

Andrzej Piotrowski¹

Marcin Szulc²

Ole Boe³

Vasile Marineanu⁴

Samir Rawat⁵

Abhijit P. Deshpande⁶

Threat of using alcohol and psychoactive substances in uniformed formations

This article explores the threat of using alcohol and psychoactive substances in uniformed formations. We first examine dysfunctional patterns of alcohol use. Secondly, we scrutinize the use of alcohol by soldiers from a historical perspective. Thirdly, we discuss dysfunctional patterns of alcohol consumption and psychoactive substance use including high-risk behaviors in military contexts. Fourthly, we examine the impact of alcohol and substance consumption in the military. Fifthly, we consider the challenges of alcohol and psychoactive substances in uniformed groups. Sixthly, we study alcohol consumption in the Norwegian armed forces as an example. Seventhly, we discuss quantitative data obtained from an Indian military sample, using chi-square analyses to check independence between attributes (serving combat soldiers versus other serving armed forces personnel not initiated yet into combat) on alcohol consumption and smoking habits. Finally, based on review of literature and our research, we provide some concluding remarks about the threat of using alcohol and psychoactive substances in uniformed formations.

Key words: alcohol, psychoactive substances, soldiers, uniformed formations

¹ University of Gdańsk; andrzej.piotrowski@ug.edu.pl.

² University of Gdańsk; marcin.szulc@ug.edu.pl.

³ University of South-Eastern Norway, Bjorknes University College; ole.boe@usn.no.

⁴ University of Bucharest; vasile.marineanu@g.unibuc.com.

⁵ Symbiosis International University; samtanktrooper@yahoo.com.

⁶ Symbiosis International University; director_bud@siu.edu.in.

Introduction

Alcohol has accompanied man since dawn of time and it is the cause of numerous problems that even Ancient Egyptians were already aware of. A warning on one of the papyri reads, “Do not make yourself vulnerable while drinking beer in a beer house, if you fall over, you will break your bones and no one will help you to get up” (Gossop 1993: 16).

This article explores the threat of using alcohol and psychoactive substances in uniformed formations. We start by examine dysfunctional patterns of alcohol use. Thereafter, we scrutinize the use of alcohol by soldiers from a historical perspective. Thirdly, we discuss dysfunctional patterns of alcohol consumption and psychoactive substance use including high-risk behaviors in military contexts. Fourthly, we examine the impact of alcohol and substance consumption in the military. Fifthly, we consider the challenges of alcohol and psychoactive substances in uniformed groups. Sixthly, we study alcohol consumption in the Norwegian armed forces as an example. Seventhly, we discuss quantitative data obtained from an Indian military sample, using chi-square analyses to check independence between attributes (serving combat soldiers versus other serving armed forces personnel not initiated yet into combat) on alcohol consumption and smoking habits. Finally, based on review of literature and our research, we provide some concluding remarks about the threat of using alcohol and psychoactive substances in uniformed formations.

Dysfunctional patterns of alcohol use

It is currently assumed that about 2 billion people in the world drink alcohol in a dysfunctional manner and according to the ICD-11 classification about 200 types of diseases and injuries are associated with alcohol consumption (Saunders, Peacock, & Degenhardt 2018). The most common disorders associated with alcohol use are accidents and drowning, addiction, depression, gastrointestinal disorders, liver diseases, cancer, hypertension, strokes and others – including prenatal damage such as static encephalopathy – Fetal Alcohol Spectrum Disorder (FASD). Between 2 and 4% of all cancers are directly or indirectly related to alcohol, and about 20% of all alcohol-related deaths are caused by cancer (Baan *et al.* 2007). Drinking alcohol may also cause serious economic losses, especially on the labour market. These losses are due to loss of productivity, absenteeism and accidents at work (Cochran & Davis 2012; Rode & Rode 2018).

According to WHO (2018), three models of alcohol consumption are distinguished, namely, risky consumption, harmful consumption and addiction. Risky

alcohol use means drinking too much. A person does not suffer health loss yet but drinks too much and too often. If one does not limit his or her intake, one is likely to have future health problems. It is assumed that the daily limit for men is an intake of 40 grams in standard portions of alcohol (two beers with a volume of 0.5 liters and a strength of about 5%) and 20 grams by women – for at least 5 days a week (Wojnar 2017). Such a dose currently does not entail serious health losses but there is already a huge risk of their occurrence if the consumption pattern does not change. This gender difference in the effects of pure ethanol on the body results from the content of body fluids (in men they constitute 70% of body weight, in women – 60%) and the first-pass effect. Therefore, women are more exposed to toxic effects of alcohol as after consuming the same amount of ethyl alcohol its higher level in the blood of women is recorded than men of the same body weight. The role of lower gastric alcohol dehydrogenase (ADH) activity is not without significance, as a result of which the aforementioned first-pass effect and hepatotoxic effect of alcohol are weakened (Szymańska *et al.* 2011).

Harmful drinking occurs when a person who is not addicted to alcohol is already suffering health and social damage. There are consequential health damages, somatic, psychological and social problems.

Use of alcohol by soldiers from a historical perspective

The use of various ways to improve combat capability of soldiers and thus their effectiveness has been discussed for centuries. War and drugs have a long history of intimate association (Bergen-Cico 2011; Courtwright 2001). It was considered important to increase the enthusiasm, motivation to perform tasks, resistance to pain, hunger, thirst, lack of sleep, as well as to lower the level of empathy which would facilitate making decisions that were otherwise difficult to make from a moral perspective of a person in conditions of full sobriety. Soldiers also took psychoactive substances to relieve the symptoms of war stress. Psychoactive substances were also used either as offensive weapons in order to weaken the combat abilities and morale of the enemy troops or to enhance such abilities with own soldiers (Kamieński 2012). The German Wehrmacht soldiers received methamphetamine in the form of a drug called Pervitin. It improved concentration, increased confidence, readiness to take risks and resistance to pain. At the height of the Blitzkrieg period, the German army consumed 35 million tablets containing pervitin. Methamphetamine was also applied in the form of chocolate dedicated to armoured forces as Panzerschokolade or to Luftwaffe – as Fliegerschokolade (Kamieński 2012).

However, the use of alcohol in the army has a long tradition. In most cases, drinking alcohol (mainly wine and beer) by the military was a must for health

reasons. For example, a large part of William the Conqueror's army fell ill with dysentery due to drinking contaminated water. Similar occurrences took place in the 12th century during the campaign in Majorca when the Pizans were decimated by stomach diseases due to depletion of wine supply and the necessity to drink water (Niewiński 2018). One of many modern retro-diagnoses indicates pancreatitis caused by heavy drinking as the cause of Alexander the Great's death, although doctors do not agree completely on this issue (Gamble 2017; Sbarounis 1997). The ancient historian Plutarch claimed that Alexander was inclined to "drinking and anger" and Seneca wrote such an epitaph after the death of the great leader "invincible by the hardships of great marches, by the dangers of sieges and struggles, by the greatest heat and frosts, here (he) rests, defeated by his lack of moderation, struck by the deadly cup of Hercules" (Gawłowska 1991: 195; Gossop 1993: 17). There are also indications that Hoplite warriors, after feasts abundant with alcohol, went into battle intoxicated which reduced their fear and increased determination (Kamieński 2012).

In Ancient Rome, cases of alcohol abuse by soldiers were also known. Republican leader Gaius Marius drank undiluted wine, which was widely recognised in the Mediterranean countries as barbarism and a symptom of alcohol degeneration. This drinking style was particularly condemned by Plato (Faszczka 2018; Gossop 1993). In the Roman army, drunkenness was not formally a violation of discipline if it did not lead to negative consequences, such as neglect of duties, which were punished by degradation or flogging. But it was alcohol abuse that was supposed to be one of the reasons for the widespread lack of discipline among soldiers during the late Roman Empire. It revealed in their laziness, desire for convenience, cowardice, and the fact that they used "cups heavier than swords" (Narloch 2018: 28).

In medieval France, daily rations of wine consumption, which strength oscillated between 8 to 10%, ranged from 0.5 to 2 liters per person. The greatest allocation were made to the sentries. During that period, wine was also used as a drying and regenerating agent – to clean wounds (Niewiński 2018).

In 17 century, "a drunk officer who appeared on duty was deprived of his post and served as a simple soldier for three months". An opinion about drunken Cossacks was positive. Chancellor Albrycht Stanisław Radziwiłł noticed that although the Cossack army was prone to drunkenness, it was regarded as disciplined and in addition on the pay of the Commonwealth, so there were no losses. The same cannot be said about the Cossack hetman Bohdan Chmielnicki, famous for his drunkenness and improper, even vehement behaviour when intoxicated. There were cases of offensive incidents with his participation in the presence of envoys and even diplomatic catastrophes, e.g. involving a khan (title held by hereditary rulers or tribal chiefs in Central Asian and Eastern Europe) whose dignity the hetman offended by failing to greet him because of being intoxicated (Walas 2018).

Other armies and epochs also reported serious problems with alcohol abuse. Alcohol were widely consumed during the American Revolution (1775–1783) (Jahiel & Babor 2007; Pendergrast 2010), practices that increased dramatically in the years that followed, leading Rorabaugh (1979) to label the period the “Alcoholic Republic”. Indeed, following this war-related “incubation” period, alcohol use has remained common in the US military, with the military often complicit in perpetuating a masculine, hard driving, hard drinking culture (Barrett 1996; Finley 2011; Poehlman et al. 2011).

A report on grog (spirits, originally rum, mixed with water) by the Royal Navy Admiralty Committee from 1850 showed a clear link between drinking and discipline issues, recommending the exclusion of grog (a drink of diluted rum liquor with lime juice and sugar) from the seafarers’ diet (Wojewódzki 2018). The British Navy was struggling with abuse of various drinks not only in the times of Drake and Nelson. Today, alcohol is defined as a permanent element of the occupational risk of modern soldiers. Over 1/3 of the surveyed soldiers of the Royal Navy claimed that they drank more than the recommended weekly alcohol consumption, i.e. 21 units.

Despite the army’s ambivalent attitude towards alcohol, one can notice the prevalent critical tone of the narrative in the assessment of its use as a means which, while adding enthusiasm, also poses a serious risk of losing by the soldier his combat value and dignity. The volume of this article limits the broader presentation of this extremely interesting aspect of the functioning of the military.

Dysfunctional patterns of alcohol consumption and psychoactive substance use

Alcohol is the most widely used substance for addictive purposes, representing a genuine social phenomenon of global importance. Addiction to alcohol, as a dysfunctional pattern, has an undeniable impact on the overall functionality leading to serious consequences to family, social and professional environment (Ciubară *et al.* 2015). The easy availability of alcohol, ritualized drinking opportunities, and inconsistent policies contribute to a work culture that facilitates heavy and binge drinking in the population (Ames & Cunradi 2004).

Relative to other substance use, heavy drinking (i.e., consuming five or more drinks per typical drinking occasion at least once a week) appears to be a particularly persistent problem in the military. Although illicit drug use and cigarette smoking both decreased significantly over the period from 1980 to 2002, heavy alcohol use did not show the same decline (Ames & Cunradi 2004).

Alcohol problems affect the mission readiness of personnel across the spectrum of military occupational specialties. The military lifestyle itself is considered a contributing factor in abusive levels of alcohol use. Service members reported an increase in serious consequences, productivity loss, alcohol dependence symptoms, average alcohol consumption, and heavy alcohol use. Also, service members who are heavy drinkers (five or more drinks at least once per week) are more likely to be late to work, to leave work early, to exhibit decreased job performance, and to suffer on-the-job injuries than nondrinkers and light drinkers (Kennedy & Zillmer 2006).

High-risk behaviors in military context

Military service carries a unique set of challenges, where substance and alcohol abuse represent a significant problem in the military, generating multiple organic and psychiatric consequences, with a complex social impact. According to the National Institute on Drug Abuse, the most commonly abused substance among military personnel is alcohol (Bowles & Bartone 2017).

Alcoholism has many connotations, going from a catalyst for fun, palliation for depression, to a genuine risk factor for the occurrence of many serious medical conditions and a determinant for psychosocial dysfunctions (Ciubara *et al.* 2015).

Studies have shown that heavy drinkers engage in an increased aggressive behaviour and an increased risk for death from motor vehicle accidents, suicide and homicide (Stein 1999). Excessive, heavy and persistent alcohol use and abuse affects personal relationships, contributes to domestic violence and anti-social behaviour (Verrall 2011). Consistent with this pattern, soldiers exhibited high-risk behaviors such as drinking while driving, riding with a drunk driver, missing work due to hangover, and use of other mood-altering substances (Bowles & Bartone 2017).

Therefore, alcohol abuse is an important risk factor for suicidal behaviour. It has been suggested that lifetime mortality due to suicide in alcohol dependence is as high as 18%. Nonetheless, individuals with alcohol dependence have a 60–120 times greater suicide risk than the non-psychiatrically-ill population (Sher 2006).

Impact of alcohol and substance consumption in military

Heavy alcohol use appears to be a significant problem in the military. Personnel often use alcohol in an attempt to cope with stress, boredom, loneliness, and the lack of other recreational activities (Ames & Cunradi 2004; Rawat 2009). Alcohol, illicit drugs, and cigarettes may be used as means of coping with and reducing

stress, although research shows that the nature of this relationship is more complex than once thought (Bray *et al.* 1999).

The modern military is concerned with excessive alcohol consumption because it not only affects the long-term health of its members, but also because short-term impact contributes to accidents, injuries and the premature death of service personnel, which ultimately affects military performance and capability (Verrall 2011).

Problematic alcohol use within the military has been linked to substantial financial and productivity losses. Data from 2006 revealed that excessive alcohol consumption cost the U.S. military \$1.12 billion per year. Regarding medical expenditures, studies have found that excessive alcohol use by military members' results in an annual cost of \$425 million. Excessive drinking within the military is estimated to result in a loss of 320,000 work days and 34,400 arrests per year, half of which are for driving under the influence (Schumm & Chard 2012).

Also, according to a prevalence study conducted in 2018 in the Romanian military, excessive alcohol consumption is linked to a loss of €7.5 million per year, at a prevalence of 1.9% in comparison with 2.2% prevalence identified in the United States military. The survey found that excessive alcohol consumption of military members may lead to 20% productivity decrease and is estimated to result in a loss of 2,804 Years Lost due to Disability (YLD) (Giosan & Marineanu 2018).

Despite successful efforts by military leaders in reducing alcohol use among service members, a perception that alcohol is part of the culture of military life may still persist (Fernandez *et al.* 2006).

The challenges of alcohol and psychoactive substances in uniformed groups

Uniformed formations, as noted already in the middle of the last century by Huntington (1957: 4), differ from civil professions due to specific working conditions. They belong to professions particularly exposed to consequences of stress in the workplace (Pastwa-Wojciechowska & Piotrowski 2016; Izydorczyk 2017). Specific stress related incidents include: arresting an attacker, contact with victims of violence, informing family and relatives about death of a loved one, participating in court hearings. Other stressful factors include performing dangerous duties, contact with violence, the need to use physical force during interventions. Policemen and Prison Service personnel often encounter during their service verbal aggression and lack of respect from suspects and prisoners. An extremely stressful event is the need to kill an attacker assaulting a policeman (Hennig-Fast *et al.* 2009). Also, penitentiary staff sometimes become victims of assault by prisoners (Piotrowski 2018).

Weir, Stewart and Morris (2012) indicate that, based on the conducted research, the staff associated with occupations responsible for safety do not consume more alcohol than representatives of other professions.

Territo and Vetter (1981) established that the use and abuse of alcohol is part of a subculture in paramilitary formations and that there is considerable social pressure to comply with these norms. The social material that may create *esprit de corps* is the common experience of stress in the workplace and the ensuing consumption of alcohol to reduce that stress (Moynahan 1987). The alcohol problem occurs more often when its consumption takes place in the company of work colleagues and in combination with a low level of self-control (Zavala & Kurtz 2017).

Not without significance is the fact that paramilitary formations are highly masculinized and feature their relevant masculinity pattern (Piotrowski & Kubačka 2013).

Petruk (2004) notes that alcohol consumption by the Polish Prison Service officers is the main reason for expelling them from service in over 20% of cases, and it is a factor in nearly 60% of warnings about incomplete professional usefulness. Unfortunately, no similar statistics are available from the Polish police. Obtainable statistics, however, show that the number of police officers, who have been subjected to disciplinary penalties, including expulsion from service, has been decreasing.

According to Hołyst (2013), the problem of addiction in uniformed formations is primarily associated with alcohol abuse rather than drug and medications use. Neither the police nor the prison service keeps statistics of alcohol addiction among officers. At the end of the 90s of the last century, 12% of police officers described themselves as addicted to alcohol. In 1993–1997, over 700 policemen were expelled from service due to addiction.

In criminal law, there are categories of acts which, when committed by a policeman/officer, even during free and off-duty time definitely limits his or her credibility in matters of security and public order, these include theft, fraud, driving a car under the influence of alcohol, causing an accident and escaping (Maj 2013).

Studies conducted on a group of more than 4,000 Australian policemen indicate that they consume significantly more alcohol during a single consumption event than the statistical average (Davey, Obst, & Sheehan 2000). Every fourth officer admitted to consuming alcohol during the service. People under 25 years of age consumed the most alcohol. Every third policeman was considered a person at risk of addiction and 5% were considered addicted.

Other studies also carried out in Australia on a group of more than 800 policemen revealed that the problem of excessive alcohol consumption affects 50% of men and 40% of women (Richmond, Wodak, Kehoe, & Heather 1998).

The results of the research by Zaval and Curry (2018) indicate that policemen with a higher level of stress coping thanks to religion were in fact less likely to report problems with alcohol consumption (Sygit-Kowalkowska & Ziolkowski 2019). However, religious factor did not soften the positive relationship between critical PTSD and the problematic alcohol consumption. Alcohol abuse can also be caused by other addictions in policemen, such as pathological gambling (Zavala 2018). Studies conducted among Brazilian prison staff indicated that men who smoke more often fell into alcoholism and religion was a protective factor. Persons consuming alcohol were more affected by various factors of the burnout syndrome (Campos, Schneider, Bonafé, Oliveira, & Maroco 2016).

A study of a group of over 1,700 Finnish policemen showed that alcohol consumption is associated with experiencing risks during service and a lack of adequate training in coping with stress (Leino, Eskelinen, Summala, & Virtanen 2011).

The problem of addiction among officers concerns not only alcohol but also drugs. The level of the latter addiction is not the same as in case of alcohol but that issue cannot be underestimated (Zukauskas, Dapsys, Jasmontaite, & Susinskas 2001). The problem of officers' addiction to alcohol is unlikely to disappear as it is impossible to eliminate stress in the workplace. A study by Lindsay (2008) indicates that there are no differences in a pattern of alcohol consumption by police officers and representatives of other professions. However, it is necessary to control this dangerous phenomenon and to create prevention and intervention mechanisms.

Alcohol use in the Norwegian Armed Forces

In Norway, some investigations has been conducted in relation to average consumption of alcohol. The data is mainly obtained by recording the sale of alcohol. The Public Health Report (The Norwegian Institute of Public Health 2015) estimates an average consumption of approx. 8 liters of pure alcohol per year, for people over 15 years. Here they have calculated that 1.6 liters come from unregistered purchases. The number of liters purchased was 6.2 liters (Christophersen *et al.* 2015).

When we talk about "the Norwegian drinking culture" this refers to the drinking habits of the whole Nation. According to Øyvind Horverak (2009) who is a researcher at the Norwegian Institute of Substance Research, Norwegian drinking culture is characterized by drinking alcohol very seldom, and then mainly at parties, events and celebrations. When Norwegian first drink, they tend to drink too much. Furthermore, Horverak (2009) states that men are the most heavy drinkers, but that women also started drinking more since last 40 years.

There does not exist much research regarding use of alcohol in the Norwegian Armed Forces. According to regulations in the Norwegian Armed Forces, it is not allowed to consume or store alcohol in camp. If this occurs, it must be reported through the chain of command, and disciplinary action will be initiated as a consequence of breaking military regulations (The Norwegian Armed Forces 2016).

Due to effects of alcohol and drugs as well as the responsibility of the Norwegian Armed Forces as the state's executor of violence, the Norwegian Armed Forces have a separate document that sets out specific rules regarding use of drugs. The directive for the Norwegian Armed Forces' Preventive Work is a directive that aims to prevent drug use. The directive states:

"(...) warriors [must show] moderation in the enjoyment of alcohol, even when they wear civilian attire and have leave. This order involves a prohibition on acting visibly intoxicated in military or public places in situations where he or she may be associated with the Norwegian Armed Forces" (Chief of Defence 2009: 11, authors' translations). It also discusses the rules that apply when drinking alcohol both domestically and abroad. These rules are expected to be followed by all military personnel.

However, alcohol is seen as a way to break down barriers between individuals and groups in the Norwegian Armed Forces (Skjæveland 2008: 12). The Norwegian Armed Forces has a mess culture that is quite widespread in the different camps and bases in Norway. A mess can be described as a social meeting place where there is a bar and seating. Virtually all military bases have at least one military mess. These places are run and managed by the Norwegian Armed Forces and have a license to serve alcohol. Beer hours (as in an hour where one can buy cheaper beer) and paychecks beer (as in when you get your pay you get together for a few beers) are common in the various cafeterias. The prices are also low because the alcohol is sold at cost price. The messes are inside the military camp and are open on weekdays as well as holidays so they are easily accessible. Most countries including India, UK, US and Romania have a similar mess culture in the military.

Bakken (2015) used a pre-structured questionnaire and measured the drinking habit among 132 officer cadets at the Norwegian Military Academy. He found that of the respondents who responded, 98.5% drank alcohol. There were 48.9% who drink monthly and the same percentage state that they drink weekly. Of those who drink weekly, 95.5% drink 1–2 times. Among those who reported drinking monthly, 84.7% were drinking 3–4 times or 5+ times per month. With this one can say that drinking consumption is fairly evenly distributed at the Norwegian Military Academy. 61.4% state that the alcohol intake is often 5+ units at a time. 25% state that they often drink 3–4 units at a time. When it comes to how fast the cadets consumes alcohol, there are 34.8% who occasionally drink occasionally,

12.10% often drink occasionally and 2.3% state that they always drink occasionally. A total of 46.9% of cadets say they occasionally drink heavily. When asked about the consequences of drinking, 77% say they have experienced memory loss, 66.7% say they have done something they regret and 54.5% have been in a quarrel because of alcohol. School-related, 25% have slept or missed school due to alcohol intake, 42.4% state that they have had difficulty concentrating and 17.7% say they have performed poorly on school work or alcohol-related tests.

Bakken (2015) concluded that the use of alcohol among officer cadets, that is, the existing drinking culture there, appear in a way that is poorly matched with the values that an officer must stand for. Bakken's findings did not unequivocally show that the culture is bad, but they do reveal that there are some aspects where the drinking culture does not live up to the demands of a future officer and warrior. On the other hand, the drinking culture has many good sides to it, for example in that it can be part of a socialization arena where the cadet can lower his shoulders, furthermore, such an arena can be a place where the cadet can become better acquainted with his or her colleagues.

Skjæveland (2008) looked at the group of Norwegian Armed Forces personnel that was serving in international operations and their attitudes towards alcohol. The research was based on depth interviews with soldiers and commanders of the Norwegian Army's Telemark battalion and staff officers, all of whom served in Afghanistan. Skjæveland aimed at investigating which alcohol pattern was applicable to personnel who were abroad, and what attitudes they had in relation to alcohol in relation to health, working environment and safety.

What was most evident in Skjæveland's findings was the importance of unity and community, and the opportunity it offered to talk about experiences. Being in international operations is a burden in itself. In addition, the absence comes from being away from the family. There were large differences in the responses, depending on whether the person was single or whether he or she had a partner and children. Some positive findings were that the directive for the Norwegian Armed Forces' Preventive Work was known to all informants in Skjæveland's study. Everyone, without exception, also knew in broad terms the contents of the directive. Another positive finding was that the no-can-rule rule practiced in Afghanistan was to a large extent accepted and understood by both soldiers and commanders. The no-can-rule implies that one does not drink alcohol while being deployed on an international operation. Skjæveland's impression was that there are very conscious attitudes towards alcohol and safety in international operations.

Alcohol use in the Indian Armed Forces

In the present article, chi-square analyses were conducted in order to check independence between attributes (serving combat soldiers and other serving armed forces personnel not initiated as yet into combat on an Indian military sample) on alcohol consumption and smoking habits.

Independence among groups on alcohol consumption

Chi-square analyses were conducted to see whether combat veterans and other serving armed forces personnel not initiated as yet into combat differ with respect to drinking habits. Data was collected on alcohol use among drinkers and non-drinkers and combat veterans and other serving armed forces personnel (non-combat veterans). Table 1 below gives an overview of the differences in drinking pattern that emerged.

Table 1. Table showing values for drinkers and non-drinkers amongst combat veterans (CV) and other serving armed forces personnel not initiated into combat (non-combat veterans: NCV) (N = 360)

	Drinkers	Non-drinkers	N	χ^2
CV	153	87	240	27.78***
NCV	77	43	120	

*** $p < .001$

Source: own elaboration.

In the present study, it is seen that chi-square value is 27.78 (Table 1) which is highly significant indicating that combat veterans reported higher drinking habits as compared to other armed forces personnel not initiated as yet into combat. Additional data was also collected for drinkers and non-drinkers amongst combat veterans injured in battle (CVI) and combat veterans uninjured in battle (CVU). Table 2 reveals the differences in drinking patterns that emerged in these personnel groups.

Table 2. Table showing values for drinkers and non-drinkers amongst combat veterans injured in battle (CVI) and combat veterans uninjured in battle (CVU) (N = 240)

	Drinkers	Non-drinkers	N	χ^2
CVI	79	41	120	18.52***
CVU	74	46	120	

*** $p < .001$

Source: own elaboration.

In the present study, it is seen that chi-square value is 18.52 (Table 2) which is highly significant indicating that combat veterans injured in battle reported higher drinking habits as compared to combat veterans uninjured in battle.

Independence among groups on smoking habits

Chi-square analyses has also been conducted to see whether combat veterans and other serving armed forces personnel not initiated as yet into combat differ with respect to smoking habits. Table 3 reveals the differences in smoking patterns that emerged in these personnel groups.

Table 3. Table showing values for smokers and non-smokers amongst combat veterans (CV) and other serving armed forces personnel not initiated as yet into combat (non-combat veterans: NCV) (N = 360)

	Smokers	Non-smokers	N	χ^2
CV	74	166	240	36.1***
NCV	55	65	120	

*** $p < .001$

Source: own elaboration.

In the present study, it is seen that chi-square value is 36.1 (Table 3) which is significant indicating that combat veterans and other serving armed forces personnel not initiated into combat do not resort to smoking as there are more non-smokers than smokers. It is seen that armed forces personnel not initiated as yet into combat tend to smoke more than combat veterans.

Discussion

Research studies have found that combat veterans consume alcohol as a coping strategy to deal with restricted personal freedom, deployment in dangerous combat zone for long duration and absence from family (Bray, Fairbank, & Marsden 1999; Watanabe, Harig, Rock, & Koshes 1994).

Research studies have reported an approximate 50% increase in smoking as well as alcohol consumption among military personnel in combat as compared to peacetime (Britt & Adler 1999; Hotopf *et al.* 2003a, 2003b; Schunkit *et al.* 2001; Sridhar *et al.* 2003). Few research studies have reported more alcohol consumption amongst combat veterans with lesser years of military service and found them to be at higher risk for alcohol abuse (Ames, Curadi, & Moore 2002; Kennedy & Zillmer 2006). Researchers have reported an increased consumption of alcohol by combat veterans during times of war as compared to peacetime (Bray *et al.* 2003).

Research studies have reported that consumption of alcohol affects mission readiness and performance of combat veterans in battle (Fisher, Hoggman, Austin-Lane, & Kao 2000).

Researchers have reported that more combat veterans were medically evacuated towards end of Vietnam War for alcohol and substance abuse than for war wounds (Reinstein 1972; Stanton 1976; Watanabe *et al.* 1994). However, consumption of alcohol by combat veterans has been reported to be less during Gulf war since Muslim tradition of host nation Saudi Arabia forbade consumption of alcohol (Watanabe *et al.* 1994; Kennedy & Zillmer 2006).

Conclusion

Given the macho military culture associated with drinking as an admirable ability to 'hold one's drink' or compelling capacity to out drink others, developing preventive programs aimed at alcohol abuse prevention are unlikely to have a huge impact on soldiers who operate in stressful environments and feel the need to 'have a peg or two' at the end of a hard day's work in the military. Under such circumstances, leaders would do well in promoting responsible drinking would have more beneficial outcomes wherein individual soldiers assume responsibility for their behaviour when under the influence of alcohol and bear accountability for their acts of omission and commission. While the threat of using alcohol and psychoactive substances in uniformed formations is real and increasing in most countries, military leaders, policy makers and all stake holders need to find better ways and awareness programmes in conveying through the chain of command that excessive drinking behaviors are no longer considered to be in consonance with espoused military values and will invariably invite stringent action which are strong deterrents against alcohol and substance abuse.

References

- Ames G.M., Cunradi C.B., Moore R.S., 2002, *Alcohol, tobacco, and drug use among young adults prior to entering the military*, *Prevention Science*, no. 3, pp. 135–144.
- Ames G.M., Cunradi C.B., 2004, *Alcohol Use and Preventing Alcohol-Related Problems Among Young Adults in the Military*, *Alcohol Research & Health*, no. 28(4), pp. 252–257.
- Baan R., Straif K., Grosse Y., Secretan B., El Ghissassi F., Bouvard V., Altieri A., 2007, *Carcinogenicity of alcoholic beverages*, *The Lancet Oncology*, no. 8(4), pp. 292–293.
- Bakken C.S., 2015, *Drikkevaner på Krigsskolen [Drinking habits at the Norwegian Military Academy]*, Oslo: The Norwegian Military Academy.

- Barrett F.J., 1996, *The organizational construction of hegemonic masculinity: The case of the US Navy*, Gender Work & Organization, no. 3(3), pp. 129–142.
- Bergen-Cico D.K., 2011, *War and drugs: The role of military conflict in the development of substance abuse*, Boulder, CO: Paradigm.
- Bowles S.V., Bartone P.T., 2017, *Substance use disorders in the United States Military: Current approaches and future directions*. *Handbook of Military Psychology. Clinical and Organizational Practice*, Cham: Springer International Publishing AG.
- Bray R.M., Fairbank J.A., Marsden M.E., 1999, *Stress and substance use among military women and men*, American Journal of Drug and Alcohol Abuse, no. 25, 239–256.
- Bray R.M., Hourani L.L., Rae K.L., Dever J.A., Brown J.M., Vincus A.A. et al., 2003, 2002 *Department of Defense survey of health related behaviors among military personnel*, Report prepared for the Assistant Secretary of Defense (Health Affairs).
- Britt T.W., Adler A.B., 1999, *Stress and health during medical humanitarian assistance missions*, Military Medicine, no. 164, pp. 275–179.
- Campos J.A.D.B., Schneider V., Bonafé F.S.S., Oliveira R.V., Maroco J., 2016, *Burnout Syndrome and alcohol consumption in prison employees*, Brazilian Journal of Epidemiology, no. 19(1), pp. 205–216.
- Chief of Defence, 2009, *Direktiv for Forsvarets rusforebyggende arbeid [Directive for the Norwegian Armed Forces' Preventive Work]*, Oslo: The Norwegian Armed Forces.
- Christoffersen L., Johannessen A., Tuft P.A., 2010, *Introduksjon til samfunnsvitenskapelig metode [Introduction to social scientific method]*, Oslo: Abstrakt forlag.
- Ciubară A. et al., 2015, *Alcohol Addiction – A Psychosocial Perspective*, Procedia-Social and Behavioral Sciences, no. 187, pp. 536–540.
- Cochran G., Davis K., 2012, *Social work and the Uniform Accident and Sickness Policy Provision Law: A pilot project*, Social Work, no. 57(1), pp. 39–48.
- Courtwright D.T., 2001, *Dark paradise: A history of opiate addiction in America*, Cambridge: Harvard University Press.
- Davey J.D., Obst P.L., Sheehan M.C., 2000, *Developing a Profile of Alcohol Consumption Patterns of Police Officers in a Large Scale Sample of an Australian Police Service*, European Addiction Research, no. 6, pp. 205–212.
- Faszczka M.N., 2018, *Pijany jak żołnierz? Rozważania o źródłach pewnego rzymskiego stereotypu [Drunk as a soldier? Reflections on the sources of a certain Roman stereotype]*, in: W.A. Niewiński (ed.), *Alkohol w wojsku i na wojnie. Z dziejów wojskowości polskiej i powszechnej [Alcohol in the army and war. From the history of Polish and universal military]* (pp. 7–25), Oświęcim: Wydawnictwo Napoleon V & Autorzy.
- Fernandez W.G., Hartman R., Olshaker J., 2006, *Brief Interventions to Reduce Harmful Alcohol Use among Military Personnel: Lessons Learned from the Civilian Experience*, Military Medicine, no. 171(6), pp. 538–543.
- Finley E.P., 2011, *Fields of combat: Understanding PTSD among veterans of Iraq and Afghanistan*, Ithaca: Cornell University.
- Fisher C.A., Hoggman K.J., Austin-Lane J., Kao T., 2000, *The relationship between heavy alcohol use and work productivity loss in active duty military personnel: A secondary analysis of the 1995 Department of Defense world-wide survey*, Military Medicine, no. 165, pp. 355–361.
- Gamble N., 2017, *A Medical-Historical Examination of the Death of Alexander the Great*, Journal of Ancient History and Archaeology, no. 4(3), pp. 18–29.

- Gawłowska W., 1991, *Recepcja antycznych biografii Aleksandra Wielkiego w średniowiecznej literaturze zachodnioeuropejskiej [Reception of ancient biographies of Alexander the Great in medieval Western European literature]*, Acta Universitatis Lodzianis Folia Litteraria, no. 31, pp. 187–220.
- Giosan C., Marineanu V., 2018, *Prevalența tulburărilor psihice în Armata României – Proiectul „Stareameadebine.com” [Prevalence of mental disorders in the Romanian Military – The project “Stareameadebine.com”]*. Unpublished manuscript].
- Gossop M., 1993, *Narkotyki – mity i rzeczywistość [Drugs – myths and reality]*, Warszawa: Wydawnictwo Naukowe PWN.
- Hennig-Fast K., Werner N.S., Lermer R., Latscha K., Meister F., Reiser M., Engel R.R., Meindl T., 2009, *After facing traumatic stress: brain activation, cognition and stress coping in policemen*, Journal of Psychiatric Research, no. 43, pp. 1146–1155.
- Holyst B., 2013, *Policja na świecie [Police in the world]*, Warszawa: LexisNexis.
- Horverak Ø., Bye E., 2007, *Det norske drikkemønsteret. En studie basert på Intervjudata fra 1973–2004 [The Norwegian drinking pattern. A study based on interview data from 1973–2004]*, SIRIUS rapport nr 2/2007.], Oslo: Statens institutt for rusmiddelforskning.
- Hotopf M., David A., Hull L., Ismail K., Palmer I., Unwin C. et al., 2003a, *The health effects of peace-keeping in the UK armed forces: Bosnia 1992–1996. Predictors of psychological symptoms*, Psychological Medicine, no. 33, pp. 155–162.
- Hotopf M., David A., Hull L., Ismail K., Unwin C., Wessely S., 2003b, *The health effects of peacekeeping (Bosnia, 1992–1996): A cross-sectional study-comparison with nondeployed military personnel*, Military Medicine, no. 168, pp. 408–413.
- Huntington S., 1957, *The Soldier and the State: The Theory and Politics of Civil-Military Relations*, New York: Belknap Press.
- Izydorczyk B., 2017, *Trauma in relation to psychological characteristics in women with eating disorders*, Current Issues in Personality Psychology, no. 5(4), pp. 244–259.
- Jahiel R.I., Babor T.F., 2007, *Industrial epidemics, public health advocacy and the alcohol industry: Lessons from other fields*, Addiction, no. 102(9), pp. 1335–1339.
- Kamiński Ł., 2012, *Farmakologizacja wojny. Historia narkotyków na polu bitwy [Pharmacologization of the war. The history of drugs on the battlefield]*, Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
- Kennedy C.H., Zillmer E.A., 2006, *Military Psychology: Clinical and Operational Applications*, New York, London: The Guilford Press.
- Leino T., Eskelinen K., Summala H., Virtanen M., 2011, *Work-related violence, debriefing and increased alcohol consumption among police officers*, International Journal of Police Science & Management, no. 13(2), pp. 149–157.
- Lindsay V., 2008, *Police Officers and Their Alcohol Consumption: Should We Be Concerned?* Police Quarterly, no. 11(1), pp. 74–87.
- Maj S., 2013, *Odpowiedzialność dyscyplinarna policjantów za czyny popełnione poza służbą [Disciplinary liability of police officers for acts committed outside the service]*, in: W.P. Józwiak, K. Opaliński (eds.), *Zasady etyki zawodowej w służbach mundurowych [Principles of professional ethics in uniformed services]* (pp. 109–114), Piła: Wydawnictwo Szkoły Policji w Pile.
- Moynahan J.M., 1987, *Northern Ireland's Prison Officers*, From International Corrections – An Overview, pp. 73–77.

- Narloch K., 2018, *Puchar cięższy od miecza. Alkohol a dyscyplina w armii późnego cesarstwa* [The cup is heavier than the sword. Alcohol and discipline in the army of the late empire], in: W.A. Niewiński (ed.), *Alkohol w wojsku i na wojnie. Z dziejów wojskowości polskiej i powszechnej* [Alcohol in the army and war. From the history of Polish and universal military], (pp. 26–41), Oświęcim: Wydawnictwo Napoleon V & Autorzy.
- Niewiński A., 2018, *Rola i znaczenie wina w wojennej egzystencji Średniowiecza* [The role and importance of wine in the medieval war existence], in: W.A. Niewiński (ed.), *Alkohol w wojsku i na wojnie. Z dziejów wojskowości polskiej i powszechnej* [Alcohol in the army and war. From the history of Polish and universal military], (pp. 42–56), Oświęcim: Wydawnictwo Napoleon V & Autorzy.
- Pastwa-Wojciechowska, B., Piotrowski A., 2016, *Sources, Consequences and Methods of Coping with Stress in Police Officers*, *Alcoholism & Drug Dependence*, no. 4(4).
- Pendergrast M., 2010, *Uncommon grounds: The history of coffee and how it transformed our world*, New York: Basic Books.
- Petruk E., 2004, *Problem picia alkoholu a rola zawodowa funkcjonariuszy służby więziennej* [The problem of drinking alcohol and the professional role of prison officers], in: W. Ambroziak, P. Stępiak (eds.), *Służba więzienna wobec problemów resocjalizacji penitencjarnej* [Prison service in the face of penitentiary rehabilitation problems], (pp. 319–325), Poznań: WOLUMIN.
- Piotrowski A., 2018, *Samoocena stanu zdrowia, wypadki w trakcie służby i profilaktyka stresu zawodowego w Służbie Więziennej* [Self-assessment of health, accidents during service and prevention of occupational stress in the Prison Service], *Medycyna pracy*, no. 69(4), pp. 425–438.
- Piotrowski A., Kubacka K., 2013, *Autorytaryzm a postawy rodzicielskie żołnierzy* [Authoritarianism and parental attitudes of soldiers], *Zeszyty Naukowe WSOWL*, no. 4(170), pp. 28–47.
- Poehlman J.A., Schwerin M.J., Pemberton M.R., Isenberg K., Lane M.E., Aspinwall K., 2011, *Socio-cultural factors that foster use and abuse of alcohol among a sample of enlisted personnel at four navy and marine corps installations*, *Military Medicine*, no. 176(4), pp. 397–401.
- Rawat S., 2008, *Stress, Coping and some related factors amongst serving combat veterans*, Unpublished doctoral research thesis submitted to University of Pune, India.
- Reinstein M., 1972, *Drugs and the military physician*, *Military Medicine*, no. 137, pp. 122–125.
- Richmond R.L., Wodak A., Kehoe L., Heather N., 1998, *How healthy are the police? A survey of life-style factors*, *Addiction*, no. 93(11), pp. 1729–1737.
- Rode D., Rode M., 2018, *Risk factors in committing domestic violence in light of gender psychology*, *Current Issues in Personality Psychology*, no. 6(2), pp. 143–153.
- Rorabaugh W.J., 1979, *The alcoholic republic: An American tradition*. New York: Oxford University Press.
- Russell D.W., Russell C.A., Riviere L.A., Thomas J.L., Wilk J.E., Bliese P.D., 2014, *Changes in alcohol use after traumatic experiences: The impact of combat on Army National Guardsmen*, *Drug and Alcohol Dependence*, no. 139, pp. 47–52.
- Saunders J.B., Peacock A., Degenhardt L., 2018, *Alcohol Use Disorders in the Draft ICD-11, and How They Compare with DSM-5*, *Current Addiction Reports*, no. 5(2), pp. 257–264.

- Sbarounis N.C., 1997, *Did Alexander the Great die of acute pancreatitis?*, *Journal Clin Gastroenterol* no. 24(4), pp. 294–6.
- Schumm J.A., Chard K.M., 2012, *Alcohol and stress in the military*, *Alcohol research: current reviews*, no. 34(4), pp. 401–407.
- Schunkit M.A., Kraft H.S., Hurtado S.L., Tschinkel S.A., Mingawa R., Shaffer R.A., 2001, *A measure of the intensity of response to alcohol in a military population*, *American Journal of Drug and Alcohol Abuse*, no. 27, pp. 749–747.
- Sher L., 2006, *Alcohol consumption and suicide*, *QJM: An International Journal of Medicine*, no. 99(1), pp. 57–61.
- Skjæveland W.L., 2008, *Alkoholbruk i et HMS perspektiv [The use of alcohol in a Health, environment and security perspective]*. Stavanger: University of Stavanger.
- Sridhar A., Deuster P.A., Becker W.J., Coll R., O'Brien K.K., Bathalon G., 2003, *Health assessment of U.S. Army Rangers*, *Military Medicine*, no. 168, pp. 57–62.
- Stanton M.D., 1976, *Drugs, Vietnam, and the Vietnam veteran: An overview*, *American Journal of Drug and Alcohol Abuse*, no. 3, pp. 557–570.
- Stein M.D., 1999, *Medical Consequences of Substance Abuse*, *Psychiatric Clinics of North America*, no. 22(2), pp. 351–370.
- Szymańska M., Prystupa A., Koprianiuk-Sowińska A., Schabowski J., Mosiewicz J., 2011, *Alkoholowa choroba wątroby w praktyce lekarskiej [Alcoholic liver disease in medical practice]*, *Medycyna Ogólna i Nauki o Zdrowiu*, no. 17(3), pp. 148–154.
- Szymczak A., Niškiewicz I., Krela-Kaźmierczak I., Linke K., 2009, *Wpływ alkoholu na wybrane schorzenia przewodu pokarmowego [The effect of alcohol on selected gastrointestinal diseases]*, *Nowiny Lekarskie*, no. 78(3–4), pp. 222–227.
- Sygit-Kowalkowska E., Ziółkowski M., 2019, *Workplace stress and alcohol consumption. Research state-of-art review and further development*, *Alcoholism and Drug Addiction/Alkoholizm i Narkomania*, no. 32(2), pp. 109–130.
- Territo L., Vetter H., 1981, *Stress and police personnel*, *Journal of Police Science and Administration*, no. 9, pp. 195–208.
- The Norwegian Armed Forces, 2016, *Refselse [Disciplinary act]*, Retrieved 20 January 2020 from <https://forsvaret.no/tjeneste/forstegangstjeneste/refselse>.
- The Norwegian Institute of Public Health, 2015, *Alkoholpromille [Alcohol drinking]*, Oslo: The Norwegian Institute of Public Health.
- Verrall N., 2011, *A Review of Military Research into Alcohol Consumption*, *BMJ Military Health*, no. 157, pp. 164–169.
- Walas S., 2018, *Alkohol u Kozaków Zaporoskich w czasie pokoju i wojny do 1657 roku [Alcohol at the Zaporozhian Cossacks during peace and war until 1657]*, in: W.A. Niewiński (ed.), *Alkohol w wojsku i na wojnie. Z dziejów wojskowości polskiej i powszechnej [Alcohol in the army and war. From the history of Polish and universal military]* (pp. 69–84), Oświęcim: Wydawnictwo Napoleon V & Autorzy.
- Watanabe H.K., Harig P.T., Rock N.L., Koshes R.J., 1994, *Alcohol and drug abuse and dependence*, in: R. Zajchuk, R.F. Bellamy (eds.), *Textbook of military medicine: Military psychiatry: Preparing in peace for war* (pp. 61–90), Washington, DC: Office of the Surgeon General, U.S. Department of the Army.
- Weir H., Stewart D.M., Morris R.G., 2012, *Problematic alcohol consumption by police officers and other protective service employees: A comparative analysis*, *Journal of Criminal Justice*, no. 40(1), pp. 72–82.

- Wojewódzki I., 2018, *Alkohol w Royal Navy w epoce Nelsona – antecedencje i konsekwencje* [Alcohol in the Royal Navy in the Nelson era – antecedents and consequences], in: W.A. Niewiński (ed.), *Alkohol w wojsku i na wojnie. Z dziejów wojskowości polskiej i powszechnej* [Alcohol in the army and war. From the history of Polish and universal military] (pp. 119–142), Oświęcim: Wydawnictwo Napoleon V & Autorzy.
- Wojnar M., 2017, *Medyczne aspekty uzależnienia od alkoholu* [Medical aspects of alcohol addiction], Warszawa: Państwowa Agencja Rozwiązywania Problemów Alkoholowych.
- World Health Organization, 2018, *Global status report on alcohol and health 2018*, Geneva: World Health Organization. Retrieved 20 January 2020 from <https://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf?ua=1>.
- Zavala E., 2018, *Assessing the Role of Gambling on Problematic Alcohol Consumption by Police Officers*, *Journal of Gambling Studies*, no. 34(3), pp. 659–672.
- Zavala E., Curry T.R., 2018, *The role of religious coping on problematic alcohol consumption by police officers*, *Police Practice & Research*, no. 19(1), pp. 31–45.
- Zavala E., Kurtz D.L., 2017, *Using Gottfredson and Hirschi's A General Theory of Crime to Explain Problematic Alcohol Consumption by Police Officers: A Test of Self-Control as Self-Regulation*, *Journal of Drug Issues*, no. 47(3), pp. 505–522.
- Zukauskas G., Dapsys K., Jasmontaite E., Susinskas J., 2001, *Some psychosocial problems of police officers in Lithuania*, *Policing: An International Journal*, no. 24(3), pp. 301–309.

