



Predictors of alcohol use prior to deployment in National Guard Soldiers

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ABSTRACT

Frequent and heavy alcohol use is associated with negative mental and physical health consequences. Previous research has suggested that alcohol misuse is associated with demographic, personality, and mental health variables. This study examined the relative contribution of these factors in predicting drinking among National Guard soldiers prior to deployment to a combat zone. Members of a National Guard Brigade Combat Team ($N = 515$) completed questionnaires assessing drinking behaviors in the past year (frequency, quantity, binge, and total drinking), as well as demographic, personality, and mental health variables. As a group, demographic and personality variables significantly predicted all drinking outcomes. Negative emotionality and disconstraint were independent predictors of all drinking variables. Younger age predicted higher quantity of drinking, while being unmarried predicted greater total drinking and higher frequency of binge drinking. Once the influence of personality variables were accounted for, mental health was not associated with any drinking variable. The results of this study illustrate the role of factors associated with problematic drinking in a sample of high-risk individuals.

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1. Introduction

Alcohol use has long been part of military culture and is, in fact, more prevalent than alcohol use in even high-risk civilian populations, such as college students (Ames & Cunradi, 2004/2005). Despite recent concerns about the frequency and volume of alcohol consumption in the military (von Zielbauer, 2007), heavy drinking, defined as five or more drinks per typical drinking occasion, continues to increase among military personnel (Bray & Hourani, 2007). Heavy alcohol use in the general population has been associated with serious and potentially fatal health and social consequences, as well as negative consequences for emotional well-being and mental health (Macdonald, Wells, Giesbrecht, & Cherpitel, 1999; Stewart, 1996; Tseng, 2001). There is no reason to expect that the impact of heavy alcohol consumption would be lessened in military populations and in fact, drinking among military personnel may result in more serious consequences given the culture of drinking in the military and the physical and emotional demands of the military (Ames & Cunradi, 2004/2005).

Heavy alcohol use may occur throughout one's military career, but alcohol use in the context of mobilizing for combat deployment has recently received attention in the literature. Hoge et al. (2004) reported that 17% of Army soldiers used alcohol more than they intended to prior to deployment to Iraq, while 13% of Army

soldiers felt they needed to cut down on their drinking prior to deployment. Individuals who are about to be deployed may drink excessively as a way to cope with the emotions associated with being deployed. This pattern of drinking prior to deployment may become more problematic and potentially impact others in the unit, particularly as it may be continued in theater as a way to cope with the stress of combat (Lande, Marin, & Ruzek, 2003). Most studies of alcohol use in the military focus on drinking behaviors among active duty military personnel, as opposed to National Guard or reserve components of the military. Members of the Reserve or National Guard may be at higher risk for heavy weekly drinking, binge drinking, and negative alcohol-related consequences than active duty members of the military, possibly because members of the Reserve or National Guard must transition between military and civilian settings and may not feel adequately prepared for deployment stresses (Jacobson et al., 2008). In an effort to better understand drinking that occurs in a military context, researchers have used factors that have been found to contribute to drinking in civilian populations. Demographic factors, such as having lower levels of education and being younger, White, male, and unmarried have all been found to be related to greater alcohol consumption (Ames & Cunradi, 2004/2005; Bray et al., 2003; Bray & Hourani, 2007; Jacobson et al., 2008; Tseng, 2001).

Other factors related to drinking behaviors in civilian populations emerge from the broad and interrelated categories of personality and mental health (e.g., Adams, Boscarino, & Galea, 2006; Krueger & Markon, 2006; Marsh & Dale, 2005). Krueger,

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McGue, and Iacono (2001) described two higher-order personality factors, labeled internalizing and externalizing, associated with different patterns of alcohol consumption. In general, individuals who tend toward internalizing spectrum disorders are characterized by high negative emotionality (neuroticism), while individuals who tend more toward the externalizing spectrum exhibit high levels of negative emotionality combined with high levels of disinhibition, or the tendency toward disinhibition (Krueger & Markon, 2006; Krueger, Markon, Patrick, Benning, & Kramer, 2007). High scores on measures of disinhibition and negative emotionality are associated with substance-related disorders (Arbisi, Polusny, Erbes, Thuras, & Kehle, 2007; Bradizza, Stasiewicz, & Paas, 2006; Krueger, 1999; Miller, Vogt, Mozley, Kaloupek, & Keane, 2006). Taken together, findings across a variety of settings and conditions have pointed to a strong relationship between substance use and personality, and it is likely that individuals with certain personality types, particularly those with high levels of negative emotionality and low levels of constraint (externalizing individuals), are more likely to engage in heavy alcohol use.

The presence of a mental health condition appears to be associated with alcohol misuse. According to the Substance Abuse and Mental Health Services Administration (2005), serious psychological distress is associated with binge (defined as five or more drinks on at least one occasion in the past 30 days) and heavy drinking. In particular, there appears to be high comorbidity between depression and alcohol use (Adams et al., 2006; Compton, Conway, Stinson, & Grant, 2006).

Heavy use of alcohol also appears to be associated with posttraumatic stress disorder (PTSD). This condition is particularly relevant to individuals in the military, who are frequently exposed to traumatic combat situations. A recent study found that 43.9% of a sample of members of the British Armed Soldiers who met criteria for PTSD also screened positive for severe alcohol problems (Rona et al., 2009). It is well known that PTSD and substance use disorders are highly comorbid. The mechanism of association between PTSD and alcohol use is not entirely understood, but recent findings point to a causal role for PTSD in the development of heavy alcohol consumption, where an individual first develops a distress syndrome such as PTSD after being exposed to a traumatic event, then turns to alcohol as a way to self-medicate the emotional suffering (Marsh & Dale, 2005; Ruzek, 2003). However, the relationship between alcohol use and PTSD may be bi-directional; heavy alcohol use may lead to emotional dysfunction as well, perhaps by increasing the likelihood that one will develop PTSD following a traumatic event or experience more severe symptoms of PTSD (e.g., Stewart, 1996). The vulnerability to PTSD that may be conferred by heavy alcohol use is likely to be particularly important for individuals who engage in heavy drinking immediately prior to deploying to a combat zone, as it may increase the likelihood that these individuals will later be diagnosed with PTSD or other mental health issues, such as other anxiety disorders (Kushner, Abrams, & Borchardt, 2000).

More recent work has suggested that personality and mental health symptoms may interact in their relationship to alcohol problems. Wakiza, Watson, and Doebbeling (2007) found PTSD to be more robustly related to underlying personality traits than to the presence of other anxiety disorders. The development of PTSD and psychiatric comorbidity after exposure to traumatic events is likely to be closely related to underlying personality traits mustered to cope with the emotional reaction to the event. For example, when individuals with diagnoses of PTSD were classified into groups based on internalizing and externalizing personality traits, individuals with externalizing PTSD were more likely to exhibit high negative emotionality and low levels of constraint. Further, the externalizing individuals were more likely than those with internalizing PTSD to have comorbid alcohol-related disorders (Miller, 2003; Miller, Kaloupek, Dillon, & Keane, 2004).

However, individuals with both internalizing and externalizing subtypes of PTSD exhibited relatively high levels of substance abuse compared with individuals who did not carry a PTSD diagnosis. These studies provide evidence of the importance of integrating information on multiple risk factors for substance use, with special attention to enduring temperamental factors that may set the stage for the development of comorbid psychiatric conditions.

Although alcohol misuse poses a problem for military personnel who are about to be deployed, no study has yet examined the relative contribution of a broad range of factors that may be involved in heavy drinking during the period of mobilization prior to combat deployment in a sample of National Guard soldiers. The goal of the current study is to examine known predisposing factors that may be involved in misuse of alcohol prior to deployment, including demographic factors, personality variables, and prior mental health as they relate to drinking behaviors. We hypothesize that higher alcohol use in the military will be associated with (a) demographic variables, including younger age, male gender, Caucasian status, lower levels of education, and unmarried status; (b) personality variables, including higher levels of negative emotionality and disinhibition; and (c) pre-deployment mental health, including higher levels of PTSD and depression. Most research on drinking in the military focuses generally on drinking among active duty components of the military rather than identifying factors specific to Army National Guard soldiers. The research that has focused on differences between active duty and Reserve or Guard units has suggested that Reserve and National Guard personnel are more likely to experience negative alcohol-related consequences than are active duty personnel (Jacobson et al., 2008). The goal of the current study was therefore to provide a closer examination of the relative contributions of known predisposing factors in a high-risk sample of Army National Guard soldiers.

2. Method

2.1. Participants and procedure

Participants in the study were taken from 522 National Guard soldiers from a brigade combat team mobilized for deployment to Iraq who consented to participate and submitted anonymous responses to a paper-and-pencil pre-deployment survey. Of those 522 soldiers, 515 provided data on alcohol use and were included in analyses. The cohort of soldiers was recruited via flyers and announcements in their unit and surveyed in small groups approximately one month prior to deployment, while they were undergoing intense training and preparation for deployment to Operation Iraqi Freedom (OIF). Participants had learned that they were to be deployed approximately 12 months prior to mobilization. The majority of the 515 participants (478 participants, or 92.8%) were White. Because other ethnocultural groups were not well-represented in this sample, ethnocultural group in the present study was coded as either White or Non-White. The sample ranged in age from 18 years to 57 years old with the majority of participants between the ages of 18–29 (309 participants, or 60.0%). The median age of the participants in the sample was 26 years. The majority of participants were male (455 participants, or 88.3%). A small number of participants had been previously deployed (123, or 23.9% of participants, 5.6% of whom had been previously deployed to OIF) and 280 participants, or 54.4%, were not currently married. The average number of years of education in this sample was 14.2 years. Our sample was considered to be representative of the larger unit from which it was drawn, in which the majority was also White (93.6%), male (90.9%), and enlisted rank (89.5%). All procedures were approved by relevant Institutional Research Boards and the relevant National Guard command.

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