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Young Adult Veteran Perceptions of Peers' Drinking Behavior and Attitudes

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Abstract

Social norms-based interventions have shown promise in reducing drinking behavior and resulting consequences in young adults. Although most research has focused on young civilians (i.e., college students), some studies have investigated social norms-based interventions with active duty military and veteran samples. Yet, research has not yet determined how to maximize the effectiveness of social norms-based intervention in this heavy drinking population. As an initial step toward this goal, the current study utilized a community sample of 1,023 young adult veterans to examine: (1) whether veteran perceptions of the drinking behavior of their veteran peers differ from their perceptions of civilian drinking behavior, (2) whether perceptions of specific veteran groups differ from actual drinking behavior of veterans within those groups, (3) what levels of specificity in reference groups (same-gender civilians, same-branch veterans, same-gender veterans, or same-branch-and-same-gender veterans) are most strongly associated with veterans' own drinking, and (4) whether perceptions about others' attitudes toward drinking also contribute independently of perceived behavioral norms to veteran drinking. Findings indicated that participants perceived that other veterans drank more than civilians and that veteran groups drank more than veterans in the sample actually drank. Veteran-specific perceived behavioral norms were similar in their associations with drinking outcomes, whereas same-gender civilian perceived behavioral norms exhibited little or no associations with drinking. Veteran-specific perceived attitudinal norms exhibited little or no association on drinking behavior after controlling for perceived behavioral norms. These findings can be used to inform the development of social norms interventions for young adult veterans.

Keywords

veteran; young adult; social norms; perceptions; alcohol

Young adult veterans from Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) are at increased risk for heavy drinking and resulting consequences. Approximately 10% of the 456,502 OEF/OIF veterans seeking first time care from the Veterans Affairs Healthcare System (VHA) between 2001 and 2010 met criteria for an alcohol use disorder (AUD) (Seal et al., 2011). Drinking alcohol may be problematic even for veterans who do

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not meet criteria for an AUD, with studies document that between 22% and 40% of these veterans engage in high-risk drinking behavior (Calhoun, Elter, Jones, Kudler, & Straits-Troster, 2008; Erbes, Westermeyer, Engdahl, & Johnsen, 2007; Hawkins, Lapham, Kivlahan, & Bradley, 2010; McDevitt-Murphy et al., 2010). Moreover, rates of heavy drinking and AUDs are higher among young adult military samples than among young adult civilian samples (Bray & Hourani, 2007; Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Within the veteran population, younger veterans of the Iraq and Afghanistan conflicts are at greater risk for heavy drinking than older veterans from these conflicts (Seal et al., 2011). Yet, very few young heavy drinking veterans seek care for alcohol-related problems (Bray et al., 2006; Department of Veterans Affairs, 2011; Erbes et al., 2007), making it important to develop and utilize efficacious prevention approaches to reach these veterans before drinking escalates to problematic use.

One of the intervention techniques most cited for efficacy in reducing drinking among the young adult population is the use of personalized normative feedback (PNF). PNF is centered on challenging misperceptions of peer behavior and attitudes by contrasting what one perceives the norm of a group to be (e.g., “You believe that 80% of college students on your campus drink every weekend”) with an actual norm of that particular group (e.g., “Most students [78%] on your campus report that they do not drink every weekend”). Theory and research suggest both that young adults overestimate the extent to which their peers engage in risky behavior and that these perceptions influence their own drinking behavior (Berkowitz & Perkins, 1986; Borsari & Carey, 2003). In young adult college students, alcohol consumption is more strongly predicted by perceived norms that by other factors such as expectations regarding the positive effect of alcohol or social reasons for drinking (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). Thus, correcting misperceptions of peer drinking norms through PNF has become one of the prominent strategies in multicomponent interventions to reduce excessive alcohol use among students (Carey, Scott-Sheldon, Carey, & DeMartini, 2007; Cronce & Larimer, 2011; Miller et al., 2013; Walters & Neighbors, 2005; White, 2006), and other groups such as adolescents (O'Leary-Tevyaw & Monti, 2004), non-college young adults (Doumas & Hannah, 2008), and young people in the workforce (Hester, Squires, & Delaney, 2005; Riper et al., 2009; Walters & Woodall, 2003).

Interventions that solely target perceived norms have demonstrated small to large effect sizes on reduced drinking among young adult college students (Lewis et al., 2014; Martens, Smith, Murphy, 2013; Neighbors et al., 2010b). Moreover, research has revealed that the effectiveness of brief multicomponent interventions that include PNF is mediated by changes in perceptions and, by contrast, other components such as changes in self-regulation strategies, increased readiness to change, and increased reasons against using alcohol, do not account for reduced drinking (Carey, Henson, Carey, & Maisto, 2010; Wood, Capone, Laforge, Erickson, & Brand, 2007). In addition, intervention studies solely targeted on changing perceptions of peer behavior have found that changes in perceived norms mediate intervention effects on drinking (LaBrie, Hummer, Huchting, & Neighbors, 2009; LaBrie, Hummer, Neighbors, & Pedersen, 2008; Neighbors et al., 2010a).

Given the foundation of support on PNF intervention with other young adults groups, PNF approaches may be viable for young adult veterans. However, the foundational research to design such an intervention has not yet been done, leaving four key questions: (1) are perceptions of other veterans' drinking associated with one's own drinking?, (2) are accurate norms from the general population adequate to present to veterans in PNF intervention or are more specific reference targets needed (e.g., present norms of other Marines' drinking to Marine participants)?, (3) which veteran reference groups are most strongly associated with drinking and thus would be the best targets in an intervention?, and (4) is it sufficient to present behavioral norms or might the effectiveness of PNF interventions with veterans be improved by modifying attitudinal norms as well?

Perceptions and their Associations with Drinking among Veterans

The literature concerning the extent to which perceived norms regarding peer drinking affect consumption patterns in veterans is not conclusive. While two recent studies found both that active duty service members overestimate other service members' drinking and that these perceptions are associated with greater personal drinking (Neighbors et al., 2014; Williams, Herman-Stahl, Calvin, Pemberton, & Bradshaw, 2009), it is unclear whether these perceived norms persist once service members leave active duty and return to civilian life. That is, once service members are no longer in close proximity to their military peers on a daily basis, their perceived norms of former service members may change. Indeed, separated personnel (i.e., veterans) drink more compared to active duty military as well as those in reserve components (Ramchand et al., 2011). Yet, no research has examined how perceived drinking norms of other veterans are associated with a veterans' own drinking behavior.

Appropriateness of General Population Norms versus Veteran-Specific Norms

General Population Norms

The literature is unclear on whether accurate norms from the general population are adequate to present to veterans in PNF interventions or if more specific reference targets are needed. Multicomponent interventions with veterans that includes PNF have utilized population-based civilian norms during feedback presentation (Brief, Rubin, Enggasser, Roy, & Keane, 2011; McDevitt-Murphy, Williams, Murphy, Monahan, & Bracken-Minor, 2014). Nonetheless, it is unclear whether PNF reference to civilian norms results in a maximally potent intervention. To address this question it is necessary to examine (1) whether perceptions of civilian drinking differ from perceptions of veteran drinking and (2) whether perceptions of the drinking behavior of veteran peers are superior to those of civilian counterparts in predicting drinking behavior. If veterans perceive their civilian counterparts to drink at levels comparable to their veteran peers, then presentation of either reference group norm in PNF may be appropriate. However, it may turn out to be preferable to use military peers as the reference group when attempting to modify the drinking behavior of veterans. Only a single study by Neighbors and colleagues (2014), examined whether active duty Army personnel perceived their drinking as different from the general civilian population. This study reported that soldiers believed other soldiers drank at higher

levels than civilians and that perceptions of other soldiers' drinking, rather than perceptions of civilian drinking, were uniquely associated with their own drinking. This suggests active duty service members perceive themselves to be different from civilians. More research is needed to determine whether veterans similarly perceive themselves as drinking more heavily than their non-veteran peers and if civilian norms are influential on veteran drinking behavior.

Veteran-Specific Norms

No work to date has looked at level of specificity of the normative referent and how this specificity associates with drinking behavior in the military population. Various theories (Abrams & Hogg, 1999; Festinger, 1954) and research (Borsari & Carey, 2003; Lewis & Neighbors, 2006) suggest that misperceptions of more proximal peer groups can exert more influence on drinking behavior than more distal groups. For example, perceived same-gender norms are better predictors of drinking than perceived gender nonspecific norms (Lewis & Neighbors, 2004). By implication, presenting gender-specific normative feedback may be more important for behavior change in PNF interventions (Lewis & Neighbors, 2007).

A related line of research indicates that individuals are more influenced by those within rather than outside of their groups (Wilder, 1990), a finding that has been particularly relevant for heavier drinking groups such as members of fraternities and sororities who, like military populations, perceive they drink more than other groups (Carter & Kahnweiler, 2000; Larimer, Turner, Mallett, & Geisner, 2004). This is important because intervention approaches with military personnel that include PNF discuss normative reference groups of "other military personnel in general" (Pemberton et al., 2011; Williams et al., 2009) and these approaches may be enhanced if more specific normative referents are targeted. In preliminary research with OEF/OIF veterans recruited from the VHA, Martens and colleagues (2015) found reduced blood alcohol levels among veterans receiving a self-guided personalized intervention that included presentation of same-gender rates of alcohol misuse rates from other VA outpatients (norms from Hawkins et al., 2010). However, in other work, a group of nine OEF/OIF veterans reviewing PNF reported that comparison of their own drinking to norms based on age- and gendermatched heavy episodic drinking reports of VHA outpatients was not credible. That is, the data presented were viewed as unrepresentative of other OEF/OIF veterans who had been deployed and seen combat (Lapham et al., 2012). Thus, veterans may discount PNF if norms are presented from groups not closely relevant to them.

In addition, for approaches that present PNF for same branch and/or same gender referents (Simon-Arndt, Hurtado, & Patriarca-Troyk, 2006), it is unclear if this level of specificity is needed or if normative referent information could be based on larger groups, such as "male veterans," "Marine Corps veterans," or if something as specific as "male Marine Corps veterans" is needed. Specificity may be particularly important for veterans as differential drinking patterns exist between branches and genders (Bray et al., 2006; Ramchand et al., 2011; Stahre, Brewer, Fonseca, & Naimi, 2009). Including salient referents may help with believability of the norms presented. For example, a heavier drinking male Marine Corps

veteran could discount normative feedback due to belief that the norms presented are swayed by light drinking groups (e.g., “lighter drinking female Air Force veterans”) and are therefore not relevant for him. Thus, level of specificity of normative referents, such as same-branch (“Marine Corps veterans”), same-gender (e.g., “male veterans”), and same-branch and same-gender (e.g., “male Marine Corps veterans”), needs to be examined to determine which perceptions of these more proximal groups are most strongly associated with the veteran’s own behavior.

Inclusion of Attitudinal Norms in Interventions focused on Behavioral Norms Feedback

The current work on perceived norms in military samples is primarily based on behavioral norms (Martens et al., 2015; McDevitt-Murphy et al., 2014; Neighbors et al., 2014; Simon-Arndt et al., 2006; Williams et al., 2009). Including perceived attitudinal norms, also known as injunctive norms (i.e., perceptions about others’ acceptability of certain behaviors), may be an important mechanism of change not included in current PNF interventions with military and veteran samples. However, very little is known about the added impact of these norms on behavior in such groups. In college samples, perceived attitudinal norms have an established relationship with drinking levels and heavy drinking behavior (Nagoshi, 1999; Perkins & Wechsler, 1996; Wood, Nagoshi, & Dennis, 1992) and appear to be particularly impactful on drinking behavior and resulting consequences among heavier drinking groups. For example, Larimer and colleagues (Larimer et al., 2004) found that group-specific perceived attitudinal norms for heavy drinking students in fraternities and sororities predicted drinking and consequences over one year of follow-up, whereas perceived behavioral norms had a less substantial relationship on drinking at follow-up. Additionally, attitudinal norms have shown an impact on the experience of alcohol-related consequences over and above the association of drinking on problems (LaBrie, Hummer, Neighbors, & Larimer, 2010). In the only known study looking at attitudinal norms in the military, heavier drinkers were more likely to believe others were approving of heavy drinking (Bray et al., 2009). Interventions that do not incorporate attitudinal norms into feedback may be missing an important mediating mechanism of behavior change and it will be important to evaluate this for the young adult veteran group. However, the first step is to determine if perceived attitudinal norms are associated with behavior in a manner comparable to that of perceived behavioral norms.

Objectives

The present study followed four main objectives. First, we sought to determine if a large community sample of young adult U.S. veterans reported differences in their perceptions of the drinking behavior of gender-matched civilians compared to other veterans in varying reference groups (same-branch veterans, same-gender veterans, or same-branch-and-gender veterans). Second, we examined for the three veteran reference groups, how these perceptions of typical drinking behavior differed from the actual drinking reported by members of those groups within the sample. We hypothesized that veteran participants would perceive that all veteran reference groups would drink more than civilians and that veteran participants would overestimate the drinking behavior of their peers as compared to

the actual norms collected in the sample. Third, we sought to determine which reference groups (same-gender civilians, same-branch veterans, same-gender veterans, or same-branch-and-gender veterans) were most strongly associated with veterans' own reported drinking behavior. The findings from this study could be used to provide the best normative information for PNF intervention efforts with veterans. Lastly, to determine if attitudinal norms might also be an important component to include in addition to the behavioral norms typically presented in PNF, we sought to determine if perceived attitudinal norms had a unique effect on drinking behavior after controlling for the effects of perceived behavioral norms. Given that virtually all studies of military samples have relied solely on perceived behavioral norms, this examination would determine whether inclusion of perceived attitudinal norms might increase the impact of interventions aimed at changing drinking behavior in veteran samples.

Method

Participants and Procedures

Participants were part of the first phase of a two-phase clinical trial to test a PNF intervention with young adult veterans (NIH clinical trial NCT02187887). This first phase was designed to assess and collect normative information from a general community sample of veterans to provide norms for presentation during the second phase, the PNF intervention trial. In addition, to inform the PNF intervention, we designed the first phase to determine which reference groups were most appropriate to use within a PNF intervention trial with young veterans. Veteran participants aged 18–34 were recruited from the social media website Facebook, which has been used in other work to reach non-clinical, community samples of young adults and veterans (Bauermeister et al., 2012; Brief et al., 2013; Lord, Brevard, & Budman, 2011; Ramo & Prochaska, 2012). Advertisements targeted toward veterans of the conflicts in Iraq and Afghanistan were shown to young adult Facebook users who indicated interests in veteran-related material (e.g., Iraq and Afghanistan Veterans of American organization, movies/TV shows like *Generation Kill* and *Act of Valor*). Non-veteran Facebook users who saw our ads were able to forward ads to their veteran friend/family members as well. In an effort to collect normative information from a general community sample of veterans and not just heavier drinkers, advertisements did not mention alcohol but referenced the study as a "survey of veteran attitudes." Eligibility criteria for the study were broad and included (1) age between 18 and 34, and (2) veteran separated from the U.S. Air Force, Army, Marines Corps, or Navy. Those still on active duty or affiliated with the military through the reserve or guard components were not eligible to participate.

All procedures were approved by the RAND Institutional Review Board. Participants who clicked on Facebook ads were directed to an online survey page hosted on a secure server. They provided online consent before reaching the survey page, where they completed a 20-minute survey of demographics, drinking behaviors, and drinking attitudes, as well as measures of their perceptions of the drinking and attitudinal norms among various groups. Participants were compensated with a $20 Amazon gift card for filling out the survey. In total, 2,275 Facebook users accessed our survey page through Facebook, of which 779 provided no data, 216 were screened out due to ineligibility (e.g., age over 34, still on active

duty), and 57 declined to give consent. We developed a series of checks informed by other work recruiting samples through the Internet (Kramer et al., 2014) to ensure participants were not misrepresenting themselves as veterans in order to receive an incentive for which they were not eligible. These methods included close examination to identify potentially problematic surveys (e.g., surveys completed too rapidly to be plausibly veridical, surveys that contained internal inconsistencies as well as surveys that appeared indicative of lack of military service such as inaccurate or inconsistent information about branch, rank, and paygrade at discharge). Finally, we allowed only one Facebook login per survey submission).Two hundred individuals who accessed the survey provided inconsistent responses that precluded us from clearly confirming them as young adult veterans. Thus, the final analytic sample consisted of 1,023 veterans. More detailed information about the Facebook recruitment strategy, as well as methods to ensure validity of data, has been described in Pedersen et al., 2015a.

Measures

Participants completed online self-report measures of demographic and military characteristics, alcohol use and perceived norms for alcohol use, attitudes about drinkingrelated behaviors, and perceived norms for attitudes about drinking-related behaviors. The measures were selected based on their widespread use in the literature. In particular, we selected drinking and perception measures that have been utilized in other studies of young adult alcohol perceptions and behavior. Additional items not utilized in this study but included for the larger study are described in our other work (Pedersen et al., 2015a). Items were presented to participants in the order in which they are presented below.

Demographic and military characteristics—Questions assessed age, gender, race/ethnicity, income level, education level, marital status, military branch, military rank and pay grade at discharge, and occupation in the military (military occupational specialty, enlisted classification, or specialty code). Participants also filled out an 11-item combat trauma exposure scale developed in prior work (Schell & Marshall, 2008). Items assessed specific combat experiences while deployed (e.g., seeing dead or seriously injured noncombatants). Participants responded yes/no to each of these experiences and affirmative responses were summed to form a combat severity score.

Alcohol use—Drinking in the past month was assessed using the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985), which is a standard measure used in social norms-focused research (Larimer et al., 2004; Lewis et al., 2010; Neighbors et al., 2010b). Participants indicated how many drinks they consume on each night of a typical week and these values were summed to reflect total drinks per week. A single item question assessed frequency of heavy episode drinking occasions (4 drinks in a row for women; 5 drinks in a row for men) in the past month. The 10-item Alcohol Use Disorder Identification Test (AUDIT; (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) assessed hazardous alcohol use and dependence symptoms (problematic drinking). The AUDIT has demonstrated internal consistencies greater than 0.85 in multiple studies with civilians and veterans (Bradley et al., 1998; Bradley Ka & et al., 2003; Reinert & Allen, 2007). Prior to all drinking questions, standard drinks were defined via pictures and text for participants as a

drink containing ½ oz. of ethyl alcohol (e.g., 12 oz. beer, 5 oz. of wine, one mixed drink containing one 1 oz. shot of alcohol).

Perceived alcohol use—Perceptions about alcohol use (drinks per week) among specific peer groups were assessed with the Drinking Norms Rating Form (DNRF; Baer, Stacy, & Larimer, 1991), which is a modification of the DDQ that asks participants to consider "the drinking of a typical [referent] aged 18 to 34" when filling out the measure. Like the DDQ, this is the standard measure for assessing perceived drinking norms with young adults in norms-based research (Lewis, Neighbors, Oster-Aaland, Kirkeby, & Larimer, 2007; Neighbors, Larimer, & Lewis, 2004; Neighbors et al., 2010b). Perceived alcohol use was rated for the four different reference groups: same-gender civilians, same-branch veterans, same-gender veterans, same-branch-and-gender veterans. For example, a male Marine Corps veteran was asked about his perceptions of young adult civilian males, young adult Marine Corps veterans, young adult male veterans, and young adult male Marine Corps veterans.

Attitudes about drinking—Participants completed a 9-item measure of their attitudes regarding acceptability of their own drinking behavior in various domains adapted from prior work (Lewis et al., 2010) Using a 5-point Likert scale from 1= never acceptable to 5= always acceptable, participants rated how acceptable (or unacceptable) certain behaviors would be for themselves, such as "drinking to get drunk," "drinking alcohol every weekend," and "drinking alone" (see Table 3 for a list of all items). Reliability of the nine items was good, $\alpha = .89$.

Perceived norms for attitudes about drinking—Participants also rated the same 9 attitude items regarding how acceptable "a typical [referent] aged 18 to 34" found each of the behaviors. Perceived attitudes were rated for the four different reference groups: same-gender civilians, same-branch veterans, same-gender veterans, same-gender-and-branch veterans (e.g., male marine veterans). Reliability of the nine items was good for all four referents (all αs = .95). For each reference group, we took the mean of the 9 perceived attitudinal norms for analyses. This is referred to as the mean composite perceived attitudinal norm.

Analytic Plan

As discussed elsewhere (Pedersen et al., 2015a), the demographic characteristics of the sample (e.g., age, gender, marital status, income, education) were similar to the young adult veteran population from the American Community Survey (ACS) and were consistent with information on the population of non-retired discharged military personnel available from the Department of Defense (DoD). However, the current study included more Hispanic/Latino(a)s, fewer Black/African-Americans, more veterans of the Army and Marines, and fewer Air Force and Navy veterans than would be expected in the young adult veteran population. Therefore, the analyses presented in the current study apply post-stratification weights so that the analytic sample more closely resembles the target population on race/ethnicity and branch of service (see Pedersen et al., 2015a for description of weighting procedures).

We ran a series of descriptive analyses to document the mean drinking behavior and attitudes of the sample by specific reference groups. We ran a series of paired samples *t*-tests to examine our first two objectives of determine if veteran participants reported differences in their drinking perceptions of gender-matched civilians compared to other veterans and determining how drinking perceptions of specific veteran subgroups differed from the actual drinking reported by the sample. For our third objective of examining which reference groups were most strongly associated with veterans' own reported drinking behavior, we specified three different outcomes: number of drinks per week over the past 30 days (from the DDQ), past year AUDIT scores, and number of heavy episodic drinking occasions in the past 30 days. As each of these count outcomes was positively skewed and constrained to be greater than zero, we ran a series of negative binomial regression analyses. For each outcome, we ran four separate models corresponding to the four referent groups: (1) same-gender civilians, (2) same-branch veterans, (3) same-gender veterans, and (4) same-branch-and-gender veterans. Age, gender, race/ethnicity, branch, and combat severity were included as covariates, given the established effects of these factors on drinking outcomes in prior work with military samples (Bray et al., 2006; Hoge et al., 2004; Jacobson et al., 2008; Ramchand et al., 2011; Stahre et al., 2009). Lastly, to test our final objective of determining if perceived attitudinal norms uniquely associate with drinking outcomes after controlling for the effects of perceived behavioral norms, we ran the regression models adding the composite perceived attitudinal norms for the appropriate reference group.

Prior to analyses, we specified that data would be capped at 80 drinks per week; which corresponded to approximately 11.4 drinks per day for every day of the week, which we determined was an unlikely, but not impossible, high level of drinking. Thus, we capped average weekly drinks and perceived drinks per week values for all reference groups at 80 and this affected 19 DDQ scores and 30 DNRF scores. We utilized all available data in analyses. Twelve participants did not complete the DDQ for personal drinking and 212 participants did not complete all four of the DNRFs. Those with missing data on the DDQ did not differ on demographics (e.g., gender, race/ethnicity, branch) and those with missing data on any of the four DNRFs did not differ on demographics or personal drinking data from the DDQ. Analyses were run in SPSS version 21.

Results

Sample Description

The sample description is based on the sample weighted on race/ethnicity and branch of service. The mean age of the sample was 28.24 (SD = 3.63) and the majority were men (86.0%). Most participants were White (68.1%), with 10.8% Hispanic/Latino(a), 14.2% Black/African-American, and 6.9% endorsing "other" race/ethnicities. The sample consisted of veterans of the Air Force (14.4%), the Army (41.9%), the Marine Corps (18.9%), and the Navy (24.8%). Nearly all reported combat experience (85.1%) with a mean number of 1.9 deployments. About half of the participants were married (48.7%) and about one-quarter (28.5%) had never been married. About three-quarters (78.3%) had received at least some college or technical school education and more than half (60.1%) reported annual incomes of $25,000 or more. Two-hundred and thirty five participants (23%) reported no drinking

over the past month. The sample as a whole reported drinking a mean of 10.23 (SD = 15.49) drinks per week, a mean AUDIT score of 7.17 (SD = 7.39), and a mean of 3.61 (SD = 5.87) heavy episodic drinking episodes in the past 30 days.

Perceptions of Civilian and Other Veterans' Drinking

Table 1 contains the weighted means and standard deviations of the actual drinks per week reported by the sample, as well as perceived drinks per week by specific reference group (same-gender civilian, same-branch veteran, same-gender veteran, and same-branch-and-gender veteran). Regarding comparisons of veteran-specific normative referents and civilian referents, in nearly all cases for the sample as a whole and within branch and gender, veterans reported perceptions that civilians drank fewer drinks per week than veterans did. For the sample as a whole (combining male and female respondents), participants thought samegender civilians drank an average of 16.15 (SD = 14.26) drinks per week. This was significantly fewer drinks than perceived for any of the veteran reference groups. That is, compared to their perceptions of same-gender civilians, participants believed same-branch veterans drank 23.01 (SD = 17.93) per week, t (890) = 12.74, $p < .001$, same-gender veterans drank 23.46 (SD = 18.43) drinks per week, t (870) = 13.09, $p < .001$, and same-branch-and-gender veterans drank 23.46 (SD = 18.65) drinks per week, t (831) = 11.86, $p < .001$.

Both male and female veterans perceived that veterans within their same-gender group drank significantly more than civilians. Male veterans believed that male civilians drank 16.89 (SD = 14.61) drinks per week, but believed that other male veterans drank 24.76 (SD = 18.96) drinks per week, t (740) = 12.61, $p < .001$. Female veterans believed that female civilians drank 11.89 (SD = 11.16) drinks per week, but believed that other female veterans drank 16.02 (SD = 14.16) drinks per week, t (129) = 3.70, $p < .001$.

Veterans within each of the four branches perceived significantly more drinks per week for their own branch group than for same-gender civilians: Air Force, t (133) = 3.84, Army, t (363) = 8.68, $p < .001$, Marine Corps, t (163) = 6.98, $p < .001$, and Navy veterans, t (228) = 5.20, $p < .001$ (all $p < .001$; see Table 1 for means and standard deviations).

Lastly, in nearly all cases, veterans within specific same-branch and same-gender groups perceived that same-gender civilians drank less than their same branch and same-gender peers (see Table 1 for means and standard deviations). For example, Army male veterans perceived that other male civilians drank 18.92 (SD = 16.63) drinks per week, but believed that other male Army veterans drank 28.79 (SD = 21.72) drinks per week, t (289) = 8.07, $p < .001$. Similar patterns were observed for male veterans from the Air Force, t (21) = 2.20, $p < .05$, Marine Corps, t (142) = 5.83, $p < .001$, and Navy, t (175) = 6.15, $p < .001$, as well as female veterans from the Air Force, t (21) = 4.07, $p < .01$ and Army, t (48) = 3.26, $p < .01$. The exceptions were for female Marine Corps veterans, t (9) = 0.51, $p = 0.621$, and female Navy veterans, t (36) = 0.38, $p = 0.703$.

Varying Reference Group Perceptions and Actual Drinking

Drinks per week among all participants was significantly lower than their beliefs about drinking among same-gender civilians, t (932) = 10.76, same-branch veterans, t (891) = 21.97, same-gender veterans, t (872) = 21.89, and same-branch-and-gender veterans, t (834) = 21.02 (all $p < .001$).

Within each branch, branch-specific perceived drinking was reported as higher than actual average weekly drinking for veterans in all four branches (see Table 1 for means and standard deviations). For example, Army veterans perceived that other Army veterans drank 26.05 drinks per week, while the sample of Army veterans actually reported drinking about half of that (12.06 drinks per week), t (364) = 14.29, $p < .001$. Similarly, veterans from the Air Force, t (133) = 8.38, Marine Corps, t (163) = 11.49, and Navy, t (228) = 9.66, all perceived that other same-branch veterans drank more than the sample actually reported (all $p < .001$).

Within gender, actual average weekly drinking reported by the sample was lower than perceived drinking among same-gender veterans for both men and women. That is, male veterans reported 10.51 (SD = 15.44) drinks per week yet perceived other male veterans drank 24.76 (SD = 18.96) drinks per week, t (742) = 21.67, $p < .001$. Female veterans drank 8.70 (SD = 15.76) drinks per week yet perceived other female veterans drank 16.02 (SD = 14.16) drinks per week, t (116) = 4.47, $p < .001$.

For same-branch and same-gender reference groups, in nearly all instances perceived drinks per week were reported as significantly higher than actual drinks per week. For example, Army male veterans reported drinking 12.71 (SD = 19.03) drinks per week, but believed that other male Army veterans drank 28.79 (SD = 21.72) drinks per week, t (291) = 12.94, $p < .001$. Similar patterns were observed for male veterans from the Air Force, t (104) = 7.09, $p < .001$, Marine Corps, t (143) = 10.35, $p < .001$, and Navy, t (175) = 11.56, $p < .001$, as well as female veterans from the Air Force, t (21) = 4.07, $p < .01$, Army, t (48) = 5.17, $p < .001$, and Marine Corps, t (9) = 4.26, $p < .01$. The exception was for female Navy veterans, who did not differ in their actual drinking and perceptions of drinks per week for female Navy veterans t (36) = 0.70, p =0.485; see Table 1 for means and standard deviations).

Importance of Reference Group

Perceived Behavioral Norms of Civilians—Perceived behavioral norms for the samegender civilian reference groups were associated with number of drinks per week, Wald X^2 (1) = 14.41, $p < .001$, and not significantly associated with the other two drinking outcomes: AUDIT scores, Wald X^2 (1) = 0.02, $p = 0.880$, or heavy episodic drinking occasions, Wald X^2 (1) = 1.02, $p = 0.312$.

Perceived Behavioral Norms of Veteran Groups—When predicting the respondents drinking outcomes from their perceived drinking norms, all three veteran reference groups were similarly strong predictors of the three drinking outcomes. Specifically, when predicting respondents' drinks per week, the perceived behavioral norms for the three reference groups were: same-branch veterans, Wald X^2 (1) = 118.73, $p < .001$; same-gender

veterans, Wald X^2 (1) = 108.34, $p < .001$; same-branch-and-gender veterans, Wald X^2 (1) = 132. 37, $p < .001$. When predicting AUDIT scores, the perceived behavioral norms for the three reference groups were: same-branch veterans, Wald X^2 (1) = 64.75, $p < .001$; same-gender veterans, Wald X^2 (1) = 56.46, $p < .001$; same-branch-and-gender veterans, Wald X^2 (1) = 70.63, $p < .001$. When predicting heavy episodic drinking, the perceived behavioral norms for the three reference groups were: same-branch veterans, Wald X^2 (1) = 103.79, $p < .001$; same-gender veterans, Wald X^2 (1) = 92.30, $p < .001$; same-branch-and-gender veterans, Wald X^2 (1) = 95.63, $p < .001$. Thus, across all three outcomes there was a very similar pattern. The perceived behavioral norms for all three veteran reference groups were highly significantly associated with respondents' own drinking behaviors. In contrast, the same-gender civilian norms were not strongly associated with drinking outcomes.

Perceived Attitudinal Norms

As there was no clear reference group that was notably stronger for all three outcomes, to test our fourth objective of examining if perceived attitudinal norms contributed to the model after controlling for perceived behavioral norms, we focused remaining analyses on the same-gender veteran reference group[1]. This decision was driven by two factors related to our goal of using these norms in intervention work with veterans. First, in a PNF intervention that presented norms based on same-branch veterans from this sample, some participants would be presented with behavioral norms that could indicate much higher drinking than their own, which would be contrary to the theory behind PNF interventions. For example, a female Army veteran, drinking about 8 drinks per week, would be presented with an Army branch norm of 12 drinks per week, which is driven higher by the male Army veterans. Second, if we presented norms based on same-branch-and-gender veterans, some veterans (e.g., female Air Force veterans) would be given norms that are poor estimates due to small cell sizes. Thus, given that all of these norms are similarly strongly associated with respondent behavior, the same-gender veteran norms are most well suited for use in a PNF intervention. We discuss these issues in greater detail in our other work (see Pedersen, Marshall, & Schell, 2015b).

We added the perceived attitudinal norms to the models used previously. The model coefficients and test statistics are presented in Table 2 for the same-gender models of each of the three outcomes. The perceived attitudinal norms of same-gender veterans were not significantly associated with two of the drinking outcomes in these models (drinks per week and AUDIT scores). Those norms were significantly associated with heavy episodic drinking, but in the opposite direction as theorized. That is, respondents who perceived more-permissive norms toward drinking among same-gender veterans had fewer heavy episodic drinking episodes. In contrast, the respondents' perceptions of drinking behavior of same-gender veterans (perceived behavioral norms) were strongly positively associated with their own drinking behaviors assessed on all three outcomes.

[1]Tables in this manuscript contain only the models using perceived behavioral and attitudinal norms for same-gender veterans. Models for each of the three drinking outcomes with perceived same-gender civilian, same-branch veteran, and same-branch-and-gender behavioral and attitudinal norms are available upon request to the corresponding author.

To look more closely at individual items from the perceived attitudes scale, we present bivariate correlations between the three outcomes and each of the nine perceived attitudinal norms items (see Table 3). Also included is this table are correlations between one's own alcohol attitudes and each outcome. While all the items reflecting one's own attitudes associated significantly and positively with each outcome, most perceived attitude items did not. Indeed, only perceived norms about *driving a car after drinking and drinking enough to pass out* were significantly and positively correlated with all three drinking outcomes. When we entered these two perceived attitudinal norms into the models for each of the three outcomes controlling for demographics, combat, and perceived behavioral norms, neither perceived attitudes for driving after drinking nor drinking enough to pass out were significantly associated with drinks per week or AUDIT scores. For heavy episodic drinking, the effect for perceived attitudes about same-gender veterans' acceptability of driving after drinking was significant, incident rate ratio = 1.15, 95% confidence interval = 1.05 to 1.26, Wald X^2 (1) = 8.94, $p < .01$, as was the effect for acceptability of drinking enough to pass out, incident rate ratio = 0.89, 95% confidence interval = 0.81 to 0.98, Wald X^2 (1) = 6.16, $p < .05$. However, for drinking enough to pass out, this effect was in the opposite direction as theorized, such that those who perceived more-permissive norms toward drinking enough to pass out had fewer heavy episodic drinking episodes

Discussion

In the present study, we evaluated the association between perceived behavioral and attitudinal drinking norms on actual drinking behavior in a large community sample of young adult veterans. Irrespective of how veteran reference groups were constructed, veterans perceived that civilians drank less than other veterans did and, with some exceptions, generally perceived that other veteran groups drank more than the veteran groups within the sample themselves drank. Although perceived civilian behavioral norms did not associate consistently with drinking behavior and consequences, perceptions of drinking of all three veteran reference groups (same-branch, same-gender, same-branch-and-gender veterans) strongly associated with drinking and consequences among the sample. Perceptions of attitudinal norms among veteran reference groups did not uniquely contribute to drinking behavior and consequences in a manner that suggested these perceived norms were as strong of a correlate with behavior as perceived behavioral norms.

The first objective of this study was to evaluate if veterans' perceptions of civilian drinking differed from their perceptions of other veterans' drinking. Both male and female veterans believed other veterans drank more than civilians of the same-gender. Similarly, veterans from each branch believed that other veterans from that branch drank more than their same-gender civilian counterparts. This finding is similar to prior work that demonstrated that active duty soldiers perceived that they drank at heavier levels than their civilian counterparts (Neighbors et al., 2014). For same-branch-and-gender veterans, we found in all cases except for female Navy and female Marine Corps veterans that participants perceived that veterans drank more than civilians. Interestingly, other work has found that previously-deployed service members (including separated veterans) actually reported generally comparable rates of drinking to their civilian counterparts; the exception being amount consumed per drinking occasion by drinkers, which is actually higher for civilians

(Ramchand et al., 2011). Thus, the perception among veterans that they drink more than civilians may be incorrect.

The second objective of this study was to determine if actual drinking behaviors reported by the sample differed from perceptions of other veterans. This was indeed the case for all reference groups except for female Navy veterans, who perceived they drank at comparable levels to what the female Navy veterans in our sample actually reported drinking. In selecting normative data for PNF interventions, it is important that actual norms be lower than perceived group norms in order to reduce overestimated perceptions of drinking. For example, if an individual believes drinking by others is low, and then learns drinking is much higher than they thought, this could have an iatrogenic effect on one's drinking. Thus, for a PNF intervention we would want to select actual norms to present that are moderate enough to likely be lower than the perceptions of a targeted group. While this was the case for most groups in our sample, presenting female Navy veterans with an actual norm of 11.03 weekly drinks may be inadvisable; particularly since perceptions of drinking within their groups are only a few drinks higher.

For PNF, it is also desirable to present norms that suggest a moderate or "healthy" level of alcohol consumption in the reference group. Ideally this would be close to the National Institute on Alcohol Abuse and Alcoholism guidelines (NIAAA, 2014) for low risk drinking (i.e., 7 drinks per week for women, 14 for men). As observed in Table 1, presenting same-branch actual norms in a PNF intervention would possibly result in women being presented with rates of drinking that are higher than would be a healthy level of drinking for them. For example, the Army norm is for an average of about 12 drinks per week, which represents 5 drinks above low risk drinking for women. Yet, the same-gender norms for men and women are near the NIAAA standards for low risk drinking for both men and women (8.70 drinks a week for women, 10.51 for men), and both are substantially less than perceived norms for same-gender veterans (16.02 drinks per week for women; 24.76 drinks per week for men; see Table 1). For these reasons, we view the same-gender veteran norms as the best option for use in a PNF intervention. However, PNF with same-gender norms presentation will need to be evaluated with the young veteran group with a particular emphasis on gender differences. An examination of gender differences will be particularly essential since our findings were not consistent for all female veteran groups, as they were for male groups. Our weighted sample indicates that the actual norms of female veterans in the population may be high; such that female veterans drink at levels beyond NIAAA-defined low risk drinking. Yet, there is a need for a larger database of population-based gender-specific veteran norms (including veterans recruited outside of Facebook) to determine if population-level norms are more moderate. If drinking norms are more moderate, then these norms should be used within PNF interventions with both male and female veterans.

The third study objective examined if perceptions of varying reference groups associated with drinking outcomes. Participants' perceptions of drinking behaviors by other veterans were strongly associated with their own weekly drinking, hazardous drinking levels, and heavy episodic drinking behaviors. In contrast, perceived civilian behavioral norms were not strongly associated with drinking behavior in veterans. While the cross-sectional nature of these data preclude causal inferences, the strong association between current drinking levels

and perceptions of veteran peers observed in this study and in other work with military samples (Neighbors et al., 2014) suggests that civilian norms may not be as relevant for veterans. Therefore, PNF interventions should focus on targeting veterans' perceptions of their veteran peers' drinking.

Prior research has indicated that salience and proximity to the reference group are important when determining the impact of perceptions of peer drinking on actual behavior (Borsari & Carey, 2003; Lewis & Neighbors, 2004, 2006). Fitting with this research, we found that behavioral perceptions of three levels of veteran-specificity (same-branch, same-gender, and same-branch-and-gender) all associated with drinking outcomes in our sample. Norms for all three reference groups appear appropriate to target during interventions with veterans. Thus, selection of the best reference group can be determined on the basis of other considerations, such as generalizability of the actual norms presented and importance of presenting moderate norms. In particular, presentation of norms should be based on samples that are large enough to accurately characterize the target population. For example, although we are not aware of any other community-based estimates of young adult veteran drinking behavior separated by gender and branch, we recommend researchers use caution if deciding to use same-gender-and-branch norms from this sample in PNF, given that the actual norms would be based on sample sizes as small as 12 in some instances.

The final objective of the study was to determine if perceived attitudinal norms (e.g., beliefs about how group members viewed behaviors related to alcohol intoxication and driving after drinking) might be an appropriate intervention target by examining if these perceptions had a unique effect on drinking behavior. After controlling for perceived same–gender behavioral norms, perceived attitudes were not associated with average weekly drinking or problem drinking. However, perceived attitudes were negatively associated with heavy episodic drinking (i.e., the more a respondent believed others found drinking behavior acceptable the fewer episodes of heavy drinking they had). This finding is contrary to what we would expect and although this seems counterintuitive, similar results have been reported in previous studies (Neighbors et al., 2008). Even when not controlling for perceived behavioral norms and demographic factors, we found mostly small, non-significant positive correlations between perceptions of attitudinal norms and drinking outcomes. Only acceptance of driving after drinking and drinking enough to pass out significantly and positively correlated with all three drinking outcomes. However, these effects were modest even without controlling for other factors. Additionally, drinking enough to pass out displayed a negative significant effect on heavy episodic drinking when controlling for behavioral norms and other factors in our models of outcomes, and only driving after drinking perceptions associated with heavy episodic drinking in the models. In light of these findings we feel attitudinal norms should be presented cautiously, if at all, in PNF interventions in this population. For this target population of young adult veterans, perceptions of acceptability of driving after drinking appears to be the only potentially impactful attitudinal norm to consider in PNF.

Limitations and Future Directions

Limitations of this study are worth discussing. A main limitation is the cross-sectional nature of the data which precludes drawing strong conclusions about the impact of both perceived behavioral and attitudinal norms on drinking behavior. Future work is needed to examine how these perceptions impact behavior over time and how PNF interventions work to reduce these perceptions and affect behavior change. Also, we chose to assess three veteran reference groups and one civilian reference group in the assessment. Though theory and research with young adult college students indicate that greater specificity is preferred to initiate behavior change (Festinger, 1954; Latané, 1981; Lewis & Neighbors, 2004, 2007), we did not include a "general veteran" reference category and are not able to draw conclusions regarding the association of general veteran references on behavior compared to the more specific reference groups we selected. In addition, greater specificity (e.g., gender- and branch-specific peers from one's unit) was not assessed but could potentially have had a greater association with behavior than the reference groups we selected. Yet assessment (and eventual intervention) at this level of detail may be impractical and may not add much beyond the strong effects we observed for at least three levels of specificity here. Lastly, the sample was recruited from the Internet and, more specifically, solely from the social media website Facebook, and online data collection is potentially vulnerable to participant misrepresentation. However, we developed and followed a series of checks to reduce misrepresentation (Kramer et al., 2014; Pedersen et al., 2015a). Overall, we believe that the use of the Internet to collect a sample of veterans is a strength of this study, as we were able to recruit a sample of light to heavy drinkers outside a clinical setting (such as among veterans seeking care for alcohol or other substance use problems at a clinic that is part of the Veterans Affairs Healthcare System). Indeed, our sample was broadly similar to the general population of young adult veterans on most demographics and we weighted the sample to reach better representation on race/ethnicity and service branch (see Pedersen et al., 2015a). Nevertheless, we did recruit a small but heavy drinking sample of female Navy veterans, who drank at heavier levels than most female and male groups in the sample. Due to the low Ns, the mean reports of drinking within the female branch-specific groups should be interpreted with caution.

Future Directions and Conclusions

Although PNF interventions are already utilized with active duty service members (Pemberton et al., 2011; Williams et al., 2009), this research study was an important first step in understanding how to best utilize perceptions of veteran-specific peers to reduce heavy drinking. In-person interventions for young adult veterans that incorporate PNF have been successful in reducing hazardous drinking levels, both when used as a stand-alone approach and when accompanied by lengthier counseling with a therapist (Martens et al., 2015; McDevitt-Murphy et al., 2014a; 2014b). Given that few young adult veterans seek care for alcohol use concerns (Bray et al., 2006; Department of Veterans Affairs, 2011; Erbes et al., 2007), it will be important to use the information gained from this study to inform novel applications of PNF-based intervention (e.g., web- and smartphone-based interventions) to reach young veterans drinking at hazardous levels to reduce harms associated with their use and prevent the development of AUDs and related problems.

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Table 1

Actual and perceived drinking behaviors by branch and gender

	Air Force			Army			Marine Corps			Navy			All Males	All Females
	Total	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**		
N	67	55	12	616	540	76	253	237	16	87	73	14	905	118
Actual drinks per week														
Total drinks per week	7.92^{1} (13.64)	7.80^{1} (13.60)	8.50^{1} (14.11)	12.06^{1} (18.38)	12.71^{1} (19.03	8.05^{1} (13.11)	8.73^{1} (12.43)	9.07^{1} (12.69)	3.36^{1} (4.76)	9.78^{1} (12.84)	9.51^{1} (10.41)	11.03^{1} (20.85)	10.51^{1} (15.44)	8.70^{1} (15.76)
Perceived drinks per week														
Same-gender civilian	14.01^{a} (14.75)	15.90^{a} (15.56)	5.77^{a} (5.44)	18.04^{a} (16.18)	18.92^{a} (16.63)	12.90^{a} (12.14)	16.38^{a} (12.94)	16.53^{a} (13.17)	14.00^{a} (8.76)	14.23^{a} (10.85)	14.36^{a} (10.63)	13.67^{a} (11.84)	16.89^{a} (14.61)	11.89^{a} (11.16)
Same-branch veteran	18.30^{b,2} (13.02)	19.49 (12.60)	12.81 (13.79)	26.05^{b,2} (20.19)	27.31 (20.71)	18.70 (15.03)	26.02^{b,2} (18.54)	26.10 (18.70)	24.85 (16.64)	18.74^{b,2} (14.42)	19.44 (14.90)	15.93 (12.07)	24.03 (18.33)	17.17 (14.16)
Same-gender veteran	21.32 (16.92)	23.33 (16.66)	12.25 (15.30)	26.86 (21.27)	28.58 (21.73)	16.36 (14.36)	23.41 (17.75)	23.89 (17.99)	16.17 (11.95)	19.36 (13.30)	19.82 (14.16)	17.59 (9.10)	24.76$^{b.2}$ (18.96)	16.02$^{b.2}$ (14.16)
Same-branch-and-gender veteran	17.60 (14.15)	18.53^{b,2} (13.74)	13.07^{b,2} (15.57)	27.11 (21.17)	28.79^{b,2} (21.72)	17.03^{b,2} (13.84)	25.04 (19.01)	25.71^{b,2} (19.33)	15.63^{a,2} (9.97)	19.97 (14.64)	20.79^{b,2} (15.37)	16.08^{a,1} (9.69)	24.71 (19.18)	15.88 (12.66)

Note: Values within each cell indicate means; standard deviations are presented in parentheses. Different letter subscripts (^{a,b}) for means within columns indicate a significant difference ($p < .01$) between the same-gender civilian perception and same-branch, same-gender, or same-branch-and-gender means within that column. Different number subscripts (^{1,2}) for means within columns indicate a significant difference ($p < .05$) between the actual total drinks per week of the sample and same-branch, same-gender, or same-branch-and-gender means within that column.

Table 2

Models predicting drinking outcomes from perceptions of same-gender veterans

	Drinks per week		AUDIT		Heavy episodic drinking	
Predictor	**Adjusted IRR (95% CI)**	**Wald χ^2**	**Adjusted IRR (95% CI)**	**Wald χ^2**	**Adjusted IRR (95% CI)**	**Wald χ^2**
Age	1.00 (0.98 – 1.02)	0.42	0.99 (0.97 – 1.01)	1.12	0.99 (0.96 – 1.01)	1.09
Male gender	1.03 (0.84 – 1.26)	0.07	1.14 (0.93 – 1.40)	1.50	0.99 (0.76 – 1.28)	0.01
African-American race	0.65 (0.51 – 0.83)	**12.60**	1.12 (0.89 – 1.41)	0.86	0.79 (0.57 – 1.09)	2.00
Other race/ethnicity	0.66 (0.51 – 0.86)	**9.59**	0.72 (0.56 – 0.94)	**5.92**	0.53 (0.38 – 0.75)	**12.77**
Hispanic/Latino race/ethnicity	0.90 (0.68 – 1.19)	0.56	1.13 (0.85 – 1.50)	0.70	0.65 (0.46 – 0.93)	**5.58**
Air Force	0.97 (0.77 – 1.23)	0.05	1.00 (0.80 – 1.26)	0.00	1.00 (0.74 – 1.34)	0.00
Marine Corps	1.03 (0.85 – 1.24)	0.09	1.04 (0.86 – 1.25)	0.15	1.01 (0.80 – 1.28)	0.01
Navy	1.35 (1.10 – 1.66)	**8.54**	1.16 (0.95 – 1.42)	2.13	1.09 (0.85 – 1.40)	0.46
Combat severity	1.07 (1.05 – 1.10)	**31.48**	1.06 (1.03 – 1.08)	**21.94**	1.07 (1.04 – 1.10)	**18.33**
Perceived drinks per week for same-gender veterans	1.02 (1.02 – 1.03)	**99.90**	1.0 (1.01 – 1.02)	**43.77**	1.03 (1.02 – 1.04)	**91.48**
Perceived attitudinal norm (mean composite) for same-gender veterans	0.98 (0.91 – 1.06)	0.25	1.05 (0.97 – 1.13)	1.50	0.88 (0.79 – 0.97)	**6.27**

Note: Effects significant at $p < .05$ ($\chi^2 > 3.84$ for one df tests) are bolded. Adjusted Incident risk ratio (IRR) gives the proportional change in each outcome as a function of one unit change in the predictor controlling for the other predictors in the model. 95% Confidence intervals are presented in parentheses. The IRR's are assessed relative to the following reference groups: female, Caucasian non-Hispanic, and Army, which each have an IRR = 1 by definition.

Table 3

Correlations of attitudes and perceived attitudinal norms with outcomes

	Drinks per week	AUDIT	Heavy episodic drinking
Drinking to get drunk			
Own attitude	0.35**	0.44**	0.27**
Perceived same-gender veteran norm	0.03	0.07*	−0.01
Drinking alcohol every weekend			
Own attitude	0.36**	0.42**	0.28**
Perceived same-gender veteran norm	0.04	0.06	−0.02
Drinking to blow off steam			
Own attitude	0.28**	0.34**	0.20**
Perceived same-gender veteran norm	0.04	0.07*	−0.01
Driving a car after drinking			
Own attitude	0.34**	0.42**	0.21**
Perceived same-gender veteran norm	0.12**	0.19**	0.11**
Drinking more than one drink in front of my own or others' children			
Own attitude	0.25**	0.28**	0.14**
Perceived same-gender veteran norm	0.07*	0.11**	0.01
Drinking alcohol daily			
Own attitude	0.45**	0.45**	0.33**
Perceived same-gender veteran norm	0.07*	0.11**	0.01
Drinking alone			
Own attitude	0.23**	0.28**	0.14**
Perceived same-gender veteran norm	0.07	0.10**	0.02
Drinking enough alcohol to pass out			
Own attitude	0.45**	0.55**	0.38**
Perceived same-gender veteran norm	0.10**	0.16**	0.08*
Drinking when feeling down or depressed			
Own attitude	0.37**	0.47**	0.31**
Perceived same-gender veteran norm	0.08*	0.14**	0.03

Note:

* $p < .05$;

** $p < .01$