

Occupation and Suicide among Males in the US Armed Forces

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During the period 1980 to 1992, 95% of the 3178 military suicide victims were men and 92% enlisted; of the men, 71% were aged 20 to 34, 82% were white, and 61% used a firearm. Information extracted from the Report of Casualty of the Worldwide Casualty System maintained by the Department of Defense was used to describe the occupational risk among military men. Occupations related to the use of or access to firearms were associated with a significant risk of suicide when compared to other military occupations. Collectively, military security and law enforcement specialists had a significant occupational rate ratio (1.25; 95% confidence interval: 1.02, 1.53; P < 0.05) This corresponds to findings from national civilian labor force fatality data where police and detectives are also at an elevated risk of suicide. Because the scope and work of these military high-risk groups may differ from service to service, additional occupational information should be examined to facilitate a better understanding of the complex etiology of suicide and to develop appropriate prevention strategies. Ann Epidemiol 1996;6:83–88.

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INTRODUCTION

The overall rate of suicide at work in the US labor force was 0.19/100,000 workers for the decade of the 1980s (1). Data from the National Traumatic Occupational Fatalities (NTOF) surveillance system showed that the suicide rate for men was about seven and one-half times higher than that for women, 0.30 and 0.04, respectively (2, 3). Thirty-seven percent of occupational suicides occurred among workers aged 16 to 34 years and more than 24% occurred in those 55 years or older (3). The highest suicide rates were reported for male workers 65 years or older (0.65/100,000 workers) and for female workers 55 to 59 years old (0.07) (2, 3). Generally, there were increasing rates with increasing age for men, whereas among women, there was no consistent pattern (3).

Jenkins and colleagues (2) indicated that in their NTOF data, suicide was the leading cause of work-related death in the retail trade and finance/insurance/real estate industry divisions. During the period 1980 to 1985, Conroy (3) showed that men engaged in the services industry division accounted for about one-fifth of workplace suicides but at a rate (0.31) less than half that among men who worked

in public administration (12% of suicides at a rate of 0.78/100,000 workers).

For male civilian workers, during the 7-year period 1983 to 1989, the most suicides occurred among public service police and detectives (35), followed by heavy truck drivers (34), and guards and police (30) (1). The first group experienced the highest occupation-specific suicide rate, 1.28, followed by guards and police with a rate of 0.78/100,000 workers. Conroy (3) also indicated that among all workers, those engaged in military occupations had a suicide rate of 0.75—a rate nearly three times higher than the next closest occupation, farming/forestry/fishing (0.27).

In a comprehensive study of suicide in the Armed Forces during the 13-year period 1980 through 1992, I (4) showed that nearly half of the 3178 suicides occurred in personnel 17 to 24 years old. White men accounted for 79% of all suicides and had the highest rates across all age groups (17 to 24: 14.87/100,000; 25 to 34: 13.37; and 35 to 54: 11.42). Men had higher rates than women in all the services but at significant levels in the Air Force, Army, and Navy. The rate of suicide among all active-duty men (12.54) was over two times that of all active-duty women (5.49) and about half that of males in the US resident population (23.79) (4, 5). Men aged 20 to 34 represent one of the highest risk groups in the military (4), as well as in the general population (5, 6). The Department of Defense (DoD) therefore adopted the national Healthy People 2000 objective for suicides among men aged 20 to 34 and targeted the same 15% rate reduction from the 1987 baseline rate (7).

Jones (8) indicated that among Air Force suicide victims in 1973 and 1974, skilled aircraft mechanics and security

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policemen accounted for 12.5 and 11.8% of the total suicides (142), respectively. Administrative specialists and munitions maintenance specialists accounted for an additional 13% of the suicides. Jones (8) further noted that Air Force career fields such as vehicle operators and supply services specialists, which could most closely relate to unskilled civilian occupations, accounted for less than 4% of the total suicides during the 2-year study period. Little additional literature exists identifying military occupations whose members are at an increased risk of suicide.

Identifying high-risk DoD occupational groups and comparing them with civilian occupational fatality databases has been suggested as an important next step in developing military suicide prevention strategies (4). This study was undertaken to identify occupations, within the four military branches of the US Armed Forces—Air Force, Army, Marine Corps, and Navy—and to assess the risk of suicide among men engaged in these occupations.

METHODS

The DoD maintains and operates the automated Worldwide Casualty System whose primary source of information is the Report of Casualty (DD Form 1300) (9). The DD Form 1300 is the official record of death for all military officers and enlisted personnel who die while on active duty. Casualty data are compiled from each military service on a fiscalyear basis, October 1 through September 30 (9, 10). However, for this study, suicides were analyzed by calendar year for the 13-year period January 1, 1980, through December 31, 1992, to facilitate comparisons with national databases. Occupational information recorded on the DD Form 1300 was verified with codes contained in the DoD Occupational Conversion Manual (11).

Demographic data on the number of active-duty men employed in various service-specific occupations were obtained from the DoD Defense Manpower Data Center. Within each service, rates per 100,000 active-duty enlisted men were calculated using the 13-year summary of activeduty enlisted male-years at risk. Only the occupations that accounted for at least 1% of its service's suicide cases in the high-risk group were analyzed. For these occupations, occupational rate ratios (ORRs) were calculated for the highrisk group comparing the rate of suicide among those men engaged in a specific occupation within a given service to the rate among all other men aged 20 to 34 in that service (reference group). Note: Each service has its own reference group, which is noted at the bottom of each table with an ORR of 1.00. These ratios were tested for statistical significance using the χ^2 test or the Fisher's exact test was used if an expected value in any of the four $(2 \times 2 \text{ table})$ cells was less than 5 (12).

Data on suicides occurring among males in the US resi-

dent population were obtained from the National Center for Health Statistics (NCHS) compressed mortality files for the 12-year period 1980 through 1991 (5). Population data for the same period were obtained from the Bureau of the Census (13). In this study deaths attributed to suicide were defined as self-inflicted fatal injury according to the International Classification of Diseases, ninth revision (ICD-9)—external cause of death E codes E950 through E959 (14).

RESULTS

During the 13-year study period, 95% of military suicide victims were men and 92% were enlisted. Seventy-four percent of the 3030 male suicides were in the previously defined high-risk group of 20- to 34-year-old men. Eighty-two percent of these men were white and experienced a crude suicide rate of 14.17/100,000 while 14% were black with a rate of 9.23. Sixty-one percent of the high-risk group used firearms to commit suicide while an additional 15% hung themselves.

The tables present the distribution and rate of suicide for enlisted men, and for the those aged 20 to 34 in service-specific occupations that accounted for at least 1% of its service's suicide cases. In each table, occupations in the all-male group are shown in rank order with the highest suicide rates listed first. For the high-risk age group (20 to 34), ORRs and 95% confidence intervals are provided. For comparison purposes, suicide distributions and rates are also provided for all males and those aged 20 to 34 in the general population for the period 1980 to 1991 (5, 13), and those suicides in the civilian labor force that occurred at work during the 1980s (1, 2).

In the Air Force, 22 occupations satisfied the 1% rule and qualified for further analysis. Ten of these occupations had rates in the high-risk group that exceeded the overall suicide rate (14.04) for all Air Force enlisted men, as shown in Table 1. Security and law enforcement specialists accounted for the highest proportion of suicides in the high-risk group (11.2%), resulting in an ORR of 1.18. Life-support specialists experienced the highest suicide rate (28.59) and the highest ORR (2.05), but the ORR was not significantly different from the rate among all other enlisted Air Force men aged 20 to 34 years. No occupational groups had significant ORRs.

Seventeen occupational specialties within the Army met the 1% rule in the high-risk group. Eight of these occupations had rates that were higher than the overall rate (15.08) for all enlisted male soldiers aged 20 to 34 during the 13-year study period (Table 2). The 105 Army infantrymen who committed suicide accounted for 12.5% of all suicides in the high-risk group, and had the highest rate (21.22) and the only significant ORR, 1.47 (P < 0.001). Thirty-eight

TABLE 1. Occupational specialities and rate of suicide among enlisted Air Force males, 1980 to 1992

		All males			Males 20-34	Occupational	
Occupation	n	%	Ratea	n	%	Rate	rate ratio (95% CI)
Life-support specialists	8	1.0	29.74	6	1.1	28.59	2.05 (0.92, 4.58)
Aircraft structural maintenance specialists	8	1.0	27.53	6	1.1	27.35	1.96 (0.88, 4.38)
Structural/plumbing/metal specialists	12	1.6	18.46	12	2.2	23.89	1.72 (0.97, 3.04)
Secure communications systems specialists	9	1.2	18.10	7	1.3	18.60	1.33 (0.63, 2.80)
Electronic computer systems specialists	7	0.9	17.98	6	1.1	20.42	1.46 (0.65, 3.26)
Medical/surgical service specialists	15	1.9	16.91	14	2.6	20.61	1.48 (0.87, 2.52)
Avionics systems specialists	21	2.7	16.48	17	3.1	17.76	1.27 (0.79, 2.06)
Security/law enforcement specialists	73	9.4	15.66	61	11.2	16.26	1.18 (0.90, 1.54)
Fuel specialists	13	1.7	15.13	7	1.3	10.25	0.73 (0.34, 1.53)
Computer systems specialists	14	1.8	15.01	10	1.8	14.47	1.03 (0.55, 1.93)
Aircraft electrical systems specialists	24	3.1	14.69	18	3.3	13.95	0.99 (0.62, 1.59)
Aircraft maintenance specialists	49	6.3	14.24	36	6.6	13.90	0.99 (0.71, 1.39)
Aircraft armament systems specialists	22	2.9	13.67	19	3.5	14.95	1.07 (0.67, 1.69)
Electronic powerline specialists	8	1.0	12.56	6	1.1	12.24	0.87 (0.39, 1.94)
Misc. aircraft/aerospace specialists	29	3.8	11.61	19	3.5	11.07	0.78 (0.43, 1.42)
Air-traffic controllers	7	0.9	11.28	6	1.1	13.20	0.94 (0.65, 3.26)
Munitions systems specialists	11	1.4	10.87	10	1.8	12.51	0.89 (0.48, 1.66)
Information management specialists	24	3.1	10.47	16	3.0	9.83	0.69 (0.42, 1.14)
Strategic/airlift maintenance specialists	9	1.2	9.69	7	1.3	9.92	0.70 (0.33, 1.48)
Supply/material specialists	21	2.7	8.45	16	3.0	8.95	0.63 (0.38, 1.03)
Personnel resource specialists	7	0.9	7.23	6	1.1	9.68	0.69 (0.31, 1.53)
All others	382	49.5	16.35	239	43.9	14.29	
Total (Air Force enlisted males)	773	100.0	14.76	544	100.0	14.04	1.00
General population (1980–1991)	183,414	100.0	23.79	94030	100.0	25.22	
Civilian labor force (1980-1989)	1805	100.0	0.30	555	100.0	0.23	

^a Rate per 100,000.

military police (4.5%) took their own lives at a rate of 18.63 and an ORR of 1.25.

As shown in Table 3, sixteen Marine Corps enlisted occupations satisfied the 1% rule in the defined high-risk group. Thirteen of these occupations had suicide rates that exceeded the overall rate (15.58) among enlisted male marines 20 to 34 years old. Riflemen comprised the largest occupational group (11.5%) to commit suicide in the Marine Corps, although at a rate (16.89) that was not significantly different from the rate observed for all other enlisted male marines in this age group. Small-arms technicians accounted for only 2% of the high-risk group suicides but they had a significantly higher risk (ORR 2.64) when compared to all other occupations (P<0.05). Military police and accident investigators experienced a rate of 21.99/100,000 with an associated ORR of 1.42.

In the Navy, 29 occupations met the 1% rule and 15 of these occupations had suicide rates higher than the overall rate (13.89) among enlisted male sailors in the high-risk group (Table 4). Machinists mates accounted for the most suicides (7.3%) at a rate of 14.47. Twenty seamen recruits committed suicide, during the 13-year study period, at a

rate of 27.32/100,000, which was significantly higher (ORR 2.00; P < 0.01) than that for all other enlisted male sailors aged 20 to 34. This occupation was composed of men who had not yet qualified in a specific occupation but were to be trained in broad allied specialties relating to seamanship. One additional occupational specialty, master-at-arms (shown at the top of Table 4), did not satisfy the 1% inclusion rule, but experienced a rate (49.76) that was 3.6 times higher than that for the rest of the high-risk group (P < 0.05). It should be noted that this elevated rate was based on only 4 cases. If one combines these cases with the 106 suicides among law enforcement specialists in the other three services (Air Force, 61; Army 38; and Marine Corps, 7), the resulting rate of 17.77 was significantly higher than the rate (14.53) for men engaged in all other occupations together (ORR = 1.25; 95% confidence interval: 1.02, 1.53; P < 0.05).

DISCUSSION

Forty-six service-specific military occupational groups each accounted for at least 1% of its service's suicides and a rate

TABLE 2. Occupational specialities and rate of suicide among enlisted Army males, 1980 to 1992

Occupation		All males			Males 20-34	Occupational	
	n	%	Rate ^a	n	%	Ratea	rate ratio (95% CI)
Fire support specialists	17	1.5	22.54	12	1.4	20.83	1.39 (0.78, 2.45)
Motor transport operators	29	2.5	20.44	18	2.1	16.65	1.11 (0.69, 1.42)
Unit supply specialists	42	3.7	20.06	27	3.2	17.61	1.17 (0.80, 1.72)
Infantrymen	135	11.8	19.96	105	12.5	21.22	1.47 (1.19, 1.80) ^b
Military police	51	4.5	18.69	38	4.5	18.63	1.25 (0.90, 1.73)
Fighting vehicle infantrymen	14	1.2	16.68	12	1.4	18.27	1.21 (0.69, 2.15)
Medical noncommissioned officers	19	1.7	14.89	15	1.8	16.45	1.09 (0.66, 1.82)
Cavalry scouts	19	1.7	14.43	16	1.9	15.76	1.05 (0.64, 1.72)
Medical specialists	14	1.2	14.39	9	1.1	11.56	0.76 (0.40, 1.47)
Indirect fire infantrymen	18	1.6	14.23	14	1.7	14.17	0.94 (0.55, 1.59)
Food service specialists	28	2.4	13.53	17	2.0	11.73	0.77 (0.48, 1.25)
M48-M60 armor crewmen	17	1.5	13.08	15	1.8	14.68	0.97 (0.58, 1.62)
Light-wheel-vehicle mechanics	31	2.7	12.04	30	3.6	14.90	0.99 (0.69, 1.42)
Cannon crewmembers	37	3.2	11.78	32	3.8	13.00	0.86 (0.60, 1.22)
Combat engineers	21	1.8	11.72	19	2.3	13.77	0.91 (0.58, 1.44)
M1 armor crewmen	13	1.1	11.21	11	1.3	12.14	0.80 (0.44, 1.45)
Administrative specialists	16	1.4	9.89	9	1.1	8.11	0.53 (0.28, 1.03)
All others	623	54.5	14.86	440	52.4	14.30	
Total (Army enlisted males)	1144	100.0	15.25	839	100.0	15.08	1.00
General population (1980–1991)	183,414	100.0	23.79	94030	100.0	25.22	
Civilian labor force (1980-1989)	1805	100.0	0.30	555	100.0	0.23	

^a Rate per 100,000. ^b P < 0.001.

TABLE 3. Occupational specialities and rate of suicide among enlisted Marine Corps males, 1980 to 1992

Occupation		All males			Males 20-34	Occupational	
	n	%	Rate	n	%	Rate	rate ratio (95% CI)
M60A1 tank crewmen	7	2.1	51.49	4	1.6	36.87	2.39 (0.89, 6.41)
Small-arms technicians	5	1.5	34.89	5	2.0	40.70	2.64 (1.09, 6.41) ^b
Engineer equipment mechanics	5	1.5	30.29	5	2.0	34.45	2.23 (0.92, 5.40)
Machine gunners	11	3.3	25.16	7	2.8	19.41	1.25 (0.59, 2.66)
General infantrymen	8	2.4	22.50	3	1.2	34.42	2.22 (0.71, 6.94)
Riflemen	43	12.8	20.42	29	11.5	16.89	1.10 (0.74, 1.61)
Field artillery cannoneers	8	2.4	20.16	7	2.8	21.66	1.40 (0.66, 2.97)
Military police/accident investigators	7	2.1	19.67	7	2.8	21.99	1.42 (0.67, 3.02)
Mortar men	8	2.4	16.81	5	2.0	12.81	0.82 (0.34, 1.98)
Motor vehicle operators	11	3.3	16.11	10	3.9	17.26	1.11 (0.59, 2.09)
Supply admin. and operations clerks	8	2.4	15.64	7	2.8	17.19	1.11 (0.52, 2.35)
Administrative clerks	7	2.1	15.40	7	2.8	17.39	1.12 (0.53, 2.37)
Assaultmen	6	1.8	15.12	6	2.4	16.83	1.08 (0.48, 2.43)
Food service specialists	5	1.5	14.35	5	2.0	17.86	1.14 (0.47, 2.77)
Combat engineers	5	1.5	12.99	4	1.6	12.81	0.82 (0.31, 2.20)
Field radio operators	5	1.5	7.29	5	2.0	8.77	0.55 (0.23, 1.34)
All others	187	55.4	13.76	137	53.9	14.04	
Total (Marine Corps enlisted males)	336	100.0	15.51	253	100.0	15.58	1.00
General population (1980–1991)	183,414	100.0	23.79	94030	100.0	25.22	
Civilian labor force (1980–1989)	1805	100.0	0.30	555	100.0	0.23	

^a Rate per 100,000. ^b P < 0.05.

TABLE 4. Occupational specialities and rate of suicide among enlisted Navy males, 1980 to 1992

Occupation	All males				Males 20-34	Occupational	
	n	%	Rate	n	%	Rate	rate ratio (95% CI)
Master-at-arms	6	0.8	32.90	4	0.7	49.76	3.60 (1.35, 9.62) ^b
Torpedoman's mate	9	1.2	18.78	9	1.5	24.13	1.75 (0.91, 3.38)
Quartermasters	10	1.3	17.30	7	1.2	15.56	1.12 (0.53, 2.36)
Seaman apprentices	25	3.2	16.13	19	3.2	20.90	1.52 (0.96, 2.40)
Boiler technicians	21	2.7	16.01	20	3.3	18.54	1.35 (0.86, 2.10)
Yeoman	17	2.2	15.98	9	1.5	11.61	0.83 (0.43, 1.61)
Operations specialists	23	3.0	15.84	21	3.5	18.00	1.31 (0.85, 2.02)
Gunner's mates	15	1.9	15.59	9	1.5	11.79	0.85 (0.44, 1.63)
Seaman recruits	28	3.6	14.96	20	3.3	27.32	2.00 (1.28, 3.12) ^c
Ships servicemen	9	1.2	14.85	6	1.0	14.05	1.01 (0.45, 2.26)
Sonar technicians	17	2.2	14.80	15	2.5	15.64	1.13 (0.68, 1.88)
Hull maintenance technicians	19	2.4	14.56	17	2.8	16.30	1.18 (0.73, 1.91)
Aviation structural mechanics	28	3.6	14.53	25	4.2	16.42	1.19 (0.80, 1.78)
Electrician's mates	26	3.3	14.39	23	3.8	15.60	1.13 (0.74, 1.71)
Airman/apprentices/recruits	35	4.5	14.21	22	3.7	15.25	1.10 (0.72, 1.69)
Enginemen	15	1.9	13.87	13	2.2	15.11	1.09 (0.63, 1.89)
Aviation electronics technicians	20	2.6	13.63	16	2.7	13.70	0.99 (0.60, 1.62)
Machinist's mates	49	6.3	13.33	44	7.3	14.47	1.05 (0.77, 1.42)
Aviation electrician's mates	13	1.7	13.18	9	1.5	11.43	0.82 (0.42, 1.58)
Aviation machinist's mates	18	2.3	13.10	11	1.8	10.47	0.75 (0.41, 1.36)
Interior communications electricians	9	1.2	12.12	9	1.5	14.35	1.03 (0.54, 2.00)
Hospital corpsmen	32	4.1	11.76	24	4.0	11.27	0.80 (0.53, 1.21)
Electronic technicians	26	3.3	10.93	24	4.0	11.89	0.85 (0.56, 1.28)
Boatswain's mates	14	1.8	10.69	12	2.0	11.61	0.83 (0.47, 1.47)
Seaman	21	2.7	10.43	10	1.7	6.53	0.46 (0.25, 0.86)
Aviation boatswain's mates	9	1.2	9.96	8	1.3	10.74	0.77 (0.38, 1.55)
Mess management specialists	19	2.4	9.13	15	2.5	10.68	0.76 (0.46, 1.27)
Fireman/apprentices/recruits	21	2.7	8.56	15	2.5	10.72	0.77 (0.46, 1.28)
Storekeepers	9	1.2	8.22	9	1.5	11.60	0.83 (0.43, 1.61)
Radiomen	15	1.9	8.11	15	2.5	10.51	0.75 (0.45, 1.25)
All Others	199	25.6	15.11	141	23.5	14.01	
Total (Navy enlisted males)	777	100.0	13.39	601	100.0	13.89	1.00
General population (1980–1991) Civilian labor force (1980–1989)	183,414 1805	100.0 100.0	23.79 0.30	94030 555	100.0 100.0	25.22 0.23	

^e Rate per 100,000.

that exceeded the collective rate among all occupations within that service. Two of these high-risk occupational groups—infantrymen in the Army and small-arms technicians in the Marine Corps—had an in-depth familiarity with and access to the weapon(s) they consistently used in their occupational specialty. In fact, varying levels of classroom training and service- and weapon-specific safety and firing orientation are received by all military trainees in boot camp. This familiarity and occupational access to firearms, in the case of the Army and Marine Corps suicide victims, might explain, at least in part, the popular choice of firearms as the method of death in their suicides.

Within each of the military services there is an occupational specialty relating to law enforcement and police activities. During the period 1980 to 1992, nearly 800,000 enlisted

men were employed in these occupations – 3.8% of the overall enlisted male population. Male dominance in these occupations (93%) reflects similar proportions in civilian law enforcement occupations. In 1990, sheriffs' departments across the United States employed 85% men and 15% women among their full-time sworn personnel where local police departments had 92% men and 8% women, and state police departments 95% men and 5% women among their full-time sworn personnel (15, 16).

Data from the NTOF surveillance system indicated that men engaged in law enforcement occupations (public service police and detectives) or in security-oriented occupations (guards and police) accounted for a high proportion of reported at-work suicides. These occupational groups had rates that were substantially greater than the overall suicide

P < 0.05.
P < 0.01.

rate among all male workers (0.30/100,000 workers) (1–3). Interestingly, the proportion of all male Air Force suicide victims who were security/law enforcement specialists (9.4%) during the period 1980 to 1992 (see Table 1) was quite similar to the 11.5% Jones (8) noted in his 1973 to 1974 study.

The rate of suicide for military men engaged in law enforcement specialties is considerably higher than the civilian occupational rate observed for male public service police and detectives (1.28). The high rate observed in the military incorporates suicides that occurred both on and off the job. Elevated rates of work-related suicide among males in the US civilian labor force were also observed in guards and police (0.78), general office clerks (0.51), heavy-truck drivers (0.27), and welders and cutters (0.24) (1). Conroy (3) suggested that the high rate of suicide among military personnel noted in NTOF may be due to the supposition that since military members spend a great amount of time at their place of work, the suicide may be likely to occur at work and therefore, may be noted as injury at work on their death certificate. Although death certificates are completed on all military personnel who die in the United States, the likelihood that the "Injury at Work?" item was checked on the death certificate is probably low, as noted by the low percentage (2%) of NTOF death certificates that list military as the usual occupation (2). Currently, data from the DoD Worldwide Casualty System do not consistently report whether death occurred on- or off-duty; this is reported at the option of each service (4, 9).

The collective group of law enforcement specialties appear to be particularly vulnerable to suicide. Their daily association with firearms on the job and familiarity and easy access to firearms may exacerbate this risk. A recently completed study by the New York City police department found that police officers killed themselves at a rate twice that of the general population (17). In 1994, twelve New York City police officers committed suicide, the most recorded for any year since the Depression (18). Experts suggest that multiple sources of pressure may push these men over the edge. Poor working conditions from rundown precinct houses to antiquated equipment (computers, cars, and guns), coupled with lack of command support, are often cited by many police departments across the country as primary morale problems among their personnel (17). Some seem to feel that much of their low morale stems from the punishment process itself-officers continuously risk their lives apprehending dangerous suspects, many times only to see them on the streets again within days. The emotional turmoil that may have its genesis in the workplace often may carry over to the home environment where it may disrupt an otherwise tranquil domestic existence. Similar sources of pressure probably exist, at least in part, in the work environment of military men engaged in security and law enforcement occupations as well.

This research showed that although the number of military suicides is low, specific groups of occupational specialties are at a modestly increased risk of suicide. Because the scope and work of these groups may differ from service to service, additional occupational information should be collected to facilitate a better understanding of the complex etiology of suicide and the development of appropriate prevention strategies.

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