Blackouts amongst Youth

As might be expected given the excessive drinking habits of many college students (Wechsler et al. 2002), this population commonly experiences blackouts. White and colleagues (2002c) recently surveyed 772 undergraduates regarding their experiences with blackouts. Respondents who answered yes to the question "Have you ever awoken after a night of drinking not able to remember things that you did or places that you went?" were considered to have experienced blackouts. Fifty–one percent of the students who had ever consumed alcohol reported blacking out at some point in their lives, and 40 percent reported experiencing a blackout in the year before the survey. Of those who had consumed alcohol during the 2 weeks before the survey, 9.4 percent reported blacking out during this period. Students in the study reported that they later learned that they had participated in a wide range of events they did not remember, including such significant activities as vandalism, unprotected intercourse, driving an automobile, and spending money.

During the 2 weeks preceding the survey, an equal percentage of males and females experienced blackouts, despite the fact that males drank significantly more often and more heavily than females. This outcome suggests that at any given level of alcohol consumption, females—a group infrequently studied in the literature on blackouts—are at greater risk than males for experiencing blackouts. The greater tendency of females to black out likely arises, in part, from well–known gender differences in physiological factors that affect alcohol distribution and metabolism, such as body weight, proportion of body fat, and levels of key enzymes. There also is some evidence that females are more susceptible than males to milder forms of alcohol–induced memory impairments, even when given comparable doses of alcohol (Mumenthaler et al. 1999).

In a subsequent study, White and colleagues (2004) interviewed 50 undergraduate students, all of whom had experienced at least one blackout, to gather more information about the factors related to blackouts. As in the previous study, students reported engaging in a range of risky behaviors during blackouts, including sexual activity with both acquaintances and strangers, vandalism, getting into arguments and fights, and others. During the night of their most recent blackout, most students drank either liquor alone or in combination with beer. Only 1 student out of 50 reported that the most recent blackout occurred after drinking beer alone. On average, students estimated that they consumed roughly 11.5 drinks before the onset of the blackout. Males reported drinking significantly more than females, but they did so over a significantly longer period of time. As a result, estimated peak BACs during the night of the last blackout were similar for males (0.30 percent) and females (0.35 percent). As Goodwin observed in his work with alcoholics (1969*b*), fragmentary blackouts occurred far more often than en bloc blackouts, with four out of five students indicating that they eventually recalled bits and pieces of the events. Roughly half of all students (52 percent) indicated that their first full memory after the onset of the blackout was of waking up in the morning, often in an unfamiliar location. Many students, more females (59 percent) than males (25 percent), were frightened by their last blackout and changed their drinking habits as a result.

Aaron M. White, *What Happened? Alcohol, Memory Blackouts, and the Brain* (2003).
Alcohol Research & Health. 2003 Vol 27(2) p. 189-190

Research Abstracts on Blackouts in Youth Populations

Alcohol use and negative consequences among American college students in West Germany.
Cronin, Christopher J., et al.
International Journal of the Addictions, Vol 26(10), Oct, 1991. pp. 1123-1136.
Abstract:

Administered a questionnaire to 216 American college students at an American university in West Germany to examine alcohol consumption and negative consequences due to drinking. As compared with stateside peers (A. D. Berkowitz and H. W. Perkins, 1987), Ss

reported a higher frequency and amount of drinking, along with higher rates of negative consequences (e.g., vomiting, blackout). Data are discussed in terms of the relationship between the American collegiate lifestyle of alcohol abuse and life in an alcohol-permissive society (i.e., West Germany) where problem drinking does not develop among native university students

Drinking-induced blackouts among young adults: Results from a national longitudinal study.

Jennison, Karen M. and Johnson, Kenneth A.

International Journal of the Addictions, Vol 29(1), Jan, 1994. pp. 23-51.

Abstract:

Examined amnesia drinking episodes among a national probability sample of 12,686 Ss when they were aged 19–26 yrs in 1984 and again when they were aged 23–30 yrs in 1988. Prospective blackout patterns of early onset, late onset, chronicity, and remission were analyzed using logistic regression statistical models. Results indicate that the relative risk of short-term memory loss while drinking is significantly associated with increased alcohol consumption, age of drinking onset, the number of alcoholic relatives, and, principally, with the individual's capacity to control drinking behavior. It is concluded that the blackout remission rate observed among a substantial proportion (68%) of young adults may not fit the progressive, irreversible model of alcoholism.

The prognostic importance of blackouts in young men.

Anthenelli, Robert M., et. al.

Dept of Veterans Affairs Medical Ctr, Psychiatry Service, San Diego, CA, US

Journal of Studies on Alcohol, Vol 55(3), May, 1994. pp. 290-295.

Abstract:

Evaluated the potential use of a history of blackouts to predict the development of future difficulties with alcohol by following individuals with and without histories of blackouts over an 8–12 yr period. 230 male Ss (aged 18–25 yrs at beginning of study) provided information on drinking and blackouts via an initial questionnaire and follow-up interview. Arrangements were made for a follow-up interview 8–22 yrs after initial contact. Results confirmed the high prevalence of alcohol-related blackouts in healthy young men, with 26% of Ss reporting a history of blackouts by their early 20s. These results indicate that alcohol-induced amnestic episodes are associated with the quantity and frequency of drinking, both relatively early on in the S's drinking career and through the subsequent decade of continued imbibing. However, blackouts are relatively poor predictors of an S's risk for developing either alcohol abuse or dependence.

Psychological consequences of alcohol induced blackout among college students.

Buelow, George, et al.

Journal of Alcohol and Drug Education, Vol 40(3), Spr 1995. pp. 10-20.

Abstract:

Determined the incidence of blackouts among a representative sample of college students who were relatively early in their drinking careers, and measured the impact of blackouts on their psychological lives. 196 students (126 women) completed the Blackout Questionnaire, the Impact of Event Scale, the Brief Michigan Alcoholism Screening Test, and a demographic questionnaire. 48% of Ss had a blackout during their drinking careers. Significant correlations were found among students' alcohol abuse scores, blackout risk taking, and intrusiveness of stressful thoughts about the blackout incident. Further, men

were significantly more likely than women to take risks during, and to experience more stressful intrusive thoughts about, the blackout incident.

Prevalence and Correlates of Alcohol-Induced Blackouts Among College Students: Results of an E-Mail Survey.
White, Aaron M., et al.
Journal of American College Health, Vol 51(3), Nov, 2002. pp. 117-119, 122-131.
Abstract:

The authors conducted an e-mail survey of 772 college students to learn more about their experiences with blackouts. Approximately half (51%) of those who had ever consumed alcohol reported they had experienced a blackout at some point in their lives, and 40% had experienced 1 in the year before the survey. Among those who drank in the 2 weeks before the survey, nearly 1 in 10 (9.4%) had experienced a blackout during that period. Many later learned that, during the blackout, they had vandalized property, driven an automobile, had sexual intercourse, or engaged in other risky behaviors. Experiencing 3 or more blackouts was associated with a variety of other experiences, including heavier drinking, lower grades, an earlier age of drinking onset, and having others express concerns about their drinking. The female students who reported blackouts during the 2 weeks before the survey drank far less than male students did during this time period, supporting the use of gender-specific definitions of risky drinking.

Relationship between patterns of alcohol use and negative alcohol-related outcomes among U.S. Air Force recruits.
Taylor, Jennifer E., et al.
Military Medicine, Vol 172(4), Apr, 2007. pp. 379-382.
Abstract:

The negative impact of alcohol use on workplace performance is of significant concern to the U.S. military, given the costs associated with recruiting, hiring, and training personnel. However, little is known about the extent of potential alcohol use problems of recruits. We examined the history of alcohol-related problems among recruits entering the Air Force (N=37,858). **Although the average age of recruits was <21 years, 78% reported consuming alcohol and 49% reported hinging before basic military training. Recruits who drank reported having negative alcohol-related outcomes (NAROs).** In fact, **>95% reported that they or someone else had been injured as a result of their drinking and that a relative, friend, doctor, or other health care worker has been concerned about their drinking.** The remaining NAROs were reported by approximately one-quarter of those who drank. **However, recruits who reported binge drinking were substantially more likely to report more NAROs, such as morning drinking, inability to stop drinking, having others be concerned about their drinking, having blackouts, fighting, having injured or been injured, feeling guilty about their drinking, and wanting to reduce the amount they drink**. Results suggest that alcohol-related problems are common among recruits before basic military training and screening for future problems may be beneficial.

Drinking and alcohol-related harm among New Zealand university students: Findings from a national web-based survey.
Kypri, Kypros, et al.
Alcoholism: Clinical and Experimental Research, Vol 33(2), Feb, 2009. pp. 307-314.
Abstract:

Background: Alcohol-related harm is pervasive among college students in the United States of America and Canada, where a third to half of undergraduates binge drink at least fortnightly. There have been no national studies outside North America. We estimated the prevalence of binge drinking, related harms, and individual risk factors among undergraduates in New Zealand. Methods: A web survey was completed by 2,548 undergraduates (63% response) at 5 of New Zealand's 8 universities. Drinking patterns and alcohol-related problems in the preceding 4 weeks were measured. Drinking diaries for the preceding 7 days were completed. Multivariate analyses were used to identify individual risk factors. Results: A total of 81% of both women and men drank in the previous 4 weeks, 37% reported 1 or more binge episodes in the last week, 14% of women and 15% of men reported 2+ binge episodes in the last week, and 68% scored in the hazardous range (4+) on the AUDIT consumption subscale. A mean of 1.8 (95% confidence interval 1.4, 2.3) distinct alcohol-related risk behaviors or harmful consequences were reported, e.g., 33% had a blackout, 6% had unprotected sex, and 5% said they were physically aggressive toward someone, in the preceding 4 weeks. Drink-driving or being the passenger of a drink-driver in the last 4 weeks was reported by 9% of women and 11% of men. Risk factors for frequent binge drinking included: lower age, earlier age of drinking onset, monthly or more frequent binge drinking in high school, and living in a residential hall or a shared house (relative to living with parents). These correlates were similar to those identified in U.S. and Canadian studies. Conclusions: Strategies are needed to reduce the availability and promotion of alcohol on and around university campuses in New Zealand. Given the high prevalence of binge drinking in high school and its strong association with later binge drinking, strategies aimed at youth drinking are also a priority. In universities, high-risk drinkers should be identified and offered intervention early in their undergraduate careers.

Binge Drinking and Declarative Memory in University Students

María Parada, Montserrat Corral, Francisco Caamaño-Isorna, Nayara Mota, Alberto Crego, Socorro Rodríguez Holguín, Fernando Cadaveira

Volume35, Issue8. August 2011. Pages 1475-1484

Abstract

Background: Binge drinking (BD), which is characterized by sporadic consumption of large quantities of alcohol in short periods, is prevalent among university students. Animal studies have shown that BD is associated with damage to the hippocampus, a region of the brain that plays a key role in learning and memory. The temporal cortex undergoes structural and functional changes during adolescence. The aim of the present study was to examine the association between BD and declarative memory in male and female university students.

Methods: The participants were 122 students (between 18 and 20 years of age): 62 BD (30 women) and 60 non-BD (29 women). The neuropsychological assessment included the Rey Auditory Verbal Learning Test (RAVLT) and Weschler Memory Scale-3rd ed. (WMS-III) Logical Memory subtest, to evaluate verbal declarative memory, and the WMS-III Family Pictures subtest, to measure visual declarative memory.

Results: The BD students remembered fewer words in the interference list and displayed greater proactive interference in the RAVLT; they performed worse in the Logical Memory subtest, both on immediate and delayed recall. There were no differences between the groups in performance of the Family Pictures subtest. No significant interactions were observed between BD and sex.

Conclusions: Binge drinking is associated with poorer verbal declarative memory, regardless of sex. The findings are consistent with the vulnerability of the adolescent hippocampus to the neurotoxic effects of alcohol. Longitudinal studies will help determine the nature of this relationship, the neurodevelopmental trajectories for each sex, and the repercussions on academic performance.

The burden of alcohol use: Excessive alcohol consumption and related consequences among college students.

White, Aaron and Hingson, Ralph.

Alcohol Research: Current Reviews, Vol 35(2), 2013. pp. 201-218.

Abstract:

Research shows that multiple factors influence college drinking, from an individual's genetic susceptibility to the positive and negative effects of alcohol, alcohol use during high school, campus norms related to drinking, expectations regarding the benefits and detrimental effects of drinking, penalties for underage drinking, parental attitudes about drinking while at college, whether one is member of a Greek organization or involved in athletics, and conditions within the larger community that determine how accessible and affordable alcohol is. Consequences of college drinking include missed classes and lower grades, injuries, sexual assaults, overdoses, memory blackouts, changes in brain function, lingering cognitive deficits, and death. This article examines recent findings about the causes and consequences of excessive drinking among college students relative to their non-college peers and many of the strategies used to collect and analyze relevant data, as well as the inherent hurdles and limitations of such strategies.

Characteristics of predrinking and associated risks: A survey in a sample of German high school students.

Wahl, Sonja, et al.

International Journal of Public Health, Vol 58(2), Apr, 2013. pp. 197-205.

Abstract:

Objectives: Finding predictors for predrinking and placing the new phenomenon of predrinking on a greater database. Predrinking is defined as alcohol consumption, alone or with friends, at home or at public places, before going out in the evening to a party or in bars or discotheques. Methods: Data were collected from a representative sample of 757 ninth- and tenth-grade students from 31 high schools located in a south German rural region and a city. Results: Predrinkers, especially those who show this behaviour frequently, were notably more likely to engage in hazardous drinking, and experienced significantly more frequent involvements in fights and alcohol-induced blackouts. They also stated more often that they had the intention of getting drunk when consuming alcohol. Conclusions: Predrinking proves to be a high-risk behaviour, particularly when it occurs at a high frequency. This behaviour has to be seen as part of a new youth culture, which does not seem to be limited to a certain subgroup—with all of the associated risks.

Drinking consequences and subsequent drinking in college students over 4 years.

Martinez, Julia A., et al.

Psychology of Addictive Behaviors, Vol 28(4), Dec, 2014. pp. 1240-1245.

Abstract:

There is some evidence that college student drinkers may continue drinking in the face of adverse consequences. We examined 2 hypotheses: (a) that this seemingly pathological behavior is a phenomenon of university life, occurring with consistency throughout the entirety of college, and (b) that individuals accumulate these consequences over multiple

semesters in college. A sample of 3,720 students from a large Midwestern university was asked to complete surveys the summer before college and every semester thereafter for 4 years. Results showed that certain drinking-related consequences (e.g., blackouts, regretted sexual experiences) consistently predicted continued frequent heavy drinking in the following semester, even after controlling for sex, race, age, and previous-semester frequent heavy drinking (range of odds ratio = 1.17 to 1.45 across semesters, $p < .01$). Such potent consequences may predict subsequent drinking for a number of possible reasons that may be examined and addressed as they would pertain to specific protective behavioral strategy-related and cognitive interventions. Furthermore, consequences were accumulated over multiple semesters by notable proportions of students. For example, 13.8% of students reported blacking out 5 time-points or more—describing a full half or more of their college careers. Experimental studies which aim to modify students' perceptions of norms associated with these consequences may aid in developing interventions to reduce the burden of harm to students. In the broader context, and given the prevalence of students' accumulation of consequences, future study might aim to determine how and in what ways these findings describe either pathological or normative processes.

Blackout drinking predicts sexual revictimization in a college sample of binge-drinking women.

Valenstein-Mah, Helen, et al.

Journal of Traumatic Stress, Vol 28(5), Oct, 2015. pp. 484-488.

Abstract:

Sexual victimization is prevalent on U.S. college campuses. Some women experience multiple sexual victimizations with heightened risk among those with prior victimization histories. One risk factor for sexual revictimization is alcohol use. Most research has focused on associations between alcohol consumption and revictimization. The current study's objective was to understand potential mechanisms by which drinking confers risk for revictimization. We hypothesized that specific drinking consequences would predict risk for revictimization above and beyond the quantity of alcohol consumed. There were 162 binge-drinking female students (mean age = 20.21 years, 71.3% White, 36.9% juniors) from the University of Washington who were assessed for baseline victimization (categorized as childhood vs. adolescent victimization), quantity of alcohol consumed, and drinking consequences experienced, then assessed 30 days later for revictimization. There were 40 (24.6%) women who were revictimized in the following 30 days. Results showed that blackout drinking at baseline predicted incapacitated sexual revictimization among women previously victimized as adolescents, after accounting for quantity of alcohol consumed (OR = 1.79, 95% CI [1.07, 3.01]). Other drinking consequences were not strongly predictive of revictimization. Adolescent sexual victimization was an important predictor of sexual revictimization in college women; blackout drinking may confer unique risk for revictimization.

Effects of drinking patterns on prospective memory performance in college students.

Zamroziewicz, Marta, et al.

Neuropsychology, Vol 31(2), Feb, 2017. pp. 191-199.

Abstract:

Objective: Traditional college students are at a critical juncture in the development of prospective memory (PM). Their brains are vulnerable to the effects of alcohol. Method: There were 123 third and fourth year college students, 19–23 years old, who completed the Self-Rating Effects of Alcohol (SREA), Modified Timeline Follow-back (TFLB), Brief Young Adult Alcohol Consequences Scale (BYAACS), and Alcohol Effects Questionnaire

(AEQ) once per month on a secure online database, as reported elsewhere (Dager et al., 2013). Data from the 6 months immediately before memory testing were averaged. In a single testing session participants were administered the Mini International Neuropsychiatric Interview–Diagnostic and Statistical Manual for Mental Disorders-Fourth Edition-Text Revision (MINI-DSM–IV–TR), measures of PM (event-based and time-based), and retrospective memory (RM). Based on the average score of six consecutive monthly responses to the SREA, TLFB, and AEQ, students were classified as nondrinkers, light drinkers, or heavy drinkers (as defined previously; Dager et al., 2013). Alcohol-induced amnesia (blackout) was measured with the BYAACS. Results: We found a relationship between these alcohol use classifications and time-based PM, such that participants who were classified as heavier drinkers were more likely to forget to perform the time-based PM task. We also found that self-reported alcohol-induced amnesia (blackouts) during the month immediately preceding memory testing was associated with lower performance on the event-based PM task. Participants' ability to recall the RM tasks suggested the PM items were successfully encoded even when they were not carried out, and we observed no relationship between alcohol use and RM performance. Conclusion: Heavy alcohol use in college students may be related to impairments in PM.

Binge drinking and the young brain: A mini review of the neurobiological underpinnings of alcohol-induced blackout.

Hermens, Daniel F., et al.

Frontiers in Psychology, Vol 9, Jan 19, 2018. ArtID: 12

Abstract:

Binge drinking has significant effects on memory, particularly with regards to the transfer of information to long-term storage. Partial or complete blocking of memory formation is known as blackout. Youth represents a critical period in brain development that is particularly vulnerable to alcohol misuse. Animal models show that the adolescent brain is more vulnerable to the acute and chronic effects of alcohol compared with the adult brain. This mini-review addresses the neurobiological underpinnings of binge drinking and associated memory loss (blackout) in the adolescent and young adult period. Although the extent to which there are pre-existing versus alcohol-induced neurobiological changes remains unclear, it is likely that repetitive binge drinking in youth has detrimental effects on cognitive and social functioning. Given its role in learning and memory, the hippocampus is a critical region with neuroimaging research showing notable changes in this structure associated with alcohol misuse in young people. There is a great need for earlier identification of biological markers associated with alcohol-related brain damage. As a means to assess in vivo neurochemistry, magnetic resonance spectroscopy (MRS) has emerged as a particularly promising technique since changes in neurometabolites often precede gross structural changes. Thus, the current paper addresses how MRS biomarkers of neurotransmission (glutamate, GABA) and oxidative stress (indexed by depleted glutathione) in the hippocampal region of young binge drinkers may underlie propensity for blackouts and other memory impairments. MRS biomarkers may have particular utility in determining the acute versus longer-term effects of binge drinking in young people.

Blackouts among male and female youth seeking emergency department care.

Voloshyna, Diana M., et al.

The American Journal of Drug and Alcohol Abuse, Vol 44(1), Jan, 2018. pp. 129-139.

Abstract:

Background: Alcohol-related blackouts are a common consequence of heavy drinking, and these blackouts pose risk for injury and other adverse health outcomes. Objective: To

examine the prevalence and correlates of blackouts among underage drinkers. Methods: Youth (ages 14–20) presenting to a suburban Emergency Department (ED) completed screening surveys. Among those reporting past-year alcohol consumption, we examined past 3-month blackouts in relation to: background characteristics (e.g., demographics, fraternity/sorority involvement), substance use, sexual risk behaviors and incapacitated sexual assault (unaware/unable to consent due to alcohol/drugs), forced sexual assault, positive depression screening, and reason for ED visit (injury vs. medical). Results: In total, 2,300 past-year drinkers participated: 58% female, 75% Caucasian, and mean age = 18.4. Regarding past 3-month blackouts, 72.7% reported none, 19.3% reported monthly or less, and 8% reported monthly or more. Multivariate cumulative logit regression indicated that blackout frequency was positively associated with: college involvement in Greek life, alcohol use severity, prescription drug misuse, marijuana, screening positive for depression, incapacitated sexual assault, and a gender by alcohol use severity interaction. Conclusion: With one-quarter of this clinical sample reporting recent blackouts, as well as the association between blackout frequency and health risk behaviors and other outcomes, findings underscore the need for programs focusing on substance use, depression, and preventing sexual assault. Interventions should also address poly-substance use and drinking motives. Although findings highlight how college students in Greek life may be at high risk for blackouts, many participants not in college also reported blackouts, suggesting that interventions in other settings are also needed.

'It just kind of happens': College students' rationalizations for blackout drinking.
Wombacher, Kevin. Et al.
Health Communication, Vol 34(1), Jan, 2019. pp. 1-10.
Abstract:

Nearly half of college students engage in binge drinking, and blackouts (i.e., episodes of periodic memory loss) represent one common consequence of this behavior. Although researchers have begun to understand the extent to which students black out, little is known about why they do so. We conducted two studies to further our understanding of this risky health behavior. In Study 1, we conducted face-to-face interviews (N = 19) to explore students' blackout experiences. Our findings suggest that students recognize that blacking out is an unhealthy behavior; however, because such a recognition contradicts group norms about alcohol consumption, it causes them to experience dissonance, which they manage via a variety of rationalization strategies. We investigated these findings more systematically through an online survey in Study 2, in which students (N = 254) reported on their own and others' beliefs and behaviors about blacking out. Our results indicate that many of the rationalization strategies students identified in Study 1 were grounded in fallacious reasoning. We discuss the collective implications of these findings for future interventions addressing students' excessive drinking behaviors.

How do college students subjectively evaluate 'blackouts'?
Merrill, Jennifer E., et al.
Addictive Behaviors, Vol 89, Feb, 2019. pp. 65-69.
Abstract:

Blackouts (i.e., alcohol induced memory impairment) are common among college student drinkers, and they are associated with several additional harms. However, alcohol consequences are not perceived universally as negative by the students who experience them, and little is known regarding students' specific thoughts and feelings about blackouts. We conducted a series of single-gender focus groups (8 groups; 5–8 per group; n = 50, 56% female) with college student drinkers. Questions focused on: (a) their subjective

evaluations of blackouts and (b) factors influencing those evaluations (i.e., what determines whether a blackout is perceived as a negative/neutral/positive experience). Verbatim transcripts were content analyzed using applied thematic analysis with NVivo software. Evaluations of blackouts were primarily negative, with some notable positive, neutral and mixed reactions. Influences on blackout evaluations included those demonstrated as influential on broader alcohol consequences in prior work (e.g., normative perceptions, social context). However, some contextual influences on evaluations that may be specific to blackouts included pre-blackout events, the objective severity (extent/length) of memory loss, what participants later learned had happened during the blackout, and whether or not they had expected to blackout. Findings provide insight into why some students are not necessarily concerned with blackout experiences.

Difference in cognitive function by first onset age of alcohol induced blackout and its duration.

Min, Eun-Jeong, et al.

Clinical Psychopharmacology and Neuroscience, Vol 17(4), Nov, 2019. pp. 503-508.

Abstract:

Objective: Alcohol-induced blackout (blackout) is a typical early symptom of cognitive impairment caused by drinking. However, the first onset age of blackout or the duration after onset of blackout has not been directly compared in previous studies. The purpose of this study was to investigate the differences in cognitive function to the first start age of blackouts and their duration. Methods: Thirty-one male subjects were included in this study. Their age at the first blackout and the duration after the onset of blackout were investigated. Neuropsychological tests were conducted to determine their attention, memory, and executive function. Subjects were divided into three groups according to their age of the first onset blackout (group O1, < 20 years; group O2, 21-39 years; and group O3, > 40 years). Subjects were also divided into three groups by duration after the onset of blackout (P1, < 10 years; P2, 10-29 years; and P3, > 30 years). We then examined differences in neurocognitive function among these groups. Results: O1 tended to have a lower memory score than O2 ($F = 3.28$, $p = 0.053$). Significant differences were observed in attention and executive function between groups P1 and P3 (Digit Span_backward: $F = 6.07$, $p < 0.05$; visual span_forward: $F = 4.19$, $p < 0.05$; executive intelligence quotient: $F = 3.55$, $p < 0.05$). Conclusion: Greater memory impairment was detected in subjects having an earlier age of the first blackout. The longer the duration after the onset of blackout, the more impaired their attention and executive function skills.

Fun/intoxication pre-drinking motives lead indirectly to more alcohol-related consequences via increased alcohol consumption on a given night.

Authors:

Smit, Koen, et al.

Addictive Behaviors, Vol 114, Mar, 2021. ArtID: 106749

Abstract:

Pre-drinking increases alcohol use on drinking nights, which is associated with various adverse alcohol-related consequences but what motivates people to do so, i.e. the role of pre-drinking motives (PDM) in this link, is unclear. The current study examined a) the association of three PDM factors (fun/intoxication, facilitation, and conviviality) with average night-level alcohol use, b) whether PDM are associated with adverse alcohol-related consequences (hangover, drunk driving, blackout, risky sex, injury, and fights) and c) whether PDM mediates the link between night-level alcohol use and negative consequences. Methods: A sample of 204 young adult nightlife goers (48.8% males, M_{age} =

19 *SD* = 2.4) from Switzerland reported PDM at baseline, and subsequently participated in a 2-month event-level study. Regressions models assessed direct and mediated associations. Results: Fun/intoxication PDM predicted alcohol use in subsequent drinking nights (11.3 nights per participant on average), but not the two other PDM. No direct link between PDM and consequences was found. However, fun/intoxication PDM lead indirectly to more adverse consequences through higher alcohol use. Conclusion: This study shows that predominantly 'fun/intoxication' predrinkers are at increased risk for alcohol consumption and consequences, but not those who predrink for conviviality or facilitation motives. The outcomes thus suggest the importance of specific PDM in preventing alcohol use for instance by tailoring interventions based on individuals' PDM in order to curb drinking and its associated consequences among young adults on weekend nights out.

Nuanced relations between simultaneous alcohol and cannabis use motives and negative consequences among college students: The role of multiple product use.

Stevens, Angela K., et al.

Experimental and Clinical Psychopharmacology, Mar 11, 2021.

Abstract (English):

Simultaneous alcohol and marijuana (SAM) use is common, but it exacerbates negative consequences. Individuals use alcohol and cannabis products in different ways and have distinct reasons for use. The present study examines day-level effects of motives on consequences on SAM-use days, accounting for consumption, and tests whether using multiple alcohol (e.g., beer + liquor) and/or cannabis (e.g., concentrate + leaf) products on the same day mediates these relations. College students engaging in SAM use at least once in the past month (N = 281; Mage = 20.17) completed two bursts of 28 consecutive days of data collection. We examined within-person effects of motives (effect-enhancement, social, offered [it was offered], coping) on number of negative consequences and on experiencing hangover, nausea, or blackout; and indirect effects via two concurrent mediators: using multiple alcohol products and multiple cannabis products. Total effect models showed effect-enhancement motives were related to nausea, social motives to number of total consequences and hangover, and coping motives to blackout. Effect-enhancement, social, and offered motives evinced significant indirect effects on consequence outcomes via multiple alcohol, but not cannabis, product use. Coping motives did not exhibit significant indirect effects, and were related to multiple cannabis, but not alcohol, product use, although all other motives were related to both mediators. Findings support recent work demonstrating within-person relations between social motives and negative consequences on SAM-use days. Limiting the number of alcohol products consumed on SAM-use days may be beneficial, particularly for young adults using to enhance intoxication or for social reasons. (PsycInfo Database Record (c) 2021 APA, all rights reserved)

Impact Statement:

This study suggests that college students who consume both alcohol and cannabis for social reasons may be at unique risk for negative consequences. Young adults who use alcohol and cannabis simultaneously to enhance intoxication, for social reasons, or because it was offered may benefit from recommendations to limit the number of alcohol products used on a given day to reduce the occurrence of physiological consequences.

The morning after the night before: Alcohol-induced blackouts impair next day recall in sober young adults.

Jackson, Judith, et al.
PLoS ONE, Vol 16(5), May 3, 2021. ArtID: e0250827
Abstract:

Binge-drinking in adolescents and young adults is a widespread problem, however, an often unreported consequence of binge-drinking behaviour is an alcohol-induced memory blackout (MBO). An MBO is a transient amnesic event resulting from rapid, excessive alcohol consumption. Here, we examine the short-term impact of an alcohol-induced MBO event (testing < 20 hours after blackout) on memory performance in people who have experienced a high volume of MBOs. In addition, we aimed to test the hypothesis that people who experience a high volume of MBOs may have poorer recall than non-blackout controls in either sober or intoxicated states. Three episodic memory paradigms consisting of free recall, serial recall, and depth of encoding tasks, were conducted by a group of alcohol drinkers who had never experienced a memory blackout, and those who reported at least 9 in the preceding 12-months. Studies were completed sober and after alcohol by all participants, and sober but after blackout by the experimental group. Accuracy of recall was assessed with linear mixed effects modelling for all experiments and conditions. Recall rate both before and after alcohol consumption was similar between groups, with poorer recall after drinking alcohol by all participants in all three studies. After blackout, MBO participants showed no significant improvement from their intoxicated state in serial recall and depth of encoding tasks, but an improvement in free recall. Further analysis of these findings revealed that 10 out of 23 participants showed significantly impaired performance after blackout during free recall, extending up to 17 participants in serial recall. In general, alcohol reduced recall rate in both blackout and control participants similarly, but recall following MBO remained poor. Our evidence suggests that alcohol-induced blackouts impair memory functioning the next day, and future research should establish the duration of deficits after an acute alcohol-induced blackout episode.

Recent alcohol-induced blackouts among heavy drinking college students: A qualitative examination of intentions, willingness, and social context.
Merrill, Jennifer E., et al.
Experimental and Clinical Psychopharmacology, Aug 12, 2021.
Abstract (English):

One-third to half of emerging adult drinkers report experiencing alcohol-induced blackouts in the past year, and blackouts increase the risk for negative consequences. Qualitative methods provide valuable tools for scientific inquiry, allowing for in-depth understanding of lived experiences. The goal of the present study was to gain insight into emerging adults' recent blackout experiences. One hundred heavy drinking college students (age 18–20) completed a baseline survey, 28 days of ecological momentary assessment (EMA) of their alcohol use and consequences, and a follow-up interview. A subset of 37 (46% female, 13.5% Hispanic/Latinx, 54% non-Hispanic ethnicity/White race) endorsed a blackout (forgot what they did during or after drinking) and were interviewed regarding their recent blackout experience. A semi-structured interview guide focused on several key questions regarding intentions and/or willingness to black out, how friends reacted to their blackout, and social norms for blacking out. A priori as well as emergent themes were generated from review of coded data. Qualitative themes included: blackouts are often unintentional, heavy drinking young adults express willingness to black out, friends react in a variety of ways to blackouts, and blackouts are perceived as common and acceptable. Data provide insight into the phenomenology of blackouts among college students, revealing that although college students may not intend to, they are often willing to black out. Future qualitative studies on blackouts among non-college-attending emerging adults are

warranted. Such work can inform theory and future survey studies to better understand this high-risk behavior.