

Where, When, and How Alcohol Use Occurs During Air Force Technical Training

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Structured Summary

Introduction. Alcohol use is prevalent among military personnel, with many engaging in binge drinking behaviors. Military trainees are unique in that they experience an enforced alcohol ban for eight weeks while in Basic Military Training (BMT). However, they are also typically young adults, who consume alcohol at higher rates than any other age group. The current study aimed to describe alcohol consumption among trainees, determine when, where, and with whom Airmen drank for the first time during Technical Training, and if these patterns were significantly different based on descriptive norms (i.e., beliefs about how many other individuals engage in a certain behavior) related to alcohol use given that most military members consume alcohol. Lastly, we aimed to determine if alcohol consumption or potential alcohol use disorders (AUDs) were significantly different based on descriptive norms.

Materials and Methods. Airmen ($N = 599$) were recruited at Joint Base San Antonio – Fort Sam Houston during their last week of Technical Training to complete a survey. Study procedures were approved by the 59th Medical Wing Institutional Review Board. Participants were asked about their beliefs related to how many other Airmen drink alcohol (i.e., less than 50%, 50% or greater), their own experiences with alcohol (e.g., how much they drink compared to consumption before military service, blackouts after drinking during Technical Training), and when, where, and with whom they consumed alcohol for the first time after beginning military training.

Results. Over half of Airmen reported not engaging in drinking behaviors during Technical Training. Among those who reported drinking one or more drinks during Technical Training, most reported drinking the same amount or less than they did prior to BMT. Majority of Airmen reported that they had “maybe” experienced blackouts from drinking since Technical Training.

Most Airmen drank for the first time with another someone who was not an Airman, at a restaurant, home, or other place off base, and while they were on leave. Results indicated no significant differences between groups related to beliefs about how many Airmen drink during Technical Training and where, when, and with whom Airmen drank for the first time since joining the Air Force. There were also no differences in AUDIT scores or drinks per week between these normative belief groups.

Conclusions. Almost half of Airmen resume drinking after alcohol restrictions are lifted during Technical Training, but maintain low numbers of drinks consumed per week and low risk for AUDs, which may indicate that this is an opportune time for intervention to prevent alcohol consumption from escalating over time. Airmen reported drinking for the first time with another Airman off base during leave. Focusing on how Airmen navigate alcohol-related decision-making while their responsibilities are reduced, or how the influence of other Airmen influences their decisions to engage in risky drinking, may help to prevent alcohol use rates from increasing post-enforced ban.

Introduction

Alcohol use is prevalent among military personnel, with 30 percent of personnel engaging in binge drinking behaviors (i.e., consuming five or more drinks on one occasion for men, or four or more drinks for women at least once in the past month; Meadows et al., 2018). The military employs almost 3 million individuals (Defense Manpower Data Center [DMDC], 2019), and many service members continue their alcohol use in their civilian lives after separating from the military, as evidenced by the increased prevalence of alcohol use and heavy drinking among veterans compared to the non-veteran population (Teeters et al., 2017). Given that alcohol is the third leading cause of preventable death (Mokdad et al., 2004), and the increased prevalence of use among military members, it is important to understand patterns of use early in military service.

Military members are unique in that they experience an enforced alcohol ban when they attend Basic Military Training (BMT) for eight weeks. Trainees are comprised of young adults, with almost half being under the legal drinking age of 21 (Klesges et al., 2006; Little et al., 2016), which is a particularly relevant concern given that young adults report higher rates of heavy episodic or “binge” drinking than any other age group (Schulenberg et al., 2020). One potential influence on military personnel’s initiation/reinitiation of alcohol following the period of enforced abstinence are descriptive norms, or beliefs about how many other individuals engage in a certain behavior (Cialdini & Kallgren, 1991). Descriptive norms about alcohol use have been associated with increased alcohol use among young adults (Larimer et al., 2020; Neighbors et al., 2008; Ward & Guo, 2020), and young adults have been shown to inaccurately overestimate the number of people similar to them who drink (Borsari & Carey, 2003; Larimer et al., 2020). Given that most military personnel consume at least some alcohol (Mattiko et al.,

2011) and many engage in binge drinking (Meadows et al., 2018), overestimating alcohol use norms may be a potential target for excessive alcohol prevention interventions among this population.

Additionally, it remains unclear as to when, where and with whom military trainees initiate or reinstate alcohol use. Integrating this knowledge with deeper understanding of alcohol use norms among young military personnel will inform intervention and prevention efforts more specifically tailored to this population, thus reducing alcohol use and problem behaviors associated with alcohol use rates among active duty personnel.

The Current Study

The current study aimed to describe alcohol use among U.S. Air Force Airmen (called such regardless of sex or gender identity) in Technical Training after the enforced ban on alcohol consumption ended. In addition, we sought to determine when, where, and with whom Airmen drank for the first time during Technical Training, and if these patterns were significantly different based on descriptive norms related to alcohol use. Lastly, we aimed to determine if alcohol consumption or potential alcohol use disorders (AUDs) were significantly different based on descriptive norms. It was hypothesized that Airmen who believed that more Airmen consume alcohol during Technical Training would drink significantly more alcoholic drinks per week and would have higher scores on an AUD screener than Airmen who believed that fewer Airmen drink during Technical Training. Given the novelty of the other questions being asked, those analyses remained exploratory.

Methods

Participants and Procedures

Airmen ($N = 599$) were recruited at Joint Base San Antonio – Fort Sam Houston. Airmen were approached during their last week of Technical Training in groups of about 50 to complete a survey and provided passive consent to participate. Passive consent was used so that there would be no risk of a breach of confidentiality given that Airmen superiors could request participant responses at any time. Reports of alcohol use could result in severe sanctions by the military, particularly among individuals under the age of 21 years. Researchers also did not collect identifiable information or demographics, such as gender or race, so that participant responses could not be linked to any individual person. Study procedures were approved by the 59th Medical Wing Institutional Review Board.

Measures

Descriptive Norms. Airmen answered a single item about their expectations of Airmen drinking during Technical Training. Participants were asked “In your opinion, what percentage of Airmen in Technical Training in the 59th do you think drink alcohol?” Answer response options included “0-25%,” “25-50%,” “50-75%,” or “75-100%.” Responses were dichotomized to represent “0-50%” or “50-100%.” The ‘59th’ represented the Airmen’s training group, which provides medical training.

Alcohol Use. Alcohol consumption was measured using the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985), which asked participants to report the number of drinks they have each day during a typical week. The number of drinks reported are then summed for a total score. Participants were also asked about their current alcohol consumption compared to their consumption prior to military service using the question “How does your drinking of alcohol in Technical Training compare to your drinking prior to BMT?” Answer options included “I drink less,” “I drink the same,” and “I drink more.”

Additionally, the presence of an AUD and severity of alcohol use was measured using the Alcohol Use Disorders Identification Test (AUDIT). The AUDIT is a standardized measure that can help to identify alcohol dependence or potentially unhealthy use of alcohol (Saunders et al., 1993).

Alcohol Engagement/Reengagement. Airmen were also asked about where they were, who they were with, and when they consumed alcohol for the first time since joining the Air Force.

Location was determined by asking “Since joining the Air Force, where were you when you drank alcohol for the first time?” Answer responses included “in the dorms,” “at a restaurant,” “at a bar,” “on base (e.g., bowling alley, club, bar),” or “other,” with a chance to specify where they drank using a free-response item. Responses were dichotomized to represent “on base” or “off-base” due to low sample sizes in some cells.

To determine who Airmen were with when drinking for the first time, participants were asked “Who were you with when you drank alcohol for the first time?” Answer options included “friends from civilian life,” “other Airmen,” “roommate,” or “family.” Responses were dichotomized to represent “Airmen” (comprised of other Airmen and roommates) or “non-Airmen” (comprised of friends from civilian life and family). due to low sample sizes in some cells.

To assess when Airmen drank alcohol for the first time again, participants were asked, “Since joining the Air Force, when did you drink alcohol for the first time,” with answer options of “during BMT,” “on leave,” “during ITP” (initial training phase), and “during ATP” (advanced training phase). It is important to note that Airmen are not permitted to drink during ITP, but are given privileges during ATP, and thus can consume alcohol. Answer options for this question

were dichotomized, with “during ITP,” “during ATP,” and “during BMT” considered to be “not on leave” and “on leave” remained its own category due to low sample sizes in some cells.

Data Analysis

Analyses were conducted using SAS version 9.4 to assess differences in when, where, and with whom Airmen engaged in alcohol consumption between Airmen who endorsed different beliefs about the number of Airmen who consume alcohol while in Technical Training. Specifically, we assessed if consumption behaviors were different between individuals who believed that 50% or fewer Airmen in Technical Training drank and individuals who believed that more than 50% of Airmen in Technical Training drank using Fisher’s exact test. We also used Wilcoxon rank sum test to determine if there were differences in the number of drinks consumed or AUDIT scores behaviors were different between individuals who believed that 50% or fewer Airmen in Technical Training drank and individuals who believed that more than 50% of Airmen in Technical Training drank. Descriptive statistics were also calculated.

Results

Descriptive Statistics About Airmen Alcohol Injunctive Norms and Consumption Behavior

Table 1 displays descriptive statistics. Airmen were almost evenly split between the two descriptive norm groups and reported a median of four drinks consumed per week. The median AUDIT score was three, indicating low-risk consumption. Most Airmen reported drinking less or the same amount of alcohol compared to their consumption prior to BMT, although 87.83% reported “maybe” experiencing blackouts while drinking since Technical Training. Most Airmen drank for the first time with another someone who was not an Airman (75.42%), at a restaurant, home, or other place off base (59.58%), and while they were on leave (88.38%).

Differences by Injunctive Norm Beliefs

Results indicated no significant differences in where, when, and with whom Airmen drank for the first time since joining the Air Force among individuals who endorsed believing that more or less than 50% of Airmen drank ($p > .05$; see Table 1). Additionally, there were no differences in AUDIT scores or drinks per week ($p > .05$; see Table 1).

Discussion

The current study assessed initiation/reinitiation of alcohol consumption among Airmen, and when, where and with whom alcohol was consumed after restrictions were lifted during Technical Training. Surprisingly, over half of Airmen reported not engaging in drinking behaviors during Technical Training. Among those who reported drinking one or more drinks during Technical Training, most reported drinking the same amount or less than they did prior to BMT. This is surprising given that about 30% of military personnel engage in binge drinking behaviors. It may be the case that an enforced tobacco ban reduces alcohol consumption temporarily, or the rigor of Technical Training precludes engaging in drinking until training is completed. This may have important implications for prevention and intervention efforts. Immediately after BMT, as Airmen enter Technical Training, may be an opportune time to intervene and capitalize on alcohol reductions in order to prolong the effects of the ban. A previous study examining brief alcohol interventions among Technical Trainees found that just a one-hour program was effective at reducing alcohol-related incidents (Klesges et al., 2013). However, having a one hour booster session at the end of Technical Training (Derefinko et al., 2017) did not increase the effectiveness of the program (Little et al., under review). However, it remains unclear as to how long-term alcohol after leaving Technical Training is affected. Longitudinal research is needed to determine how alcohol use changes over time after Technical Training in order to gauge if and when alcohol consumption increases occur.

Interestingly, almost 88% of Airmen reported that they had “maybe” experienced blackouts from drinking since Technical Training. One possible explanation is that participants were not sure if they had experienced a blackout or not, or were not sure of what a blackout was. It may also be the case that Airmen were afraid to report “yes” in this instance because military personnel do not enjoy the same confidentiality as civilians during research participation. Reporting dangerous or illegal behaviors (e.g., underage drinking) can result in sanctions against the Airman, and their superiors can request their responses from the researchers at any time. Although the current study took steps to preserve the anonymity of the participants so that responses could not be linked to any specific individual, Airman may have still held this concern.

If some of the “maybe” responses related to blackout experiences were actually a “yes,” particularly among individuals who endorsed believing that most Airmen drink during Technical Training given that descriptive alcohol norms are associated with blackout episodes (Ward & Guo, 2020), then it becomes somewhat more surprising that the AUDIT and DDQ scores were so low. More research is needed to determine if Airmen are underreporting their alcohol consumption, and it becomes imperative that research is conducted to find alternative ways to measure alcohol consumption without jeopardizing Airmen’s anonymity or putting them at risk of further sanctions. Airmen do not enjoy the same degree of confidentiality that civilians do when participating in research, and superiors are able to request participant responses. Finding ways to allow for anonymous participation so that answers cannot be directly linked to individual Airmen, such as using coding systems to follow Airmen over time without using personal identifiers (Little et al., under review), while maintaining their confidence to report honestly is an important step. Additionally, providing a definition of a blackout when asking participants to self-report blackout experiences may be an important consideration.

Another finding from the current study is that most Airmen, when they consume alcohol for the first time after the enforced ban, are usually with another Airman. This is particularly interesting given that most Airmen also report drinking for the first time when they are on leave, so it may be the case that they stay local while on leave and spend time with other Airmen. Peer influences on alcohol use in this population needs to be examined further given that initial drinking typically occurs among other Airmen, especially since most military personnel drink (Mattiko et al., 2011). Additionally, most Airmen consume alcohol for the first time at home, in a restaurant, or somewhere else off-base. Taken together, it seems that alcohol consumption and decision-making off-base may need to be the primary focus of future intervention work.

Lastly, Airmen were fairly evenly split in their beliefs about how many Airmen drink in Technical Training. A little less than half of Airmen believed that 50% or fewer Airmen drank during Technical Training, and a little more than half believed that more than 50% of Airmen drank during Technical Training. However, none of the alcohol use behaviors tested were significantly different between normative belief groups. It may mean that these descriptive norms do not contribute to alcohol use behaviors among Airmen the same way they do in civilian populations. It may also be the case that there is a delayed effect given the rigors of training, or the Airmen were given the survey too soon after the enforced ban ended, meaning that they simply had not had time to establish patterns of dangerous drinking. Future research would benefit from later follow-up to assess if drinking patterns changed over time.

DDQ and AUDIT scores were also not significantly different between norm belief groups, and were lower than expected given how common alcohol use is among military personnel (Mattiko et al., 2011) and many engage in binge drinking behaviors (Meadows et al., 2018). If Airmen perceive that few others are engaging in the behavior, they may act in

accordance with the perceived norm and limit their own consumption. However, this does not explain the lower scores for those who endorsed beliefs that most Airmen consume alcohol, and there were no significant differences in when, where, and with whom Airmen drank for the first time between the two normative beliefs groups. More research is needed to determine if there are other norms or expectations in place that may be associated with when, where, and with whom Airmen drink. This is a possibility, given that the current study only measured a single normative belief item. It is possible that this item did not fully encompass the norms that are leading Airmen to drink. Additionally, future research should incorporate injunctive norms to see whether these beliefs are associated with risky alcohol use behaviors. Additionally, our analyses may have been underpowered to detect effects as some cells were fairly small. Research with larger sample sizes is also needed to replicate the findings here. Finally, due to limitations in privacy protections for military personnel, we were unable to measure demographic characteristics which could lead to a deeper understanding of the role of norms across subpopulations of Airmen entering the Air Force.

Conclusions

Almost half of Airmen resume drinking after alcohol restrictions are lifted during Technical Training, but maintain low numbers of drinks consumed per week and low risk for AUDs. While this may be the product of underreporting given the possible sanctions for reporting alcohol consumption, it may also indicate that this is an opportune time for intervention to prevent alcohol consumption from escalating over time. Airmen reported drinking for the first time with another Airman off base during leave. Focusing on how Airmen navigate alcohol-related decision-making while their responsibilities are reduced, or how the influence of other

Airmen influences their decisions to engage in risky drinking, may help to prevent alcohol use rates from increasing post-enforced ban.

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Table 1. *Descriptive Statistics and Association Between Drinking Behaviors Among Airmen Who Reported Drinking During Technical Training*

		In your opinion, what percentage of Airmen in TT in the 59th do you think drink alcohol?		<i>p</i>
		0-50% <i>N</i> (%)	51-100% <i>N</i> (%)	Total <i>N</i>
How does your drinking of alcohol in Technical Training compare to your drinking prior to BMT?				0.15
	Less	41 (47.13)	61 (39.10)	102 (41.97%)
	Same	36 (41.38)	62 (39.74)	98 (40.33%)
	More	10 (11.49)	33 (21.15)	43 (17.70%)
Since joining the Air Force, when did you drink alcohol for the first time?				1.00
	Not on leave	10 (11.63)	18 (11.61)	28 (11.62%)
	On leave	76 (88.37)	137 (88.39)	213 (88.38%)
Since joining the Air Force, where were you when you drank alcohol for the first time?				0.25
	Restaurant, home, other off base	54 (62.79)	89 (57.79)	143 (59.58%)
	Club or a bar	27 (31.40)	45 (29.22)	72 (30.00%)
	On base	5 (5.81)	20 (12.99)	25 (10.42%)
Who were you with when you drank alcohol for the first time?				0.76
	With an Airmen	63 (74.12)	118 (76.13)	181 (75.42%)
	Not with an Airmen	22 (25.88)	37 (23.87)	59 (24.58%)
In Technical Training, have you ever had someone else purchase alcohol for you because you were legally unable to do so?				0.15
	Yes	2 (2.33)	11 (7.01)	13 (5.35%)
	No	84 (97.67)	146 (92.99)	230 (94.65%)
Since Technical Training, have you experienced blackouts?				0.53
	Yes	2 (2.41)	9 (5.92)	11 (4.68)
	Maybe	75 (90.36)	132 (86.84)	207 (88.09)
	No	6 (7.23)	11 (7.24)	17 (7.23)
		Median (Q1, Q3)	Median (Q1, Q3)	<i>p</i>
AUDIT		3 (1, 4)	3 (2, 5)	0.09
				3 (2, 5)

Drinks per week	4 (1, 7)	4 (2, 8)	0.39	4 (2, 8)
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Note. A p -value could not be calculated for the differences in blackout reports between norm groups due to small cell sizes, thus resulting in insufficient power.