



## Smoking and drinking behaviors of military spouses: Findings from the Millennium Cohort Family Study



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### HIGHLIGHTS

- This paper examines risk factors for current smoking, risky drinking, and problem drinking among spouses of U.S. Service members, while accounting for spouse demographics, family size and socio-economic status, as well as military information regarding the Service member
- 17.2% of spouses reported current cigarette smoking, 36.3% reported risky drinking, and 7.3% reported problem drinking
- Current deployment of the Service member was not associated with a higher odds of smoking or drinking among spouses
- Spouses of Service members who communicated about their deployment experiences were half as likely to smoke than spouses who did not communicate
- Spouses bothered by hearing about deployment experiences, and spouses reporting feeling very stressed by a combat-related deployment or duty assignment had consistently higher odds of both risky and problem

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### ABSTRACT

**Introduction:** The associations between stressful military experiences and tobacco use and alcohol misuse among Service members are well documented. However, little is known about whether stressful military experiences are associated with tobacco use and alcohol misuse among military spouses. **Methods:** Using 9872 Service member–spouse dyads enrolled in the Millennium Cohort Family Study, we employed logistic regression to estimate the odds of self-reported cigarette smoking, risky drinking, and problem drinking among spouses by Service member deployment status, communication regarding deployment, and stress associated with military-related experiences, while adjusting for demographic, mental health, military experiences, and Service member military characteristics. **Results:** Current cigarette smoking, risky drinking, and problem drinking were reported by 17.2%, 36.3%, and 7.3% of military spouses, respectively. Current deployment was not found to be associated with spousal smoking or drinking behaviors. Communication about deployment experiences with spouses was associated with lower odds of smoking, but not with risky or problem drinking. Spouses bothered by communicated deployment experiences and those who reported feeling very stressed by a combat-related deployment or duty assignment had consistently higher odds of both risky and problem drinking. **Conclusions:** Our findings suggest that contextual characteristics about the deployment experience, as well as the perceived stress of those experiences, may be more impactful than the simple fact of Service member deployment itself. These results

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suggest that considering the impact of deployment experiences on military spouses reveals important dimensions of military community adaptation and risk.

## 1. Introduction

The associations between deployment and tobacco use and alcohol misuse among Service members are well documented (Brady & Sonne, 1999; Hoge et al., 2004; McFarlane, 1998; Shipherd, Stafford, & Tanner, 2005; Sillaber & Henniger, 2004; Smith et al., 2008; Wells et al., 2010), however, little is known about whether Service member deployment is associated with tobacco use and alcohol misuse among military spouses. U.S. military service and deployments commonly result in separation from family, irregular working hours, strenuous training, potential exposure to chemical or biological agents, and extreme violence and death. All of these experiences may contribute to increased symptom reporting or psychological distress of Service members during and after deployment (Ryan et al., 2007). Military spouses may experience higher levels of stress compared with their civilian counterparts due to the many stressors that can vary greatly through the different phases of deployment: predeployment preparation, separation during deployment, and reintegration of the Service member upon their return home (de Burgh, White, Fear, & Iversen, 2011; Dimiceli, Steinhart, & Smith, 2010; Marnocha, 2012). Furthermore, tobacco use and alcohol misuse of spouses may also influence Service members' long-term military performance and readiness (Homish & Leonard, 2005; Robbins et al., 2000). The Millennium Cohort Family Study was designed to assess the impact of military life on the health and well-being of the entire military family, including the Service member, spouse, and children (Crum-Cianflone, Fairbank, Marmar, & Schlenger, 2014). Moreover, the Family Study includes U.S. military opposite-sex married couples, and it is the only ongoing Department of Defense (DoD)-wide longitudinal study of the well-being of military families, as well as the largest and most comprehensive study of military families to date. Using data from Service member-spouse dyads enrolled in the Millennium Cohort Family Study, we examined whether deployment-related stressors and experiences were associated with smoking and alcohol misuse among military spouses.

## 2. Methods

### 2.1. Study population

The study population was drawn from the 9872 Millennium Cohort Family Study spouses married to Millennium Cohort Study Service members enrolled between 2011 and 2013. Invited Millennium Cohort Study Service members had 2–5 years of military service and were from all branches and components of the military as of October 2010. The cohort was oversampled for married and female Service members to ensure adequate power in these subgroups. After married Service members completed their Millennium Cohort questionnaire, their spouses were invited to participate in the Family Cohort Study. Participants enrolled in the Family Study completed a comprehensive questionnaire detailing health, lifestyle, and behavioral information as well as questions regarding military life. A more detailed description of this study's methodology can be found elsewhere (Crum-Cianflone et al., 2014).

### 2.2. Outcomes

Current smoking was defined as having reported smoking at least 100 cigarettes in one's lifetime and smoking cigarettes in the past year. A dichotomous smoking status was created where current smokers were

compared with nonsmokers who included never and former smokers. Alcohol misuse was examined through two outcomes: risky drinking and problem drinking. Risky drinking was defined according to national recommendations as  $\geq 5$  drinks per day on at least one occasion in the past year or  $\geq 14$  drinks in a typical week for men, and drinking  $\geq 4$  drinks per day on at least one occasion in the past year or  $\geq 7$  drinks in a typical week for women (Dawson, Grant, & Li, 2005; Smith, Schmidt, Allensworth-Davies, & Saitz, 2009; U.S. Department of Health & Human Services, 2003, 2005). Using the Patient Health Questionnaire (PHQ) alcohol screening tool, problem drinking was defined as a positive endorsement of any alcohol-related problem happening on more than one occasion over the past 12 months (Kroenke, Spitzer, & Williams, 2001; Spitzer, Kroenke, & Williams, 1999; Williams et al., 2015). The PHQ included the following items: (1) drank alcohol even though a doctor suggested stopping because of a problem with your health; (2) drank alcohol, were high from alcohol, or hung over while working, going to school, or taking care of children or other responsibilities; (3) missed or were late for work, school, or other activities because of drinking or being hung over; (4) had a problem getting along with people while drinking; or (5) drove a car after having several drinks or after drinking too much.

### 2.3. Primary exposures

We investigated three main characteristics of the deployment experience that could be associated with increased spousal stress and subsequent tobacco use and alcohol misuse: (1) Service member deployment history; (2) couple communication about deployment experiences; and (3) stress related to past-year combat deployments and Service member injuries.

Objective data regarding Service member deployment history were obtained from the Defense Manpower Data Center (DMDC) Contingency Tracking System (CTS) electronic personnel files. Using the CTS data, we identified all Service members deployed at the time their spouse completed the Family Study survey. We further categorized those Service members with any prior deployments and computed the time since most recent deployment as the difference between the spouse's survey completion date and the Service member's most recent deployment date.

Couple communication about the Service member's most recent deployment was assessed among spouses whose Service member ever deployed. Specifically, this exposure was evaluated by the Family Study survey question, "How much has your spouse shared his/her deployment experiences with you?" Response options included "none," "a little," "somewhat," or "a lot." Among participants who indicated at least some level of communication, associated spousal stress was assessed by the question, "To what degree were/are you bothered by the deployment experiences your spouse shared with you?" Response options included "not at all," "a little bit," "moderately," "quite a bit," or "extremely."

Additionally, spouses were asked to report if they had experienced the following events during the past year: (1) Service member combat-related deployment or duty assignment, (2) Service member combat-related injury, and (3) providing care for an ill, injured, or disabled Service member. We first dichotomously assessed each experience. Then among participants who responded affirmatively to the experience, we assessed the perceived stress of each experience on a 4-level scale ranging from "not at all stressful" to "very stressful."

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