

Paden et al. (2020) analysed secondary administration data collected on 431 men admitted post-incarceration to a US health institution under the state's sexually violent predator act over 21 years. They compared data for 134 veterans with 297 non-veterans, finding that veterans in this sample differed from non-veterans concerning many characteristics. They found that the proportion of Caucasians relative to other ethnicities was higher among veterans than civilians, whereas veterans had fewer African Americans than civilians. Veterans also tended to have higher levels of education and were admitted to the correctional institution at an older age. However, this poor-quality study was limited by a small sample population not representative of males incarcerated for sexual offences more broadly, and with most data, including past military service, collected via self-report.

3.2.5 Criminal history

Past offending, often operationalised through a record of arrest, is a criminogenic risk factor for further offending and entry into corrective services. Several studies examined the association between veteran status and a history of offending for incarcerated veterans.

Utilising secondary data collected from the US 2004 Survey of Inmates in State and Federal Correctional Facilities, Brooke and Gau (2018) compared self-reported history of arrests (as an adult and juvenile) from veterans with non-veteran inmates finding that veterans had over 10% fewer arrests. In addition, they found that the percentage of veterans reporting a juvenile arrest was far lower than with non-veterans. In a study including data from the US 2004 Survey of Inmates in State and Federal Correctional Facilities, Greenberg and Rosenheck (2012) found that incarcerated veterans were less likely than incarcerated non-veterans to report a past criminal history.

Overall, this is not a consistent finding across studies, which suggests that other factors impact arrest history. In a small sample of 25 veterans incarcerated in Canadian facilities, Coté et al. (2020) found that 18 had prior criminal convictions, although the extent of criminal history was not measured, and that 12 of these were arrested for the first time while serving in the military. In a cross-sectional UK study analysing data from 105 veterans in prison, Wainwright et al. (2017) found that 70% had previous convictions, most commonly between one and 5, and 30% had offended before military service.

Brooke and Gau (2018) examined the associations between arrest history and other variables in the US. Interestingly, they also found that arrest history was related to the length of service in the military, with a decrease in reported arrests for each 1-year increase in service duration. Rosenheck and Tsai (2013), also addressing the US environment, examined the association between self-report of childhood adversity and criminal charges in a sample of homeless veterans with a history of incarceration. They found more criminal charges and convictions during adulthood in veterans who reported conduct disorder behaviours as children. Although these studies are of fair and poor quality, they highlight that veterans are not a homogenous population regarding risks for entry into corrective services.

3.2.6 Socio-demographic characteristics (education, employment, relationship status)

While studies report few differences in socio-demographic variables between veterans and non-veterans in corrective services, the comparative quantitative studies consistently report that veterans have higher levels of education than non-veteran inmates.

Using secondary data from US national surveys, Greenberg and Rosenheck (2012) found that incarcerated veterans were more likely to have a high school degree than non-veterans. Likewise, Brooke and Gau (2018), utilising data from one of the same surveys, reported a similar finding, as did Coté et al. (2020) in their study with veterans incarcerated in Canadian facilities. Culp et al. (2013) concurred with similar results

from a cross-sectional study using national survey data on veterans and non-veterans in correctional facilities between 1986 to 2004. They compared veterans who served before the abolition of conscription in the US with those who served in the All-Volunteer Forces (AVF). They found that while a greater proportion of the veteran sample had completed high school education in comparison with non-veteran inmates, veterans from the AVF were far more likely to have completed high school than those during the conscription era. Both Greenberg and Rosenheck (2012) and Culp et al. (2013) suggest that findings may reflect selection factors in recruitment to the military and more limited civilian employment opportunities that resulted in more educated enlistees.

In a systematic review of 13 studies conducted between 1987 and 2012 examining criminogenic risk factors for recidivism, Blonigen et al. (2016) found that a lower level of education increased the odds of committing crimes among veterans. However, the findings from this review are limited for current purposes by the exclusive inclusion of US studies, many of which use secondary and self-report data and reference to outcomes including contact with the criminal justice system more broadly, such as arrest or charge.

Notably, there was a lack of homogeneity in the studies concerning veteran employment. Some studies found that veterans in corrective services were more likely than non-veterans to report being employed before entry into corrective services. In their cross-sectional study using prison data for 105 veterans in UK prisons, Wainwright et al. (2017) found that 57% of the veteran participants reported being employed in the month before entering prison compared to 32% of the general prison population. Likewise, using data from the US 2004 Survey of Inmates in State and Federal Facilities, Brooke & Gau (2018) found that a significantly larger proportion of the veteran sample reported employment in the month before arrest non-veteran sample.

However, other studies found high levels of reported unemployment, although the lack of a comparison group limited their findings. In 2 cross-sectional studies examining VA data collected from 15 and 91 incarcerated female veterans, respectively, in one US state, Schaffer (2011, 2014) found that three quarters were unemployed. In a similar study analysing data collected from 399 incarcerated veterans, Schaffer (2016a) found that 57% of veterans were classified as jobless. However, the quality of these studies is poor, with no description given concerning how the employment variable was measured. In their review of studies examining criminogenic risks for recidivism, Blonigen et al. (2016) found that lack of employment and a lower level of education increased the odds of committing crimes among veterans, with incarcerated veterans having a shorter employment history comparison with non-incarcerated veterans.

The qualitative studies suggest that employment difficulties and financial problems may be associated with their offending for some veterans in the UK. In a qualitative study with 22 male veterans, Moorhead (2021) found that gaining employment on discharge from the military was difficult due to a perception of would-be employers that veterans lacked transferable skills. Similarly, in a qualitative study involving interviews with 12 veterans in prison in Wales, Madoc-Jones et al. (2018) described how participants referred to unemployment as causing hardship, which was then associated with alcohol misuse, relationship difficulties and domestic abuse. Regarding relationship status and social support, studies have found few differences between veterans and non-veterans in corrective services in that inmates are generally single, separated or divorced with limited social support.

3.2.7 Homelessness

Few studies reported homelessness as a risk factor for entry into corrective services despite homelessness and incarceration being known risk factors. None of the studies provided any comparative data to ascertain if there are differences in this risk for veterans, although some provided prevalence data (Coté et al., 2020; McCall & Tsai, 2018; Schaffer, 2016a) and one study specifically analysed the extent of homelessness

among incarcerated veterans due for prison release (Tsai, Rosenheck, Kaspro, & McGuire, 2014). The studies by Coté et al. (2020), McCall and Tsai (2018), and Schaffer (2016a) do not provide any definitions or descriptions of the measures used for homelessness. Coté et al. (2020) stated that 24% of their sample of incarcerated veterans in Canadian facilities reported being homeless. Schaffer (2016a) found that over 50% of 399 veterans in correctional facilities were homeless in the past, with 20% homeless at release. In a cross-sectional study using VA data, McCall and Tsai (2018) found that a third of a sample of 524 female veterans had a history of homelessness before incarceration.

Tsai et al. (2014) examined homelessness by analysing data collected by a national VA program on 30,348 incarcerated veterans through classifying participants into 4 groups based on their reported history of past homelessness. The authors concluded that 30% of the sample had a homeless history which was 5 times the rate among adult men in the general population. In addition, they found that compared to non-homeless incarcerated veterans, the groups classified as homeless reported significantly more mental health and substance abuse issues, more arrests and were more likely to be incarcerated for a non-violent offence. They noted that incarcerated veterans with a homelessness history were more likely to be incarcerated for a property offence and concluded that consistent with studies of homeless populations, these veterans struggle with mental health, substance abuse, and other psychosocial problems resulting in minor infractions with the law. Veterans categorised as chronically homeless (defined as homeless at the time of incarceration for one year or more or homeless more than three times in the past three years) were older, more likely to be black or Hispanic, less likely to be married, more likely to have served during the Vietnam War, and more likely to have no income than incarcerated veterans who were not homeless or episodically homeless. In addition, incarcerated veterans who were chronically homeless and episodically homeless were more likely to report combat exposure than non-homeless incarcerated veterans. While this study is rated as poor quality due to being based on secondary data recorded through self-report, it does suggest the extent of homelessness in the incarcerated US veteran population and associated socio-demographic characteristics. However, cultural differences between the US and Australia limit the generalisability of the findings.

3.2.8 Mental health and substance abuse

Overall, studies have concluded that veterans in corrective services are more likely to have mental health issues and substance abuse disorders than non-veteran inmates. Veterans with PTSD and substance abuse have a higher risk of criminal justice involvement, although whether this risk extends to entry into corrective services is not established.

In a fair quality-rated systematic review synthesising 14 quantitative US studies (1987-2013), Blodgett et al. (2015) described the prevalence of mental health problems among veterans involved at any stage of the criminal justice system, including corrective services. Although the findings were limited by variations in study design, measurements, and definitions of specific mental health problems across the studies, the publications consistently reported justice-involved veterans having more mental health problems than other veterans. They concluded that most justice-involved veterans have likely experienced at least one traumatic event, and many have PTSD. They cautioned that while some types of trauma are unique to military service (combat trauma and military sexual trauma), many veterans may have experienced trauma common to non-veterans involved in the criminal justice system (such as a history of violence and childhood adversity). Overall rates of PTSD ranged from 4% to 39% for general PTSD (across five samples) and from 5% to 27% for specifically combat-related PTSD (across four samples). One study conducted in 2010 found that among incarcerated US veterans aged over 55, PTSD was far more common among combat veterans than non-combat veterans. However, the primary study used secondary data from the 2004

Survey of Inmates in State and Federal Correctional Facilities, which collected data through self-report. Blodgett et al. (2015) also found that at least half of the veterans in the samples were estimated to have a substance use disorder, with the rate ranging up to 71% for alcohol use disorders and up to 65% for drug use disorders. While across the samples, they found that significant numbers met the criteria for mood disorders and/or psychotic disorders. They found low reported rates of personality disorders (such as anti-social personality) which are known risk factors for criminal behaviour in the general population.

Using data from the 2004 Survey of Inmates in State and Federal Correctional Facilities, Brooke and Gau (2018) coded mental health diagnoses into five categories of schizophrenia, depressive disorder, PTSD, anxiety cluster and other, finding a higher prevalence for incarcerated veterans compared with incarcerated non-veterans across all categories. Greenberg and Rosenheck (2012) commented that although PTSD was excluded in the original data collection for the same survey used by Brooke and Gau (2018), they found that veterans in state and federal prisons were significantly more likely to report having a diagnosis of mental illness made in the previous year, spending time in acute care and receiving counselling than non-veterans.

In a good quality-rated systematic review, Taylor et al. (2020) examined the association between PTSD and criminal justice involvement among veterans. They analysed ten studies (1987-2017), including one from the UK, that assessed PTSD in veterans with criminal justice involvement compared to veterans without PTSD. Notably, criminal justice involvement included studies with samples from corrective services. They found that veterans with PTSD had higher odds of any criminal justice involvement, such as a history of incarceration or self-reported arrest history, an arrest for a violent crime, than veterans without PTSD. In addition, they examined the relationship between combat exposure and criminal justice involvement and found no significant results. The findings are limited by the heterogeneity across the studies, particularly the inconsistency in outcome measures as some used incarceration while others used data on arrests or charges.

Descriptive studies have also reported high rates of mental illness and substance abuse, particularly alcohol abuse in incarcerated veterans. In a Canadian study using mixed methods, Coté et al. (2020) found that in a sample of 25 incarcerated veterans, 18 had mental health conditions, with 6 having PTSD due to deployment. In addition, 22 had a history of alcohol abuse, and 16 had a drug abuse history. These findings were based on a combination of self-report and clinical assessment. Findings are consistent with UK studies. Using data from prison records for 105 incarcerated veterans in UK prisons, Wainwright et al. (2018) found that 37% had a mental health diagnosis on record, with the most common being PTSD. Using the same sample, Wainwright et al. (2017) found that in the year before incarceration, 56% of a sample of 105 veterans screened positive for alcohol misuse, 28% for drug misuse and 24% for a sub-threshold diagnosis of PTSD. Of those that screened positive for alcohol misuse, the majority screened positive for alcohol dependence. They found this group to be significantly more likely to be younger, single, earlier service leavers and discharged with the rank of Private or equivalent than those without alcohol misuse. Wainwright et al. (2017) reported that 30% of participants considered alcohol a contributing factor in their offending, and 14% considered that drugs were a contributing factor. In addition, the research found that participants with violent offences were more likely to have screened positively for alcohol misuse in the year before entering prison than were sexual or other offenders. Of those who screened positively for drug misuse, Wainwright et al. (2017) also found them more likely to be younger, served as a Private, earlier service leaver, and reported unemployment and limited social contact before incarceration than those who screened negatively.

In a cross-sectional study using secondary data from a US national survey on alcohol and related conditions, Ross, Waterhouse-Bradley, Contractor, and Armour (2018) analysed a sample of 3,102 veterans who indicated the previous incarceration, finding that a lifetime diagnosis of alcohol use disorder increased the chances of having a history of incarceration by 2.9 times. A lifetime diagnosis of one or more drug use disorders increased the chances of incarceration by 4.6 times, with the most significant risk being for those with both disorders. The main limitation of this study is that the researchers could not determine whether these disorders preceded or followed incarceration.

Using secondary data provided by a US state department of corrections, Logan et al. (2021a) retrospectively analysed the re-arrest and conviction data for a cohort of veterans released from prison compared with a cohort of non-veterans. They used individual criminal justice records to measure the prevalence of mental health, particularly PTSD and traumatic brain injury (TBI), finding that veterans had higher rates of diagnosis of mental health conditions than non-veteran inmates. They found that both PTSD and TBI were related to re-arrest, conviction, or revocation of parole. In a separate paper using the same data set, Logan, McNeeley, and Morgan (2021b) found that TBI and PTSD were related to some forms of recidivism among veterans. The presence of TBI increased the risk of re-arrest by 49%, the chance of parole revocation by 85%, and increased the risk of reconviction by 44%.

Similarly, PTSD increased the risk of parole revocation by 64%. In addition, they found that veterans with combat-related PTSD had an 82% higher risk of parole revocation. They conclude that TBI and PTSD are relevant predictors of criminal justice outcomes among military veterans and may be associated with veteran avoidance of help-seeking. As with all cross-sectional studies, temporal relationships cannot be established. This study was limited to one US state and with data collected at time points, although analysed as a whole. Whether PTSD and TBI are related to military service, previous trauma exposure or incarceration exposures could not be established.

While the previous studies considered veterans a homogenous group, some have explored differences in the prevalence of disorders in veterans by service era. Using secondary VA data on incarcerated veterans, Tsai et al. (2013a) compared veterans identified as serving in the military during the US Iraq and Afghanistan Operations (Operation Enduring Freedom (OEF), Operation Iraq Freedom (OIF) and Operation New Dawn (OND)) with other incarcerated veterans. Although this subgroup constituted only 4% of the total sample, Tsai et al. (2013a) found that OIF/OEF and OND veterans were 3 times more likely than other incarcerated veterans (nearly 50% served post-Vietnam) to have combat-related PTSD, reflecting their greater likelihood of combat exposure. However, they were less likely to have a diagnosis of drug abuse or dependence. Notably, diagnoses were based on self-report and clinical judgement by VA staff rather than standardised clinical measures. Concerning substance abuse, the authors found that alcohol abuse or dependence rather than drug abuse was the most common diagnosis for both OEF/OIF/OND veterans (43%) and other veterans (45%).

In examining racial differences in a sample of incarcerated veterans compared with non-incarcerated veterans using VA data, Tsai, Rosenheck, Kaspro, et al. (2013b) found a high rate of alcohol abuse/dependency and drug abuse/dependency regardless of race or ethnicity. They found that although African Americans were least likely to report an alcohol diagnosis or dependency, they were most likely to have a drug abuse/dependency diagnosis, more likely to be incarcerated for a drug offence, and more likely to report using substances at the time of their offence compared with veterans of all other racial/ethnic groups. They argue that while drug abuse dependency is a risk factor for incarceration for veterans as a population group, it is a higher risk for African Americans.

Some quantitative studies have examined the relationships between the individual symptom clusters of PTSD, substance use disorders and the risk of offending because both PTSD and alcohol misuse have been found to impact violent behaviour by veterans. However, only one study has analysed the relationship concerning incarceration. Hypothesising that substance use disorders present the most significant risk for incarceration Kimbrel et al. (2014) collected data from a sample of Iraq/Afghanistan-era veterans who participated in a VA mental health research registry database. They found that incarceration was predicted exclusively by substance use disorder (alcohol and other substances) as an externalising factor in psychiatric comorbidity with PTSD. However, this study is limited by a small sample from a restricted geographic area in the US and a self-report of incarceration.

3.3 Components of military service

3.3.1 Military service

The previous studies examined veteran characteristics at the individual level concerning risk factors for entry into corrective services. A subset of studies investigated military service generally (Baktir, Mustafa Icer, & Craig, 2020; Siminski, Ville, & Paull, 2016; Teachman & Tedrow, 2016). However, findings are mixed as military service is not a homogenous experience, with service branch, length of service and deployment/combat varying between individuals. Hence, several studies have examined specific components of military service as potential risk factors for criminal behaviour, leading to corrective services involvement.

Using Australia's Vietnam conscription era lotteries and criminal court data for male defendants from New South Wales, Queensland, and Victoria, (constituting nearly 500,000 alleged offences), Siminski et al. (2016) estimated the effect of army service on various measures of an individual crime, including incarceration. They analysed conscription lottery data for males of conscription birth cohorts between 1965 and 1972 and criminal court data obtained from 1994 to 2010 when these men would have been in middle age. They found no evidence that army service affects crime perpetration rates in the long run, including violent crime, non-violent crime, and property crime. While this study does have some generalisability to the Australian veteran context, it is limited to Vietnam era veterans. In addition, the criminal court data was limited to three, albeit large, Australian states.

Baktir et al. (2020) systematically reviewed 15 quantitative studies (1995-2017) and two scholarly books that compared veteran and non-veteran criminal behaviour using quantitative empirical analyses that statistically tested the association between veteran status and criminal activity. Outcomes in these studies included corrective services involvement. Overall, the authors found that the literature was inconclusive as to whether the military experience was associated with criminal activity. Most findings showed no significant relationship between military status and criminal behaviour. Twenty per cent of the findings suggested that military experience significantly lowered the risk of being convicted or arrested compared to non-military individuals, and 36% of the findings for the full sample indicated that being involved in the military lowered the risk of committing a non-violent crime.

Conversely, another 20% of the findings indicated that military members were more likely to commit violent crimes. Baktir et al. (2020) concluded that military experience decreases the risk of non-violent crime while it appeared to increase the risk of violent crime. They suggested that as the studies involved veteran samples from different service eras and countries, temporal and contextual timing and individual level characteristics may have contributed to these mixed findings. The review was limited, using cross-sectional designs and secondary data in the included studies and outcome measures that included arrest and conviction data.

Likewise, in a study using longitudinal data from the US 1997 National Longitudinal Survey of Youth, Teachman and Tedrow (2016) examined measures of crime in a population of men born between 1980 and 1984, finding that subsequent military service was negatively associated with contact with the criminal justice system but only for those that had a history of criminal behaviour before joining the military. However, while this study was longitudinal, incarceration was based on self-report, too few participants reported this outcome, and data was limited to a select cohort.

3.3.2 Service era

Several studies did not define veteran samples by service era (Brooke & Gau, 2018; Brooke & Peck, 2019; Coté et al., 2020; M. W. Logan et al., 2021; Matthew William Logan et al., 2021; Madoc-Jones et al., 2018; McCall & Tsai, 2018; Moorhead, 2021; Paden et al., 2020; Rosenheck & Tsai, 2013; Schaffer, 2011, 2014, 2016a, 2016b; Schaffer & Zarilla, 2018; Snowden, Oh, Salas-wright, Vaughn, & King, 2017; Tsai et al., 2014). Other studies focused on veterans from a particular era such as Vietnam (Coker & Rosenheck, 2014; Siminski et al., 2016), the US AVF (Culp et al., 2013), Afghanistan/Iraq (Elbogen et al., 2018; Kimbrel et al., 2014; Tsai, Rosenheck, J. Kaspro, et al., 2013) or a combination of eras (Baktir et al., 2020; Blodgett et al., 2015; Blonigen et al., 2016; Greenberg & Rosenheck, 2012).

Culp et al. (2013) examined whether the era of service was a risk factor for incarceration. They used secondary data from US National Surveys of Inmates in State and Federal Correctional Facilities (SISFCF) for 1986, 1991, 1997, and 2004, together with a current population survey to compare veterans and non-veterans, including analyses of veterans by the era of service. They examined the differences between the US conscription/draft era of service and the AVF (from 1973), finding that draft-era veterans were half as likely to be incarcerated than non-veterans, while AVF-era veterans were more than twice as likely to be in prison. In addition, they found that combat-related service had an inverse effect on the chances of imprisonment, whereby individuals who served during periods of active hostilities were about half as likely to be incarcerated as those with no combat experience. While incarceration for violent crimes increased with service during the AVF era, wartime service reduced the odds of incarceration for violent crimes by about 50%. They concluded that demographic variables, differences in recruiting and the contextual differences in military experiences between service eras might account for these differences. Differences in culture, population demographics and recruitment practices between the US and Australia limit the findings' generalisability.

Similarly, Greenberg and Rosenheck (2012) used data from the 2002 and 2004 US National Surveys of Inmates in State and Federal Correctional Facilities, finding that male veterans in the age group that entered the AVF in the early years (after 1973) were at greater risk of incarceration than non-veterans of similar age and ethnicity. In contrast, veterans who enlisted in later years of the AVF had less risk of incarceration than non-veterans. They also argued that variability in recruitment patterns following the abolition of conscription could have resulted in changes in demographic characteristics of those enlisting in the early years. In particular, the early years of the AVF included recruiting individuals who were poorly qualified and tended to be of lower socioeconomic status and therefore at greater risk of incarceration post-service than other military cohorts.

Tsai et al. (2013a) compared the risk of incarceration of US veterans of OIF/OEF and OND with other veterans using VA program data on incarcerated veterans. Consistent across age groups and race, this service group was half as likely as other veterans to be incarcerated. Although there was no specific evidence to support it, the authors suggest that the lower incarceration rate might reflect the increased attention and service supports provided by the VA to this veteran cohort.

3.3.3 Length of service

Several studies have indicated that length of service might present a risk factor for corrective services involvement, with early service leavers being at greater risk than those with longer military service.

Analysing secondary data from the US 2004 Survey of Inmates in State and Federal Correctional Facilities, Brooke and Gau (2018) found that incarcerated veterans were 18 on average when they enlisted and served for approximately 4 years. They concluded that length of service was the only variable related to the number of arrests and constituting a risk factor for incarceration, with those serving longer having fewer arrests. They suggested that early service leavers are a vulnerable group.

Other studies have provided length of service for their sample. Coté et al. (2020) reported the average as 6 years in a sample of 25, with more than half serving between one and 5 years. Madoc-Jones et al. (2018) reported an average of 3 to 4 years in a sample of 12 incarcerated veterans. In a sample of 22 veterans, Moorhead (2021) reported that 6 left before serving 4 years, and 10 served between five and eight years. In a UK study with 105 incarcerated veterans, Wainwright et al. (2017) reported that the average length of service was 6 years.

In a qualitative study with 20 UK veterans, Wainwright et al. (2016) found that half were early service leavers, having served less than 4 years, and with the decision to leave described as impulsive. The authors found that the participants commonly cited mental health problems as contributing to circumstances and behaviour leading to discharge, with impulsive decision-making providing little time to plan for transition. While these studies are not generalisable, they draw attention to early service leavers as a group at risk of entry into corrective services.

3.3.4 Discharge status

US studies generally include discharge status in their descriptive variables. The US has a complex discharge system where the type of discharge has consequences for access to services and support through the VA. Where this was described, most participants were honourably discharged. However, one study examined Other than Honourable (OTH) discharge as a risk factor for incarceration as it has consequences in terms of access to some VA services and post service employment (Elbogen et al., 2018). They found that those with OTH discharge had twice the incarceration rate relative to veterans receiving discharges under honourable conditions. However, the sample of veterans with OTH discharge was small (n=32), only representative of the study population and both discharge status and incarceration history were by self-report. There is no generalisability to the Australian context, given that access to DVA services is not based on discharge status.

No studies considered service unit or rank on discharge as a specific risk factor, although several studies provided descriptive data highlighting that incarcerated veterans were predominantly from the army (Madoc-Jones et al., 2018; Moorhead, 2021; Schaffer, 2014, 2016b; Wainwright et al., 2017; Wainwright et al., 2016).

3.3.5 Combat status

There is no evidence in the US studies that combat experience is a risk for entry into corrective services. Most studies that describe the prevalence of combat experience among incarcerated veterans reveal a low number of veterans. For example, Schaffer (2016a), in a sample of 399 incarcerated US veterans, stated that only 19% had combat experience. In a systematic review of the prevalence of mental health disorders in veterans involved in the criminal justice system, Blodgett et al. (2015) stated that, when reported in studies, the proportion of justice-involved veterans who had combat experience (in any era) ranged from

15% to 30%. These findings show some consistency with the study by Culp et al. (2013,) which found that combat-related service had an inverse effect on the odds of imprisonment, whereby individuals who served during periods of active hostilities were about half as likely to be incarcerated as those with no combat experience.

In addition, Van Dyke and Orrick (2017) found differences in types of offences committed with US combat veterans significantly less likely to have committed a violent offence than non-combat veterans. However, they were slightly more likely to have committed a drug offence. The findings from this study are limited due to self-report of combat status.

However, contrary to findings from the US studies, the UK studies suggest that combat experience may be associated with incarceration. Wainwright et al. (2017) reported that 61% of 105 incarcerated veterans in UK prisons had experienced deployment, although no indication of whether this included combat exposure. In addition, the UK qualitative studies described their participants as having combat experience, with Wainwright et al. (2016) stating that most of the sample of 20 veterans had at least one active deployment involving combat experiences such as facing enemy fire. Likewise, Madoc-Jones et al. (2018) reported that most of the 12 veteran participants described serving in a combat zone.

3.4 Pre-service vulnerabilities

While most studies identified and examined adult risk factors for entry into corrective services for veterans along with variables associated with military service, a small number examined or included descriptions of pre-military and childhood factors associated with risk of corrective services involvement.

In a qualitative study with 12 incarcerated veterans in Wales, Madoc-Jones et al. (2018) reported that almost all participants described themselves as coming from deprived backgrounds and joining the military at a young age. Likewise, Wainwright et al. (2016) focussed on the lived experience of 20 incarcerated veterans in England, describing how many talked about difficult life events, including family disruption and dysfunction, adoption, fostering, divorced parents and problems with school. Some participants described early trauma, including loss of parental figures and physical or sexual abuse at a young age. Wainwright et al. (2016) described how participants saw military service as an escape from an offending pathway and provided stability. In two quantitative studies undertaken with the same sample of 105 veterans in prisons in the UK, Wainwright et al. (2017, 2018) analysed prison records and found that pre-enlistment anti-social behaviour was evident in 50% of the sample with school truancy, suspension, and expulsion along with juvenile offending reported.

While not directly examined, Schaffer (2016b) found that parental divorce at a young age was common in the backgrounds of a sample of 282 veterans in corrective services in one US state in a descriptive cross-sectional study.

In a US study comparing incarcerated veterans with incarcerated non-veterans, using data from the 2002 and 2004 US National Surveys of Inmates in State and Federal Correctional Facilities, Greenberg and Rosenheck (2012) found that veterans were more likely to report having been the victim of physical abuse as a child contrasted with non-veterans.

Rosenheck and Tsai (2013) examined childhood antecedents of incarceration among homeless US veterans. They examined family instability, conduct disorder behaviours and childhood abuse using data from a VA housing program. While analyses suggested that childhood family instability scores and childhood abuse were not significantly associated with any variables related to incarceration, veterans who reported more conduct disorder behaviours during childhood tended to report more criminal charges of all types, more

convictions, and longer periods of incarceration during adulthood, which the authors determined was consistent with studies of the general population. While the study does not provide any definitions or examples of behaviours that constitute conduct disorder, there is some consistency in findings with the previous UK studies (Wainwright et al., 2017, 2018; Wainwright et al., 2016). However, the Rosenheck & Tsai (2013) study is limited by self-report and recall biases, along with the use of a narrow sample population of US veterans.

In a cross-sectional study using survey data collected in a US national survey on alcohol and related disorders, Ross et al. (2018) analysed data on a sample of 3102 individuals who indicated both veteran status and previous incarceration. They found that physical neglect was the most reported childhood adversity, followed by physical abuse and household substance use. A quarter of the sample reported a history of significant adverse childhood events. Categorising childhood adversities into 4 groups, they found that it was not the group with a reported history of severe and multi-type adversities that had the highest risk of incarceration but the group that reported experience of severe maltreatment and moderate household dysfunction. While this study is limited by recall and report biases and other studies, it reinforces that traumatic and negative experiences for some, and can contribute to long-term individual impacts in terms of future involvement with corrective services.

3.5 Transition difficulties

Transition from the military is often a challenging time for veterans. Challenges may include the loss of community and friendships, previous roles, or status, dealing with the impacts of service on psychological and physical health, and the radical change from being an integral part of a cohesive, constraining environment to an individual in a civilian society (Albertson, 2019, DVA, 2018). Quantitative studies focused on veteran characteristics at the individual level to determine associations between experience of military service (length, combat status etc.). In contrast, qualitative studies examined the individual's experience and perceptions of their entry into corrective services. These studies (Madoc-Jones et al., 2018; Moorhead, 2021; Unwin & Winder, 2021; Wainwright et al., 2016) described the experiences of incarcerated veterans from an ecological rather than statistical perspective, drawing attention to military culture and the impact that this can have on thinking and behaviour which can consequently impede a smooth transition to civilian life. These studies suggest that for a group of veterans, the impact of military culture might be a risk factor for incarceration.

In exploring alcohol-related violence through in-depth interviews with 22 veterans incarcerated in UK prisons, participants described how both violence and alcohol were part of military culture, with normalisation of, and de-sensitisation to, violence commencing with recruit training (Moorhead 2021). In addition, Moorhead reported participants' descriptions concerning how alcohol was a prominent aspect of military culture and was understood as an approved mechanism for bonding and comradeship. This is consistent with Wainwright et al. (2016) in a study involving in-depth interviews with 20 incarcerated veterans in UK prisons. Participants described a drinking culture in the military as part of their soldier identity and used it as a coping strategy in managing mental health issues.

Moorhead (2021) further described how participants perceived the return and reintegration into civilian life, post-transition, as a difficult journey involving culture shock, feelings of dislocation and loss, and symptoms of PTSD, with alcohol used as a familiar military-inspired coping strategy. Insecure work, employment that failed to accommodate military skill sets, accommodation, budgeting and contributing to household bills and expenses were identified as problematic given that these responsibilities were previously taken care of in the military. Participants described a breakdown in relationships, increased alcohol consumption and confrontational behaviour with learned aggression responses, inculcated within

the military, as precipitating violence - particularly intimate partner violence. Moorhead (2021) concluded that violence represents an essential aspect of military service for many and is critical for understanding the behaviour leading to incarceration post-transition.

Madoc-Jones et al. (2018) found similar results in a study involving in-depth interviews with 12 veterans in prison in Wales. Participants ascribed heavy drinking and reacting with violence as part of military training as explaining their offending behaviour. Making decisions instead of responding to orders was identified as a challenge and coupled with difficulties with employment and relationships, together with drinking, could precipitate intimate partner abuse.

In a qualitative study involving in-depth interviews with 6 incarcerated veterans in one UK prison (Unwin and Winder, 2021), participants provided perspectives on their offending behaviour, identifying many military factors they considered were related to their offending. Consistent with the studies by Madoc-Jones et al. (2018), Moorhead (2021), and Unwin and Winder (2021) found participants perceived that they were not adequately de-sensitised from thinking, behaving, and reacting in the ways learned through military training. As such, veterans perceived that they reacted to external events with aggression and violence as they would have done when in the military. Unwin and Winder (2021) found that for these veterans, violence was normalised in the military, and participants continued to attribute the actions of others to a hostile state and consequently continued to respond based on this way of thinking. This is consistent with the findings made by Wainwright et al. (2016). They also reported that veterans perceived that a level of aggression and violence in their behaviour had been cultivated during their service. Participants described how training had 'programmed' or 'moulded' them to act and respond to situations in a particular manner by breaking down how a person would 'normally' respond to situations as a civilian and re-programming them as soldiers. Unwin and Winder (2021) similarly described how participants perceived that military training provided them with a skill set for committing offences and avoiding detection.

Two studies (Unwin & Winder, 2021; Wainwright et al., 2016) alluded to the pre-service experiences of the participants and their subsequent need for a sense of belonging, which was met during their time was lost on the transition out of service. Unwin and Winder (2021) described how some participants expressed that this was due to their upbringing where this sense of belonging had never been present, and the distress experienced with a loss of belonging and camaraderie with the transition. Wainwright et al. (2016) reported that for many participants, life in the military was the first time they felt that they belonged, referring to their peers as family. Wainwright et al. (2016) argued that leaving the military represents more than leaving a job. It symbolises leaving a whole way of life on which the veteran had become dependent in many ways. They described how adjusting to civilian life was one of the most significant difficulties reported by participants, often due to a lack of structure and routine to replace that of military life. Both studies also described how participants were reluctant to seek help due to identity issues and self-stigma despite dealing with adjustment issues and impacts on mental health. Unwin and Winder (2021) suggested that lack of help-seeking is an additional risk factor for offending in this population, where substance abuse or trauma problems remain untreated. Wainwright et al. (2016) described how participants felt unable to seek support to cope with trauma or mental health problems due to a sense of resilience - a belief that they should deal with the problems they were experiencing themselves.

While these poor to fair quality-rated qualitative studies are all based on UK veteran samples, they display consistency in their findings concerning the nature of the UK military as an institution and the losses and adjustment issues associated with leaving. These studies also described other potential risk factors, including pre-service vulnerabilities, alcohol abuse and early service leaving. However, they are subject to

selection and presentation biases, and, given the differences between the UK and Australian systems of support for veterans, generalisability is limited.

In this review's only grey literature study, Toole and Waddell (2019) reported a qualitative study conducted with 13 former service members in South Australian prisons. The study identified childhood trauma, military training, social exclusion, and mental health issues on discharge as risk factors for involvement in corrective services. All participants described being affected by one or more conditions, including PTSD, multiple personality disorder, anti-social personality disorder, bipolar, depression, panic disorder, obsessive-compulsive disorder, alcohol, and other drug dependence. The authors describe how participants were drawn to the service to fill a perceived gap in their lives, particularly relating to a lack of belonging and discipline, structure, and purpose in life. Army service provided them with the camaraderie, discipline, and hard work they needed. However, the transition experience was characterised as a sudden departure from service - a 'complete cut' - which involved a critical loss of structure, meaning and routine. Participants described having difficulty identifying with the civilian population and being drawn to organised crime as a substitute 'brotherhood'.

4 Discussion

This rapid evidence assessment aimed to examine and synthesise recent research evidence regarding risk factors for ex-serving defence force personnel to enter corrective services systems in Australia and/or other relevant jurisdictions. The literature reviewed was published in the USA, UK and Australia.

A systematic search, appraisal, and assessment of the literature and Australian grey literature were undertaken, resulting in 37 peer-reviewed papers and one grey literature article. The review revealed a paucity of Australian literature apart from one peer-reviewed article limited to Vietnam era conscription and one grey article discussing preliminary findings from qualitative interviews with veterans in South Australian corrective services. Noting, the South Australian study indicates some consistency in findings with the international peer-reviewed literature.

It is important to note that although particular risk factors show association with veteran entry into corrective services, no causal relationship can be assumed. Risk factors vary at the individual level depending on the person's characteristics and experiences in the socio-ecological systems of family, military, and the broader community. For some individuals, there would be no impact of a particular risk factor or mixture of factors. In contrast, for others, these may result in criminal behaviour and contact with corrective services. To a large extent, this is reflected in the literature. Quantitative studies were predominantly cross-sectional, precluding causal relationships and can only consider associations between veteran status as an individual variable and possible risk factors, such as age and gender. Qualitative studies enable an in-depth exploration from the veteran perspective, with findings generally limited to the particular sample unless supported consistently in other studies.

Overall, the level of evidence was low, and the quality of most studies was considered poor to fair. Studies compared characteristics of incarcerated veterans with non-veteran inmates, veterans in the community or lacked a comparison group. Many of the quantitative studies used secondary data from surveys, with six using the same data collected by the American Bureau of Justice in the 2004 Survey of Inmates in State and Federal Correctional Facilities with the veteran/military questions additional to the purpose of the survey. This type of data is considerably dated and may not reflect the risks, needs and issues facing more recent incarcerated populations (Brown, Stanulis, Theis, Farnsworth, & Daniels, 2013).

Most studies relied on data already collected, primarily by self-report, which introduces bias and error in analyses. Data collection on veteran status and military service by self-report is dependent on an individual disclosing this information. There are several reasons why a veteran may be reluctant to disclose veteran status, including embarrassment and shame, impacts on self-identity, fear of withdrawal/reduction of government benefits during incarceration, and concern about treatment by correctional staff within the prison culture (Brown et al., 2013). This can result in both under and incorrect self-reporting. Many individual studies did not report the non-response rate in the primary data collection, and there remains the possibility that non-responding veterans differ in some way from those who respond. These issues related to self-identification also apply to qualitative studies. Whether numerical or in-depth interviews, data collection primarily depends on a veteran choosing to disclose their status and be willing to participate.

Despite the poor quality of the included papers, some consistencies across the studies are generalisable. We have also considered the limited evidence provided through the study by Toole and Waddell (2019).

Older age and male gender were identified as risk factors consistently across the studies, regardless of country. This is not surprising, given that the peak age for male offending is 19, which is an age at which many young men join the military (MacManus et al., 2013; MacManus et al., 2021).

Male gender is also unsurprising given that males comprise the largest proportion of the military generally and approximately 85% of the permanent ADF specifically. In addition, about 85% of adult prisoners in Australia are male (Australian Institute of Health and Welfare, 2019). However, the few studies that separated male from female veterans (McCall & Tsai, 2018; Schaffer, 2011, 2014) suggested that the risk for female veterans may differ from those for males. As the research on female veterans in corrective services is minimal, including US veterans only, no assessment can be made. In addition, none of the studies that met the inclusion criteria included data on veterans who identify as lesbian, gay, bisexual, transgender, intersex, queer/questioning, asexual or another non-binary gender.

Limited conclusions can be drawn concerning race or ethnicity, given that the diversity in the Australian population differs from the US, the UK and Canada. The studies used broad categories for race. The US studies used white, black, and Hispanic categories with very few including Asian veterans, which does not reflect the Australian population diversity. However, the indication that US minority groups are disproportionately represented in the corrective services system relative to veterans classified as white is potentially generalisable. Given the relationship between intergenerational inequality and racism, the suggestion that racism is a factor could apply equally in Australia, where the Indigenous population comprises 38% of adult prison entrants but only 3.2% of the general adult population (AIHW, 2019).

The quantitative studies that examined the type of offence that resulted in incarceration varied considerably in the definitions or categories of offences, with some having broader groupings than others. Despite this limitation, studies were consistent in finding that veterans in corrective services are more likely than non-veterans to be there due to violent or sexual offending. This finding is consistent across all studies regardless of country, which suggests generalisability to the Australian context. It is a finding that has also been made in studies of offending using arrest or court data (MacManus et al., 2021; Short, Hannah, Neil, & MacManus, 2018; Stacer & Solinas-Saunders, 2020), which again provides some evidence that this type of offending is a risk factor for involvement with corrective services for some individuals in the veteran population internationally. In addition, qualitative studies drew more attention to potential explanations for violent offending, particularly the likelihood of intimate partner violence coupled with mental health issues, alcohol abuse and stresses associated with the transition. The studies by Madoc-Jones (2018), Moorhead (2019) and Wainwright et al. (2016) all explored perceptions of military training for hostile

actions and the perceived normalisation of aggressive responses with this learned behaviour continuing into civilian life. Understandably, violence can be understood as a critical aspect of military life, in which the recruit is trained to respond aggressively to threatening situations.

While the studies in this REA did not demonstrate consistent evidence of a link between violence and PTSD, a body of literature has associated violence with exposure to trauma coupled with lack of treatment or help-seeking and potential for substance abuse and intimate partner and other interpersonal violence (Dutton et al., 2006; E. B. Elbogen et al., 2010; Finley, Baker, Pugh, & Peterson, 2010; MacManus et al., 2013).

However, present studies were consistent in finding higher levels of mental health conditions, particularly PTSD and alcohol misuse/dependency in veterans in corrective services compared to non-veteran inmates. Two systematic reviews found that veterans involved in the criminal justice system overall had higher odds of mental health disorders than other veterans and that veterans with PTSD had a greater chance of criminal justice involvement than veterans without PTSD. A limitation to such findings is that PTSD in some veterans might not (only) be related to military service but pre- or post-service exposure to trauma and involvement in crime. However, involvement in corrective services, experiences in prison and the nature of criminal offending may result in traumatic experiences that contribute to the development or worsening of PTSD.

Substance abuse, particularly alcohol, is a known risk factor in the general population for crime (Boden, Fergusson, & Horwood, 2013). In Australia, 40% of prison entrants report a previous mental health disorder diagnosis, including alcohol and drug misuse, which is at a higher level than for the general population (AIHW, 2019). The studies included in this REA were consistent in finding that overall, veterans in corrective services had higher rates of alcohol disorders, albeit with variations in measures, than non-veterans. The UK studies provided a degree of evidence about the relationship between alcohol, violent crime and transition difficulties, including relationships, unemployment and finances. Two qualitative studies (Madoc-Jones et al., 2018; Moorhead, 2021) were consistent in reporting veteran perceptions of alcohol as culturally approved by the military in developing a soldier identity. However, a regimented drinking culture translated into a dependency and self-medicating in managing stress in transition to civilian life.

There may be a degree of generalisability to the Australian context given that recent Australian studies have demonstrated that nearly half of ADF members who transitioned from full-time service within a recent five-year period met 12-month diagnostic criteria for a mental disorder combined with significant severity of self-reported symptoms of psychological distress including alcohol use (Van Hoofe, 2018). While Australian veterans have access to a broad range of treatment and support services, reluctance to seek help remains a problematic issue within veteran populations.

Studies explicitly examining military service as a risk factor for entry into corrective services have produced mixed results. Many of the US studies looking at associations between combat status and incarceration have concluded that there is little evidence of association. However, most of these studies used data from 2004 or earlier, which would have included a minority of veterans who saw combat in the Iraq/Afghanistan period of hostilities (2001-2014). The UK studies used contemporary data, which included a more significant proportion of participants with combat experiences. While there is minimal evidence that combat is a risk factor for entry into corrective services, there is a larger body of evidence indicating that it is a risk factor for arrests for veterans who served in the Iraq/Afghanistan era of deployments (Elbogen et al., 2012; MacManus et al., 2013).

International literature points to some evidence that early service leavers are a group at risk of entry into corrective services. The included studies were consistent in reporting short average lengths of services

among participants, and one study (Brooke & Gau, 2018) found that the arrest history for incarcerated veterans was related to the length of service in the military with a decrease in reported arrests for each 1-year increase in service duration. Early service leavers, particularly those leaving within 4 years of enlistment, have been identified as at-risk for mental health problems in other studies, including PTSD and alcohol abuse (Iverson et al., 2005). In Australia, most of all transitioning personnel (including trainees) have less than 5 years of service, and the risk factors for those who both join and leave at a young age have been explored by the National Mental Health Commission (2017) and cited in the recommendations by the Transition Taskforce (DVA, 2018). The National Mental Health Commission found that as members are recruited at an age where identity is formed, it is a higher risk time for developing mental health problems and the need for greater support on the transition to civilian life (DVA, 2018). Although the evidence from the included studies is limited, it is reasonable, considering broader findings that early service leavers in Australia may also be at a higher risk of entry into corrective services.

While the reasons that individuals choose to join and to leave the military are many and varied, there is some limited evidence that pre-service adversity plays a part in decisions to enlist. Childhood adversity was a contributing factor described in the qualitative studies and the grey literature article. Childhood adversity is a known risk factor for adult offending in the general population (Graf, Chihuri, Blow, & Li, 2021) and has been highlighted in other studies of veterans concerning PTSD and alcohol use (Iverson et al. 2007). The included qualitative studies highlighted how lack of belonging and family dysfunction were cited as reasons to join the military, often combined with a history of anti-social behaviour during childhood. For this subgroup of veterans, transition may result in a greater loss of belonging, purpose, meaning, social relationships and stability in life. The limited evidence presented in the study by Toole and Waddell (2019) strongly suggests that this may be a risk factor in the Australian context. It is mainly related to early service discharge.

4.1.1 Conclusions

Multiple factors potentially contribute to ex-serving personnel ending up in corrective services. The reasons for joining the military and experiences within the ADF are not uniform but highly individual. Longitudinal studies are required to assess changes over time and enable the comparison of pre-service, military and transition/post-service experiences. Lack of longitudinal data severely limits the ability to draw any firm conclusions about risk factors. Qualitative research conducted with Australian veterans that explores their experiences and pathways into corrective services will provide evidence, particularly concerning the pre- and post-service risk factors to enable more appropriate policy responses.

4.1.2 Limitations

Several limitations should be considered when reading the results of this report. The relatively short time frame inherent to an REA necessarily imposes restrictions on its breadth and depth compared to a systematic review or meta-analysis. Therefore, relevant studies may be excluded because they were published before 2011 or were contained in the broader remit of grey literature. In addition, the narrow focus of this question may have excluded papers that had relevance to the broader research topic. Studies examining risk factors for ex-serving defence force personnel in corrective services represent a small percentage of the literature concerning veterans and crime. Indeed, there is significant literature exploring risk factors by using police or court data on arrests and convictions. While entry into corrective services might represent the outcomes of the most serious or repeat offences, sentences imposed on veterans might vary between jurisdictions. For example, the development of the Veterans Treatment Courts (since inception in 2008) with their role in facilitating access and engagement into treatment as an alternative to incarceration (Baldwin, 2017) might impact the current profile of US veterans in corrective services.

Finally, the lack of Australian studies makes it difficult to compare international study findings to the Australian context. Without an Australian body of knowledge comparison is not possible. There are cultural similarities between the USA, UK and Australia across ethnicity and dominant identities, although both have quite distinctive multicultural constitutions. There are similarities within and across governance, sharing different but similar forms of government, criminal justice systems and traditions of law. Despite these connections they are very different contexts, and any comparisons requires justification and qualification.

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Appendix 1: Examples of search strategies

Criminal Justice Database

SEARCH STRATEGY

| Set No. | Searched for | Databases | Results |
|---------|---|--|---------|
| S1 | noft(Veteran* OR 'ex-military' OR 'armed forces' OR 'ex- armed forces' OR 'former military' OR 'ex-serving defence' OR 'former serving') AND la.exact("English") AND PEER(yes) AND pd(20110101- 20210401) | Criminal Justice Database, Criminal Justice Database | 2365 |
| S2 | noft('justice-involved' OR 'justice system' OR correcti* OR prison* OR jail OR custod* OR crim* OR offend* OR convict* OR incarcerat* OR parole* OR probation) AND la.exact("English") AND PEER(yes) AND pd(20110101- 20210401) | Criminal Justice Database, Criminal Justice Database | 49936 |
| S3 | (noft(Veteran* OR 'ex-military' OR 'armed forces' OR 'ex- armed forces' OR 'former military' OR 'ex-serving defence' OR 'former serving') AND PEER(yes) AND la.exact("English") AND pd(20110101-20210401)) AND (noft('justice-involved' OR 'justice system' OR correcti* OR prison* OR jail OR custod* OR crim* OR offend* OR convict* OR incarcerat* OR parole* OR probation) AND PEER(yes) AND la.exact("English") AND pd(20110101-20210401)) | Criminal Justice Database, Criminal Justice Database These databases are searched for part of your query. | 538 |

SEARCH STRATEGY

| Set No. | Searched for | Databases | Results |
|---------|--|---|---------|
| S1 | noft(Veteran* OR "ex-military" OR "armed forces" OR "ex-armed forces" OR "former military" OR "ex-serving defence" OR "former serving") AND la.exact("English") AND PEER(yes) AND pd(20110101-20210401) | Academic Video Online, ASFA: Aquatic Sciences and Fisheries Abstracts, Coronavirus Research Database, Digital National Security Archive, Documents on British Policy Overseas, Early Modern Books, Ebook Central, Entertainment Industry Magazine Archive, ERIC, Nineteenth-Century Fiction, Periodicals Archive Online, ProQuest Central, ProQuest Dissertations & Theses Global, PTSDpubs, Social Science Premium Collection, South and Southeast Asian Literature in English, The Annual Register: A Record of World Events, Trench Journals and Unit Magazines of the First World War | 60321 |
| S2 | noft("justice-involved" OR "justice system" OR correcti* OR prison* OR jail OR custod* OR crim* OR offend* OR convict* OR incarcerat* OR parole* OR probation) AND la.exact("English") AND PEER(yes) AND pd(20110101-20210401) | Academic Video Online, ASFA: Aquatic Sciences and Fisheries Abstracts, Coronavirus Research Database, Digital National Security Archive, Documents on British Policy Overseas, Early Modern Books, Ebook Central, Entertainment Industry Magazine Archive, ERIC, Nineteenth-Century Fiction, Periodicals Archive Online, ProQuest Central, ProQuest Dissertations & Theses Global, PTSDpubs, Social Science Premium Collection, South and Southeast Asian Literature in English, The Annual Register: A Record of World Events, Trench Journals and Unit Magazines of the First World War | 308122 |
| S3 | (noft(Veteran* OR "ex-military" OR "armed forces" OR "ex-armed forces" OR "former military" OR "ex-serving defence" OR "former serving") AND PEER(yes) AND la.exact("English") AND pd(20110101-20210401)) AND (noft("justice-involved" OR "justice system" OR correcti* OR prison* OR jail OR custod* OR crim* OR offend* OR convict* OR incarcerat* OR parole* OR probation) AND PEER(yes) AND la.exact("English") AND pd(20110101-20210401)) | Academic Video Online, ASFA: Aquatic Sciences and Fisheries Abstracts, Coronavirus Research Database, Digital National Security Archive, Documents on British Policy Overseas, Early Modern Books, Ebook Central, Entertainment Industry Magazine Archive, ERIC, Nineteenth-Century Fiction, Periodicals Archive Online, ProQuest Central, ProQuest Dissertations & Theses Global, PTSDpubs, Social Science Premium Collection, South and Southeast Asian Literature in English, The Annual Register: A Record of World Events, Trench Journals and Unit Magazines of the First World War These databases are searched for part of your query. | 2903 |

Appendix 2: Evidence Table

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|--|---------|-------------------|---|---|---|---|-------------------------------------|
| Baktir (2020) | USA | Systematic review | 15 quantitative studies (1995-2017) and 2 scholarly books that compared veteran criminal behaviour to non-veterans using quantitative empirical analyses that statistically tested the association between veteran status and criminal activity. Veterans included current and former serving. Outcomes ranged from arrests to incarceration. | Military experience (by race, gender, service era) | Varied between studies | Minimal military sub-categories in included studies (service era, gender, race, combat status). Two non-USA samples. Studies mainly used secondary and cross-sectional data. Studies all peer-reviewed (publication bias). A range of criminal justice outcomes, not just entry into corrective services. | Poor Low |
| <p>Key findings: The literature was inconclusive on whether the military experience was associated with criminal activity. Majority of the findings showed no significant relationship between military status and criminal behaviour. Military experience decreases the risk of non-violent crime while it appeared to increase the risk of violent crime.</p> | | | | | | | |
| Blodgett (2015) | USA | Systematic review | 14 quantitative studies (1987-2013) measuring prevalence of mental health issues in | Mental health problems- trauma and post-traumatic stress disorder | Varied from formal diagnosis to self-report | Lack of consistent definition and measurement of mental health | Fair Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|---|---------|--------------|--|---|-------------------------------|---|-------------------------------------|
| | | | veterans in any stage of the CJS including corrective services. Veterans were all former members of the military. Included VA data from the VJO and HCRV programs ⁴ . | (PTSD), substance use disorders, mood disorders, psychotic disorders, personality disorders, and suicidality. | | problems and psychiatric conditions across the samples. Samples were sometimes focused on specific subgroups of justice-involved veterans, reflecting the setting in which the data were gathered. This limits the generalisability. Setting, severity of crime and length of sentence may also relate to mental health status. Studies all based on US samples. | |
| <p>Key findings: Publications consistently reported justice-involved veterans having more mental health problems than other veterans. Trauma universal - both service and non-service related. High rates for substance use and dependence and mood disorders. Low rates for personality disorders. Majority of justice-involved individuals who have a psychiatric disorder also have a co-morbid substance use disorder.</p> | | | | | | | |

⁴ Programs administered by the Department of Veterans Affairs include the Veterans Justice Outreach (VJO) and Health Care for Re-entry Veterans (HCRV)

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|--|---------|------------------------------|---|--|--|--|-------------------------------------|
| Blonigen (2016) | USA | Systematic review | 13 studies examining the Central Eight criminogenic risk factors for recidivism in line with the risk-need-responsivity model. Samples included veterans in corrective services. | Criminogenic-Anti-social behaviour, personality patterns, cognitions, associates. Marital & family, school/work involvement, pro-social activities, substance abuse | Varied- official records, interview, self-report | Most studies were cross-sectional. Sample sizes varied. Studies based on US samples. | Poor Low |
| <p>Key findings: Anti-social personality more common among incarcerated than non-incarcerated veterans. Relative to non-incarcerated veterans, incarcerated veterans were less likely to be married, more dissatisfied in their marital relationships, reported more problems and lack of support from family members and higher rates of spousal abuse perpetration. A lower level of education and lack of employment increased the odds of committing crimes among veterans and incarcerated veterans have a shorter employment history compared with non-incarcerated. Substance abuse was consistently linked to justice involvement in veterans. This association was observed across studies that varied in terms of sample type (e.g., veterans from different combat eras) and measurement of substance abuse (e.g., self-reports, structured interviews, official records).</p> | | | | | | | |
| Brooke (2018) | USA | Cross-sectional (analytical) | Secondary data-Bureau of Justice Statistics' 2004 Survey of Inmates in State and Federal Correctional Facilities. Includes information on military backgrounds of incarcerated veterans. Compared military to non-military inmates. Original Information | Military experience- Six measures- military participation; combat exposure; age of entry; length of service; branch type; and discharge status. Substance abuse | Self-report | Secondary data from self-report. Possible bias in reporting military history. Sample size unclear | Fair Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|---|---------|------------------------------|---|--|-------------------------------|---|-------------------------------------|
| | | | collected through interviews. Veteran subset- (n=1449) | Mental health diagnoses. | | | |
| <p>Key findings: Veteran inmates were older on average, more likely to be male, white, and less likely to have a juvenile arrest history. Higher rates of all types of mental illnesses, but were equally as likely as non-veterans to have a history of substance abuse. On average, veterans were more likely to have been employed at the time of arrest and had higher levels of education. On average, were 18 years old when they joined the military and served just shy of 4 years. Approximately one fifth saw combat. Just more than half served in the Army, with Navy and Marines being the next most common. The vast majority received satisfactory discharges. Veterans experienced a 11.5% fewer expected lifetime arrests compared with non-veterans in prison. This finding is in line with much previous research, suggesting that military service is a protective factor against criminal involvement. Among prison inmates, military experience was related to fewer lifetime arrests with those serving longer having fewer arrests. Authors conclude that it is unclear whether service contributes to less criminal and deviant behaviour after discharge, or whether those who join the military are less likely to engage in crime.</p> | | | | | | | |
| Brooke (2019) | USA | Cross-sectional (analytical) | Secondary data-Bureau of Justice Statistics' 2004 Survey of Inmates in State and Federal Correctional Facilities. Includes information on military backgrounds of incarcerated veterans. Original Information collected through interviews. Comparison of male and female veterans (n=1152). Total weighted sample size is 111,877 veteran inmates (males = | Military experience- Six measures- military participation; combat exposure; age of entry; length of service; branch type; and discharge status. Substance abuse Mental health diagnoses. | Self-report | Secondary data not originally collected with a focus on military service, detailed indicators of service history (e.g., armed forces discipline record, occupational specialty, reserve versus active duty status, station locations including war zones, etc.) and measures that have been found in prior research to | Fair Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|--|---------|------------------------------|--|--|-----------------------------------|--|-------------------------------------|
| | | | 110,582; females = 1,295). | | | predict criminal justice outcomes (e.g., in-depth family history, school record, comprehensive criminal history) were not available in the data. | |
| <p>Key findings: Age of entry into military service, discharge status, and being in the Air Force exerted significantly different effects between male and female groups. Veteran gender was significantly related to engaging in drug offending. Male veterans had a 63% decreased likelihood of incarceration for drug offenses over violent offenses compared with females. Females who were exposed to combat compared with females with no combat exposure were associated with an increased chance of incarceration for a drug offense rather than violent offense. Results suggested that the relationship between military experiences and types of offending was significantly different between males and females depending on the type of service component. the study revealed that the variation in service experiences influenced criminal behaviour among incarcerated veterans differently. Length of service affected criminal behaviour for both male and female veterans but individualized service experiences had a greater influence on the frequency of arrests and the type of offense among female veterans compared with their male counterparts.</p> | | | | | | | |
| Coker (2014) | USA | Cross-sectional/longitudinal | <p>Secondary data-Sample from the VA's Northeast Program Evaluation Center (NEPEC) dataset which includes information on past incarceration.</p> <p>Participants were first admission assessments for treatment for PTSD between 1993 to 2011.</p> | <p>Clinical-PTSD, other mental health substance use.</p> <p>Sociodemographic characteristics such as race (African American or Caucasian), marital status, employment history, age</p> | Clinical measures and self-report | <p>Data on incarceration is self-reported.</p> <p>Sample were hospitalised which excludes outpatients.</p> <p>US Vietnam veterans only.</p> | Poor Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|---|---------|---|---|--|---|---|-------------------------------------|
| | | | Vietnam Veterans (n=31,707). Over 40% of veterans hospitalised for PTSD reported history of incarceration. | | | | |
| <p>Key findings: Rates of incarceration remained greater for African-American veterans than Caucasian veterans throughout the period of the study. African American veterans were 34 % more likely than Caucasian veterans to have a lifetime history of incarceration. History of psychiatric hospitalizations, employment, being married, and education had a greater protective effect for Caucasian veterans than for African American veterans. Risk of incarceration declines with age.</p> | | | | | | | |
| Coté (2020) | Canada | Mixed methods Cross-sectional/semi-structured interviews | Primary and secondary data- Convenience sample of (n=25) ex-serving inmates at five Ontario detention centres from 2012 to 2015. 68% had prior history of incarceration. Recruited via posters and then inmate written request. | Criminal convictions, mental health, homelessness, alcohol and substance abuse Military service | Prison records, health data and self-report | Small convenience sample therefore limited representativeness of the sample. Most data was by self-report but military status confirmed for Canadian and some US veterans. | Good Medium |
| <p>Key findings: Age first charged with an offence was 35 years on average. The average age of the subjects in this study (43.5 years) was similar to the average ages found in U.S. and UK studies. Time between release from the military and being initially charged could range from 0 to 43 years. Older and more educated. In general, study participants reported the same risk factors for incarceration as those reported in the literature for non-Veteran inmates . Risk factors included prior criminal convictions (72%), mental health conditions (72%), homelessness (24%), and alcohol and substance abuse (88% and 64%, respectively). Seventy-five percent of participants with an LSI-OR on file were either at high or very high risk of recidivism, as compared to only 61% of all men admitted to provincial correctional institutions in Ontario. Incarcerated for more violent crimes than the general inmate population. Veterans said the experience changed them and their ability to trust others. Many encountered threats to their lives and had witnessed death. They had experienced PTSD and mood disorders. They had trouble with substance use and family issues after leaving the military. There are specific</p> | | | | | | | |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|--|---------|-----------------|--|---|-------------------------------|---|-------------------------------------|
| differences in terms of age, education level and nature of charges between Veterans and non-Veterans incarcerated in Ontario detention centres. Criminal history of Veterans studied cannot be readily attributed to their military service, given the criminogenic risk factors identified. The significance of combat-related PTSD, as an additional risk factor, is currently unknown. | | | | | | | |
| Culp (2013) | USA | Cross-sectional | Secondary data- Secondary data- National surveys- Current Population Survey (CPS) and the Surveys of Inmates in State and Federal Correctional Facilities (SISFCF) for years 1986, 1991, 1997, and 2004. Comparing veterans and non-veterans. Veterans (n= 63,041) | Demographic age, race, gender, ethnicity), social Integration (poverty, education), and military service (era, wartime), | Self-report | Self-reported data. Both surveys employ complex sample designs with both clustering and stratification that will undoubtedly inflate standard errors relative to simple random samples. US only | Fair Low |
| <p>Key findings: Veterans in prison are more likely than their civilian peers to be HS graduates. The overall rates of violent offending among imprisoned veterans in general and those with combat experience are slightly higher than the rate for all inmates. The property crime offending was generally the same across all inmates, veterans, and combat veterans. Veterans were less likely to be incarcerated for drug offenses than all inmates, but more likely to be incarcerated for sex offenses. Military service is not a statistically significant predictor of incarceration when controlling for other demographic variables. Military service is a significant predictor of incarceration for a violent crime. Military service reduces the odds of incarceration for drugs. Draft-era veterans are half as likely to be incarcerated as non-veterans while AVF-era veterans are more than twice as likely to be in prison as non-veterans. Across the board, combat-related service has an inverse effect on the odds of imprisonment. Individuals who served in the military during periods of active hostilities are about half as likely to serve time in prison as persons with no combat experience. An anti-criminogenic effect of wartime service suggesting it has a positive effect on the life course of military veterans. Common demographic and social integration factors more predictive of criminal offending than is the experience of military service.</p> | | | | | | | |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|---|---------|------------------------------|--|---|-------------------------------|--|-------------------------------------|
| Elbogen (2018) | USA | Cross-sectional(analytical) | Iraq/Afghanistan-era veterans enrolled in a multi-site VA Mid-Atlantic Mental Illness, Research, Education and Clinical Center (MIRECC) Study of Post-Deployment Mental Health (PDMH Study) between 2005 and 2016. (n=1172) Veterans with other than honourable discharge (n=32) Veterans with honourable discharge (n=1140) | Other than honourable (OTH) discharge from the military | Self-report | Small sample with OTH discharge. Self-selection as veterans enrolled in care. Self-report of past incarceration and OTH discharge US veterans | Poor Low |
| <p>Key findings: Unmarried status, lower social support, and report of past incarceration were each associated with significantly higher odds of OTH discharge. Veterans with OTH discharges have specific vulnerabilities including depression, substance use, and incarceration. Veterans with OTH discharge status had higher rates of drug misuse and incarceration relative to veterans receiving discharges under honourable conditions.</p> | | | | | | | |
| Finlay (2019) | USA | Cross-sectional (analytical) | Secondary data-Bureau of Justice Statistics (BJS) Survey of Inmates in State and Federal Correctional Facilities (2004) | Military service | Self-report | Unable to determine if offending occurred post military. Secondary data US veterans | Poor Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|---|---------|------------------------------|---|---|-------------------------------|---|-------------------------------------|
| | | | (n=14,080) Male veterans (n=1,569) | | | Response bias | |
| <p>Key findings: Veterans had 1.35 higher odds of incarceration for a sexual offense compared with nonveterans. Veterans incarcerated for sexual offenses differ from veterans incarcerated for other offenses across several demographic, clinical, and criminal justice factors. Older age, having a job or business at the time of arrest, ever having received mental health counseling, ever been forced to have sex, and a prior conviction of a sexual offense were associated with higher odds of having a sexual offense for the current incarceration. results do not provide evidence of a causal link between military service and sexual offending.</p> | | | | | | | |
| Greenberg (2012) | USA | Cross-sectional (analytical) | Secondary data- 2000 Decennial Census, the 2002 Survey of Inmates in Local Jails, and the 2004 Survey of Inmates in State and Federal Correctional Facilities. Large weighted sample veterans/non-veterans in prison | age, health status (mental and substance dependence or abuse), past criminal justice system involvement, socioeconomic characteristics, and exposure to trauma. | Self-report | Secondary data mainly collected by self-report. Response bias. No indication if mental health and substance abuse illnesses developed before or after military service. No measures for PTSD available in the Survey of Inmates in State and Federal Correctional Facilities, for which there may have been greater differences between veteran and non-veteran jail inmates. | Fair Low |

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|---|---------|-----------------|---|--------------------------|---|---|-------------------------------------|
| | | | | | | US veterans only | |
| <p>Key findings: Found a greater prevalence of risk factors for incarceration among incarcerated veterans as contrasted to incarcerated nonveterans. These risk factors include age, health status (mental and substance dependence or abuse), past criminal justice system involvement, socioeconomic characteristics, and exposure to trauma. Combining all racial/ethnic groups together, veterans in the 35 to 44 years age group (the immediate post-Vietnam era veterans) had a greater risk of incarceration than expected, whereas veterans in the 25 to 34 years age group (the later period of the AVF) were incarcerated at a significantly less-than-expected rate. Veterans in both jails and prisons were far more likely to be older than 44 years, as compared with nonveterans, and White and had several other socioeconomic differences- more likely to have a high school degree, have had incomes greater than US\$,1000 a month, and were less likely to be among the longest tenured inmates.</p> <p>Veterans in state and federal prisons were significantly more likely (a) to report receiving a diagnosis of mental illness in the previous year, (b) to report at least one night in a mental hospital either in the year before arrest or since incarceration, or (c) to have received professional counselling in the year before arrest or since incarceration. Veterans in jail and prisons were more likely to report having been the victim of physical abuse as a child or adult. Veterans in jails and prisons were less likely than non-veterans to report a past criminal history. Veterans in prison were more likely to report that their controlling offense was violent Black and Hispanic veterans were at less risk of incarceration than their non-veteran peers, in contrast to White veterans who were generally at greater risk for incarceration than their non-veteran peers. Veterans are slightly more likely than non-veterans to commit violent interpersonal crimes.</p> <p>Veterans of different service eras and ethnicities have different risks of incarceration as compared with their non-veteran peers of similar age and ethnicity. The benefits of military service, such as education or training, appear to be greater for Blacks and Hispanics than Whites. Second, recruiting processes and accession standards resulted in minority recruits who were better qualified and of higher socioeconomic status than their age-matched peers, whereas the opposite was true for White recruits.</p> | | | | | | | |
| Kimbrel (2014) | USA | Cross-sectional | (n=1897) Iraq/Afghanistan-era veterans who participated in the ongoing Veterans Affairs (VA) Mid-Atlantic Mental Illness Research, Education and Clinical Center (MIRECC) Registry Database for the Study | Substance abuse disorder | Via a structured diagnostic interview and a battery of self-report measures at one of several VA Medical Centres. | Self-report of incarceration. Therefore unclear whether pre or post service. Sample obtained from a fairly- restricted geographic area (i.e., Mid-Atlantic region of the United States). | Poor Low |

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| | | | <p>of Post-Deployment Mental Health. Had to have served in the United States military after September 11, 2001.</p> <p>Of these Approximately 21.5% of the sample reported having been incarcerated at some point during their life.</p> | | | | |
| <p>Key findings: The externalizing-SUD factor was strongly associated with history of incarceration.</p> | | | | | | | |
| Logan (2021) | USA | Retrospective cohort? | <p>Secondary data provided by the Minnesota Department of Corrections (MnDOC) of adults released from Minnesota state prisons between January 18, 2014 and December 31, 2017 Veterans (n=673), plus State rearrest, reconviction, incarceration data. Risk factors for recidivism</p> | Veteran status | Self-report | <p>Veteran status based on self-report.</p> <p>Limited to state prisons in one USA state.</p> <p>Unable to account for combat experience, service branch.</p> | <p>Poor</p> <p>Low</p> |

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| | | | Non-veterans (n=673) | | | | |
| <p>Key findings: Stark differences found between veterans and non-veterans- 99% were male, 70% White. They ranged in age from 20 to 83 years, with an average age of 48.3 years. Almost half (48%) of the veterans were incarcerated for a person (i.e., violent) offense. On average, veterans were released after being incarcerated for 28 months; length of stay ranged from less than one month to 390 months. Veterans had significantly lower LSI-R scores, were significantly older, and were significantly more likely to have a high school diploma, be married, and experience mental health issues—including TBI, PTSD, and other mental illnesses. However, TBI and PTSD were related to the risk of recidivism. Those with TBI had a 40% higher risk of re-arrest, 43% higher risk of re-conviction and a 53% higher risk of supervised release revocation . Similarly, those with PTSD had a 42% higher risk of supervised release revocation). Those with other mental health concerns had a higher risk of re-incarceration for a new offense. TBI and PTSD were related to some forms of recidivism among veterans. The presence of TBI increased the risk of re-arrest by 49%, the risk of supervised release revocation by 85%, and marginally increased the risk of reconviction by 44%. Similarly, PTSD increased the risk of supervised release revocation by 64%.</p> <p>Veteran offenders who were sentenced to segregation at least once during their sentence had a 148% higher risk of re-incarceration, TBI and PTSD are relevant predictors of criminal justice outcomes among military veterans. Both disorders were predictive of recidivism, including re-arrest, revocation, and re-conviction.</p> | | | | | | | |
| Logan (2021a) | USA | Retrospective cohort? | <p>Secondary data provided by the Minnesota Department of Corrections (MnDOC) plus State rearrest, reconviction, incarceration data.</p> <p>Veterans (n= 581) released from Minnesota state prisons between January 18, 2014 and December 31, 2017 compared with non-veterans.</p> | PTSD and TBI | Whether noted in prison and/or pre-sentencing records | <p>Results only generalisable within the state of Minnesota.</p> <p>No data on combat status , service, branch. Measures of PTSD and TBI (and other mental disorders) based on data collected at different points in time (e.g., at intake, later while incarcerated)- Unable to link with military service.</p> | Poor Low |

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| <p>Key findings: TBI and PTSD were related to some forms of recidivism among veterans. The presence of TBI increased the risk of re-arrest by 49%, the risk of supervised release revocation by 85%, and marginally increased the risk of reconviction by 44%. Similarly, PTSD increased the risk of supervised release revocation by 64%. Veteran offenders who were sentenced to segregation at least once during their sentence had a 148% higher risk of re-incarceration, TBI and PTSD are relevant predictors of criminal justice outcomes among military veterans. Both disorders were predictive of recidivism, including re-arrest, revocation, and re-conviction.</p> | | | | | | | |
| Madoc-Jones (2018) | UK | Qualitative | Male ex-serving members in prison (n=12). Purposive sampling via posters in prison in Wales | Unemployment Domestic violence Alcohol abuse Relationship difficulties | In-depth interviews | Not generalisable | Poor Low |
| <p>Key findings: Transitioning out of the armed services was understood to be full of challenges in terms of maintaining healthy relationships and where domestic abuse was identified as a potential issue, it was often associated with the experience of having served.</p> | | | | | | | |
| McCall (2018) | USA | Cross-sectional/analytical | Secondary data-(VA) administrative data on a national sample of 30,964 incarcerated veterans (30,440 men and 524 women) who received outreach from the VA Health Care for Reentry Veterans program between 2007 and 2011. Comparison of risk for males/females | Demographic, social and medical | Data on socio-demographic characteristics, criminal history, clinical status, homelessness history, and service needs were collected from a structured assessment form used by HCRV specialists | Self-report Comparison with male veterans only. Only VA eligible ex-military. | Fair Low |

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| <p>Key findings: Compared with incarcerated veterans who were men, incarcerated women veterans were younger, had significantly lower lifetime arrests and were less likely to have been incarcerated for a violent offense. Women were more likely to receive a preliminary diagnosis of mood disorder than men. Nearly one-third of incarcerated women veterans had a history of homelessness before incarceration.</p> | | | | | | | |
| Moorhead (2021) | UK | qualitative | Male veterans in corrective services (n=22) who had been convicted of violence in which alcohol was a criminogenic risk factor. Recruited via identification by supervising officers followed by a written invitation to participate. | Alcohol related violence | In-depth interviews | Not generalisable Possible selection and recruitment bias | Fair Medium |
| <p>Key findings: Transition difficulties- the return and reintegration to civilian life, post-transition, represented a difficult journey for participants. Use of alcohol as a familiar, military inspired coping strategy to address emotions. Employment a barrier with a lack of perceived transferable skills (from would-be employers) resulting in an abundance of free time, lack of structure, purpose and income. Removal of a strict military structure resulted in excessive alcohol use across the day. Breakdown in relationships, increased alcohol consumption and confrontational behaviour, all contributed to experiences of homelessness with alcohol described as either a reason for, or a catalyst leading to, homelessness. Alcohol as factor in increased partner violence. Mental health issues, particularly that of PTSD were also cited as factors within the commission of IPV. Militarisation can impact upon certain veterans at certain points across the military life course, with respect to their use of violence and/or alcohol consumption.</p> | | | | | | | |
| Paden (2020) | USA | Cross-sectional/analytical | Secondary data-431 men who were admitted to California State Hospitals pursuant to California's Sexually Violent | Demographic Mental health Behavioural | Clinical evaluations on individual records | Sample not representative of all individuals who are civilly committed under SVP legislation. | Poor Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|--|---------|----------------|--|----------------|--|--|-------------------------------------|
| | | | Predator Act, post incarceration and discharged between 1996 and 2017. Veterans(n=134) Non-veterans (n=297) | | | Differ from individuals who have been convicted of general sexual offenses. Lot of data was by self-report and no data on military service, time period served, number of deployments, combat exposure, military justice involvement, and discharge type. Limited to one state in the USA. | |
| <p>Key findings: Significant differences among the groups in demographic variables, especially ethnicity and education levels. The proportion of Caucasians relative to other ethnicities was higher among veterans than non-veterans, whereas veterans had fewer African Americans in comparison to non-veterans. Veterans had higher levels of education. There were no statistically significant differences in history of childhood sexual abuse. Veterans were admitted and discharged at generally older ages. Non-veterans twice as likely to have an ASPD diagnosis than veterans, and were also more likely to have another paraphilic disorder (nonconsent) diagnosis or substance use disorder diagnosis. The groups did not differ in other personality disorder diagnoses. Veterans had twice the rate of pedophilic diagnosis and a significantly lower rate of other paraphilic disorders.</p> | | | | | | | |
| Pethrus (2019) | Sweden | Matched cohort | Secondary data-Swedish military personnel who were deployed to | Age Sex | From prescription, military conscription and prescribed drug registers | Reliant on data from registers. No information on combat exposure or | Fair Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
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| | | | <p>Afghanistan between 1 January 2002 and 31 December 2013, identified from the military deployment records. (n=5894) non-deployed comparators (n=28895) age/sex fully matched non deployed comparators (n=29410).</p> <p>Violent crime conviction data from Swedish National Council for Crime Prevention Register until December 31, 2013.</p> | <p>Mental health issues</p> <p>Substance abuse</p> <p>Suicidality</p> <p>Deployment to Afghanistan</p> | | <p>traumatic events during deployment.</p> <p>No data on childhood or adult socioeconomic status.</p> <p>Military conscription</p> | |
| <p>Key findings: Swedish military veterans deployed to Afghanistan did not differ from their non-deployed fully matched comparators regarding violent crime convictions during a follow-up time of up to 12 years after deployment. In comparison with non-deployed general population comparators matched only for age, sex and conscription year, no difference in risk of violent crime conviction was found. Within the military veteran cohort, risk factors for being convicted of a violent crime were lower age at deployment and lower psychological assessment and cognitive ability test scores, as well as no pre-deployment violent crime convictions. Deployed military veterans also did not consume more anxiolytics or antidepressants, or receive more psychiatric inpatient care, than non-deployed fully matched comparators.</p> | | | | | | | |
| Rosenheck (2013) | USA | Cross-sectional | <p>Secondary data- Multisite convenience sample of homeless veterans enrolled in the Housing and Urban</p> | <p>Childhood problems-family instability, conduct disorder</p> | <p>Self-report, clinical Interviews and review of admin records</p> | <p>Comprehensive assessments of childhood experiences and criminal history were not conducted.</p> | <p>Poor Low</p> |

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| | | | Development–Veterans Affairs Supportive Housing (HUD-VASH) program (n=1161) | behaviours, and childhood abuse | | Assessment of childhood experiences was also reliant on retrospective self-report, which may be susceptible to recall and responses biases. USA homeless veterans. No comparison group | |
| <p>Key findings: Conduct disorder behaviour scores were significantly associated with duration of lifetime incarceration, number of different minor criminal charges, number of different major criminal charge, number of different serious criminal charges, number of convictions, and total nights incarcerated over 1 year in the program. Childhood family instability scores and childhood abuse were not significantly associated with any variables related to incarceration or criminal justice involvement. Controlling for socio-demographics and mental health diagnoses, veterans who reported more conduct disorder behaviours during childhood tended to report more criminal charges of all types, more convictions, and longer periods of incarceration during adulthood.</p> | | | | | | | |
| Ross (2018) | USA | Cross-sectional | Secondary data - sample from 2012–2013 National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III), who indicated veteran status and previous incarceration(n=3102) | Childhood adversity | Self-report , validated questionnaires | Retrospective self-report of childhood adversity. Data did not indicate if incarceration before , during or after military service. Unable to determine whether alcohol/drug use preceded service/incarceration. | Poor Low |

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| | | | | | | Did not include currently incarcerated veterans. | |
| <p>Key findings: Physical neglect was the most commonly reported ACE, followed by physical abuse and household substance use. Males were three times as likely as females to have been incarcerated and those who were currently divorced or separated were 1.7 times more likely to have been incarcerated compared to those who were married or living as married. As household income increased, the chances of having a history of incarceration decreased. Having a lifetime diagnosis of alcohol use disorder increased the chances of having a history of incarceration by 2.9 times, whereas a lifetime diagnosis of one or more drug use disorders increased the chances of incarceration by 4.6 times. The highest odds for incarceration were associated with having a lifetime diagnosis of both alcohol and drug use disorders. Veterans classified as being severely maltreated in a moderately dysfunctional household were at highest risk of incarceration.</p> | | | | | | | |
| Schaffer (2011) | USA | Cross-sectional | (n=15) jailed female veterans in southern Ohio contacted through the Incarcerated Veteran Outreach Program (IVOP). | Demographic Relationship status Race Accommodation, employment Discharge status Mental health Substance abuse | Self-report | Very small number for quantitative study. | Poor Low |
| <p>Key findings: Average age 37.18 years, mostly white, enrolled in the VA system, and honourably discharged. Nearly half were divorced and/or had substance abuse problems; more than half had one or more prior homeless episodes and/or had medical and/or psychiatric problems. Nearly three-quarters were unemployed. None was incarcerated for a violent offense.</p> | | | | | | | |
| Schaffer (2014) | USA | Cross-sectional & case study | (n=91) female veterans in correctional settings under the Incarcerated | Demographic Relationship status | Self-report | Small number of US female veterans | Poor Low |

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|---|---------|-----------------|---|---|-------------------------------|---|-------------------------------------|
| | | | Veteran Outreach Program (IVOP) | Race Accommodation, employment Discharge status Mental health Substance abuse | | Self-report No indication of whether risk factors before or after military service Descriptive only | |
| <p>Key findings: Average age, 39 years; mostly White; most honourably discharged; the majorities were Army; divorced, had a prior homeless episode; had medical, alcohol, and substance abuse; and were unemployed. A minority had psychiatric, suicidal, and domestic abuse problems. They reported medical, psychiatric, substance abuse, PTSD, domestic abuse, and employability problems.</p> | | | | | | | |
| Schaffer (2016) | USA | Cross-sectional | (n=399) incarcerated veterans in correctional settings. | Demographic Relationship status Race Accommodation, employment Discharge status Mental health Substance abuse | Self-report | Descriptive only | Poor Low |
| <p>Key findings: Average age 44 years; they are mostly White males, divorced, high school educated, over 50% homeless in the past, 20% homeless at release, with significant unemployment, and were represented in the following eras: 34% Vietnam, 35% post-Vietnam, 26% PGW, and 5% OEF/OIF veterans. Most veterans were honourably (HON) discharged. Branch of service was primarily Army. Over 50% reported psychiatric problems, such as depression and anxiety with 29% reporting psychiatric medications. A minority of veterans reported PTSD and suicidal ideations. 45% had committed a violent offence.</p> | | | | | | | |

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| Schaffer (2016a) | USA | Cross-sectional & case study | (n=282) veterans in rural Pennsylvania across multiple county jail probation and parole settings | Partner violence Relationship with fathers | Self-report | Self-report and descriptive | Poor Low |
| <p>Key findings: Only 41% always lived with their father growing up and only 32% of the veterans reported they were close to their fathers. The majority of the veterans' parents divorced while they were growing up and the average age at the time of the divorce was 11 years of age. The men in the study reported that their fathers were marginally involved with them while growing up. There were no significant differences in fathering between men who self-reported domestic violence and those who were non-violent. The highest reported types of domestic violence were emotional abuse, specifically verbal abuse.</p> | | | | | | | |
| Schaffer (2018) | USA | Cross-sectional | (n=29) veterans convicted of sex offences and referred to Veterans Justice Outreach program | Demographic Relationship status Race Accommodation, employment Discharge status Mental health Substance abuse | Self-report/psychosocial assessment | Descriptive only Small sample size | Poor Low |
| <p>Key findings: The average age is 48, 90% Caucasian, 97% male, 50% divorced, 7% juvenile history, arrest age range 10–70, average age 35, average number of times 3.7, 70% probation 55% sexually violent predators (SVPs), 38% homeless past, and nearly 50% may be homeless at release. A significant minority are unemployed. Thirty-eight percent had alcohol problems and 24% had drug problems with 31% convicted for partner violence. Seventy-nine percent suffered from either major depression or anxiety, 55% psychiatric medications with 14% PTSD, 10% sexual trauma (MST and pre-service), and 14% had suicidal ideations. Most did not associate their level of sexual criminality with military service.</p> | | | | | | | |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
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| Siminski (2016) | Aust | Data-linkage | Secondary data- Australia's Vietnam era conscription lotteries for identification along with criminal court data from NSW, Qld, Vic including sentence of incarceration. n=210456 | Army service in Vietnam | Military personnel records and official population estimates from the 1960s and 1970sRecords | Number of cases resulting in imprisonment is small. Criminal offense data covered middle years. Involved deployment and non-deployed Australian conscripts not volunteers. Vietnam veterans | Poor Medium |
| Key findings: Results suggest that army service has neither large positive nor large negative effects on crime. Found no evidence of long-run effects of service on crime overall or for violent crime, property crime, or any other categories of crime. | | | | | | | |
| Snowden (2016) | USA | Cross-sectional (analytical) | Secondary-National Study on Drug Use and Health [NSDUH] between 2002 and 2014. Veterans (n=20,551) compared with non-veterans. Outcomes included Probation, parole | Military service Anti-social behaviour Substance abuse | Self-report | limited information was available regarding study participants as data was secondary. | Poor Low |
| Key findings: Separated/retired veterans in the middle age group, 35–49, were more likely to be placed on probation than civilians. | | | | | | | |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
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| Taylor (2020) | USA | Systematic review | 10 studies that assessed PTSD in veterans with criminal justice involvement compared to veterans without PTSD. Ranged from 1987-2017. Included incarceration | PTSD | Various-self-report, health, criminal justice | Small sample size for meta-analysis No conclusions can be made about temporal association of PTSD and justice involvement. Studies varied in definitions of justice involvement. | Good Medium |
| <p>Key findings: The odds of being justice-involved were 1.98 times higher among veterans with PTSD compared to veterans without PTSD. The results of the present meta-analysis indicate that PTSD is associated with higher odds of any criminal justice involvement, such as a history of incarceration or self-reported arrest history, and arrest for a violent crime.</p> | | | | | | | |
| Teachman (2016) | USA | Cohort | Secondary- data from the 1997 National Longitudinal Survey of Youth (NLSY97). Comparing veterans with non-veterans | Military service | Self-report | Self-report of incarceration Data limited in historical time and refer to a limited cohort of men born between 1980 and 1984. Results may differ for different cohorts of men. | Fair Low |
| <p>Key findings: Compared to nonveterans, military service is negatively associated with contact with the criminal justice system, but this effect is largely limited to service members who had a history of delinquent or criminal behaviour prior to entering the military. In addition, the relationship between contact with the criminal justice system</p> | | | | | | | |

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| and military service is mostly limited to non-violent crimes. Even though military service does not appear to reduce the likelihood of engagement in violent and destructive crimes, there is no evidence that service members, compared to nonveterans, even those who were in a combat zone, are more likely to be involved in such crimes. Too few men were incarcerated, especially for non-violent crimes to distinguish between incarcerations for violent versus non-violent crimes. | | | | | | | |
| Tsai (2013) | USA | Cross-sectional (analytical) | Secondary data- Health Care for Reentry Veterans (HCRV) data for (n=30,968) incarcerated veterans. Compared with weighted sample of non-incarcerated veterans (n=8710) | Demographic and clinical Military service history | Admin records, self-report | Data obtained via self report, no clinical measures. | Poor Low |
| Key findings: Regardless of ethnicity or age, OEF/OIF/OND veterans were less than half as likely as other veterans to be incarcerated than veterans of other service eras, but those who were incarcerated had higher rates of PTSD. The most common current incarceration offense was a violent offense, reported by 38% of OEF/OIF/OND veterans and 35% of other veterans. Alcohol abuse or dependence was most common diagnosis for both OEF/OIF/OND veterans (43%) and other veterans (45%). | | | | | | | |
| Tsai (2013a) | USA | Cross-sectional(analytical) | Secondary- Health Care for Reentry Veterans (HCRV) data for (n=30,834) incarcerated veterans compared with a sample of non-incarcerated veterans (n=8307) | Race ethnicity | Admin records | Not representative of Australian ex-ADF Broad race/ethnic categories used. | Poor Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
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| <p>Key findings: African American veterans were 5.6 times and Hispanic veterans 4.3 times more likely to be incarcerated than White veterans across age groups. However the risk is much lower than in the general population, which suggests veteran status may be protective for incarceration among African American veterans. Racial/ethnic differences in incarceration persist among veterans.</p> | | | | | | | |
| Tsai (2014) | USA | Cross-sectional | Secondary- National administrative data on (n=30,348) incarcerated veterans recorded by the Health Care for Re-entry Veterans (HCRV) program | Homelessness | Admin records/self-report | Based on self-report, no formal clinical assessments. | Poor Low |
| <p>Key findings: 30 % of the sample had a homeless history, which is five times the 6% rate of past homelessness among adult men in the general population. 30.32 % 7.75 % were transiently homeless, 11.29 % were episodically homeless, and 11.28 % were chronically homeless. incarcerated veterans who were chronically homeless were older, more likely to be Black or Hispanic, less likely to be married, more likely to have served during the Vietnam War, and more likely to have no income than incarcerated veterans who were not homeless, transiently homeless, or episodically homeless. Compared to non-homeless incarcerated veterans, all three homeless groups reported significantly more mental health problems, more substance abuse, more times arrested in their lifetime, more likely to be incarcerated for a non-violent offense.</p> | | | | | | | |
| Unwin (2021) | UK | Qualitative | (n=6) male veterans in one UK prison. Recruited via information sheet delivered to all prisoners | Lived experiences of military and post-military issues | Semi-structured interviews | Self-selection bias Self-presentational bias. Not generalisable | Fair Low |
| <p>Key findings: Normalisation of violence continues with transition. Skills and training assist in criminal activity. Yearning for excitement- role of alcohol and drugs for thrills rather than coping. Loss of sense of belonging. Loss of structure and order. Reluctance to seek help.</p> | | | | | | | |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
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| Van dyke (2017) | USA | Cross-sectional (analytical) | Secondary data- Survey of Inmates in State and Federal Correctional Facilities 2004. Comparison of veterans (n=1112) with non-veterans (n=12,684) | Combat | Self-report | Not possible to discern when the inmate served in the military, or the length or the nature of the military experience. | Fair Low |
| <p>Key findings: Overall, veterans appear to be significantly more likely to have committed a violent offense, as compared to non-veterans, whereas they appear to be significantly less likely to have committed a property or drug offense. Combat veterans were significantly less likely to have committed a violent offense compared to non-combat veterans but slightly more likely to have committed a drug offense. Different military experiences, including combat and non-combat roles, might influence later criminal behaviour.</p> | | | | | | | |
| Wainwright (2016) | UK | Qualitative | 20 male ex-armed forces recruited through purposeful sampling from 5 prisons in the UK | Lived experience | Semi-structured interviews | Presentation bias Not generalisable | Fair Low |
| <p>Key findings: Pre-services vulnerabilities (childhood adversity, social disadvantage). Service experiences- deployment, trauma, bullying, drinking culture, post-services-transition difficulties and losses. Coping with mental health, substance misuse, significant life events (homelessness). Potential influences on offending- substance misuse and MH problems, impulsivity, poor problem solving.</p> | | | | | | | |
| Wainwright (2017) | UK | Cross-sectional | (n=105) ex -armed forces inmates in 6 prisons in England. Consecutive sampling with new inmates invited to participate by | Range of demographic, service, previous offending and social characteristics | Self-report via researcher questionnaire Prison records | Reports of military offending and pre-enlistment experiences and behaviour were measured using self-report and could be | Fair Low |

| First author, year | Country | Study design | Participant characteristics and sample number | Risk factor(s) | Measurement of risk factor(s) | Limitations | Quality rating and generalisability |
|--|---------|-----------------|--|---|--|---|-------------------------------------|
| | | | the Veterans in Custody support officer. | | | subject to recall bias. No comparative data . Descriptive only. Small sample size | |
| <p>Key findings: Mean age of 42 years, predominantly of white British ethnicity (95%). Most of the sample (60%) had achieved GCSE, or equivalent, level of education, Army (81%), private rank at discharge (72%), a deployment (61%), average service length was six years, over half of the sample (56%) screened positive for an alcohol misuse problem and 28% for a drug misuse problem. 24% screened positively for a sub-threshold diagnosis of PTSD. First time in prison (55%). The most common index offence type was for violence against the person. Almost a third had offended before their service in the armed forces (violent, sexual, and drugs offences were the most common offence types in this group. More than a third reported having offended during their armed forces career. No association between having experienced deployment and offence type. Participants with violent index offences were more likely to have screened positively for alcohol misuse in the year before entering prison than were sexual or other offenders.</p> | | | | | | | |
| Wainwright (2018) | UK | Cross-sectional | (n=105) ex -armed forces inmates in 6 prisons in England. Consecutive sampling with new inmates invited to participate by the Veterans in Custody support officer. | Mental health Substance misuse Pre-service vulnerability (i.e., childhood adversity) | Self-report via researcher questionnaire Clinical measures Health care records | No comparison group Small sample Descriptive only | Fair Low |
| <p>Key findings: Thirty-nine (37%) had a mental health diagnosis recorded, most commonly for post-traumatic stress disorder (PTSD), depression and personality disorder. Those who screened for a MH problem were more likely to have pre-service vulnerability to negative health outcomes (highlights the role pre-enlistment factors may play in the later development of mental health problems) and those with dual symptomology were more likely to have experienced deployment during their service. over half of the sample (n = 59, 56%) screened positively for alcohol misuse, with the majority (n = 40, 68%) screening positively for the more severe category of alcohol dependence. Overall, the prevalence of MH problems amongst incarcerated ex-armed forces personnel are largely comparable to rates found within the general prison population. However there were differences regarding the types of disorder experienced as PTSD and depression were the most common diagnoses as opposed to depression and anxiety. No association between MH problems and having experienced deployment was found; however, significant associations were found with being single and having had money problems and limited social contact, prior to prison. This demonstrates the likelihood of a wider spectrum of social and inter-personal difficulties with potential links to transition difficulties post-armed forces service.</p> | | | | | | | |

