial personality pattern (TriPM)							
Total scores	82.96 (20.07)	87.16 (19.37)	71.22 (17.18)	-6.90 (339)	< .001	0.85	[-20.50, -11.41]
Boldness	31.96 (8.19)	32.02 (8.15)	31.78 (8.34)	0.24 (339)	.81	0.03	[-2.22, 1.74]
Meanness	16.99 (10.46)	18.71 (10.53)	12.19 (8.68)	-5.26 (339)	< .001	0.67	[-8.95, -4.07]
Disinhibition	34.01 (11.45)	36.43 (10.63)	27.23 (10.96)	-6.98 (339)	< .001	0.86	[-11.79, -6.61]
Antisocial cognitions (PICTS; <i>t</i> scores)							
Mollification	52.41 (11.78)	54.18 (12.25)	47.49 (8.66)	-4.77 (339)	< .001	0.59	[-9.45, -3.93]
Cutoff	61.60 (10.99)	63.71 (10.76)	55.72 (9.42)	-6.24 (339)	< .001	0.77	[-10.51, -5.47]
Entitlement	55.99 (11.50)	57.74 (11.97)	51.14 (8.41)	-4.81 (339)	< .001	0.84	[-9.29, -3.91]
Power Orientation	57.46 (12.23)	59.35 (12.40)	52.20 (10.08)	-4.91 (339)	< .001	0.60	[-10.01, -4.29]
Super-optimism	55.55 (12.18)	57.58 (12.24)	49.88 (10.07)	-5.36 (339)	< .001	0.66	[-10.53, -4.87]
Cognitive Indolence	56.48 (9.95)	58.12 (9.91)	51.91 (8.61)	-5.28 (339)	< .001	0.65	[-8.52, -3.89]
Discontinuity	59.72 (11.36)	61.56 (11.47)	54.58 (9.33)	-5.19 (339)	< .001	0.64	[-9.62, -4.33]
Problem Avoidance	60.48 (10.65)	62.22 (10.51)	55.62 (9.53)	-5.23 (339)	< .001	0.64	[-9.08, -4.12]
Self-Assertion/Deception	56.54 (11.58)	58.51 (11.67)	51.03 (9.34)	-5.48 (339)	< .001	0.67	[-10.16, -4.79]
Current Criminal Thinking	59.78 (11.02)	61.69 (10.94)	54.47 (9.41)	-5.56 (339)	< .001	0.68	[-9.77, -4.67]
Proactive Criminal Thinking	56.49 (12.33)	58.73 (12.60)	50.26 (9.01)	-5.86 (339)	< .001	0.72	[-11.32, -5.63]
Reactive Criminal Thinking	60.14 (11.09)	62.21 (11.02)	54.38 (9.12)	-6.03 (339)	< .001	0.74	[-10.37, -5.27]
General Criminal Thinking	59.12 (11.71)	61.48 (11.72)	52.59 (8.94)	-6.54 (339)	< .001	0.80	[-11.56, -6.22]
Antisocial associates (MCAA)							
Criminal Friend Index	7.84 (8.46)	8.64 (8.47)	5.52 (8.06)	-2.08 (162)	.04	0.37	[-6.07, -0.16]
Substance use problems (TLFB)							
Days in past 6 months using alcohol	38.39 (51.22)	37.90 (51.39)	39.77 (51.00)	0.30 (339)	.77	0.04	[-10.53, 14.26]

Variable	Full sample <i>M</i> (<i>SD</i>)	Probable PTSD <i>M</i> (<i>SD</i>)	No PTSD <i>M</i> (<i>SD</i>)	<i>t</i> (<i>df</i>)	<i>p</i>	Cohen's <i>d</i>	95% CI for the mean difference
Days in past 6 months using drugs	50.97 (58.34)	55.08 (59.05)	39.50 (55.01)	-1.19 (339)	.03	0.27	[-29.60, -1.56]
Family/marital dysfunction (ASI)							
Family/Social composite	0.21 (0.20)	0.23 (0.21)	0.20 (0.23)	-3.56 (335)	< .001	0.48	[-0.14, -0.05]
Employment problems (ASI)							
Employment composite	0.81 (0.21)	0.81 (0.21)	0.80 (0.21)	-0.70 (338)	.48	0.09	[-0.07, 0.03]

Note. Full sample: *N* = 341; posttraumatic stress disorder (PTSD) group: *n* = 251; no-PTSD group: *n* = 90. CI = confidence interval; ASI = Addiction Severity Index; TriPM = Triarchic Psychopathy Measure; PICTS = Psychological Inventory of Criminal Thinking Styles; MCAA = Measures of Criminal Attitudes and Associates; TLFB = Timeline Follow-Back.

^aCriminal History Index is a *z*-scored composite based on average lifetime changes, convictions, and months incarcerated.

Results From the Multiple Linear Regression Predicting PTSD Severity From Criminogenic Needs, Adjusting for Demographic Variables

Table 3

Predictor	b	SE	β	t	p	95% CI for b
TriPM total scores	0.20	0.11	0.20	1.88	.06	[-0.01, 0.42]
General Criminal Thinking (PICTS)	0.28	0.17	0.17	1.67	.09	[-0.05, 0.62]
Criminal Friend Index (MCAA)	-0.14	0.21	-0.06	-0.68	.49	[-0.55, 0.27]
Days in past 6 months using alcohol (TLFB)	-0.01	0.04	-0.03	-0.39	.69	[-0.08, 0.06]
Days in past 6 months using drugs (TLFB)	0.04	0.03	0.11	1.32	.19	[-0.02, 0.10]
Family/Social composite (ASI)	19.76	7.92	0.21	2.49	.01	[4.09, 35.42]
Employment composite (ASI)	13.98	7.29	0.15	1.92	.06	[-0.43, 28.39]
Age	0.09	0.14	0.05	0.60	.55	[-0.20, 0.37]
Education	1.26	1.22	0.08	1.02	.31	[-1.05, 2.5]
Race/ethnicity (reference = White/non-Hispanic)	0.71	0.89	0.06	0.79	.43	[-1.01, 3.68]

Note. Posttraumatic stress disorder (PTSD) severity was assessed using the Posttraumatic Stress Disorder Checklist for DSM-5. $R^2 = .213$, adjusted $R^2 = .153$, $F(2,18) = 3.545$, $p < .001$. CI = confidence interval; TriPM = Triarchic Psychopathy Measure; PICTS = Psychological Inventory of Criminal Thinking Styles; MCAA = Measures of Criminal Attitudes and Associates; TLFB = Timeline Follow-Back; ASI = Addiction Severity Index.

Table 4

Results From the Multiple Linear Regression Criminal History From PTSD Symptom Severity and Criminogenic Needs

Predictor	<i>b</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	95% CI for <i>b</i>
PCL-5 total scores	-0.30	0.35	-0.06	-0.84	.40	[-0.99, 0.40]
TriPM total scores	0.02	0.01	0.19	1.99	.04	[0.00, 0.04]
General Criminal Thinking (PICTS)	0.04	0.02	0.22	2.39	.02	[0.01, 0.07]
Criminal Friend Index (MCAA)	0.01	0.02	0.06	0.80	.43	[-0.02, 0.05]
Days in past 6 months using alcohol (TLFB)	-0.005	0.003	-0.11	-1.45	.15	[-0.01, 0.00]
Days in past 6 months using drugs (TLFB)	-0.001	0.003	-0.03	-0.38	.71	[-0.01, 0.00]
Family/Social composite (ASI)	-0.62	0.76	-0.06	-0.81	.42	[-2.12, 0.89]
Employment composite (ASI)	0.59	0.63	0.07	0.94	.35	[-0.65, 1.82]
Age	0.08	0.01	0.52	6.57	< .001	[0.06, 0.11]
Education	-0.08	0.08	-0.07	-0.98	.33	[-0.24, 0.08]
Race/ethnicity (reference = White/non-Hispanic)	0.03	0.08	0.02	0.30	.76	[-1.4, 0.19]

Note. Criminal history was measured via the Criminal History Index. PTSD = posttraumatic stress disorder; CI = confidence interval; PCL-5 = PTSD Checklist for DSM-5; TriPM = Triarchic Psychopathy Measure; PICTS = Psychological Inventory of Criminal Thinking Styles; MCAA = Measures of Criminal Attitudes and Associates. TLFB = Timeline Follow-Back; ASI = Addiction Severity Index.