


Military service and crime: new evidence

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Received: 6 August 2016 / Accepted: 13 January 2017 / Published online: 3 March 2017
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Abstract

Background Evidence indicates that a substantial proportion of military personnel are involved in high-risk and antisocial behaviors that place them at jeopardy for criminal justice system involvement. However, prior research on military service and crime has disproportionately focused on veterans from the Vietnam War era (1955–1975), and has tended to focus on either current or former military members.

Methods This study employed data from a population-based study (i.e., National Study on Drug Use and Health [NSDUH] between 2002 and 2014). It systematically examines the prevalence of self-reported antisocial behaviors, criminal justice system involvement, and substance abuse among the US civilian population and military service members, including reservists ($n=2206$) and those who reported having been separated or retired from military service ($n=20,551$). These factors are further examined across the developmental spectrum of adulthood (ages 18–34, 35–49, and 50–64).

Results Results showed that military members were more prone to lifetime arrests and overall substance misuse. However, additional findings emerged suggesting that, while the military population overall seems to be positively associated with higher criminal activity than that found

in the civilian population, these findings were based on a specific subgroup of the veteran population. This subgroup is comprised of individuals who likely did not fit in with the military culture and were discharged from the military early in their careers.

Conclusion Additional research on identifying this subgroup of military members is encouraged to better concentrate on prevention and treatment measures.

Keywords Military · Veteran · Crime · Criminal justice system · Substance use

Introduction

Current and former United States (US) military personnel are a large and critically important subset of the US population, characterized by a strong commitment to national service and security [1]. Regrettably, however, evidence indicates that a substantial proportion of military personnel are also involved in high-risk and antisocial behaviors that place them at jeopardy for criminal justice system involvement [2–4]. Indeed, recent estimates indicate that veterans comprise approximately 10% of the nation's total inmate population [5], and that veterans from the Vietnam era are substantially more likely to be involved in the criminal justice system as compared to their civilian counterparts [6]. This is not difficult to imagine as many military members are likely to be facing significant mental health concerns including, anxiety, depression, and post-traumatic stress disorder (PTSD) exacerbated by the stress of military life that most civilians do not encounter [6–9]. And yet, while prior research has shed light on the links between military service and crime, our understanding of the involvement of military personnel in criminal behaviors and the criminal

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justice system continues to be in its infancy. Therefore, it is the purpose of this paper to identify and examine the prevalence of self-reported antisocial behaviors, criminal justice system involvement, and substance abuse comparatively among the US civilian population and military service members, including reservists and those who reported having been separated or retired from military service.

Theoretical perspectives on military service and crime

To begin, we should note that—despite evidence of a link between military service and crime—there are compelling theoretical reasons to believe that military service may function as a protective factor for crime and antisocial behavior. First, the military provides a highly rigid structure, replete with round-the-clock supervision of service members, which can be conceptualized as a natural insulator from high risk and criminal activity [10]. Second, while criminological theorizing typically considers economic hardship and limited social resources to be risk factors for criminal offending [11], active duty military members have access to regular paychecks, as well as medical and other supportive benefits during and after their military careers [12, 13].

Third, military service can be thought of as protective, due to the simple fact that members are specifically screened for involvement in criminal activity prior to enlistment. For example, current Air Force standards prohibit any individuals from entering service with civil or criminal charges filed or pending, although there are exceptions through waivers [14]. Finally, once an individual joins the military, they undergo a structural process of “becoming a service member” which is often referred to as boot camp, or basic training. This training has been lauded as an effective correctional tool, offering a maturing experience and was even once the preferred sanction for many judges rather than typical incarceration [15, 16]. Logically, this implies that those who avoided the criminal justice system by joining the military would still see the benefits of this highly structured and disciplined environment.

Simply put, there are several straightforward reasons to believe that military personnel would be less likely than those in the civilian population to be involved in crime. In the same breath, there are also a number of reasons to believe that military personnel may be at elevated risk for criminal behavior. For instance, it is possible that military members—particularly in an era of an all-volunteer force—may be characterized by intrapersonal and temperamental factors that may place them at risk for crime. A recent study sponsored by the US Army described a distinct difference in military members through its draw of individuals characterized by elevated impulsivity, sensation seeking, and aggressiveness [16].

Notably, these factors, which certainly may be advantageous for military personnel, have been shown to be strongly related to risk taking and criminal behavior [17, 18]. This suggests that those who select to enter into military service are a unique group of individuals, pre-disposed to antisocial and criminal behavior, indicating that the military itself is not a causal factor for increased criminal activity. However, military members are far more likely than civilians to experience significant life stressors (e.g., separation from family, elevated occupational stress, trauma exposure) related to mental health and substance abuse risk [11, 19].

Although there is extensive literature on military screening practices to discourage military enrollment of individuals with mental health and substance abuse concerns [20–22], there is no shortage of literature identifying the increased prevalence of psychiatric problems during and following military service [23–30]. For example, reports indicate that soldiers fighting in two wars for more than a decade have increased risk of co-morbid conditions including PTSD, as well as substance abuse or dependence, which have been known to considerably impact decision-making abilities [29, 31, 32]. It has, of course, been well documented that mental health and substance abuse problems are related to increased risk for involvement in high-risk and antisocial behavior across the life course [33, 34].

Gaps in the extant literature

While an emerging body of research has begun to examine military service and crime, a number of important gaps persist. First, prior research on military service and crime has disproportionately focused on veterans from the Vietnam War era (1955–1975). The Vietnam era undoubtedly represents a critical moment in US social, political, and military history; however, important questions remain with respect to vast numbers of servicemen and women who have served—during peacetime and wartime—since the mid-1970s. Additionally, the populations between those who served in the Vietnam era (often as a result of mandated service through the draft) and those who later served in an all voluntary military, including our most recent conflicts in Afghanistan and Iraq, are distinct in various ways [35]. For instance, while both the Vietnam and modern conflicts lasted more than a decade, support for the Vietnam conflict abated far more quickly than support in modern conflicts, leaving a lack of supplies and resolve for the fighters of the time. Furthermore, those who served in Vietnam were likely to be in service as a result of the draft, which produces far less motivation and resilience than a voluntary service member.

Second, prior research on military service and crime has tended to focus on either current or former

military members, which precludes a systematic comparison of either active duty or retired/separated military service members. Third, few studies have examined the relationship between military service and crime using national samples. This raises questions about the generalizability of the relationship between these constructs. Finally, despite the well-established connection between military service and substance abuse [36], prior research has often overlooked the importance of substance use disorders in disentangling the relationship between military service and crime.

The present study

The present study employs data from a population-based study [i.e., National Study on Drug Use and Health (NSDUH) between 2002 and 2014]. Specifically, we systematically examine the prevalence of self-reported antisocial behaviors and criminal justice system involvement among the US civilian population and military service members, including reservists ($n=2206$) and those who reported having been separated (i.e., those who have reported previously serving but are no longer actively serving in the military, for any reason), or retired (i.e., those who honorably completed their service commitment of approximately 20 or more years or were medically discharged with benefits) from military service ($n=20,551$). Additionally, we examine the relationship between military service and antisocial behavior and criminal justice involvement across the developmental spectrum of adulthood. More precisely, to assess the developmental stability of the association between military service and crime, we examine the military service–crime link among adults aged 18–34, 35–49, and 50–64. Finally, we examine the influence of substance use disorders among military members reporting past year criminal justice involvement.

Methods

Sample

This study employs data from the NSDUH between 2002 and 2014. The NSDUH utilizes multistage probability sampling to provide nationally representative estimates of health-related behaviors including substance use and criminal justice system involvement among the US civilian, noninstitutionalized population aged 12 years or older. The survey has been conducted since 1971, but data only from 2002 to 2014 were pooled to increase the analytic sample size due to the major redesign in the sampling method and interview method since 2002 [37]. Notably,

this survey omits participants who identify themselves as current active duty members. Therefore, we rely on participants who identify as current reservists to represent the current military service member.

During the interviews, respondents were asked about their service history in the US Armed Forces and the current military status. After excluding active duty military members, the NSDUH enables researchers to distinguish the respondents who were serving in a reserve component and those who were separated/retired from reserve/active duty at the time of survey. The final analytic sample includes civilians ($n=432,739$), reservists ($n=2200$), and the separated/retired from the military ($n=20,508$) who are of ages 18–64. The respondents of 65 years or older were not included in the final analytic sample because the group comparisons will not be meaningful as most reservists retire by 65 years.

Measures

Military service status

Respondents were classified as civilians with no military service history, current reservists, and the separated/retired from the military based on the following two questions: “Have you ever been in the US Armed Forces?” and “What is your current military status?” If a respondent has never been in the US Armed Forces, the person is considered to be a civilian. Among the non-civilian respondents, a respondent was classified either as the reservist or the separated/retired from reserves/activity duty based on the current military status response.

Criminal justice system involvement

We examined the past 12-month measures of whether a respondent was (1) arrested/booked for breaking the law, not counting for minor traffic violations (0=no, 1=yes), (2) on probation (0=no, 1=yes), and (3) on parole, supervised release, or other conditional release from prison (0=no, 1=yes). In addition, past year arrest/booking history for specific offenses (i.e., serious violence offense, theft, burglary or breaking and entering, robbery, arson, driving under the influence (DUI), drunkenness or other liquor law violation, possession, manufacture or sale of drugs) were also examined.

Antisocial behaviors

Three measures of antisocial behaviors were examined. The respondents were asked, “During the past 12 months, how many times have you sold illegal drugs?”, “During the past 12 months, how many times have you stolen or tried

to steal anything worth more than \$50?”, and “During the past 12 months, how many times have you attacked someone with the intent to seriously hurt them?” Those who reported one or more incidence in the past 12 months were coded as 1 and the rest as 0.

Substance use disorders

We examined the past 12-month measures of substance-use disorder, alcohol, illicit drug, marijuana, and cocaine-use disorder based on the criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) [38].

Sociodemographic factors

The demographic characteristics include age, gender, race/ethnicity, marital status, employment status, and annual household income.

Statistical analysis

Statistical analyses were conducted in four steps. First, sociodemographic characteristics were compared among the civilians, the reservists, and the separated/retired. Then we examined the prevalence of antisocial behaviors and criminal justice system involvements for each group and the significance of the differences were tested using logistic regression analyses while controlling for demographic characteristics. Similarly, the prevalence of antisocial behaviors and criminal justice system involvement were also examined while stratifying the respondents by age. Lastly, the association between substance use disorders (alcohol, marijuana, and illicit drugs excluding marijuana) and past-year arrest/booking for any offense and DUI was examined. All of the estimates and standard errors were weighted and adjusted to account for the NSDUH’s multi-stage sampling design.

Results

Demographic characteristics by military service status

As presented in Table 1, the reservists and the separated/retired were more likely to be male (reservists: AOR=0.153, 95% CI 0.127–0.185; separated/retired: AOR=0.068, 95% CI 0.062–0.074) compared to the counterpart civilians. The reservists were less likely to be older while the separated/retired were more likely to be older than the civilians. Both the reservists and the separated/retired are more likely to be African-American and less likely to be Hispanic and other racial/ethnic groups relative to the

civilians. With respect to marital status, both the reservists and separated/retired were less likely to be not-married (reservists: AOR=0.603, 95% CI 0.486–0.747; separated/retired: AOR=0.490, 95% CI 0.456–0.526) while the separated/retired were more likely to be widowed, divorced, or separated (AOR=1.282, 95% CI 1.213–1.355) than the civilians. In terms of employment status and household income, no significant group differences were observed except that the separated/retired were more likely to be in others category as employment status, implying a higher likelihood of not being in the labor force (AOR=1.591, 95% CI 1.491–1.697) and that they were less likely to be in the lowest household income category (AOR=0.706, 95% CI 0.653–0.764) while they were more likely to have \$40,000–\$74,999 (AOR=1.182, 95% CI 1.120–1.248).

Antisocial behaviors and criminal justice system involvement

Table 2 examines the prevalence of antisocial behaviors and criminal justice system involvement for each military service status group. Controlling for the demographic characteristics, the reservists were less likely to have sold illegal drugs (AOR=0.372, 95% CI 0.250–0.554) and to be on probation (AOR=0.583, 95% CI 0.361–0.943) in the past 12 months compared to their civilian counterparts. The separated/retired group was also less likely to have sold illegal drugs (AOR=0.646, 95% CI 0.546–0.765), but they were more likely to have attacked someone with intent to seriously hurt them (AOR=1.366, 95% CI 1.141–1.636), report having been arrested/booked ever in their lifetime (AOR=1.368, 95% CI 1.304–1.436), and to have been on probation (AOR=1.217, 95% CI 1.081–1.371) in the past 12 months. When stratified by race/ethnicity, black civilian males were more likely than non-Hispanic white civilian males to report involvement in antisocial behaviors (excluding selling illegal drugs) and having been arrested/booked ever or in the past 12 months; however, this racial/ethnic difference was not found among the reservists and separated/retired counterparts.

Antisocial Behaviors and Criminal Justice System Involvement by Age

As displayed in Table 3, the prevalence of antisocial behaviors and criminal justice system involvement were examined while stratifying by age. Among the respondents of ages 18–34, the reservists were less likely to have sold illegal drugs (AOR=0.418, 95% CI 0.274–0.637) and have been on probation (AOR=0.585, 95% CI 0.356–0.961) relative to their civilian counterparts. On the other hand, the separated/retired were less likely to report having sold illegal drugs (AOR=0.789, 95% CI 0.649–0.958) and

Table 1 Demographic characteristics ($N=455,447$)

	Civilians ($n=432,739$)		Reservists ($n=2,200$)				Separated/Retired ($n=20,508$)			
	%	95% CI	%	95% CI	AOR	95% CI	%	95% CI	AOR	95% CI
Gender										
Male	45.2	45.0–45.5	83.7	81.2–86.0	1.000	–	90.7	90.1–91.3	1.000	–
Female	54.8	54.5–55.0	16.3	13.9–18.8	0.153***	0.127–0.185	9.3	8.7–9.9	0.068***	0.062–0.074
Age										
18–34	38.8	38.6–39.1	46.7	43.7–49.7	1.000	–	12.9	12.3–13.4	1.000	–
35–49	34.2	34.0–34.5	32.0	28.6–35.5	0.619*	0.527–0.727	31.1	30.2–32.0	1.987***	1.850–2.134
50–64	26.9	26.6–27.2	21.3	18.1–25.0	0.532**	0.423–0.671	56.0	55.0–57.0	4.248***	3.943–4.576
Ethnicity										
Black	11.8	11.6–12.1	15.9	12.9–19.4	1.441**	1.115–1.862	13.5	12.8–14.2	1.310***	1.229–1.397
Hispanic	15.6	15.3–15.8	8.1	6.4–10.2	0.436***	0.338–0.562	6.1	5.5–6.6	0.398***	0.360–0.440
Others	7.2	7.0–7.4	5.7	4.3–7.5	0.740*	0.551–0.993	3.5	3.2–3.9	0.475***	0.423–0.532
White	65.4	65.0–65.7	70.3	66.7–73.6	1.000	–	77.0	76.0–77.8	1.000	–
Marital status										
Married	53.0	52.6–53.3	55.6	51.7–59.4	1.000	–	66.4	65.4–67.4	1.000	–
Widowed/divorced/separated	15.3	15.1–15.5	14.3	11.9–17.1	1.099	0.869–1.389	21.6	20.8–22.4	1.282***	1.213–1.355
Never married	31.7	31.4–32.0	30.1	26.9–33.5	0.603***	0.486–0.747	12.0	11.5–12.6	0.490***	0.456–0.526
Employment status										
Employed, full-time	61.0	60.8–61.3	70.9	67.4–74.1	1.000	–	67.4	66.5–68.2	1.000	–
Employed, part-time	14.7	14.5–14.9	11.7	10.0–13.6	1.072	0.886–1.296	8.1	7.5–8.7	1.077	0.984–1.178
Unemployed	5.4	5.3–5.5	5.5	3.9–7.6	0.946	0.647–1.382	3.8	3.5–4.2	1.001	0.910–1.102
Others	18.9	18.6–19.1	12.0	9.5–15.0	0.956	0.717–1.274	20.7	20.0–21.4	1.591***	1.491–1.697
Household income										
–\$19,999	18.1	17.8–18.3	12.6	10.6–15.0	0.808	0.629–1.038	10.5	10.0–11.1	0.706***	0.653–0.764
\$20,000–\$39,999	21.0	20.8–21.3	21.6	19.3–24.5	1.103	0.912–1.334	18.6	17.9–19.3	1.048	0.977–1.124
\$40,000–\$74,999	28.9	28.6–29.1	32.6	29.4–36.1	1.144	0.950–1.379	33.0	32.1–33.9	1.182***	1.120–1.248
\$75,000+	32.0	31.6–32.4	33.0	29.5–36.6	1.000	–	37.9	36.8–39.0	1.000	–

Adjusted odds ratios were adjusted for gender, age, race/ethnicity, marital status, employment, and household income

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

having stolen or tried to steal something worth more than \$50 (AOR=0.710, 95% CI 0.520–0.970) while they were more likely to have attacked someone (AOR=1.437, 95% CI 1.220–1.692), have been arrested/booked for any offense in lifetime (AOR=1.309, 95% CI 1.206–1.422), arrested/booked for any offense in the past 12 months (AOR=1.162, 95% CI 1.001–1.349), and arrested/booked for DUI in the past 12 months (AOR=1.425, 95% CI 1.102–1.842). For the respondents of ages 35–49, the reservists were less likely to have sold illegal drugs (AOR=0.281, 95% CI 0.066–0.712), and been arrested/booked ever in lifetime (AOR=0.624, 95% CI 0.451–0.862) compared to the civilians. The separated/retired were also more likely to report having attacked someone (AOR=1.384, 95% CI 1.032–1.857), having been arrested/booked ever in lifetime (AOR=0.1425, 95% CI 1.328–1.529) and on having

been on probation in the past 12 months (AOR=1.227, 95% CI 1.038–1.449). For the respondents of ages 50–64, the only significant finding was found within the category of separated or retired with respect to having sold illegal drugs (AOR=0.496, 95% CI 0.280–0.879) and having been arrest/booked in their lifetime (AOR=1.206, 95% CI 1.114–1.305).

Separated/retired criminal justice system involvement and substance use disorders

Table 4 displays the association between past year criminal justice system involvement and substance use disorders. Overall, both the civilians and separated/retired group who have substance use disorders (alcohol, marijuana, and illicit drugs) were more likely to have been arrested/booked for

Table 2 Antisocial behaviors and criminal justice system involvement among adults (18–64) by military service status

	Military service status (N=455,447)									
	Civilian (n=432,739)		Reservist (n=2200)		Separated/retired (n=20,508)					
	%	95% CI	%	95% CI	AOR	95% CI				
Antisocial behaviors										
Sold illegal drugs	1.9	1.8–2.0	1.0	0.7–1.5	0.372***	0.250–0.554	0.9	0.7–1.0	0.646***	0.546–0.765
Stolen or tried to steal anything worth \$50	1.1	1.0–1.1	1.0	0.6–1.7	0.790	0.461–1.356	0.5	0.4–0.7	0.830	0.559–0.950
Attacked someone w/intent to seriously hurt them	1.5	1.5–1.6	2.4	1.7–3.3	1.268	0.903–1.780	1.2	1.0–1.5	1.366***	1.141–1.636
Criminal justice system involvement										
Arrested and booked (Ever)	18.0	17.8–18.2	22.8	20.0–25.8	0.867	0.727–1.033	31.1	30.2–32.0	1.368***	1.304–1.436
Arrested and booked (past 12 months)	3.0	3.0–3.1	3.4	2.6–4.5	0.809	0.603–1.084	2.9	2.6–3.3	1.087	0.961–1.229
Arrested and booked for DUI	0.7	0.7–0.7	1.2	0.7–2.0	1.151	0.676–1.961	0.9	0.7–1.1	1.244	0.998–1.551
Probation (past 12 months)	2.1	2.0–2.1	1.7	1.1–2.7	0.583*	0.361–0.943	2.3	2.1–2.6	1.217***	1.081–1.371
Parole, supervised release, or other conditional release from prison (past 12 months)	0.7	0.6–0.7	0.7	0.3–1.6	0.741	0.336–1.636	0.7	0.5–0.8	0.842	0.688–1.030

AOR was not reported for each offense type except DUI due to negligible group differences. Adjusted odds ratios were adjusted for gender, age, race/ethnicity, marital status, employment, and household income

* $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$

Table 3 Antisocial behaviors and criminal justice system involvement by age

	Ages 18-34 (N=304,397)					Ages 35-49 (N=104,892)					Ages 50-64 (N=46,158)				
	Civilian (n=296,742)		Reservist (n=1,679)		Separated/ Retired (n=5,976)	Civilian (n=96,776)		Reservist (n=393)		Separated/ Retired (n=7,723)	Civilian (n=39,221)		Reservist (n=128)		Separated/ Retired (n=6,809)
	% 95% CI	% 95% CI	AOR 95% CI	% 95% CI	AOR 95% CI	% 95% CI	% 95% CI	AOR 95% CI	% 95% CI	AOR 95% CI	% 95% CI	% 95% CI	AOR 95% CI	% 95% CI	AOR 95% CI
Antisocial behaviors (Past-Year)															
<i>Sold Illegal Drugs</i>	3.7 (3.6-3.8)	2.0 (1.3-3.0)	0.418 (0.274-0.637)	3.2 (2.6-3.8)	0.789* (0.649-0.958)	0.9 (0.8-1.0)	0.2 (0.1-0.7)	.218* (.066-0.712)	0.9 (0.7-1.2)	0.728 (0.528-1.003)	0.5 (0.4-0.6)	-	-	0.3 (0.2-0.5)	0.496* (0.280-0.879)
<i>Stolen or tried to steal anything worth \$50</i>	2.0 (1.9-2.0)	1.7 (1.1-2.7)	0.812 (0.510-1.295)	1.3 (0.9-1.7)	0.710* (0.520-0.970)	0.6 (0.5-0.7)	0.6 (0.1-4.2)	1.110 (.155-7.973)	0.7 (0.5-1.411)	0.982 (0.669-1.411)	0.4 (0.4-0.5)	-	-	0.3 (0.2-0.6)	0.675 (0.339-1.344)
<i>Attacked someone w/ intent to seriously hurt them</i>	3.1 (3.0-3.2)	4.0 (3.1-5.3)	1.192 (0.900-1.577)	4.2 (3.6-4.9)	1.437*** (1.220-1.692)	0.7 (0.7-0.8)	1.6 (0.5-4.6)	2.368 (0.773-7.257)	1.1 (0.9-1.5)	1.384*** (1.032-1.857)	0.3 (0.3-0.4)	-	-	0.6 (0.3-1.0)	1.471 (0.762-2.840)
Criminal Justice Involvement															
<i>Arrested and Booked (Ever)</i>	19.4 (19.1-19.7)	22.4 (19.5-25.6)	0.852 (0.710-1.022)	31.7 (30.0-33.5)	1.309*** (1.206-1.422)	19.5 (19.1-19.8)	18.9 (14.6-24.1)	0.624** (0.451-0.862)	36.2 (34.7-37.6)	1.425*** (1.328-1.529)	14.1 (13.7-14.5)	29.4 (20.5-40.3)	1.375 (0.825-2.293)	28.1 (27.0-29.3)	1.206*** (1.114-1.305)
<i>Arrested and Booked (Past 12 months)</i>	5.2 (5.1-5.4)	5.7 (1.6-4.1)	0.874 (0.665-1.149)	7.1 (6.2-8.0)	1.162* (1.001-1.349)	2.2 (2.0-2.3)	2.1 (0.8-5.5)	0.854 (0.302-2.415)	3.3 (2.8-3.8)	1.055 (0.901-1.237)	1.0 (0.9-1.2)	0.5 (0.1-3.2)	0.251 (0.034-1.844)	1.7 (1.3-2.2)	0.962 (.712-1.300)
<i>DUI</i>	1.2 (1.1-1.2)	2.0 (1.3-3.1)	1.352 (0.857-2.131)	2.1 (1.6-2.7)	1.425** (1.102-1.842)	0.5 (.5-6)	0.8 (0.1-4.7)	1.088 (0.175-6.769)	1.0 (0.8-1.3)	1.189 (0.875-1.615)	0.3 (0.2-0.4)	-	-	0.5 (0.3-0.8)	0.968 (0.564-1.664)
<i>Probation (Past 12 months)</i>	3.4 (0.9-1.0)	2.6 (1.6-4.1)	0.585* (0.356-0.961)	4.9 (4.2-5.8)	1.171 (0.981-1.397)	1.7 (1.6-1.7)	1.6 (0.6-4.3)	0.831 (0.298-2.317)	2.9 (2.6-3.4)	1.227* (1.038-1.449)	0.7 (0.6-0.8)	-	-	0.5 (0.3-0.8)	1.167 (0.814-1.673)
<i>Parole, supervised release, or other conditional release from prison (Past 12 months)</i>	1.0 (0.9-1.0)	0.5 (0.2-1.2)	0.364* (0.143-0.927)	1.1 (0.8-1.4)	0.772 (0.552-1.078)	0.6 (.6-7)	1.3 (0.4-3.9)	1.633 (0.495-5.395)	1.0 (0.8-1.3)	0.975 (0.726-1.310)	0.3 (0.2-0.4)	0.5 (0.1-3.2)	0.950 (0.129-6.985)	0.4 (0.2-0.6)	0.737 (0.403-1.347)

Note. AORs and 95% CI for “probation” and “DUI” are unreliable due to the zero cells among the reservists. AOR was not examined for each offense type except DUI due to negligible group differences. Adjusted odds ratios were adjusted for gender, age, race/ethnicity, marital status, employment, and household income. *p<.05, **p<.01, ***p<.001

any offense and DUIs in the past 12 months. Among the reservists, however, only alcohol use disorder turned out to be significantly correlated with arrest/booking for any offense and DUIs.

Discussion

Overall, findings revealed that military members were more prone to lifetime arrests and substance misuse as categorized by DUIs. However, by stratifying the sample and running analysis by age, we were able to see important distinctions between groups of military participants compared to civilians as well as differences between current and former military members. The youngest age group of military members (18–34) varied most from older veterans and civilians. These differences included increased rates of past year arrests and DUI rates, but reduced involvement in probation and parole. This is not surprising as the literature regarding the military population often highlights the increased risks of substance use disorders among the service members compared to civilians [7].

The military attempts to counter these risks through substance abuse prevention, identification, and treatment programs such as the Air Force’s Alcohol Drug Abuse and Prevention Program [8, 39]. A zero-tolerance drug policy has been enacted as an initial deterrence against illicit drug use [40]. In accordance with this policy, military members are randomly subjected to drug screens throughout their military career. Additionally, a wide variety of treatment options, including civilian care facilities, are made

available to military members [39]. Still, Larsan et al. [8] report that military members may conceal their developing substance abuses, attributing this to the warrior ethos. Warrior ethos refers to the idea that military members may view help-seeking behavior as a sign of weakness. They neither want to admit that they need help, nor want to fall into a stigmatized category of the “sick” [8].

An examination of antisocial behavior comparatively between civilians, reservists, and separated and retired military members revealed that military members were less likely to sell illegal drugs. However, the separated/retired group was more likely to report having attacked someone with intent to hurt them. Notably, it is not clear if this indicates criminal activity or if this behavior was acting in the line of duty. An examination of lifetime arrest rates by age showed all three age categories of separated/retired members reported significantly higher lifetime arrests; yet the middle age group of current reservists, 35–49, reported lower lifetime arrests. Although, for at least one age group, the military seems to serve as an effective insulator from criminal activity during service, these findings support previous literature that indicates military service is associated with higher lifetime levels of criminal activity than civilians. However, this study also examines more recent arrest records, which changes the narrative of the results slightly. When comparing arrests in the past year between military members and civilians, the only significant difference found was in the youngest age group of 18–34 year olds, where arrest rates for separated/retired service members were significantly higher than civilians. This indicates that this unique group is composed of individuals who served

Table 4 Past-year substance use disorder and criminal justice system involvement by military service status

	Civilian (<i>n</i> =432,739)			Reservist (<i>n</i> =2,200)			Retired/separated (<i>n</i> =20,508)		
	Prevalence %	Any arrest/ booking AOR 95% CI	Arrest/book- ing for DUI AOR 95% CI	Prevalence %	Any arrest/ booking AOR 95% CI	Arrest/book- ing for DUI AOR 95% CI	Prevalence %	Any arrest/ booking AOR 95% CI	Arrest/ booking for DUI AOR 95% CI
Alcohol use disorder									
Yes	8.6 (8.5–8.7)	4.481*** (4.259– 4.715)	12.013*** (10.824– 13.332)	9.3 (7.8– 11.1)	4.998*** (2.436– 10.252)	19.586*** (5.318– 72.125)	8.8 (8.4–9.3)	4.949*** (3.710– 6.603)	9.063*** (5.952– 13.798)
No	91.4 (91.3– 91.5)	1.000	1.000	90.7 (88.9– 92.2)	1.000	1.000	91.2 (90.7– 91.6)	1.000	1.000
Marijuana use disorder									
Yes	1.8 (1.8–1.9)	4.436*** (4.142– 4.750)	3.549*** (3.071– 4.100)	0.5 (0.3–0.8)	2.192 (0.537– 8.949)	0.227 (0.021– 2.395)	1.1 (1.0–1.3)	3.425*** (2.224– 5.273)	3.219*** (1.625– 6.377)
No	98.3 (98.2– 98.3)	1.000	1.000	99.5 (99.2– 99.7)	1.000	1.000	98.9 (98.7–99.)	1.000	1.000
Illicit drug use disorder									
Yes	1.1 (1.1–1.2)	7.284*** (6.694– 7.926)	5.670*** (4.831– 6.654)	0.8 (0.5–1.4)	8.160* (1.613– 41.292)	1.209 (0.146– 10.007)	1.0 (0.9–1.2)	6.743*** (4.161– 10.929)	6.243*** (3.087– 12.629)
No	98.9 (98.8– 98.9)	1.000	1.000	99.2 (98.6– 99.5)	1.000	1.000	99.0 (98.8– 99.1)	1.000	1.000

A respondent is considered to have illicit drug use disorder if the respondent reported to have abuse or dependence on cocaine, heroin, hallucinogens, inhalants, tranquilizers, or stimulants. Adjusted odds ratios adjusted for gender, age, race/ethnicity, marital status, employment, and household income

* $p < .05$, ** $p < .01$, *** $p < .001$

only for a short time, maybe one or two terms, but left before those who likely viewed the military as a lifetime career. This is likely because individuals either entered service for economic reasons (job training, sign on bonus, payment of college, etc.) and left once they met the obligations required to receive these benefits, or they left because they did not “fit” within the military culture.

These latter individuals are likely to be those who were separated for “dishonorable” or “other than honorable” reasons, branding them as “bad apples”. In this case, they were likely to select out early voluntarily, or they may have even been forced out due to their inability to conform. Of course, regardless of how short their service was or their reason for leaving, once out of the military, they will always be counted as part of the “separated and retired” group. In other words, one possible explanation for all the higher lifetime arrest rates is that this youngest group of separated/retired service members, who may represent the most at risk group for criminal activity, continues to dominate all age groups over time.

Comparatively, civilian arrest rates never quite catch up, confounding the accuracy of the findings for older groups. Adding to this finding is that the 18–34-year-old age group

was the only age group where separated/retired individuals reported significantly higher DUI rates than civilians or other military members. This is surprising as additional analyses on substance misuse showed significantly higher substance misuse for all military service members than civilians, bolstering previous literature’s findings that military members are more susceptible to substance misuse than the civilian population. Previous literature has often labeled all military members as more susceptible to substance misuse and criminal activity [10]. However, when results of this study are examined together, it is clear to see substance misuse and separation from the military below the age of 35 are the driving forces for the distinct differences found between military and civilians.

Lastly, findings revealed significant differences between military members and civilians in terms of probation and parole. Military service at a young age seems to act as a protection where reservists are less likely to be on probation or parole (in the past 12 months). However, this changes for older veterans and those who are between the ages of 35–49, who are more likely to be on probation than civilians (there were not enough participants to complete analysis for the oldest age group).

This increase in probation for older veterans may be a by-product of increased arrest rates; or it may also indicate courts treat veterans differently—either more favorably opting for probation over harsher punishments, or less favorably, enforcing a stricter sentence for “those who should know better” [41–43]. While current reservists in all ages were not statistically different in recent arrest rates than civilians, there was a significant difference in probation and parole rates. In the youngest group, data show that reservists were significantly less likely to be placed on probation or parole; yet, separated/retired veterans in the middle age group, 35–49, were more likely to be placed on probation than civilians. Although, it is unclear why this middle group would have a higher probation rate than civilians, which could be viewed as courts acting either favorably or unfavorably towards veterans, we will focus on the younger age group.

For reservists in the youngest age group, it is likely that many of the criminal cases that would have resulted in probation or even incarceration and eventually parole in civilian courts, were processed instead through the military legal system. In these cases, probation or parole may have been substituted for increased duty hours, base restrictions, or even time spent in a military prison (Kenny 2016). Because these cases would likely have been followed by some type of separation/discharge from the military, a unique group of “bad apples” emerges in the veteran population. This group is composed of service members who were deemed unfit for service either because they found their way into trouble or they simply did not adjust to the military environment, and were transitioned back into the civilian sector. In line with General Strain Theory (GST), this group would find themselves facing all the challenges of both military and civilian life with extremely limited resources [44, 45]. This would be especially evident for individuals separated through ‘dishonorable’ status, as they would have little to no military benefits and would find it specifically challenging to find meaningful employment competing with applicants with clean records. However, while these individuals did serve in the military, they do not necessarily represent the majority of veterans. It is more likely, based on these findings, they serve as a unique group unto themselves, acting as outliers skewing data in these types of analyses.

Findings from this study indicate an increased need for research into modern military forces, and more specifically, new military members who may be prone to early separation (i.e., discharge), substance misuse, and criminal involvement. It is our recommendation that future research focuses on early identification of these individuals and implementation of a prevention model. Addressing these concerns in this younger military population will certainly have a profound effect on the general body of the military, the criminal justice system, and medical services.

Therefore, future research should both, study this group more to identify, promote prevention, and treat these individuals; additionally, future research should control for this subgroup that may act as outliers from the overall veteran population.

Limitations and recommendations

While distinct findings from this study emerged that will likely have a significant impact on the current literature, there are several limitations to consider. As data analyzed were secondary data, it was not possible to gain additional information other than what was provided in the data sample. For this study, limited information was available regarding study participant’s branch of service, total time of service, whether veterans were active duty or reserves prior to separation, and separation type (honorable vs dishonorable discharge), including benefits made available to each veteran following separation. This also limits our ability to ascertain if a participant’s endorsement of attacking someone with intent to hurt them was due to criminal activity or was in line with their military service. If the participant had separated/retired within 12 months, this behavior may have resulted from military engagements. Additionally, the data used in this study, although combined over multiple years, were cross-sectional data, which limit the ability to discern causality in cases like these and future research using longitudinal data would be required to directly assess for causality. Furthermore, in review of probation and parole responses, there was no way to establish whether probation was a favorable or unfavorable response towards veterans—were they being treated with more leniency or more harshly? Lastly, this study does not contain a sample of current active duty members as participants are screened and rejected if they indicate current active duty service. This limits the overall representativeness of this study of the overall military population. Future research is highly recommended to address these limitations to further the knowledge and generalizability in this topic area.

Conclusion

The objective of this study was to examine criminal behaviors of individuals who have served in the military compared to civilians with no prior military service. Following analyses, mixed findings emerged suggesting that, while the military overall seems to be positively associated with higher criminal activity than that found in civilians, these findings were based on a specific subgroup of the veteran population. This subgroup is composed of individuals who likely did not fit in with the military culture for one reason or another and discharged from the military early in their

careers. We encourage additional research on identifying this subgroup of military members to better concentrate on prevention and treatment measures. Additionally, future research should control for this subgroup to make subsequent research more meaningful. In sum, reducing the risk of criminal justice system involvement is a worthy effort for those who have served.

Compliance with ethical standards

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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