



RESEARCH SUMMARY
Date Compiled: April 2022

Key takeaways from included research:

- A new research letter was released examining the alcohol-related deaths during the first year of the COVID-19 pandemic. Researchers found that alcohol-related deaths increased by approximately 25% between 2019 and 2020, outpacing the all-cause mortality, which was 16.6%. Authors called out hidden tolls of the pandemic as they relate to alcohol consumption and the shift in policies during that period.
- A study was conducted to examine unhealthy alcohol use among the US military, particularly among those deployed, combat-exposed, and those in the reserve. Researchers found that combat events were associated with unhealthy alcohol use post-deployment. They emphasized the need to better understand the trauma-alcohol use relationship to prevent unhealthy alcohol use among military personnel.
- Research was conducted among past-month alcohol users who also reported chronic musculoskeletal pain. The purpose of the study was to examine the relationship between emotion dysregulation, pain intensity, and hazardous alcohol use among individuals with chronic pain. Researchers found that emotion dysregulation may contribute to hazardous drinking among those with chronic pain, and may possibly intensify the pain they are feeling.
- Research was conducted to better understand the patterns and correlates of polysubstance use among individuals with severe alcohol use disorder (AUD). The study found that patterns vary among demographic and behavioral factors. Researchers suggest further assessing use may better inform treatment and prevention targets.
- Social media is a highly popular medium for adolescents to communicate while also being exposed to potentially hazardous content such as alcohol and tobacco advertising. A survey of elementary and middle schoolers concluded that social media exposure is a risk factor for kids and that parental mediation is a promising intervention to mitigate the exposures.

ALCOHOL-RELATED DEATHS DURING THE COVID-19 PANDEMIC

March 2022

Research suggests that alcohol consumption and related harms increased during the first year of the COVID-19 pandemic. Studies reported increases in drinking to cope with stress, transplants for alcohol-associated liver disease, and emergency department visits for alcohol withdrawal. We examined mortality data to assess whether alcohol-related deaths increased during the pandemic as well.

Methods: US mortality data from the National Center for Health Statistics were used to compare numbers and rates of alcohol-related and all-cause deaths among all individuals 16 years or older in 2019 and 2020. Provisional data for the first half of 2021 (as of January 2022) were obtained from the Centers for Disease Control and Prevention Wide-ranging Online Data for Epidemiologic Research. The National Institutes of Health Office of Intramural Research deemed the project exempt from institutional review board oversight.

Death certificates list an underlying cause and up to 20 multiple (contributing) causes. Deaths were identified as alcohol-related if an alcohol-induced cause was listed as an underlying or contributing cause (Supplement). Age-adjusted rates were calculated using the 2000 US Standard Population. For age groups, age-specific rates were presented instead. Comparisons between rates in 2019 and 2020 overall and by age group and sex were conducted with SAS, version 9.4 (TS Level 1M3) using 2-tailed z tests with an α level of .05.

Results: The number of deaths involving alcohol increased between 2019 and 2020 (from 78 927 to 99 017 [relative change, 25.5%]), as did the age-adjusted rate (from 27.3 to 34.4 per 100 000 [relative change, 25.9%]) (Table). Comparatively, deaths from all causes had smaller relative increases in number (from 2 823 460 to 3 353 547 [18.8%]) and rate (from 938.3 to 1094.3 per 100 000 [16.6%]). Alcohol-related deaths accounted for 2.8% of all deaths in 2019 and 3.0% in 2020.

The Figure presents the number of alcohol-related deaths in 2019 and 2020 by month, with provisional data included for the first 6 months of 2021.

Rates increased for all age groups, with the largest increases occurring for people aged 35 to 44 years (from 22.9 to 32.0 per 100 000 [39.7%]) and 25 to 34 years (from 11.8 to 16.1 per 100 000 [37.0%]). Increases in rates were similar for females (from 13.7 to 17.5 per 100 000 [27.3%]) and males (from 42.1 to 52.6 per 100 000 [25.1%]) (Table).

The number of deaths with an underlying cause of alcohol-associated liver diseases increased from 24 106 to 29 504 (22.4%) and the number of deaths with an underlying cause of alcohol-related mental and behavioral disorders increased from 11 261 to 15 211 (35.1%). Opioid overdose deaths involving alcohol as a contributing cause increased from 8503 to 11 969 (40.8%). Deaths in which alcohol contributed to overdoses specifically on synthetic opioids other than methadone (eg, fentanyl) increased from 6302 to 10 032 (59.2%).

During 2020, a total of 2042 death certificates listed alcohol and COVID-19 as causes (1475 listed COVID-19 as the underlying cause, 323 listed alcohol as the underlying cause). As such, only a small proportion of the increase in alcohol-related deaths involved COVID-19 directly.

Discussion: The number and rate of alcohol-related deaths increased approximately 25% between 2019 and 2020, the first year of the COVID-19 pandemic. Rates increased prior to the pandemic, but less rapidly (2.2% mean annual percent change between 1999 and 20174). The rate increase for alcohol-related deaths in 2020 outpaced the increase in all-cause mortality, which was 16.6%.

Previous reports suggest the number of opioid overdose deaths increased 38% in 2020, with a 55% increase in deaths involving synthetic opioids such as fentanyl. There were similar increases in the

number of deaths in which alcohol contributed to overdoses of opioids (40.8%) and, specifically, synthetic opioids (59.2%).

Deaths involving alcohol reflect hidden tolls of the pandemic. Increased drinking to cope with pandemic-related stressors, shifting alcohol policies, and disrupted treatment access are all possible contributing factors.¹ Whether alcohol-related deaths will decline as the pandemic wanes, and whether policy changes could help reduce such deaths, warrants consideration.

Study limitations include inaccurate death certificates, such as underreporting of alcohol involvement, and unclear causal relationships among listed causes of deaths. Provisional data are subject to change when more death certificates are processed.

Source: White, A. M., Castle, I. J. P., Powell, P. A., Hingson, R. W., & Koob, G. F. (2022). Alcohol-related deaths during the CoViD-19 pandemic. *JAMA*.

<https://jamanetwork.com/journals/jama/fullarticle/2790491>

In the News: Roni Caryn Rabin. (2022, March 22). Alcohol-Related Deaths Spiked During the Pandemic, a Study Shows. *The New York Times*.

<https://www.nytimes.com/2022/03/22/health/alcohol-deaths-covid.html>

POSTDEPLOYMENT ALCOHOL USE AND RISK ASSOCIATED WITH DEPLOYMENT EXPERIENCES, COMBAT EXPOSURE, AND POSTDEPLOYMENT NEGATIVE EMOTIONS AMONG ARMY NATIONAL GUARD SOLDIERS

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Objective: A continued health concern of the U.S. military has been unhealthy alcohol use by its service members, in particular among several subpopulations—the deployed, the combat-exposed, and the reserve component. This study provides prevalence estimates of post-deployment alcohol use among recently deployed Army National Guard (ARNG) personnel and compares the rates with those of soldiers in previously published studies. We also examine deployment experiences and combat events associated with postdeployment alcohol use and the role of negative emotions in this relationship.

Method: Study data were cross-sectional, retrospective soldier responses to an ongoing survey of health and well-being, called the Reintegration Unit Risk Inventory. The study sample consisted of recently returned Operation Iraqi Freedom ARNG soldiers (N = 4,567 in 50 companies), many of whom had participated in combat. Soldiers' alcohol use was compared with that of a sample of ARNG soldiers serving in their traditional part-time military service role who had responded to the Unit Risk Inventory, as well as with alcohol use reported in the research literature for deployed military personnel. Relationships among deployment and combat experiences, negative emotions, and postdeployment alcohol use were examined using multiple regression and mediation analyses.

Results: Combat events were associated with unhealthy alcohol use during postdeployment. In addition, postdeployment negative emotions mediated this relationship.

Conclusions: Findings have implications for understanding the trauma-alcohol use relationship and for prevention of unhealthy alcohol use among military personnel.

Source: Griffith, J. (2022). Postdeployment alcohol use and risk associated with deployment experiences, combat exposure, and postdeployment negative emotions among Army National Guard soldiers. *Journal of studies on alcohol and drugs*, 83(2), 202-211.

<https://www.jsad.com/doi/full/10.15288/jsad.2022.83.202>

PAIN INTENSITY, EMOTION DYSREGULATION, AND HAZARDOUS DRINKING AMONG ADULTS WITH CHRONIC PAIN

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Objective: Chronic pain and hazardous alcohol use (i.e., a pattern of alcohol consumption that increases risk for harmful consequences) are prevalent and frequently comorbid conditions that have been posited to interact in a bidirectional manner, leading to greater pain and heavier drinking. Despite evidence that emotion dysregulation (i.e., difficulty modulating emotional responses when experiencing negative emotions) is independently associated with both greater pain and greater alcohol consumption, we are not aware of any previous research examining relations between emotion dysregulation, pain intensity, and hazardous alcohol use among individuals with chronic pain.

Method: Participants included 125 past-month alcohol users with chronic musculoskeletal pain (38.4% female; mean age = 32.97 years; mean drinks/day = 1.62) who were recruited for an online survey study of pain and substance use.

Results: As expected, emotion dysregulation was positively associated with increased odds of hazardous alcohol use. We also observed a significant indirect association, such that higher levels of emotion dysregulation were associated with greater pain intensity, which in turn was associated with a greater likelihood of scoring above the Alcohol Use Disorders Identification Test cutoff for hazardous alcohol use.

Conclusions: These findings suggest that emotion dysregulation may contribute to hazardous drinking among individuals with chronic pain, perhaps indirectly via pain amplification. Emotion dysregulation warrants consideration as a potential transdiagnostic vulnerability factor in comorbid chronic pain and hazardous drinking. Future prospective research is needed to examine causal pathways and establish temporal precedence.

Source: Hooker, J. E., LaRowe, L. R., Powers, J. M., & Ditre, J. W. (2022). Pain Intensity, Emotion Dysregulation, and Hazardous Drinking Among Adults With Chronic Pain. *Journal of studies on alcohol and drugs*, 83(2), 223-230. <https://www.jsad.com/doi/full/10.15288/jsad.2022.83.223>

PATTERNS AND CORRELATES OF POLYSUBSTANCE USE AMONG INDIVIDUALS WITH SEVERE ALCOHOL USE DISORDER GET ACCESS ARROW

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Aim: The present study examined patterns and correlates of polysubstance use among individuals with severe alcohol use disorder (AUD).

Methods: Participants were 2785 individuals (63% female; mean age = 43 years, range = 18–78 years) from the Genes, Addiction and Personality Study. All participants met lifetime criteria for severe AUD (6+ symptoms). We used latent class analysis to identify patterns of frequency of lifetime use for cigarettes, marijuana, cocaine, stimulants, sedatives, opioids and hallucinogens. A variety of demographic and behavioral correlates of latent class membership were tested in univariable and multivariable models.

Results: A five-class solution was selected: extended range polysubstance use (24.5%); cigarette and marijuana use (18.8%); ‘testers,’ characterized by high probabilities of smoking 100 or more cigarettes, using marijuana 6+ times, and trying the remaining substances 1–5 times (12.3%); moderate range polysubstance use (17.1%) and minimal use (reference class; 27.3%). In univariable analyses, all potential correlates were related to latent class membership. In the multivariable model, associations with gender, race/ethnicity, age of onset for alcohol problems, dimensions of impulsivity, depressive symptoms, antisocial behavior and family history density of alcohol problems remained significant, though the pattern and strength of associations differed across classes. For instance,

sensation-seeking, lack of premeditation and family history were uniquely associated with membership in the extended range polysubstance use class.

Conclusion: Patterns of polysubstance use are differentially related to demographic and behavioral factors among individuals with severe AUD. Assessing use across multiple substances may inform the selection of targets for treatment and prevention.

Source: Stephenson, M., Aggen, S. H., Polak, K., Svikis, D. S., Kendler, K. S., & Edwards, A. C. (2022). Patterns and Correlates of Polysubstance Use Among Individuals With Severe Alcohol Use Disorder. *Alcohol and Alcoholism*. <https://doi.org/10.1093/alcalc/aqac012>

PARENTAL MEDIATION MODERATES THE ASSOCIATION BETWEEN SOCIAL MEDIA EXPOSURE AND TOBACCO AND ALCOHOL USE: DIFFERENCES BETWEEN ELEMENTARY AND MIDDLE SCHOOL STUDENTS

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Objective: With the popularity of social media among adolescents, the relation between social media exposure (especially exposure to undesirable content) and adolescent tobacco and alcohol use has attracted much attention. This study examined the association between social media exposure and tobacco and alcohol use, as well as the moderating role of parental active mediation and restrictive mediation; differences between elementary and middle school students were also investigated.

Method: A total of 697 elementary school students ages 9–13 and 794 middle school students ages 12–18 were recruited to complete a questionnaire survey.

Results: Social media exposure was positively associated with tobacco and alcohol use among both elementary and middle school students. For elementary school students, both active mediation and restrictive mediation moderated the association between social media exposure and tobacco and alcohol use; for middle school students, neither of these moderating effects was significant.

Conclusions: Findings suggest that social media exposure is a risk factor for both elementary and middle school students. Both parental active and restrictive mediation are promising targets for intervention because they can mitigate the risk of social media exposure for elementary school students. However, further research should focus on factors that effectively buffer the negative effects of social media exposure on tobacco and alcohol use among middle school students.

Source: Yao, L. S., Sun, X. J., Niu, G. F., Zheng, Y. L., & Chinyani, T. (2022). Parental Mediation Moderates the Association Between Social Media Exposure and Tobacco and Alcohol Use: Differences Between Elementary and Middle School Students. *Journal of Studies on Alcohol and Drugs*, 83(2), 267-275. <https://www.jsad.com/doi/full/10.15288/jsad.2022.83.267>