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Drinking and other risk taking behaviors of enlisted male soldiers in the US Army

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Abstract

High-risk drinking is among the top three prevention priorities of the Department of Defense. Research suggests that enlisted male soldiers are particularly at risk for unhealthy drinking behaviors. 292,023 enlisted male soldiers who responded to a Health Risk Appraisal (HRA) survey between 1990 and 1998 were dichotomized into high and low-risk drinking groups. Logistic regression analysis showed that high-risk drinkers wore seatbelts less frequently, were more likely to drive > 15 mph over the speed limit, and to smoke more than 20 cigarettes/day. This high-risk group was predominately young (< 25), Caucasian, high school educated or less, and most likely employed as infantrymen or craftsworkers. The two highest risk occupational groups (infantrymen and craftsworkers) differ from each other, and from other Army occupations. Intervention programs should include safe driving habits and smoking cessation, as well as high-risk drinking, and should be tailored to the specific needs of the group at highest risk.

1. Introduction

Unhealthy alcohol use is a concern of the US military. In 1997, the Department of Defense (DoD) targeted drug and alcohol abuse specifically as an area of concern [1]. This directive sets the policies as well as the responsibilities to be upheld by the military services in preventing and treating alcohol and drug abuse. More recently, the DoD in general, and the Army in particular, has rededicated its efforts to establish high-risk drinking as a top priority for intervention [2].

Though average daily alcohol use in the Army has decreased significantly between 1980 and 1998, the proportion of soldiers who engage in chronic heavy alcohol use has not [3]. Bray et al. [3] have shown that enlisted males, in particular, are at greatest risk for unhealthy drinking habits compared to their Army peers and civilian male counterparts. This is of concern because heavy drinking is associated with an increased risk for injuries, decreased overall health with subsequent increased medical care costs, decreased productivity, and decreased readiness with the potential to affect a unit's ability to deploy [4–7]. Those who typically consume heavy amounts of alcohol are also at greatest risk for subsequent interpersonal problems and alcohol dependence. Typical heavy drinking may, in fact, be the earliest indicator of later problems [8]. In addition, several civilian studies have shown that heavy drinking correlates with other risky behaviors such as cigarette smoking, failure to use a seatbelt, and riding with an intoxicated driver [9–11]. The synergistic effects of these factors result in even greater risk for injuries and other adverse health events [12].

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While we know that enlisted males as a group are at greatest risk, it is important to identify sub-groups of people within this broad socio-occupational group because the risks of heavy drinking are not uniform for all enlisted soldiers. For example, certain occupational sub-groups within the enlisted ranks may be more prone to engage in high-risk drinking. Work-related norms can create sub-cultures that encourage unsafe drinking practices or other high-risk behaviors. Civilian studies have documented an association between occupation and unhealthy drinking practices [13–15]. Identifying subgroups at greatest risk will allow us to better understand the factors that contribute to unsafe practices. A better understanding of important risk factors and the characteristics of sub-groups particularly at risk will also allow better tailoring of intervention strategies to meet their specific age, cultural, and occupational needs.

It is also important to identify additional risky practices high-risk drinkers engage in. This may point to potential indicators that should alert health care providers, front-line supervisors, and others that a person is at particularly high-risk of injury or other adverse health, occupational, or social outcome associated with their risk taking practices. Thus the healthcare practitioner may be cued by the report of failure to use a seatbelt to also query the patient for evidence of other risk-taking practices such as heavy alcohol use.

The objectives of this study are to identify subgroups of enlisted male soldiers who report heavy alcohol use combined with unhealthy drinking behaviors, such as drinking and driving, or behaviors suggestive of alcohol dependence; and to document other risky behaviors which covary with high-risk drinking practices. Identifying those most likely to engage in very high-risk use of alcohol and other risk-taking behaviors early in their military careers will provide major benefits to the individual soldier and the Army as a whole, by improving the health of the soldier and reducing the frequency and cost of alcohol related incidents. It will also allow for the development of more appropriate and effective intervention programs.

2. Methods

A cross-sectional study design was used to investigate the relationships between self-reported risk-taking behaviors and demographic characteristics of enlisted, active duty Army males between 1990 and 1998.

2.1. Data

Data for this study were derived from the Total Army Injury and Health Outcomes Database (TAIHOD), a relational database that links multiple Army administrative databases using encrypted social security numbers [16]. Surveys from the Health Risk Appraisal (HRA) database and occupational and demographic data from the Defense Manpower Data Center (DMDC) components of the TAIHOD were used for this research. The HRA, a survey similar to the CD-C's Behavioral Risk Factor Surveys, has been offered to Army soldiers since 1990. Though not offered as part of a random sampling procedure, the HRAs are administered on a routine basis. The HRA is a self-administered survey given for a variety of reasons including in-processing to the Army or new unit of assignment, periodic physical exams, walk-in visits to an outpatient or occupational health clinic, or as part of the semi-annual physical fitness test. Most take the HRA as part of in-processing to the Army or transfer to a new job assignment. Not all soldiers are offered an HRA during their careers. During the 1990's, approximately 15% of the active duty population completed an HRA during their Army service.

The DMDC databases include extensive personnel information including soldier demographic characteristics and occupational information. A subset of the DMDC archive is extracted and incorporated into the TAIHOD at 6-month intervals. For purposes of these analyses, personnel data measured no more than six months prior to the date the HRA was taken were used. If

personnel data were not available less than six months prior to the date the HRA was taken, data no more than six months post-HRA were used.

2.2. Variables for analysis

2.2.1. Risk taking behaviors—Behavioral information comes from the HRA component of the TAIHOD and includes weekly alcohol consumption, daily smoking habits, and driving habits such as speeding and seatbelt use. In this study, "high-risk drinking" was defined by a positive response to the CAGE with a two question cut-off ("Yes" to two or more of the four items comprising the CAGE) as well as engaging in one of the following behaviors: consuming more than 14 drinks per week; and drinking and driving, or riding with someone who has been drinking at least once in the last month. While an affirmative response to any one of these three alcohol measures is indicative of increased risk, those answering yes to two or more are likely to be particularly at risk and most likely to benefit from intervention.

Recent guidelines for safe limits on alcohol use recommend that consumption be confined to moderate levels defined as not more than two drinks per day for healthy men. Thus consuming more than 14 drinks per week would, on average, exceed this recommended level. The CAGE [17] is a validated, easy to use method of detecting chronic alcohol dependence with high levels of both sensitivity and specificity [17–22]. Bush et al. [21] found a sensitivity of 0.75 and a specificity of 0.96 when a two-question cut-off was used. King et al. [20] found similar results when a two-question cut-off was used, 0.84 and 0.95, respectively, for sensitivity and specificity. The CAGE mnemonic is made up of four questions: "Have you ever felt you should cut down on your drinking?"; "Have people ever annoyed you by criticizing your drinking?"; "Have you felt bad or guilty about your drinking?"; "Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (eye opener)?".

Other risk behaviors of interest included speeding, seatbelt use, and smoking. Speeding was measured as not driving, driving within 5 MPH of the speed limit, 6–10 MPH over the speed limit, 11–15 MPH over the speed limit, or more than 15 MPH over the speed limit. Seatbelt use was measured as a continuous variable and later grouped into four categories: wearing a seatbelt less than 25% of the time, 25%–74% of the time, 75%–99% of the time, or 100% of the time. Work by McKnight and Dawson [23] validating self-reported seatbelt usages suggests that those reporting they wear their seat belts 100% of the time are in fact reliable seatbelt wearers. Self-reported cigarette smoking was grouped into four categories: non-smoker, smoking 1–10 cigarettes per day, 11–20 cigarettes per day, or more than 20 cigarettes per day.

2.2.2. Demographics—Demographic information came from the personnel component (DMDC) of the TAIHOD and include age, race, marital status, education, rank, and occupation. For ease of analysis and interpretation, age was grouped as <21 years of age, 21–24 years of age, 25–30 years of age, 31–35 years of age, 36–40 years of age, and >40 years of age. Racial or ethnic groups were coded as white, black, Hispanic, Asian/Pacific Islander, Alaskan native/American Indian, and other. Marital status was coded as unknown, single (never married), married, or no longer married. Education was grouped as 3–4 years of high school, high school graduate or GED, 1–2 years of college, 3–4 years of college, bachelor's degree, master's degree, doctorate, or alternative education credentials. Military rank was grouped as E1–E4, E5–E6, or E7–E9.

Occupation was examined using the Department of Defense (DoD) occupational codes. DoD occupational codes are broad categories made up of similar Military Occupational Specialties (MOS). For enlisted personnel the occupational categories include infantry/gun crews, electronic equipment repair, communications/intelligence, health care, technical/allied specialists, support/administration, electrical/mechanical equipment repair, craftsworkers, service/supply, and non-occupational. The non-occupational group includes patients,

prisoners, officer candidates and students, and those not occupationally qualified, such as basic trainees.

2.3. The study population

The study population comprised 292,023 enlisted male soldiers who completed an HRA and for whom a documented personnel record could be located within six months of the date in which the HRA was taken. 295,489 enlisted males took an HRA and 292,023 (98.8%) could be linked to the demographic data (1.2% missing demographic data). Enlisted Army males in 1994/1995 who had not taken an HRA (n = 244,999) served as a comparison group for evaluating the generalizability of findings to the Army at large. Because many demographic factors may change over time it was necessary to select one observation period for this comparison. 1994/1995 was used as a comparison because it was the midpoint of the study period.

2.4. Analytical methods

Frequencies were used to compare HRA takers and non-takers. Univariate analysis consisting of Chi-square tests with odds ratios and 95% confidence intervals were used to evaluate the crude relationships between demographic and behavioral information and self-reported risk-taking behaviors. Multivariate logistic regression was used to construct models to predict high-risk drinking. SAS, version 7.00 was used to perform all analyses [24].

3. Results

Table 1 shows that study participants were similar to their non-HRA taking counterparts. In 1994, enlisted males who completed HRAs were similar to enlisted males in 1994 who did not complete HRAs, except that there were slightly more soldiers who were under the age of 21 and who were black among the HRA takers. HRA takers were also slightly more likely to be college educated.

Table 2 compares the demographic characteristics of male officers and warrant officers who took an HRA, to the characteristics of male enlisted soldiers with completed HRAs. Officers were significantly older, more likely to be white, married, and to have a college education or greater. In comparison to the officers, the study cohort largely comprises men who were young, had less than a college degree, and in fact most often a high school degree or GED (almost 90%). Enlisted solders were also more likely to be single or no longer married (about half). Though the majority of the study cohort was white, a sizeable portion of the subjects was of minority racial or ethnic backgrounds. In particular, 28% of enlisted soldiers were black, compared to only about 10% of the officers.

Table 3 shows that of the 292,023 enlisted soldiers with completed HRAs, 6,018 (2.1%) were classified as high-risk drinkers. This compares to 0.6% of the 57,447 officers/warrant officers with completed HRAs (data not shown). Male, enlisted high-risk drinkers were predominately young, white, never married, high school educated or lower, junior enlisted, and had a Military Occupational Specialty (MOS) of infantry or craftsworker (Table 3). Twenty-one to twenty-four year olds experienced almost 3 and a half times the odds of being in the high-risk drinking group as compared to enlisted soldiers over the age of 40. In spite of the existence of minimum legal drinking age laws set at 21 in all 50 states and across military installations, the age group at second greatest risk for high-risk drinking (based on self report) were enlisted soldiers under the age of 21.

White soldiers were at 73% greater risk for high-risk drinking than were black soldiers. Single enlisted soldiers were at more than twice the risk for high-risk drinking as their married

counterparts. Most pronounced was the association between educational attainment and high-risk drinking. Soldiers who had not completed their high school degree had almost 4 and a half times the risk for high-risk drinking compared to those with college degrees.

Table 4 shows that high-risk drinkers were more likely to engage in a multitude of other risky behaviors. They were more likely to speed, wear a seatbelt less often, and smoke more than a pack of cigarettes per day. High-risk drinkers were more than 5 times as likely to say they routinely drove more than 15 miles per hour over the speed limit. They were also more than 5 times as likely as those who routinely wore their safety belts to say they wore their safety belts 25% of the time or less. They were not only more likely to be smokers, but to smoke heavily.

Even after adjusting for possible confounders, high-risk drinkers were more likely to be single, between the ages of 21–30, have a high school education or lower, and to be an infantryman or craftsworker.

High-risk behaviors tended to cluster. Multivariate logistic regression modeling (Table 5) shows that high risk drinking was more prevalent among those who wore a seatbelt less than 25% of the time, drove more than 15 MPH over the speed limit, and smoked more than 20 cigarettes per day.

4. Discussion

The similarity between enlisted soldiers with completed HRAs and those who did not complete an HRA suggest that these findings are generalizeable to all enlisted Army soldiers. The fact that enlisted soldiers differ from officers both in terms of their demographic profile and their propensity for engaging in high-risk drinking, suggests that interventions ought to be tailored for the specific needs of enlisted soldiers and not necessarily be implemented Army-wide.

High-risk drinking is strongly associated with other risk-taking behaviors investigated in this study. Aggressive prevention and intervention alcohol programs should be implemented early in an enlisted soldier's career, particularly among those demographic sub-groups likely to be at greatest risk (younger, less educated, and of lower rank). Programs targeting high-risk drinking enlisted soldiers should also incorporate safe driving, seatbelt usage, and smoking cessation.

Infantrymen and craftsworkers were at greatest risk for high-risk drinking, even after controlling for potential confounders. This finding illustrates the complex interaction of one's occupational environment and heavy alcohol consumption. For example, infantrymen are closely supervised but are required to take occupational risks. These occupational risks may result in a great deal of stress, which the soldiers may attempt to relieve through unhealthy drinking [25]. Conrad et al. [25] found that workers who reported exposure to occupational hazards were more likely to engage in binge drinking than workers without such exposures. It is also possible that the same factors that draw certain high-risk soldiers into this high-risk job may also contribute to their adoption of high-risk drinking [26]. Hersch et al. [26] found that smokers chose riskier jobs, were more likely to get injured on the job, and were willing to work at hazardous jobs for less pay per unit risk compared to nonsmokers.

While the job of craftsman involves fewer occupational risks, soldiers in these jobs tend to work with minimal supervision, which may contribute to the use of alcohol. More research is needed to clarify the persistent association between these occupations and high-risk drinking. Interventions need to be tailored to the specific needs of individuals in these jobs.

5. Study limitations and strengths

We acknowledge the limitations of studies such as this that rely on self-reported data; though Polich et al. [27] found that most types of self-reports of alcohol use are valid, and that broadly based outcome measures are not likely to be significantly biased by underreporting errors. The CAGE is a quick and effective method of screening for lifetime alcohol abuse [22], but is not a tool intended to identify non-dependent heavy drinking, nor does it distinguish between current and previous problem drinking [17–22]. In an effort to compensate for this shortcoming in our measurement tool, we included two additional HRA questions as part of our outcome variable: one involving recent, weekly alcohol use and another measuring monthly drinking and driving/riding habits. Finally, we acknowledge that the presence of self-reported high risk-taking habits does not necessarily mean the person will experience an adverse health or social outcome. While beyond the scope of this study, an important next step should be to link these self-reported behaviors to actual health outcomes. Bell et al. [7] have already shown an association between HRA reported seatbelt use and heavy alcohol use and an increased risk of injury.

The study of military populations offers several advantages over many civilian studies. A number of potential confounders of the association between alcohol use and demographic factors are at least partially controlled by the unique nature of military life. There is universal access to health care and housing. Also, there is full employment and thus an economic floor. There are many policies and rules in place which influence behaviors both on and off-duty. Finally, this is a very large, diverse population including good representation from racial and ethnic minorities not often well represented in other studies. There is also occupational diversity. Though all are enlisted soldiers, there is considerable variety in the activities included in their day-to-day jobs. Many jobs are comparable to civilian positions as varied as policemen, firefighters, plumbers, electricians, welders, medics, cooks, drivers, and secretaries. Thus, these findings may also have implications for young men employed in similar civilian positions.

6. Conclusions

While most enlisted male soldiers do not engage in multiple risk-taking behaviors, there are thousands of enlisted Army soldiers at risk for serious injury, illness or social problems because of their alcohol-related behaviors. In addition, they may be placing the lives of others in jeopardy and are likely to reduce military effectiveness and operational readiness. Enlisted soldiers who are single, young, and who have attained lesser educational and military rank status should remain the focus of an intervention to reduce unhealthy use of alcohol. In addition, interventionists will need to consider the particular personality profiles of soldiers who self-select into certain occupations, such as infantry and craftsworkers. The potential modifying influence of occupational stress and workgroup norms also need to be explored and considered in the development of appropriate interventions.

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The analyses conducted for this paper adhere to the policies for the protection of human subjects as prescribed in Army Regulation 70-25, and with the provisions of 45 CFR 46.

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Table 1

Demographics of the study population and enlisted Army males 1994/1995

Variables	Study population (*n* = 292,023)	Enlisted army males 1994/1995 (*n* = 244,999)
Age		
Missing	0.13%	0.00%
< 21	18.39%	11.86%
21–24	29.39%	33.91%
25–30	24.48%	26.73%
31–35	13.01%	12.71%
36–40	10.21%	10.14%
40 +	4.74%	4.64%
Race/Ethnicity		
Unknown	0.02%	0.03%
Other	2.45%	3.11%
White	61.75%	63.14%
Black	28.05%	25.47%
Hispanic	5.55%	5.58%
Indian/Alaskan	0.56%	0.59%
Asian/Pacific Islander	1.96%	2.08%
Marital Status		
Unknown	4.11%	0.37%
Single	46.25%	44.62%
Married	46.91%	51.89%
No Longer Married	3.07%	3.12%
Education		
Unknown	2.88%	0.28%
3–4 Years High School	0.61%	0.42%
High School Grad.	83.17%	86.23%
1–2 Years College	2.87%	2.76%
3–4 Years College	1.75%	1.83%
College Grad	2.84%	1.74%
Masters	0.21%	0.22%
Doctorate	0.01%	0.02%
GED	5.98%	5.29%
Alt Ed Credentials	0.02%	0.06%
Rank		
Missing	0.001%	0.01%
E1–E4	59.52%	61.07%
E5–E6	29.41%	27.68%
E7–E9	11.41%	11.24%
MOS		
Other	0.92%	0.47%
Infantry/Gun Crews	29.63%	29.80%
Electronic Equipment Repair	5.42%	5.97%
Communications/Intelligence	12.43%	11.88%
Health Care	6.91%	6.40%
Technical/Allied Specialists	2.87%	3.13%
Support/Administration	12.24%	13.15%
Electrical/Mechanical Equip Repair	16.33%	15.23%
Craftsworkers	2.36%	1.99%
Service/Supply	10.46%	11.34%
Non-Occupational	0.77%	0.65%

Note: Chi-square analysis showed statistically significant differences between the study population and enlisted Army males of 1994/1995.

Table 2

Demographics of enlisted male HRA takers (Study population) and non-enlisted male HRA takers

Variables	Study population (*n* = 292,023)	Non-enlisted male HRA takers (*n* = 50,433)
Age		
Missing	0.13%	0.07%
< 21	18.39%	0.01%
21–24	29.39%	11.95%
25–30	24.48%	25.93%
31–35	13.01%	19.54%
36–40	10.21%	19.57%
40 +	4.74%	22.93%
Race/Ethnicity		
Unknown	0.02%	0.03%
Other	2.45%	1.31%
White	61.75%	84.17%
Black	28.05%	9.69%
Hispanic	5.55%	2.48%
Indian/Alaskan	0.56%	0.43%
Asian/Pacific Islander	1.96%	1.88%
Marital Status		
Unknown	4.11%	0.28%
Single	46.25%	24.49%
Married	47.91%	72.20%
No Longer Married	3.07%	3.03%
Education		
Unknown	2.88%	5.81%
3–4 Years High School	0.61%	0.05
High School Grad.	83.17%	2.60%
1–2 Years College	2.87%	5.73%
3–4 Years College	1.75%	0.00%
College Grad	2.84%	55.03%
Masters	0.21%	30.02%
Doctorate	0.01%	0.76%
GED	5.98%	0.00%
Alt Ed Credentials	0.02%	0.00%

Note: Chi-square analysis showed statistically significant differences between the study population and non-enlisted HRA takers.

Table 3

Crude OR's and 95% CI's for the study population demographics by drinking risk group

Variables	Low risk drinking (*n* = 286,963)	High risk drinking (*n* = 6,018)	OR (95% CI)
Age			
Missing	377	8	2.24 (1.01–4.75)
< 21	52,620	1,064	2.13 (1.77–2.57)
21–24	83,073	2,746	3.48 (2.91–4.18)
25–30	70,191	1,284	1.93 (1.60–2.32)
31–35	37,519	466	1.31 (1.07–1.60)
36–40	29,481	320	1.14 (0.93–1.41)
40 +	13,702	130	1.0
Race/Ethnicity			
Unknown	55	0	N/A
Other	7,049	118	1.16 (0.95–1.40)
White	175,896	4,398	1.73 (1.62–1.84)
Black	80,726	1,170	1.0
Hispanic	15,979	229	0.99 (0.86–1.14)
Indian/Alaskan	1,599	40	1.73 (1.24–2.40)
Asian/Pacific Islander	5,569	63	0.78 (0.60–1.01)
Marital Status			
Unknown	11,861	154	0.95 (0.81–1.13)
Single	131,193	3,850	2.16 (2.04–2.28)
Married	135,129	1,840	1.0
No Longer Married	8,780	174	1.46 (1.24–1.71)
Education			
Unknown	8,285	123	1.63 (1.21–2.19)
3–4 Years High School	1,713	70	4.48 (3.18–6.31)
High School Grad.	237,644	5,184	2.39 (1.89–3.03)
1–2 Years College	8,281	98	1.30 (0.96–1.77)
3–4 Years College	5,054	60	1.30 (0.91–1.85)
College Grad	8,220	75	1.0
Masters	616	0	N/A
Doctorate	24	0	N/A
GED	17,066	408	2.62 (2.03–3.38)
Alt Ed Credentials	60	0	N/A
Rank			
Missing	2	0	N/A
E1–E4	169,296	4,494	2.68 (2.39–3.00)
E5–E6	84,685	1,197	1.43 (1.26–1.62)
E7–E9	32,980	327	1.0
MOS			
Other	2,635	59	1.55 (1.15–2.07)
Infantry/Gun Crews	84,093	2,418	1.99 (1.75–2.25)
Electronic Equipment Repair	15,546	269	1.19 (1.01–1.42)
Communications/Intelligence	35,573	712	1.38 (1.20–1.59)
Health Care	19,886	288	1.0
Technical/Allied Specialists	8,247	139	1.16 (0.94–1.43)
Support/Administration	35,248	507	0.99 (0.86–1.15)
Electrical/Mechanical Equip Repair	46,775	911	1.34 (1.17–1.54)
Craftsworkers	6,734	156	1.60 (1.31–1.96)
Service/Supply	30,007	518	1.19 (1.03–1.38)
Non-Occupational	2,219	41	1.28 (0.90–1.79)

Table 4

Crude OR's and 95% CI's for risk taking behaviors of the study population by drinking risk group

Variable	Low risk drinking (*n* = 286,963)	High risk drinking (*n* = 6,018)	OR (95% CI)
Speed Limit			
Within 5 MPH	157,923	1,978	1.0
6–10 MPH Over	94,949	2,630	2.21 (2.08–2.35)
11–15 MPH Over	12,971	719	4.43 (4.05–4.83)
> 15 MPH Over	5,135	339	5.27 (4.67–5.94)
Don't Drive	11,694	290	1.98 (1.74–2.25)
Seatbelt Use			
Missing	4,218	57	1.02 (0.78–1.34)
< 25%	12,790	888	5.25 (4.85–5.70)
25–74%	35,163	1,249	2.69 (2.50–2.89)
75–99%	70,571	1,654	1.77 (1.66–1.89)
100%	164,220	2,170	1.0
Cigarettes smoked per day			
Non-Smoker	190,396	2,528	1.0
1–10 Cigarettes/Day	41,061	1,014	1.86 (1.73–2.00)
11–20 Cigarettes/Day	42,078	1,607	2.88 (2.70–3.07)
> 20 Cigarettes/Day	13,428	869	4.87 (4.50–5.28)

Table 5

Results of multivariate logistic regression model predicting high risk drinking

Variable	OR	95% CI
Age		
17–20	0.84	0.75–0.94
21–24	1.64	1.48–1.81
25–30	1.33	1.21–1.47
Over 30	1.0	N/A
Ethnicity		
White	1.23	1.15–1.32
Black	1.0	N/A
Other	1.01	0.90–1.14
Education		
< HS Grad	1.89	1.34–2.66
HS Grad/GED/Alt Ed Credentials	1.47	1.16–1.86
Some College	1.45	1.09–1.92
College Graduate	1.0	N/A
Marital Status		
Single	1.77	1.64–1.90
Married	1.0	N/A
No longer married	1.44	1.22–1.69
Seatbelt Use		
Wear a seatbelt 100% of the time.	1.00	N/A
Wear a seatbelt 75–99% of the time.	1.43	1.30–1.56
Wear a seatbelt 25–74% of the time.	1.76	1.62–1.92
Wear a seatbelt < 25% of the time.	2.30	2.13–2.48
Speeding		
Non-Drivers	1.56	1.37–1.78
Drive within 5 MPH of the speed limit	1.0	N/A
Drive 6–10 MPH over the speed limit	2.00	1.88–2.13
Drive 11–15 MPH over the speed limit	3.26	2.97–3.58
Drive > 15 MPH over the speed limit	3.78	3.33–4.29
Smoking		
Non-smoker	1.00	N/A
Smoke 1–10 cigarettes per day	1.82	1.68–1.96
Smoke 11–20 cigarettes per day	2.76	2.58–2.96
Smoke > 20 cigarettes per day	4.56	4.18–4.98
MOS		
Health Care	1.00	N/A
Infantry	1.64	1.44–1.86
Electronic Equipment Repair	1.12	0.94–1.33
Communications/Intelligence	1.29	1.12–1.48
Technical and Allied Specialties	1.18	0.96–1.46
Support/Administration	1.10	0.95–1.28
Electrical/Mechanical Equipment Repair	1.16	1.01–1.33
Craftsworkers	1.39	1.13–1.70
Service/Supply	1.10	0.95–1.28
Non-Occupational	1.10	0.77–1.56

* 26,612 observations were deleted from the model due to missing data.