



Alcohol issues prior to training in the United States Air Force



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HIGHLIGHTS

- The negative impact of alcohol use is a significant concern to the U.S. military.
- Half of United States Air Force recruits report alcohol use prior to basic training.
- Drinkers under the legal age report higher drinking than those over 21.
- Interventions could have a positive impact on individuals in Air Force training.

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ABSTRACT

The negative impact of alcohol is a significant concern to the US military given the costs associated with alcohol-related offenses. Despite considerable research in active duty personnel, relatively little is known about the current extent of alcohol use among incoming recruits. We examined the history of alcohol use and harmful patterns of alcohol consumption among recruits entering the United States Air Force (USAF; $N = 50,549$) over the span of 4 years (2010–2014). Across all years, drinking rates reflected national average trends for those aged 18–24 (NIDA, 2014). However, when abstainers were excluded, those under 21 ($n = 10,568$) reported an average of 18.4 drinks per week, whereas those age 21 and over ($n = 14,188$) reported an average of 14.1 drinks per week, suggesting that for those who drink, those under 21 are exhibiting more risky drinking rates. Alcohol Use Disorders Identification Task (AUDIT) scores for drinkers reflected these same trends. For those under 21, 58% scored in risk categories of 2 or higher (risky drinking warranting attention), compared with 40% for those age 21 and over. These scores indicate that for recruits in the USAF, approximately half report alcohol use immediately prior to basic training, resulting in the inheritance of these potential alcohol related issues for those conducting training of these recruits. Based upon these numbers, brief alcohol interventions could have a potential positive impact on individuals in their initial training stages of the USAF to prevent these baseline issues from resulting in problems later in their military careers.

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1. Introduction

Despite advances in reducing tobacco and illicit substance use among those in the United States Military, alcohol use remains a significant problem (Bray et al., 2010). Data from the 2011 Department of Defense (DoD) Health Related Behavior Surveys suggest that across all military branches (Army, Navy, Marine Corps, Air Force), 84.5% of those in active duty report using alcohol, and over 25% report moderate to heavy use (DoD, 2013). Longitudinally, alcohol use problems in military personnel appear to be on the rise; trends across the years 1998 to 2008 show significant increases in the percentage of individuals who have engaged in recent heavy alcohol use among those in active duty

(DoD, 2013). While 25% of the population may seem like a relatively small percentage, this subpopulation creates problems of considerable consequence. A survey of TRICARE Prime beneficiaries in 2006 estimated that alcohol misuse cost the DoD an estimated \$1.2 billion (Harwood, Zhang, Dall, Olaiya, & Fagan, 2009). Additionally, the DoD is the world's largest employer at 3.2 million employees, far eclipsing employers worldwide such as Wal-Mart (2.1 million) and McDonalds (1.9 million; Alexander, 2012). In terms of active duty, there are 1.4 million uniformed personnel currently serving in the four military branches of the United States DoD, and close to 220,000 enlisted each year across branches (DoD, 2014), indicating that a large number of individuals may be engaging in hazardous alcohol use.

Heavy alcohol use among military personnel carries many of the same adverse outcomes as in civilian populations. Waller, McGuire, and Dobson (2015) found that alcohol use among those in the

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Australian Defense Force was associated with lower general health scores, work limitations because of physical health issues, and poorer social functioning. As well as decreasing health-related outcomes, heavy alcohol use in military settings has been shown to be associated with behavioral and performance issues (Macmanus et al., 2012; Fisher, Hoffman, Austin-Lane, & Kao, 2000). For example, Mattiko and colleagues found that heavy alcohol use was associated with serious consequences for those in active military duty in the US (e.g., passed over for promotion; Uniform Code of Military Justice punishments; DUI or other alcohol-related arrest; alcohol-related injury or accident; physical fights), as well as with reduced work productivity (e.g., hurt on the job; being late for work or leaving early; not coming to work because of an illness or a personal accident; performing below normal level of performance caused by drinking; being drunk while working; or being called in during off-duty hours feeling drunk; Mattiko, Olmsted, Brown, & Bray, 2011). The considerable financial and behavioral costs associated with active drinking in the military suggest that increasing prevalence trends need to be explored (DoD, 2013).

There are a number of reasons why alcohol use remains such a significant problem specifically for those in the United States Military. For active duty and reserve personnel, problems directly associated with active duty, such as self-reported stress over deployment, disrupted relationships, depression, financial problems, injury, and trauma, are all related to problematic alcohol use (Foran, Smith Slep, & Heyman, 2011; Lande, Marin, Chang, & Lande, 2008), and combat deployment itself has been shown to be a risk factor for later drinking (Jacobson et al., 2008). In addition, there is a widely held belief that military culture looks positively on drinking behavior, and this belief is upheld by empirical work. A study by Ames and colleagues showed the influence of military culture on drinking behavior in multiple workplace settings of the Navy (Ames, Cunradi, Moore, & Stern, 2007). Interviews revealed an environment that encouraged drinking in response to negative emotions (e.g., stress, loneliness) and drinking as a part of a cultural tradition with specific rituals and routines.

Aside from increased risk associated with exposure to military stressors and culture, it is also possible that issues with alcohol use are present prior to recruitment. Those who typically pursue military careers represent a high-risk population with regard to demographics and other risk factors that likely contribute high rates of alcohol use (DoD, 2004; Zuckerman, 2007). For instance, in addition to being primarily male (DoD, 2004), the typical age range of military recruits (18–24) is that known to be at the highest risk for alcohol use (Substance Abuse and Mental Health Services Administration, 2014). Additionally, those who join the military often do so out of the appeal of experiencing excitement and adventure (Zuckerman, 2007), the same factors known to underlie alcohol use (Stautz & Cooper, 2013). Trait sensation seeking is known to be at its peak in late adolescence to young adulthood, and for young men, this period of risk-taking vulnerability lasts well into their 20s (Shulman, Harden, Chein, & Steinberg, 2015).

Despite wide research on prevalence of alcohol use and misuse among those in active duty, relatively few studies have explored alcohol use immediately prior to entering military training. Given the known risks associated with military career events, base rates of drinking are likely to be important indicators of problems in the future. In support of this, Bray et al. (2010) explored alcohol use prior to and following military training in a cohort of Navy and Air Force trainees ($N = 4962$). These authors found that those who engaged in heavy alcohol use before basic training were more likely to re-initiate heavy episodic drinking after the drinking ban during training was lifted and to do so relatively quickly (1–6 weeks). We are aware of only one large scale study that explored prevalence of alcohol use prior to training. Taylor, Haddock, Poston, and Talcott (2007) examined history of alcohol problems in a large sample of Air Force recruits ($N = 37,858$) and found that close to 80% of recruits reported prior drinking, but 43% of these individuals reported light use (defined as 1 drink per day or less), and another

24% reported moderate use (defined as 2 to 4 drinks per day). Not surprisingly, those who had a history of drinking moderately or heavily had a higher probability of negative alcohol related outcomes (e.g., being injured as a result of drinking, been in a fight because of drinking, not able to stop drinking).

While an important start, these studies have several relative limitations. First, Taylor and colleagues (Taylor et al., 2007) did not utilize age of recruits as a potential risk factor. This is important information, given that the many factors that may inhibit underage drinking for some (e.g., differential availability of alcohol, legal consequences if caught) do not necessarily thwart this behavior in those of legal drinking age, suggesting that the underage drinker is engaging in differential forms of risk than a drinker who is of legal drinking age. Blanket prevalence rates are unable to examine whether underage drinking is a common behavior in the population, or whether higher prevalence is simply carried by those of legal drinking age. Examining the prevalence of underage drinking among recruits allows the military to address this risk specifically.

Second, the Taylor et al. (2007) data are dated, with surveys collected over 15 years ago (1995–1997), leaving quite a large historical gap that may evidence changes in drinking behavior. In addition, although Bray et al. (2010) did utilize age for comparison of drinking groups, these groups were formed using the answer to a single item that addressed binge drinking exclusively (e.g., how many days in the 30 days before basic training did respondents consume 5 or more drinks for men, 4 or more for women). Utilization of a single binge drinking item provides considerably less detail than is necessary to examine alcohol risk among a large group with potentially varied drinking habits. Based upon responses to this item, Bray et al. (2010) found that 55.8% of those under 21 and 33.4% of those age 21 and over abstained from binge alcohol use prior to basic military training. Among those who reported drinking, 7.8% of those under 21 and 12.9% of those age 21 and over were classified as “non-heavy episodic” drinkers, 13.2% of those under 21 and 20.1% of those age 21 and over reported “infrequent heavy episodic” drinking, and 23.3% of those under 21 and 33.6% of those age 21 and over were classified as “frequent heavy episodic” drinkers. These numbers are considerably higher than the national average (85.5% of those age 12–20 and 75.6% of those age 21 and over do not report any form of binge drinking in the past 30 days; Substance Abuse and Mental Health Services Administration, 2014), which is consistent with hypotheses regarding high pre-existing alcohol use among those who self-select into the military. However, it is difficult to draw firm conclusions about the prevalence of use given the limited assessment in this study.

Finally, and perhaps most importantly, these studies may misrepresent rates based upon participant recruitment and the consequences of reporting. These studies did not report consent process and confidentiality assurances to recruits (e.g., that data would be utilized by researchers only), and the degree of identifying information collected in Bray et al. (2010) indicates that some participants could be identified based upon this data collection. The possibility of being identified could be of considerable concern to underage recruits; in the Air Force, underage drinking represents a violation of the Uniformed Code of Military Justice and often results in punitive action. As a result, individuals who have or currently engage in underage use may be much less likely to report this for fear of consequences. Therefore, anonymous assessment of alcohol use may elicit more candid responses regarding alcohol use prior to basic training.

This study explored current alcohol use prevalence and problem drinking risk prior to entry into basic military training in a large sample of individuals in Technical Training for the United States Air Force (USAF) through anonymous assessment. Based upon risk factors common to military recruits (young, male), we predicted that alcohol use prior to enlistment would be similar to studies of alcohol use in early stages of training (close to 80%; Taylor et al., 2007), and that even those who had not yet reached legal drinking age would be exhibiting

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