Research Abstracts regarding Alcohol-induced Blackouts (chronological)

This resource is a chronological listing of research findings on alcohol blackouts / amnesia. Look for the same listing that is alphabetically organized on this online resource.

1960's

Alcoholic 'blackouts': A review and clinical study of 100 alcoholics.
Goodwin, Donald W., et al.
The American Journal of Psychiatry, 126(2), 1969. pp. 191-198.
Abstract:

Numerous publications have citied 'blackouts' as a major prodromal symptom of alcoholism. In contrast, this study, based on a structured interview with 100 hospitalized alcoholics, revealed that more than 1/3 of the Ss had never experienced a blackout and that, among those who had, blackouts generally began well along in the course of alcoholism rather than at an early stage. Blackouts were positively associated with severity and duration of alcoholism, extent and duration of alcohol consumption per drinking episode, capacity for drinking large amounts, 'loss of control,' neglect of meals, gulping drinks, and a history of head trauma. Only 1 patient had experienced blackouts after moderate drinking.

1970's

Two species of alcoholic 'blackout.'
Goodwin, Donald W.
The American Journal of Psychiatry, Vol. 127(12), Jun, 1971. pp. 1665-1670.
Abstract:

Administered alcohol to 2 groups of volunteers to study its effects on memory. In study i, 5 alcoholics experienced amnesia after receiving large amounts of alcohol. The amnesia was anterograde, beginning a few minutes after test events occurred and persisting during sobriety on the following day. In study ii, 48 nonalcoholic young men received smaller amounts of alcohol on 1 or both of 2 successive days. Those receiving alcohol on both days recalled test materials better than did those who were intoxicated on the 1st day but not on the 2nd. This 'state-dependent' effect is contrasted with 'amnesia' and possible explanations are explored for both.

Effect of alcohol on short term memory in alcoholics.
Goodwin, Donald W., et al.
The British Journal of Psychiatry, Vol. 122(566), Jan, 1973. pp. 93-94.
Abstract:

Administered moderate amounts of alcohol or placebo to 32 hospitalized male alcoholics to test the effect of alcohol on short-term memory deficit. Ability to recall and recognize test words did not differ for the groups, suggesting that alcoholic blackouts and short-term memory deficits are a threshold rather than a graded phenomenon. In this, they more closely resemble the sudden amnesias that result from head injuries or electric shock.

Alcohol amnesia.
Goodwin, Donald W.
Addiction, Vol 90(3), Mar, 1995. pp. 315-317.
Abstract:

Summarizes studies conducted by the author on alcoholic blackouts and state-dependent learning. Blackouts may be brief periods of amnesia or last for days and weeks; they usually occur late in the alcoholic's drinking career. Blackouts are characterized by a deficit of short-term memory with intact recent and remote memory. Blood alcohol level increases faster in men who experience blackouts.

1980's

"Blood Ethanol Levels In Sober Alcohol Users Seen In An Emergency Room
T. Urso, M.D., J. S. Gavaler, B.S., and D. H. Van Thiel, M.D.
Life Sciences, Vol. 28, pp. 1053-1056, (Received in final form December 22, 1980)
Summary

During the course of two years, 76 representative subjects seen in a community hospital emergency room who admitted to having recently used alcohol while still appearing sober had their blood alcohol levels measured to determine the levels of blood alcohol present in ambulatory sober alcohol users. As a group the mean blood alcohol level obtained in those who had measurable levels was 268 ± 10 mg/dl (mean± SEM). More men (47) than women (18) admitted to having used ethanol and had measurable blood ethanol levels and therefore were studied. Moreover, the mean blood alcohol level in the men studied was arithmetically greater (272 ± 13 mg/dl) than that present in the women (260 ± 13 mg/dl). The range of alcohol levels seen in the two sexes, however, were quite similar. Using a blood alcohol level > 200 mg/dl in a clinically ""non-intoxicated"" individual as the cut- off level for defining one as a suspect chronic alcohol user, our data would suggest that such individuals not uncommonly have blood alcohol levels as high as 290 ± 9 mg/dl.

The effects of alcohol on human sexual behavior.
Wilson, G. Terence
Advances in Substance Abuse, Vol 2, 1981. pp. 1-40.
Abstract:

Discusses the effects on the body, both arousing and suppressing, that are attributed to alcohol in the literature. Uncontrolled, correlational investigations on the effects of alcohol on sexual functioning have included questionnaires, clinical observations (such as the 1966 study by W. H. Masters and V. E. Johnson), and retrospective studies. Correlational studies have concentrated on the connection between alcohol and sex crimes, particularly rape and child molestation. Experimental investigations have included psychophysiological studies of alcohol's effects on male sexuality (measured as penile tumescence, ejaculatory response, and sexual arousal) and on female vaginal response and sexual arousal. Indirect measures of sexuality and the effect of alcohol on sex hormones have also been included in experimental investigations. Two theories of alcohol's effects on sexual behavior are discussed: The social disinhibition theory presumes that alcohol causes changes in social behavior that include increased arousal to sexual stimuli and sexual crimes. In terms of the social learning theory, the effect of alcohol on sexual and other social behavior is governed by several classes of psychological variables. Individual patterns of behavior are acquired and maintained on the basis of differential reinforcement, modeling experiences, and cognitive self-regulatory mechanisms.

Alcohol, sexual arousal, and the transfer of excitation.
McCarty, Dennis, et al.
Journal of Personality and Social Psychology, Vol 42(6), Jun, 1982. pp. 977-988.
Abstract:

Investigations of the alcohol-related disinhibition of responses to deviant sexual stimuli suggest that the pharmacological actions of ethanol have little influence on the disinhibition process. The mere belief that alcohol is consumed is sufficient to induce increased sexual arousal. Studies with conventional stimuli, however, suggest that interactions occur between the pharmacological presence of ethanol and the psychological expectations of its presence. The present article examines the contribution of pharmacological, cognitive, and environmental variables to perceived sexual arousal. Pictures that elicited either a low or moderate level of self-reported sexual arousal were viewed and evaluated by 64 men and 64 women after completing their drinks. The evaluations and arousal measures suggested significant Instruction by Content by Arousal interactions. The strongest perceptions of arousal occurred among Ss who did not know they were drinking alcohol. When Ss were unaware of the alcohol intoxication, the pharmacological excitation induced by alcohol transferred to the perception and evaluation of the slides.

Alcohol and the disinhibition of sexual responsiveness.
Wilson, G. Terence, and Niaura, Raymond
Journal of Studies on Alcohol, Vol 45(3), May, 1984. pp. 219-224.
Abstract:

In a balanced placebo design, in which the joint and separate effects of alcohol and expectations of intoxication were investigated, 22 male undergraduates who were social drinkers listened to an erotic audiotape while penile tumescence was continuously recorded. Intoxicated Ss showed significantly shorter latency to onset of tumescence and to peak level of tumescence than did their sober counterparts. In contrast to previous research, no effect of expectations about drinking was obtained nor were responses related to scores on the Mosher Forced Choice Sex Guilt Scale. Findings indicate a specific effect of alcohol in impairing men's ability to inhibit sexual responsiveness. It appears that the sexual response threshold is lowered but that, once the process of arousal begins, tumescence reaches an average level that is unaffected by a small amount of alcohol.

Alcoholic blackouts: Phenomenology and legal relevance.
Cunnien, Alan J.
Behavioral Sciences & the Law, Vol 4(1), Win 1986. pp. 73-85.
Abstract:

Suggests that the use of alcoholic amnesia as evidence of incompetence to stand trial or in mitigation of criminal responsibility hinges on the reversibility of amnesia and on the voluntariness of intoxication and of the ensuing blackout. The phenomenology of alcoholic blackouts and the role of alcoholic and nonalcoholic amnesia in criminal law are discussed. It is argued that the voluntary nature of alcohol consumption should not mitigate behavioral consequences in any drinker. The disease model of alcoholism is considered in relation to alcoholics' ability to control their drinking, and social policy regarding the punishment of alcoholics is examined.

Perceptions of post drinking female sexuality: Effects of gender, beverage choice, and drink payment.
George, William H.., Gournic, Susan J., McAfee, Mary P.
Journal of Applied Social Psychology, Vol 18(15, Pt 1), Dec, 1988. pp. 1295-1317.
Abstract:

In Study 1, 174 undergraduates completed an alcohol expectancy questionnaire to assess expected alcohol effects on either a young man or young woman. The woman was perceived as being more sexual after drinking than was the man. Perceptions were

influenced by expected alcohol dosage, Ss' gender, and drinking experience. In Study 2, 176 undergraduates read a vignette depicting a woman having drinks with a man. Ss rated the woman drinking alcohol as significantly more aggressive, impaired, sexually available, likely to engage in foreplay and intercourse, but less attractive than the woman drinking cola. Perceptions of sexual disinhibition were significantly enhanced if the man bought the drinks.

1990's

Alcoholic blackouts: Legal implications.
Sweeney, Donal F.
Journal of Substance Abuse Treatment, Vol 7(3), 1990. pp. 155-159.
Abstract:

Presents a definition of alcoholic blackouts, reviews neuroscientific research on memory, and discusses the legal significance of such blackouts. Alcoholic blackouts are defined as the temporary, complete inability to form long-term memory as the result of a high blood alcohol level. This means that a neuron-to-neuron system has been blocked. Since that is the case, such central nervous system (CNS) dysfunction should have legal implications, from the blackout itself and also from the fact that this degree of neural interference in one system is suggestive that other dysfunction may be present. Since long-term memory is not in effect during a blackout, anything said to a person in a blackout state (including advice, warnings, or citations) may never enter the memory. Also, it is questionable whether a person in a blackout can actually have intentions.

The relationship of sex-related alcohol expectancies to alcohol consumption and sexual behavior.
Leigh, Barbara C.
British Journal of Addiction, Vol 85(7), Jul, 1990. pp. 919-928.
Abstract:

Examined the relationship of beliefs about the effects of alcohol on sex to drinking in sexual situations and to the sexual behaviors and feelings resulting from those situations. 844 adults (aged 18–76 yrs) completed a survey of drinking habits, sexual behavior, sexual attitudes and beliefs, and alcohol expectancies. Ss of different gender and sexual orientation differed in their beliefs about the effects of alcohol on sexual responding. Expectations of sexual enhancement and disinhibition were related to the initiation of sexual activity and to the proportion of sexual encounters that took place while drinking; these expectations also interacted with feelings of guilt about sex to predict the amount drunk in the most recent sexual encounter.

Alcohol, disinhibition, sexual arousal, and deviant sexual behavior.
George, William H. and Norris, Jeanette
Alcohol Health & Research World, Vol 15(2), 1991. Special Issue: Alcohol and sexuality. pp.
Abstract:

Examines the relationship between alcohol consumption and responses to deviant erotica. The relationship between alcohol and sex is complex in part because the individual's responses to alcohol and to sexual stimuli involve complex psychological and physiological processes. Alcohol seems to have the paradoxical effects of enhancing and suppressing sexual responses, with the 2 effects reflecting the 2 processes. There is an inverse relationship between the amount of alcohol consumed and the level of physical sexual arousal. As the concentration of alcohol in the blood increases, sexual arousal

diminishes. Alcohol can influence the expression of deviant and nondeviant sexual behavior. However, this influence is shaped by qualifying conditions, such as dosage, gender, and expectancy.

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

A case report—alcohol-induced blackouts during sexual intercourse: Legal responsibility?
Neal, Dan E., et al.
International Journal of Offender Therapy and Comparative Criminology, Vol 37(4), Win 1993. pp. 325-329.
Abstract:

Analyzed a criminal rape trial in which neither the man nor the woman claimed any memory of the sex act. Afterward, the woman and the prosecution contended that under such circumstances, a rape had occurred on the theory that the woman was unconscious. The man denied any memory of the sex act, even under hypnosis, and was found not guilty. The acquittal was apparently based on the jury's belief that both the woman and the man were conscious during intercourse but were unable to recall the sex act due to alcohol-induced blackouts.

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.

Alcohol link with violence is unproven.
Heath, Dwight B.
Brown University Child & Adolescent Behavior Letter. Feb94, Vol. 10 Issue 2, p1. 2p.
Abstract:

Asserts that there is no support for the idea that alcohol causes agression and violence base on a review of literature. Findings of the specialists who convened at Rutgers University's Center of Alcohol Studies; Social aspects of drinking; Need to teach people how to handle frustrations to avoid violence.

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.

The role of alcohol in sexual aggression.
Seto, Michael C. and Barbaree, Howard E.
Clinical Psychology Review, Vol 15(6), 1995. pp. 545-566.
Abstract:

Reviews the experimental literature on the effects of alcohol on aggression and sexual arousal to rape as analogs of sexual aggression in order to elucidate alcohol's causal effect. The balanced placebo design as it is used in experimental alcohol research is described, and methodological concerns and limitations relating to the design are discussed. An overview of the literature on alcohol-related beliefs and expectancies is presented with a summary of the findings on the effects of alcohol administration on aggression, sexual arousability, and sexual arousal specifically to depictions of rape. A disinhibition model is described that proposes hypotheses regarding the link between alcohol and sexual aggression.

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.

College students' high-risk sexual behavior following alcohol consumption.
Anderson, Peter B. and Mathieu, Debbie A.
Journal of Sex & Marital Therapy, Vol 22(4), Win 1996. pp. 259-264.
Abstract:

Assessed the relationship of alcohol consumption as a disinhibitor to high-risk sexual behavior. Results are based on survey data from 1,902 students attending 12 colleges. Sexual behaviors occurring after people had 'let themselves drink more than normal in order to make it easier for them to have sex with someone' were assessed. At least once in the past year, 33.2% of the men and 17.4% of the women had met this criterion. In those instances, 76.3% of the men and 77.1% of the women initiated condom use for vaginal intercourse. Results are discussed in relation to partners' compliance following condom initiation and preventing the spread of HIV disease.

Is Behavioral Tolerance Learned?
Muriel Vogel-Sprott
Alcohol Health & Research World, Vol. 21, No. 2, 1997
Abstract

Both scientific and anecdotal evidence indicates that social drinkers can develop resistance (i.e., behavioral tolerance) to alcohol's impairing effects over time. Although repeated exposure to alcohol is thought to explain tolerance development on a physiological level, the acquisition of behavioral tolerance appears to involve additional factors. In particular, learned associations between a drinker's behavior following alcohol consumption and the subsequent consequences may play an important role. When favorable consequences result from displaying unimpaired (i.e., tolerant) behavior after drinking, a drinker learns to develop behavioral strategies to compensate for alcohol's effects. In contrast, if a drinker does not receive a reward for unimpaired behavior—or finds that a more favorable outcome follows the display of intoxicated behavior—tolerance does not develop. Studies show that subjects also can develop behavioral tolerance to alcohol when they practice a task while impaired by factors other than alcohol or when they mentally rehearse task performance while under the influence of alcohol.

A psychometric evaluation of an instrument designed to measure alcohol-induced blackouts.
Fooshee, Sidney Guy.
Dissertation Abstracts International: Section B: The Sciences and Engineering, Vol 58(8-B), Feb, 1997
Abstract:

The Alcohol Blackout Questionnaire is currently the only instrument available for alcohol blackouts research. A psychometric evaluation was conducted on the instrument and suggestions for its revision and improvement are presented. The questionnaire has a six factor structure which accounts for 59.0% of the variance. The first factor was a general blackout factor. The second factor related to thoughts and feelings. The third factor involved high risk behaviors. The fourth factor related to drug use. The fifth factor related to the person who realized they had a problem while the sixth factor addressed people who did not realize they had a problem with alcohol. A step-wise discriminant analysis revealed 19 questions which were the best predictors of alcohol blackouts. Overall the instrument correctly classified 88.28% of the individuals. The blackout group had a classification rate of 91.7% while the nonblackout group had a classification rate of 86.3%. Suggestions are presented concerning the restructuring of the questionnaire. Instructions are presented at the top of every page. The clinical history type questions now appear at the front of the

questionnaire and the blackout questions at the end. The rating scales are more concise and easily understood.

A framework for applying explanations of alcohol-related aggression to naturally occurring...
Graham, Kathryn, Wells, Samantha, West, Paulette
Contemporary Drug Problems. Winter97, Vol. 24 Issue 4, p625. 42p.
Abstract:

Presents a paper which provides a framework for the description of alcohol-related aggression, and its relevance to behavioral problems associated with alcohol abuse. What theoretical and empirical literature suggest about alcohol-related aggression; Characterization of explanations for this type of aggression; Psychological effects of alcohol use; Identification of various health and social conditions associated with alcohol use.

Alcohol-Induced Stimulation and Sedation: Relation to Physical Aggression.
Giancola, Peter R., et al.
Journal of General Psychology. Oct98, Vol. 125 Issue 4, p297. 8p.
Abstract:

Presents information on a study which examined the relation between the stimulating and sedating effects of acute alcohol consumption on human physical aggression. How the agression among drinkers was measured; Methodology; Results of the study.

Intoxicated sexual risk taking: An expectancy or cognitive impairment explanation?
Fromme, Kim., D'Amico, Elizabeth J., Katz, Elizabeth C.
Journal of Studies on **Alcohol**, Vol 60(1), Jan, 1999. pp. 54-63.
Abstract:

Examined expectancy and impairment explanations for the association between alcohol consumption and unsafe sexual behaviors. In 2 studies, 296 young adults (mean age 23 yrs), who were administered either alcohol (blood alcohol concentration mean = .08 mg%), placebo, or water, rated the likelihood that potential consequences would result from risky sexual practices and listed potential consequences that could result from having sex without a condom. Results indicate that intoxicated participants reported lower perceptions of risk than those who received placebo or water. Intoxicated participants also listed fewer negative consequences than those who received placebo or water. Participants who expected alcohol to disinhibit their sexual behavior reported stronger post-drinking perceptions of benefit and indicated that they were more likely to engage in risky sexual practices than those who did not expect sexual disinhibition.

College students' self-reported reasons for playing drinking games.
Authors:
Johnson, Thomas J., Hamilton, Scott, Sheets, Virgil L.
Addictive Behaviors, Vol 24(2), Mar-Apr, 1999. pp. 279-286.
Abstract:

Two samples of college students who engage in drinking games completed questions about their drinking behavior, a set of items concerning their reasons for playing drinking games, and various self-report measures of personality. Principal components analysis, using the first sample (N = 189) yielded 4 factors: Relaxation and Disinhibition, Fun and Celebration, Conformity, and Sexual Manipulation. A similar factor structure was also obtained in the second sample (N = 143). In both samples, Fun and Celebration and

Sexual Manipulation reasons were most strongly predictive of frequency of play and quantity of alcohol consumed while playing. In men, Sexual Manipulation reasons for play predicted frequency of taking sexual advantage of others during play. Endorsement of Conformity and Relaxation and Disinhibition reasons were associated with high social anxiety and low assertiveness. Reasons for play predicted consumption, both in drinking-game situations and overall, even after removing variance due to general reasons for drinking. Psychometric properties of the current measure are less than ideal, but the constructs identified appear to have important implications for prevention.

2000's

Understanding acute alcohol effects on sexual behavior.
George, William H. and Stoner, Susan A.
Annual Review of Sex Research, Vol 11, 2000. pp. 92-124.
Abstract:

Reviews nonexperimental research illustrating the nature of alcohol's association with sexuality. Methodological considerations limiting causal assertions permissible with nonexperimental data are discussed. The authors also review findings from experiments, mostly analogue paradigms, examining the effects of alcohol on genital arousal, sexual risk taking, and sexual assault. In each case, it is observed that alcohol can exert a causal effect on one or more of the constituent responses undergirding these phenomena. It is concluded that alcohol does appear to have a causal impact on many sexuality indices studied in laboratory conditions. Both alcohol expectancy and alcohol myopia models have been applied to explain these causal linkages. Expectancy models seem to account well for postdrinking sexual reactions and perceptions. Overall, myopia analyses seem to offer the most persuasive explanations of postdrinking expressions of sexual risk taking and sexual assault.

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.

Alcohol and sexual disinhibition among college students.
Stoner, Susan Ann.

Dissertation Abstracts International: Section B: The Sciences and Engineering, Vol 64(5-B), 2003. pp. 2407.

Abstract:

Alcohol-related sexual risk taking is a problem among American college students. Potential risks of intoxicated sex include sexual assault, STD/HIV transmission, and unplanned pregnancy. However, little is known about how alcohol may engender sexually risky behavior. Alcohol has long been popularly assumed to facilitate sexual expression, but the mechanisms underlying this phenomenon have not been rigorously examined. Current theory suggests that people become more sexualafter drinking because they expect such an effect; however, numerous studies have shown that cognitive functioning is impaired at higher doses of alcohol, such that expectancies may not be so influential over behavior. The present study considered several possible mechanism of post-drinking sexual interest: sexual disinhibition, alcohol expectancies, alcohol myopia, and deviance disavowal. The overarching hypotheses were as follows. In sober participants, interest in sexual images would be influenced primarily by traditional (explicit) sexual attitudes. In slightly intoxicated participants, alcohol expectancies would be the primary determinant of sexual interest. In highly intoxicated participants, sexual interest would be influenced primarily by implicit sexual attitudes. One hundred sixty undergraduate men and women participated in the study. Participants completed a number of measures of explicit sexual attitudes. Implicit sexual attitudes were measured using the Implicit Association Test (IAT). Participants were administered no alcohol or a low or high dose of alcohol. Executive cognitive function was measured before and after the beverage administration. After the beverage administration, participants were asked to look at sexually explicit images on a computer screen. The amount of time spent looking at each image ('sexual interest') was measured surreptitiously. In addition, participants rated their reactions to the images. Mood and sexual arousal were measured before and after the image-viewing task. The results suggested a complex interplay among implicit and explicit sexual attitudes and alcohol expectancies in relation to the reactions to the sexual images. Alcohol was associated with higher ratings of arousal to the sexual images. Path analyses suggested that the effects of alcohol and explicit sexual attitudes on interest in sexual material were largely mediated through affective responses, including subjective sexual arousal.

Fragmentary blackouts: Their etiology and effect on alcohol expectancies.

Hartzler, Bryan and Fromme, Kim.

Alcoholism: Clinical and Experimental Research, Vol 27(4), Apr, 2003. pp. 628-637.

Abstract:

This alcohol-administration study addressed questions regarding the etiology of fragmentary blackouts (memory loss for intoxicated events that may be recalled with cues) and their effect on alcohol outcome expectancies. A placebo-controlled design addressed the etiology of fragmentary blackouts through assessment of memory formation before and after alcohol consumption. The effect of fragmentary blackouts on prospective beliefs about alcohol was assessed via a self-report outcome expectancy questionnaire and a measure of response latency for alcohol concepts presented after beverage consumption. Although Ss(age range 21 to 30 years) performed similarly on memory indices before consuming beverages, those who reported past fragmentary blackouts and consumed alcohol displayed marked difficulty with recall of a narrative when this was attempted both during intoxication and after detoxification, and with a source memory task presented during intoxication. Further, source recall contributed significantly to the episodic recall both during intoxication and after detoxification, and to positive outcome expectancies of

those receiving alcohol. Findings suggest that fragmentary blackouts result from poor retrieval and individual differences in retrieval emerge after alcohol is consumed.

Fragmentary and en bloc blackouts: Similarity and distinction among episodes of alcohol-induced memory loss.
Hartzler, Bryan, et al.
Journal of Studies on Alcohol, Vol 64(4), Jul, 2003. pp. 547-550.
Abstract:

Objective: En bloc and fragmentary blackouts are distinguishable forms of alcohol-induced amnesia. The former are instances of full and permanent memory loss for intoxicated events, whereas the latter are episodes for which retrieval of experiences is facilitated by provision of cues. Beyond this nosological difference, little is known about descriptive dimensions of the two blackout types. The current study assessed their characteristics as reported by a group of heavy drinking young adults. Method: A sample of 136 young adult volunteers (54% male; mean [SD] age = 22.71 [2.23]) were administered a Time-Line Follow-Back assessment, expanded to gather descriptive information about the occurrence and characteristics of en bloc and fragmentary blackouts. Results: Although overall reporting of blackouts by the sample mirrored rates reported in prior research, prevalence and incidence of fragmentary blackouts were more than threefold those of en bloc blackouts. A surprising finding was that the two blackout types exhibited similar range and distribution of corresponding blood alcohol concentrations. Most en bloc blackouts involved concurrent use of illicit substances; polysubstance use was reported for few fragmentary blackouts...

Alcoholic Blackout for Criminally Relevant Behavior.
van Oorsouw, Kim, et al.
Journal of the American Academy of Psychiatry and the Law, Vol 32(4), 2004. pp. 364-370.
Abstract:

Some criminal suspects claim to have had an alcohol-induced blackout during crimes they have committed. Are alcoholic blackouts a frequently occurring phenomenon, or are they merely used as an excuse to minimize responsibility? Frequency and type of blackout were surveyed retrospectively in two healthy samples (n = 256 and n = 100). Also, a comparison of blood alcohol concentrations was made between people who did and those who did not claim a blackout when stopped in a traffic-control study (n = 100). In the two survey studies, blackouts were reported frequently by the person himself (or herself) and others (67% and 76%, respectively) in contrast to the traffic-control study (14%), in which blackouts were reported only when persons were involved in an accident These results indicate that although blackouts during serious misbehavior are reported outside the court, both the denial and the claim of alcoholic blackout may serve a strategic function.

Alcohol black-out voor een delict: Bestaat dat?
Do alcohol blackouts for crime exist?
van Oorsouw, Kim, et al.
Psycholoog, Vol 39(2), Feb, 2004. pp. 59-63.
Abstract:

Sometimes criminal suspects claim to have had an alcoholic blackout for the crime they have committed. The question arises whether alcohol blackouts are indeed a frequently occurring phenomenon or are merely used as an excuse to minimize criminal responsibility. Frequency and type of blackout were surveyed retrospectively in a healthy sample. Also, comparison of blood alcohol concentrations was made for people who did and did not claim

blackout when stopped in a traffic-control study. In the survey study, blackouts were reported frequently (67%) in contrast to the traffic-control study (14%), where blackouts were only reported when persons were involved in an accident (85%). These results indicate that both the denial and the claim of blackout may have a strategic background.

Genetic Epidemiology of Alcohol-Induced Blackouts.
Nelson, Elliot C., et al.
Archives of General Psychiatry, Vol 61(3), Mar, 2004. pp. 257-263.
Abstract:

Examines the genetic epidemiology of lifetime blackouts and having had 3 or more blackouts in a year, including analyses controlling for the frequency of intoxication. Members of the young adult Australian Twin Register, a volunteer twin panel born between January 1, 1964, and December 31, 1971, were initially registered with the panel as children by their parents between 1980 and 1982. They underwent structured psychiatric telephone interviews from February 1996 through September 2000. The current sample contains 2324 monozygotic and dizygotic twin pairs (mean [SD] age 29.9 [2.5] years) for whom both twins' responses were coded for blackout questions and for frequency of intoxication. Data on lifetime blackouts and having had 3 or more blackouts in a year were collected within an examination of the genetic epidemiology of alcoholism. A lifetime history of blackouts was reported by 39.3% of women and 52.4% of men; 11.4% of women and 20.9% of men reported having had 3 or more blackouts in a year. The finding of a substantial genetic contribution to liability for alcohol-induced blackouts including a component of genetic loading shared with frequency of intoxication may offer important additional avenues to investigate susceptibility to alcohol-related problems.

Violence Related Injuries in the Emergency Room: Alcohol, Depression, and Conduct Problems.
Borges, G., et al.
Substance Use & Misuse; May2004, Vol. 39 Issue 6, p911-930, 20p, 4 Charts
Abstract (English):

OBJECTIVE: The aim of this study was to obtain epidemiological measures of the association between alcohol consumption and emergency room (ER) attendance due to violence, compared to the general population in the city of Pachuca, Mexico, during October–November, 1996 and June–July, 1997.

METHOD: The study was a population-based case-control design. Intervention and Measurements: Data consisted of an interviewer-administered questionnaire, collected on a 24-h basis, during the entire week.

Setting and PARTICIPANTS: Cases were 127 patients (78% male) admitted to the ER because of an injury that was the result of violence (being in a fight or being attacked by someone). A sample of residents from Pachuca (n = 920) was the comparison group.

RESULTS: Patients reporting drinking within 6 h compared to nondrinkers were more likely to suffer a violence-related injury [34.0 (17.5–66.2)] and alcohol dependent patients were more likely to be involved in a violence-related injury [7.4 (3.5–15.6)] compared to noncurrent drinkers. When both alcohol prior and alcohol dependence were considered simultaneously in multiple models among current drinkers, patients with violence-related injuries were more likely to report alcohol prior but not to be positive for alcohol

dependence. Depressive symptoms, but not conduct problem behavior, were also associated with violent injury in simultaneous regressions that included alcohol variables.

CONCLUSIONS: In the city of Pachuca, Mexico, a large relationship between drinking prior to the event and violence-related injury, regardless of alcohol dependence, was found. Depression was also related to violence, suggesting the need for more comprehensive intervention with these patients.

Executive Functioning and Alcohol-Related Aggression.
Giancola, Peter R.
Journal of Abnormal Psychology, Vol 113(4), Nov, 2004. pp. 541-555.
Abstract:

The primary goal of this investigation was to determine whether executive functioning (EF) would moderate the alcohol-aggression relation. Participants were 310 (152 men and 158 women) healthy social drinkers between 21 and 35 years of age. EF as well as non-EF skills were measured with 13 validated neuropsychological tests. Following the consumption of either an alcoholic or a placebo beverage, participants were tested on a modified version of the Taylor Aggression Paradigm (S. Taylor, 1967), in which mild electric shocks were received from, and administered to, a fictitious opponent. Aggressive behavior was operationalized as the shock intensities administered to the fictitious opponent. EF was negatively related to aggressive behavior for men, regardless of beverage group, even when controlling for non-EF skills. Furthermore, alcohol increased aggression only for men with lower EF scores. Finally, the mere belief that alcohol was consumed suppressed aggression for women but not for men.

Memory encoding and retrieval on the ascending and descending limbs of the blood alcohol concentration curve.
Söderlund, Hedvig. Et al.
Psychopharmacology, Vol 182(2), Oct, 2005. pp. 305-317.
Abstract:

Rationale: Little is known about acute effects of alcohol on memory encoding and retrieval on different limbs (ascending and descending) of the blood alcohol concentration (BAC) curve.

Objectives: This extensive experiment was designed to examine alcohol's effects on memory encoding and retrieval throughout a protracted drinking episode.

Methods: In a 9-h session, male participants consumed either alcohol (1 ml/kg) or placebo (n=32/32) over a period of 90 min and learned various materials in different memory tasks before, during, and after consuming the drinks, while their BAC levels were monitored. A week later, in a similar session, they were tested on learned materials before, during, and after drinking. Mood was assessed throughout both sessions.

Results: Alcohol impaired recall of words more than recognition, and cued recall most severely. Perceptual priming and picture recognition were not affected by alcohol. Alcohol impaired encoding in cued recall, recognition of completed word fragments, and free recall regardless of limb, but impaired retrieval in word recognition only during the ascending BAC. Alcohol increased negative mood on the descending limb during the first session, and on the ascending limb during the second session.

Conclusions: Under naturalistic drinking conditions, alcohol's effects on memory depend on task, memory process, and limb of the BAC curve. The differential effects of alcohol on retrieval during the ascending and descending limbs demonstrate the importance of examining the differential effects on the two limbs.

ALDH22 is Associated With a Decreased Likelihood of Alcohol-Induced Blackouts in Asian American College Students.
Luczak, Susan E., et al.
Journal of Studies on Alcohol, Vol 67(3), May, 2006. pp. 349-353.
Abstract:

Objective: A recent report found the heritability estimate for alcohol-induced blackouts was 53%. The present study was designed to determine whether possession of two specific genetic variations, an aldehyde dehydrogenase ALDH22 allele and an alcohol dehydrogenase ADH1B2 allele, were associated with lower rates of lifetime blackouts. Method: Asian American college students (N = 403) of Chinese and Korean descent were genotyped at the ALDH2 and ADH1B loci and assessed for lifetime alcohol-induced blackouts and the maximum number of drinks ever consumed in a 24-hour period. Results: Participants who had an ALDH22 allele had approximately one third the risk of having a lifetime blackout of participants without this allele. Rates of experiencing a lifetime blackout did not significantly differ by ADH1B2 status. Possessing an ALDH22 allele was associated with decreased risk of lifetime blackouts even after controlling for maximum number of drinks ever consumed in a 24-hour period and ethnicity. Conclusions: These findings suggest the protective effects of possessing an ALDH22 allele include a lowered risk of experiencing alcohol-induced blackouts.

The association of alcohol-induced blackouts and grayouts to blood alcohol concentrations.
Perry, Paul J., et al.
Journal of Forensic Sciences, Vol 51(4), Jul, 2006. pp. 896-899.
Abstract:

The primary aim of this study was to investigate the association between measured blood alcohol concentration (BAC) and the presence and degree of amnesia (no amnesia, grayout, or blackout) in actively drinking subjects. A secondary aim was to determine potential factors other than BAC that contribute to the alcohol-induced memory loss. An interview questionnaire was administered to subjects regarding a recent alcohol associated arrest with a documented BAC greater than 0.08 g/dL for either public intoxication, driving under the influence, or under age drinking was administered. Demographic variables collected included drinking history, family history of alcoholism, presence of previous alcohol-related memory loss during a drinking episode, and drinking behavior during the episode. Memory of the drinking episode was evaluated to determine if either an alcohol-induced grayout (partial anterograde amnesia) or blackout (complete anterograde amnesia) occurred. Differences in (1) mean total number of drinks ingested before arrest, (2) gulping of drinks, and (3) BAC at arrest were found for those having blackouts compared with no amnesia; while differences in drinking more than planned were found between the no amnesia and grayout groups. A strong linear relationship between BAC and predicted probability of memory loss, particularly for blackouts was obvious. This finding clinically concludes that subjects with BAC of 310 g/dL or greater have a 0.50 or greater probability of having an alcoholic blackout.

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.

The Drinking-Induced Disinhibition Scale (DIDS): A measure of three types of disinhibiting effects.

Leeman, Robert F., et al.

Addictive Behaviors, Vol 32(6), Jun, 2007. pp. 1200-1219.

Abstract:

Links between trait disinhibition and high-risk drinking are well established. It is also known that alcohol has disinhibiting effects. Nonetheless, there is no measure in the literature devoted exclusively to assessing disinhibiting effects of alcohol. The multidimensional Drinking-Induced Disinhibition Scale (DIDS) was developed as part of Study I, a prospective survey conducted with undergraduates (N = 337). Study II, a cross-sectional survey (N = 260), allowed for a confirmatory factor analysis and further validation of the measure through comparisons with an expectancies scale. The nine-item DIDS is comprised of three subscales assessing euphoric/social, dysphoric and sexual disinhibition. All three subscales had good internal consistency and adequate test-retest reliability. Convergent and discriminant validity were established in both studies. The subscales had different associations with high-risk drinking: sexual disinhibition predicted heavy episodic drinking; dysphoric disinhibition predicted alcohol-related problems and euphoric/social had associations with both. A cluster analysis revealed four distinct disinhibition profiles (i.e., low effect drinker; high euphoric/social only; high euphoric social and dysphoric; high euphoric/social and sexual), which predicted likelihood of high-risk drinking.

Alcohol's effects on sexual decision making: An integration of alcohol myopia and individual differences.

Cue Davis, Kelly, et al.

Journal of Studies on Alcohol and Drugs, Vol 68(6), Nov, 2007. pp. 843-851.

Abstract:

We conducted an experiment to test the applicability of integrating individual perceptions of unprotected sex consequences with alcohol's myopic effects as an explanatory framework for risky sexual decision making in young heterosexual men and women. Method: Male and female participants (N= 61) rated their perceptions of unprotected sex consequences, received alcoholic (target breath alcohol concentration = .10%) or

nonalcoholic drinks, and completed a risky sexual decision-making task that included a quantitative measure of sexual decision-making cue attention. Results: Intoxicated participants were more attentive to impelling cues and reported greater sexual risk intentions than sober participants. Mediational analyses indicated that attention to cues fully mediated the alcohol-sexual risk intention relationship. Moderational analyses revealed that alcohol's focusing effect acts in conjunction with pre-existing individual perceptions to influence cue salience directly and sexual risk intentions indirectly. Conclusions: Findings demonstrate the importance of examining predispositional tendencies when investigating alcohol myopia as a mediating mechanism underlying the alcohol-risky sex relationship.

Gender differences in self-reported drinking-induced disinhibition of sexual behaviors.
Hesse, Morten, Tutenges, Sébastien.
Address:
The American Journal on Addictions, Vol 17(4), Jul-Aug, 2008. pp. 293-297.
Abstract:

Sex and drinking go hand-in-hand in Western societies. Men also tend to report more sexual disinhibition under the influence of alcohol and drugs than women. At a vacation resort,we conducted a survey of young men and women regarding self-reported alcohol-related sexual disinhibition (ARSD), and we administered the Drinking-Induced Disinhibition Scale (DIDS). We made several comparisons of behavioral patterns using the ARSD scale of the DIDS for each gender: kissing or having sex vs. no sexual contact, or having sex versus kissing or no contact. In general, men reported more ARSD than women. Men who reported either kissing or having sex the night before reported significantly more ARSD than men not reporting either kissing or having sex. Women who had had sex the night before reported more ARSD than women who had either kissed or not reported any sexual contact on the night before, but women who had kissed did not differ from women who had not had any sexual contact. We suggest that while the DIDS scale of alcohol-related sexual disinhibition is a valid instrument, gender bias exists. In conclusion, the DIDS does measure the constructs that it sets out to measure. However, significant gender differences do exist and appear to go beyond differences in actual behavior in terms of sexualdisinhibition. Men and women describe themselves differently when they describe sexual behavior in general, even when they report similar recent behavior, and we suggest that these differences at least partly reflect sexual stereotypes.

Alcohol-induced retrograde memory impairment in rats: Prevention by caffeine.
Spinetta, Michael J., et al.
Psychopharmacology, Vol 201(3), Dec, 2008. pp. 361-371.
NLM Title Abbreviation:
Abstract:

Rationale: Ethanol and caffeine are two of the most widely consumed drugs in the world, often used in the same setting. Animal models may help to understand the conditions under which incidental memories formed just before ethanol intoxication might be lost or become difficult to retrieve. Objectives: Ethanol-induced retrograde amnesia was investigated using a new odor-recognition test. Materials and methods: Rats thoroughly explored a wood bead taken from the cage of another rat, and habituated to this novel odor (N1) over three trials. Immediately following habituation, rats received saline, 25 mg/kg pentylenetetrazol (a seizure-producing agent known to cause retrograde amnesia) to validate the test, 1.0 g/kg ethanol, or 3.0 g/kg ethanol. The next day, they were presented again with N1 and also a bead from a new rat's cage (N2). Results: Rats receiving saline or

the lower dose of ethanol showed overnight memory for N1, indicated by preferential exploration of N2 over N1. Rats receiving pentylenetetrazol or the higher dose of ethanol appeared not to remember N1, in that they showed equal exploration of N1 and N2. Caffeine (5 mg/kg), delivered either 1 h after the higher dose of ethanol or 20 min prior to habituation to N1, negated ethanol-induced impairment of memory for N1. A combination of a phosphodiesterase-5 inhibitor and an adenosine A2A antagonist, mimicking two major mechanisms of action of caffeine, likewise prevented the memory impairment, though either drug alone had no such effect. Binge alcohol can induce retrograde, caffeine-reversible disruption of social odor memory storage or recall.

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.

Predictors of risky sexual behavior with new and regular partners in a sample of women bar drinkers.

Authors:

Parks, Kathleen A., et al.

Journal of Studies on Alcohol and Drugs, Vol 70(2), Mar, 2009. pp. 197-205.

Abstract:

Objective: We designed the current study to assess the rates of risky sexual behavior among women bar drinkers, as well as differences in predictors of risky sexual behavior, based on partner type—new or regular. Method: We conducted comprehensive, in-person interviews with 241 young women who reported weekly drinking in bars. Several constructs (e.g.,

individual characteristics, social and sexual behavior, substance use) that we hypothesized would predict risky sexual behavior were assessed in two separate hierarchical regression models for new and regular sexual partners. Results: Rates of risky sexual behavior were significantly higher with regular partners compared with new partners. Increased risky sexual behavior with new partners was significantly associated with having had a riskier regular partner in the past 6 months, lower sexually transmitted disease (STD)/pregnancy prevention assertiveness, increased expectations of sexual disinhibition when drinking, a greater history of prior sexual risk taking, and more frequent drinking in bars. Increased risky sexual behavior with a regular partner was significantly associated with being older, the use of oral contraceptives, lower assertiveness for STD/pregnancy prevention, a greater history of prior sexual risk taking, and increased drug use. Conclusions: Among young women who regularly drink in bars, sexual risk taking was significantly higher with regular partners than with new partners. The predictors of risky sexual behavior differed based on partner type. These findings have implications for including information about the role of alcohol, drinking context, and drug use, as well as individual difference characteristics and partner type in targeted prevention strategies to reduce sexual risk taking.

2010's

The acute effect of alcohol on various memory processes.
Molnár, Márk, et al.
Journal of Psychophysiology, Vol 24(4), 2010. pp. 249-252.
Abstract:

This review surveys relevant and recent data of the pertinent literature regarding the acute effect of alcohol on various kinds of memory processes with special emphasis on working memory. The characteristics of different types of long-term memory (LTM) and short-term memory (STM) processes are summarized with an attempt to relate these to various structures in the brain. LTM is typically impaired by chronic alcohol intake but according to some data a single dose of ethanol may have long lasting effects if administered at a critically important age. **The most commonly seen deleterious acute effect of alcohol to STM appears following large doses of ethanol in conditions of 'binge drinking' causing the 'blackout' phenomenon.** However, with the application of various techniques and well-structured behavioral paradigms it is possible to detect, albeit occasionally, subtle changes of cognitive processes even as a result of a low dose of alcohol. These data may be important for the consideration of legal consequences of low-dose ethanol intake in conditions such as driving, etc.

Alcohol-induced blackout: Phenomenology, biological basis, and gender differences.
Rose, Mark E., et al.
Journal of Addiction Medicine, Vol 4(2), Jun, 2010. pp. 61-73.
Abstract:

Blackouts from acute alcohol ingestion are defined as the inability to recall events that occurred during a drinking episode and are highly prevalent in both alcoholic and nonalcoholic populations. This article reviews the clinical manifestations, epidemiology, risk factors, cognitive impairment, and neurobiology associated with alcohol-induced blackout, with special emphasis on the neurochemical and neurophysiological basis, and gender differences. Two types of blackout have been identified: en bloc, or complete inability to recall events during a time period, and fragmentary, where memory loss is

incomplete. The rapidity of rise in blood alcohol concentration is the most robust predictor of blackout. Alcohol impairs different brain functions at different rates, and cognitive and memory performance are differentially impaired by ascending versus descending blood alcohol concentration. Cognitive and memory impairment occurs before motor impairment, possibly explaining how a drinker appearing fully functional can have little subsequent memory. Blackouts are caused by breakdown in the transfer of short-term memory into long-term storage and subsequent retrieval primarily through dose-dependent disruption of hippocampal CA1 pyramidal cell activity. The exact mechanism is believed to involve potentiation of gamma-aminobutyric acid-alpha-mediated inhibition and interference with excitatory hippocampal N-methyl-D-aspartate receptor activation, resulting in decreased long-term potentiation. Another possible mechanism involves disrupted septohippocampal theta rhythm activity because of enhanced medial septal area gamma- aminobutyric acid-ergic neurotransmission. Women are more susceptible to blackouts and undergo a slower recovery from cognitive impairment than men, due in part to the effect of gender differences in pharmacokinetics and body composition on alcohol bioavailability.

The effects of acute ethanol consumption on sexual response and sexual risk-taking intent.
Prause, Nicole., Staley, Cameron and Finn, Peter.
Archives of **Sexual** Behavior, Vol 40(2), Apr, 2011. pp. 373-384.
Abstract:

Two theories of sexual risk taking (disinhibition and alcohol myopia) were tested using genital measures of sexual response and computer measures of sexual risk propensity. A total of 44 men and women completed two sessions comparing responses to erotic films while consuming alcohol (breath alcohol doses were .025 g/kg and .08 g/kg) or juice alone. After consuming alcohol, more sexual arousal was reported in response to neutral films and at a breath alcohol level of .08 g/kg as compared to no alcohol. Genital responses for men and women increased during sexual films, but men did not respond as strongly when breath alcohol level was .08 g/kg. Intentions to have intercourse with a new partner at baseline predicted the level of sexual arousal reported. As self-reported sexual arousal increased in response to sexual films and higher alcohol dose, the intent to engage in intercourse with a new partner increased. Alcohol dose was *not* related to later sexual intercourse intentions. With no direct relationship of alcohol and intercourse intentions, results appear more consistent with a disinhibition model of sexual arousal.

Identifying factors that increase the likelihood for alcohol-induced blackouts in the prepartying context.
LaBrie, Joseph W., et al.
Substance Use & Misuse, Vol 46(8), May, 2011. pp. 992-1002.
Abstract:

The present study examined risk factors related to 'blacking out' (e.g., temporary periods of memory loss during drinking) during preparty drinking events (i.e., pregaming, predrinking). Participants were students from two universities on the West Coast who reported past month prepartying (N = 2,546) in online surveys administered in the fall of 2008. Among these students, 25% (n = 636) reported blacking out during at least one occasion in which they prepartied in the past month. A logistic regression model underscored that Greek student affiliation, family history of alcohol abuse, frequency of prepartying, and both playing drinking games and consuming shots of liquor while prepartying increased the likelihood of blacking out. Limitations and implications for future research and collegiate prevention strategies are discussed.

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.

Liquid Courage or Liquid Fear: Alcohol Intoxication and Anxiety Facilitate Physical Aggression.

Parrott, Dominic J., et al.

Substance Use & Misuse; May2012, Vol. 47 Issue 7, p774-786, 13p

Abstract (English):

Participants were 138 male social drinkers between 18 and 30 years of age from a university community in the southeastern United States in 2000. Trait and state anxiety was measured using the Trait Anxiety Inventory and the Facial Action Coding System, respectively. Participants consumed an alcoholic or nonalcoholic control beverage and completed a shock-based aggression task. Regression analysis indicated that alcohol-facilitated elevations in anxiety mediated the relation between alcohol consumption and aggression and that trait anxiety and physical provocation moderated this effect. Implications and limitations of this study are noted and future research directions are suggested.

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.

Effects of alcohol on sequential information processing: Evidence for temporal myopia.

Fleming, Kimberly A., et al.

Psychology of Addictive Behaviors, Vol 27(1), Mar, 2013. pp. 184-190.

Abstract:

Alcohol Myopia Theory (AMT) posits that alcohol restricts the focus of attention, such that behaviors are determined only by highly salient environmental cues. While AMT is most commonly understood in terms of spatial attention, the present study tested the effects of alcohol in the temporal domain of attention. Seventy-one participants consumed either a placebo beverage or one of two doses of alcohol (0.40g/kg or 0.80g/kg ETOH) before performing an auditory discrimination task while event-related potentials (ERPs) were recorded. Consistent with typical sequential effects, placebo participants showed increased P300 amplitude and slowed behavioral responses when the current target differed from the two-back tone. In contrast, alcohol caused increased P300 and response slowing when the target tone differed from the one-back tone. These findings suggest that alcohol increases the salience of more recently encountered information, consistent with the general tenets of AMT.

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.

Understanding the relationship between social anxiety and alcohol use in college students: A meta-analysis.

Schry, Amie R., et al.

Addictive Behaviors, Vol 38(11), Nov, 2013. pp. 2690-2706.

Abstract:

Many college students use alcohol, and most of these students experience problems related to their use. Emerging research indicates that **socially anxious students face heightened risk of experiencing alcohol-related problem**s, although the extant research on alcohol use and social anxiety in this population has yielded inconsistent findings. **This meta-analysis was conducted to examine the relationship between social anxiety and alcohol variables in college students**. A literature search was used to identify studies on college students that included measures of social anxiety and at least one of the alcohol variables of interest. All analyses were conducted using random effects models. We found that **social anxiety was negatively correlated with alcohol use variables (e.g., typical quantity and typical frequency), but significantly positively correlated with alcohol-related problems**, coping, conformity, and social motives for alcohol use, and positive and negative alcohol outcome expectancies. Several moderators of effect sizes were found to be significant, including methodological factors such as sample ascertainment approach. Given that social anxiety was negatively related to alcohol use but positively related to alcohol-related problems, research is needed to address why individuals high in social anxiety experience more problems as a result of their alcohol use. Avoidance of social situations among socially anxious students should also be taken into account when measuring alcohol use. The primary limitation of this study is the small number of studies available for inclusion in some of the analyses.

Commentary on: Pressman MR, Caudill DS. Alcohol-induced blackout as a criminal defense or mitigating factor: An evidence-based review and admissibility as scientific evidence. J Forensic Sci 2013;58(4):932–40.

Wigmore, James G.

Journal of Forensic Sciences, Vol 59(1), Jan, 2014. pp. 293.

Abstract:

Comments on an article by Mark R. Pressman and David S. Caudill (see record 2013-24940-013). Pressman and Caudill provided an excellent and detailed review about the questionable scientific nature of alcohol induced blackout as a criminal defense. One other scientifically invalid aspect not specifically discussed in their study was the blood alcohol concentration (BAC) calculation by the defense expert in their example case. These conditions rarely occur in criminal cases, and in more realistic experiments of prolonged drinking and large amounts of alcohol consumed, the Widmark calculations have been found to overestimate the actual BAC by up to 50%. Thus, even the basis of the defense opinion that a high BAC occurred in the defendant (and caused an alcohol-induced blackout) was highly questionable scientifically.

Altered anterior cingulate neurochemistry in emerging adult binge drinkers with a history of alcohol-induced blackouts.

Silveri, Marisa M., et al.

Alcoholism: Clinical and Experimental Research, Vol 38(4), Apr, 2014. pp. 969-979.

Abstract:

Background: Binge alcohol consumption is associated with multiple neurobiological consequences, including altered neurophysiology, brain structure, and functional activation. Magnetic resonance spectroscopy (MRS) studies have demonstrated

neurochemical alterations in the frontal lobe of alcohol users, although most studies focused on older, alcohol-dependent subjects. Methods: In this study, neurochemical data were acquired using MRS at 4.0 Tesla from emerging adults (18 to 24 years old) who were binge alcohol drinkers (BD, n = 23) or light drinkers (LD, n = 31). Since binge drinking is also associated with increased prevalence of experiencing an alcohol-induced blackout, BD were stratified into alcohol-induced blackout (BDBO) and non-blackout (BDN) groups. Results: Overall, BD had significantly lower gamma amino-butyric acid (GABA) and N-acetyl-aspartate (NAA) in the anterior cingulate cortex (ACC) than LD. When stratified by blackout history, BDBO also had lower ACC glutamate (Glu) than LD. No group differences in MRS metabolites were observed in the parietal-occipital cortex. Lower ACC GABA and Glu remained significant after accounting for lower gray matter content in BD, however, NAA differences were no longer evident. In addition, low ACC GABA levels were associated with greater alcohol use consequences, and worse response inhibition and attention/mental flexibility in BD. Conclusions: These data indicate that binge drinking affects frontal lobe neurochemistry, more so in those who had experienced an alcohol-induced blackout. Characterization of the neurochemical profiles associated with binge alcohol consumption and blackout history may help identify unique risk factors for the later manifestation of alcohol abuse and dependence, in young individuals who are heavy, frequent drinkers, but who do not meet the criteria for alcohol abuse disorders.

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.

Alcohol-induced blackouts and maternal family history of problematic alcohol use.
Marino, Elise N., et al.
Addictive Behaviors, Vol 45, Jun, 2015. pp. 201-206.
Abstract:

Background: Consequences of heavy drinking include alcohol-induced blackouts, which are periods of amnesia for all or part of a drinking event. One risk factor for blackouts is family history of problematic alcohol use (FH +); however, research rarely distinguishes maternal from paternal FH +. The objective of this study was to examine whether maternal or paternal FH + better predicts likelihood of experiencing blackouts than a general measure of overall FH +, and whether gender moderates this association. Method: Participants (N = 1164; 65.4% are female) were first-time college freshmen (age range = 17–19) who participated in a 6-year, 10-assessment, longitudinal study in the United States. Alcohol-induced blackouts, the dependent measure, were dichotomized (yes/no) based on endorsement of memory problems after drinking using a single item during Years 4–6. FH +, captured at baseline, was coded if participants self-reported that their mother, father, or any of their four grandparents were a possible or definite problem drinker. Results: Overall, 773 (66.4%) participants reported experiencing blackouts during Years 4–6. Women were more likely to report blackouts than men; however, compared with women with a maternal FH +, men with a maternal FH + were more than twice as likely to report blackouts. Discussion: **Men appear to be more susceptible than women to the effects of a maternal FH +. Genetic and environmental explanations for this finding are discussed.** In sum, these findings are an important step toward understanding a significant yet understudied negative consequence of heavy alcohol use.

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.

Prevalence of comorbid substance use, anxiety and mood disorders in epidemiological surveys, 1990–2014: A systematic review and meta-analysis.

Lai, Harry Man Xiong, et al.
Drug and Alcohol Dependence, Vol 154, Sep 1, 2015. pp. 1-13.

Abstract:

Background: Comorbidity is highly prevalent between substance use disorders (SUDs), mood and anxiety disorders. We conducted a systematic review and meta-analysis to determine the strength of association between SUDs, mood and anxiety disorders in population-based epidemiological surveys. Methods: A comprehensive literature search of Medline, EMBASE, CINAHL, PsychINFO, Web of Science, and Scopus was conducted from 1990 to 2014. Sources were chosen on the basis that they contained original research in non-clinical populations conducted in randomly selected adults living within defined boundaries. Prevalence of comorbid SUDs, mood and anxiety disorders and odds ratios (ORs) were extracted. Results: There were 115 articles identified by electronic searches that were reviewed in full text which yielded 22 unique epidemiological surveys to extract lifetime and 12-month prevalence data for psychiatric illness in respondents with an SUD. Meta-analysis indicated the strongest associations were between illicit drug use disorder and major depression (pooled OR 3.80, 95% CI 3.02–4.78), followed by illicit drug use and any anxiety disorder (OR 2.91, 95% CI 2.58–3.28), alcohol use disorders and major depression (OR 2.42, 95% CI 2.22–2.64) and alcohol use disorders and any anxiety disorder (OR 2.11, 95% CI 2.03–2.19). ORs for dependence were higher than those for abuse irrespective to diagnoses based on lifetime or 12-month prevalence. Conclusions: **This review confirms the strong association between SUDs, mood and anxiety disorders**. The issue has now been recognised worldwide as a factor that affects the profile, course, patterns, severity and outcomes of these disorders.

Ethanol forensic toxicology.

Perry, Paul J., et al.

Clinical Sciences Department, Touro University California College of Pharmacy, Vallejo, CA,

Journal of the American Academy of Psychiatry and the Law, Vol 45(4), Dec 1, 2017. pp. 429-438.

Abstract:

Ethanol abuse can lead to negative consequences that oftentimes result in criminal charges and civil lawsuits. When an individual is suspected of driving under the influence, law enforcement agents can determine the extent of intoxication by measuring the blood alcohol concentration (BAC) and performing a standardized field sobriety test. The BAC is dependent on rates of absorption, distribution, and elimination, which are influenced mostly by the dose of ethanol ingested and rate of consumption. Other factors contributing to BAC are gender, body mass and composition, food effects, type of alcohol, and chronic alcohol exposure. Because of individual variability in ethanol pharmacology and toxicology, careful extrapolation and interpretation of the BAC is needed, to justify an arrest and assignment of criminal liability. This review provides a summary of the pharmacokinetic properties of ethanol and the clinical effects of acute intoxication as they relate to common forensic questions. Concerns regarding the extrapolation of BAC and the implications of impaired memory caused by alcohol-induced blackouts are discussed.

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.

Treatment of comorbid alcohol dependence and anxiety disorder: Review of the scientific evidence and recommendations for treatment.

Gimeno, Carmen, et al.

Frontiers in Psychiatry, Vol 8, Sep 22, 2017. ArtID: 173

Abstract:

Patients with alcohol-use disorders (AUDs) have a high prevalence of anxiety disorders (AnxDs). 'Co-occurring disorders' refers to the coexistence of an AUD and/or drug related disorders with another non-addictive psychiatric disorder. The aim of this study was to assess the effectiveness of psychopharmacological treatments and psychotherapy in patients with AUD and AnxD and to propose recommendations for the treatment of patients with comorbid AnxDs and AUDs. Randomized clinical trials, meta-analyses, and clinical guidelines were retrieved from PubMed, Embase, and Cochrane databases. Paroxetine was found to be effective in social anxiety patients with alcohol dependence. Selective serotonin reuptake inhibitors (SSRIs), especially sertraline, showed effective results in posttraumatic stress disorder and in comorbid AnxD–AUD. However, SSRIs should be used with caution when patients are actively drinking because they may increase alcohol consumption. Buspirone, gabapentin, and pregabalin were found to be effective in comorbid AnxD–AUD. The treatment of dual AnxDs should start as early as possible. **Since AUDs and AnxDs can reinforce each other, treatments targeting both pathologies can be effective.** Women suffer from higher levels of stress and AnxDs than men, and they are also more vulnerable to maintaining alcohol consumption levels. Further research is needed in this comorbid patient population, including the study of different types of patients and gender perspectives.

Alcohol drinking patterns in young people: A survey-based study.

Martinotti, Giovanni., et al.

Journal of Health Psychology, Vol 22(14), Dec, 2017. pp. 1889-1896.

Abstract:

Binge drinking represents a major clinical and public health concern. Here, we investigated the prevalence of binge drinking and its related consequences, in a population of young adults. A questionnaire was administered to a sample of 4275 healthy subjects. In the overall sample, the percentage of binge drinkers was 67.6 per cent; among regular alcohol

users, 79.5 per cent reported episodes of binge drinking. Among binge drinkers, several serious consequences were identified (staggering and stuttering, amnesia, loss of control, aggressiveness, sexual disinhibition). Raising awareness about the seriousness of binge drinking may help health care providers to identify cases early on and provide appropriate treatments.

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.

Alcohol-related sex expectancies explain the relation between alcohol use and sexting among college students.

Florimbio, Autumn Rae, et al.

Computers in Human Behavior, Vol 88, Nov, 2018. pp. 205-209.

Abstract:

Alcohol use and sexual behavior are prevalent among college students. Sexting, defined as the sending and/or receiving of sexually explicit content via electronic methods, is also associated with college students' alcohol use. Alcohol-related expectancies (i.e., beliefs one has regarding the cognitive and behavioral effects of alcohol) partially explain the association between alcohol use and sexual behavior. Specifically, college students perceive that alcohol relates to sexual activities through increases in sexual arousal and disinhibition. Based on prior research, the relation between alcohol use and sexting may be explained by alcohol-sex expectancies. We hypothesized that alcohol use and problems would relate to sexting indirectly through sexual drive and sexual affect expectancies. We tested this hypothesis using cross-sectional, self-report methodology in a sample of undergraduate students (N = 534). Results indicated that alcohol use and problems related to sexting through sexual drive, but not sexual affect, expectancies. Findings highlight the

importance of expectancies in the relationship between alcohol use and the understudied sexual behavior of sexting.

Alcohol Related Psychosis

Holly A. Stankewicz; Philip Salen.

Stankewicz HA, Salen P. Alcohol Related Psychosis. [Updated 2017 Oct 9]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2018 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK459134/

Introduction

Psychosis associated with alcohol can occur with acute intoxication, alcohol withdrawal, as well as in chronic alcoholics. The specific diagnosis of alcohol-related psychosis is also known as alcohol hallucinosis. It is a relatively rare consequence of alcohol abuse. However, it may be more prevalent than classically thought depending on the inclusion criteria used for diagnosis. In alcohol-induced psychosis, symptoms of psychosis present during or shortly after heavy alcohol intake. Clinically, alcohol-induced psychosis is similar to schizophrenia but has been found to be a unique and independent condition. It is characterized by hallucinations, paranoia, and fear.

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.

Alcohol and pharmacologically similar sedatives impair encoding and facilitate consolidation of both recollection and familiarity in episodic memory.

Doss, Manoj K., et al.

Cognitive Neuroscience, Vol 9(3-4), Jul-Oct, 2018. pp. 89-99.

Abstract:

Alcohol and other pharmacologically similar sedatives (i.e., GABAA positive allosteric modulators or PAMs) impair the encoding of new episodic memories but retroactively facilitate the consolidation of recently encoded memories. These effects are consistent for recollection (i.e., the retrieval of details) but some mixed results have been reported for familiarity (i.e., a feeling of knowing a stimulus was presented). Here, with dual-process models, we reanalyzed prior work testing the effects of GABAA PAMs at encoding or consolidation. Contrary to previous conclusions, we show that GABAA PAMs at encoding consistently impair both recollection and familiarity when an independence correction is applied to familiarity-based responses. These findings were further confirmed and extended in a dual-process signal detection analysis of a recent study on the effects of alcohol during encoding or consolidation: Alcohol at encoding impaired both recollection and familiarity, whereas alcohol at consolidation enhanced both recollection and familiarity. These findings speak to the ability of alcohol and other GABAA PAMs to induce ‘blackouts,’ highlighting the importance of dual-process approaches when analyzing drug manipulations at different phases of episodic memory.

Distinctions in alcohol-induced memory impairment: A mixed methods study of en bloc versus fragmentary blackouts.

Miller, Mary Beth, et al.

Alcoholism: Clinical and Experimental Research, Vol 42(10), Oct, 2018. pp. 2000-2010.

Abstract:

Background: Blackouts—or memory loss for all or part of a drinking event—are reliable predictors of alcohol-related consequences. Studies suggest a distinction between en bloc (complete memory loss) and fragmentary (off-and-on memory loss) blackouts; however, research has not consistently differentiated between these 2 forms of blackout. This study aimed to validate the distinction between en bloc and fragmentary blackouts among young adults. Methods: Data were collected using qualitative (Study 1) and quantitative (Study 2) research methods. Participants in both studies were college students with a history of alcohol-induced memory impairment. They were recruited using community advertisement (Study 1, N = 50, 56% female) and Qualtrics survey panels (Study 2, N = 350, 56% female). Study 1 participants engaged in 8 focus groups. Discussions were audio-recorded, transcribed verbatim, and coded using applied thematic analysis. Findings guided assessment of en bloc and fragmentary blackout in Study 2. In Study 2, a separate sample of participants completed an online survey assessing drinking behavior, alcohol-induced memory impairment, and theoretical correlates of en bloc and fragmentary blackouts. Results: Study 1 participants differentiated between en bloc and fragmentary blackouts (which they referred to as 'blackouts' and 'brownouts,' respectively) based on duration and extent of memory loss. They indicated that blackouts occur along a continuum, with en bloc 'blackouts' at the extreme. They also stated that the term 'blackout drinking' does not always imply memory loss. Study 2 participants reported higher rates of 'brownouts' (81%) than 'blackouts' (54%). They reported less negative outcome expectancies and attitudes, greater personal approval, higher prevalence estimates, lower self-efficacy, and stronger intentions for 'brownouts' than 'blackouts' ($p < 0.001$). Women perceived 'blackouts/brownouts' as more prevalent than men and reported lower intentions to experience 'blackouts' ($p < 0.005$). Conclusions: Young adults are more permissive of fragmentary than en bloc blackout. En bloc blackouts may be a target for future interventions.

After how many drinks does someone experience acute consequences—Determining thresholds for binge drinking based on two event-level studies.

Labhart, Florian, et al.

Addiction, Vol 113(12), Dec, 2018. pp. 2235-2244.

Abstract:

Background and Aims: The threshold of 4 +/5 + drinks per occasion has been used for decades in alcohol research to distinguish between non-risky versus risky episodic drinking. However, no study has assessed the validity of this threshold using event-level data. This study aimed to determine the optimal thresholds for the detection of five acute alcohol-related consequences (hangover, blackout, risky sex, fights and injury) using data from two event-level studies. Design: An event-level study to assess the ability to use the number of drinks consumed to discriminate between nights with and without consequences using the area under the receiver operating characteristic (AUROC) curve. Optimal thresholds were determined using the Youden Index based on sensitivity and specificity. Separate thresholds were estimated for gender and age groups (16–17 versus 18–25). Setting: Lausanne and Zurich, Switzerland. Participants: Three hundred and sixty-nine participants aged 16–25 years. Measurements: On 3554 weekend nights, participants reported total number of alcoholic drinks consumed the previous night and acute consequences (hangover, blackout, risky sex, fights and injury) Findings: Hangover was the most frequently reported consequence and injury the least for both genders. Throughout age groups and studies, optimal thresholds for any consequence, and for hangover only, were equal to 4+/5+ (40+/50+ g alcohol) while those for blackouts, risky sex, fights and injuries were up to three drinks higher. Adolescents tended to experience consequences more often and at slightly lower drinking levels than did adults. For all consequences but injuries, the optimal thresholds were one to two drinks lower for women than for men. Conclusions: Event-level data collection techniques appear particularly suitable to estimate thresholds at which acute alcohol-related consequences occur. Binge drinking thresholds of 4+/5+ (women/men) drinks, equivalent to 40+/50+ g pure alcohol, predict the occurrence of consequences accurately in general but are too low to predict severe acute alcohol-related consequences.

'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.

Genetic epidemiology of liability for alcohol-induced blacking and passing out.
Davis, Christal N., et al.
Alcoholism: Clinical and Experimental Research, Vol 43(6), Jun, 2019. pp. 1103-1112.
Abstract:

Background: Individuals differ in their sensitivity to alcohol's physiological effects, including blacking and passing out. Blackouts are periods of impaired memory formation when an individual engages in activities they later cannot recall, while passing out results in loss of consciousness. Methods:The sample consisted of 3,292 adult twins from the Australian Twin Registry. Univariate twin analyses were conducted to examine the contributions of genetic and environmental influences to blacking and passing out occurrence and susceptibility (accounting for frequency of intoxication). Evidence for shared etiology of susceptibility to blacking and passing out was examined using bivariate twin analyses. Results: Although blacking and passing out were strongly associated (odds ratio (OR) = 4.45, 95% confidence interval (CI): [3.85, 5.14]), the genetic epidemiology was quite different. Genetic (43%) and nonshared environmental (57%) influences contributed to liability for blackout occurrence. For passing out occurrence, there was evidence of sex differences. Among men, genetic (32%) and nonshared environmental (68%) influences contributed, whereas among women, there were shared (29%) and nonshared environmental (72%) influences. After accounting for frequency of intoxication, genetic influences on blackout susceptibility remained significant; in contrast, only nonshared environmental influences were significant for passing out susceptibility. There was evidence for overlapping genetic and nonshared environmental factors influencing susceptibility to blacking and passing out among men; among women, there were overlapping nonshared environmental influences. Conclusions: Blacking and passing out are 2 common sedative-like effects of heavy drinking, and people differ considerably in their susceptibility to these effects. This study suggests that differences in blackout susceptibility can be explained by genetic factors in both men and women, while differences in susceptibility to pass out after consuming alcohol may be attributable to

environmental influences, particularly among women. These environmental factors may include changing social and cultural norms about alcohol use, drinking context, and the type(s) of alcohol consumed.

Is the sum greater than its parts? Variations in substance-related consequences by conjoint alcohol-marijuana use patterns.

Cummings, Courtenay, et al.

Journal of Psychoactive Drugs, Vol 51(4), Sep-Oct, 2019. pp. 351-359.

Abstract:

Alcohol and marijuana are the most commonly used substances for college-attending young adults. This study evaluated differences in substance-specific consequence attribution by alcohol-marijuana use patterns (concurrent alcohol and marijuana [CAM; use of both substances, not at same time] and simultaneous [SAM; use of both, at same time]) as well as alcohol-only (AO). First-year college students with prior alcohol use (N = 610, 50.9% women, 71% White, Mage = 18) completed an online assessment of past-three-month substance use, including SAM, and related consequences. Results indicated that polydrug (SAM and CAM) users reported greater alcohol involvement and earlier alcohol initiation than AO, and polydrug use was associated with more alcohol-related problems, including sexual risk taking and alcohol-related blackouts. When restricted to SAM/CAM users, logistic regressions indicated that SAM users reported an increased incidence in two marijuana-related problems relative to CAM (driving after using and academic difficulties), but lower rates of social problems. SAM users were also less likely to attribute substance-related social problems to alcohol. Overall, findings highlight variations that exist within alcohol-marijuana polydrug users and show areas to consider for intervention development and future research.

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.

Event-level correlates of drinking events characterized by alcohol-induced blackouts.
Merrill, Jennifer E., et al.
Alcoholism: Clinical and Experimental Research, Vol 43(12), Dec, 2019. pp. 2599-2606.
Abstract:

Background: Prior research identifies a range of potential predictors of blackouts and suggests that blackouts increase risk for additional negative consequences. However, these studies are based on epidemiological work that allows us to draw conclusions about groups of people but not within-person processes. The present study examined within-person, event-level correlates of blackouts. Methods: Ninety-six heavy drinking college students (52% female) completed 28 days of daily reports of alcohol use and consequences, including blackouts. Thirty-three participants reported 56 blackouts. Hierarchical linear modeling compared morning reports of drinking events on which participants did versus did not report a blackout, controlling for total drinks at the event. Results: Blackout likelihood increased as a function of total drinks consumed and of crossing thresholds for heavy episodic drinking (4+/5+ drinks for women/men) and high-intensity drinking (8+/10+). Participants reported a higher total number of additional negative consequences on blackout events. Specific consequences that were more likely included embarrassing oneself and hangover. Blackouts were associated with morning ratings of less positive mood and a less favorable drinking event. Motives for drinking and simultaneous use of marijuana were not associated with blackouts. Conclusions: Event-level findings of this study document that events leading to alcohol-induced memory loss are associated with other adverse experiences relative to drinking events that do not result in blackout, and offer potentially motivational levers for preventive interventions.

2020's

Emotional memory bias in binge drinking women.
Carbia, C., Corral, M., Caamaño-Isorna, F., & Cadaveira, F. (2020).
Drug and alcohol dependence, 209, 107888.
Abstract:

Background: Heightened emotionality and overrepresentation of memories are typical features of adolescence. Binge drinking (BD) during emerging adulthood has been linked to cognitive difficulties such as deficits in episodic memory. Despite that impairments in emotional functioning have been associated with the development of alcohol use disorders, particularly in females, the emotional sphere has been relatively unexplored in BDs. Therefore, the purpose of this study is to examine the effects of BD in emotional episodic memory from a gender perspective.

Methods: One hundred and eighty (96 females) university students were followed during two years (18–20 years old) and their alcohol use was recorded. In the last assessment, participants completed an emotional list-learning task. Generalized linear mixed models were applied separately for males and females, in accordance with sex differences in the development of emotion circuitry.

Results: In females, BD was associated with an emotional memory bias in favour of negative information and lower recall of positive and neutral words. In addition, females BDs showed more false alarms for negative distractors. Whereas in males, no alcohol-related effects were found.

Conclusions: Female BDs present a negative memory bias, poor learning and delayed episodic recall linked to the interference of negative content, which suggests difficulties in disengaging attention to salient negative stimuli and a reduction of inhibitory capacities. This might result in greater vulnerability to alcohol-related emotional disturbances among women. Further research is needed to understand the role of emotional regulation in the escalation of alcohol abuse from a gender perspective.

Gender differences in the epidemiology of alcohol use in the United States.
White, Aaron M.
Alcohol Research: Current Reviews, Vol 40(2), 2020. pp. 1-13.
Abstract:

Over the past century, differences in alcohol use and related harms between males and females in the United States have diminished considerably. In general, males still consume more alcohol and experience and cause more alcohol-related injuries and deaths than females do, but the gaps are narrowing. Among adolescents and emerging adults, gaps in drinking have narrowed primarily because alcohol use among males has declined more than alcohol use among females. Among adults, alcohol use is increasing for women but not for men. Rates of alcohol-related emergency department visits, hospitalizations, and deaths all have increased among adults during the past two decades. Consistent with the changing patterns of alcohol use, increases in these outcomes have been larger for women. Recent studies also suggest that females are more susceptible than males to alcohol-induced liver inflammation, cardiovascular disease, memory blackouts, hangovers, and certain cancers. Prevention strategies that address the increases in alcohol consumption and unique health risks for women are needed.

Blackout versus pass out in allegations of alcohol-involved sexual assault: Why knowing the difference matters.
Schneider, Nicole
Journal of Psychiatric Practice, Vol 26(2), Mar, 2020. pp. 141-145.
Abstract:

It is common for not only laypersons but also courts, witnesses, attorneys, and even some experts involved in a criminal sexual assault investigation to confuse the terms 'blackout' and 'pass out' when referring to the memory, consciousness, and other behavioral ramifications of alcohol intoxication. A typical alcohol-involved sexual assault allegation often includes the partial or total absence of memory for events of the alleged incident. The etiology and behavioral presentations of the types of alcohol-induced memory deficiency evidenced are not all created equal and understanding the differences is crucial to understanding the reasonableness of the potential perceptions or misperceptions of an accused. By improving our understanding of these terms, we can assist the legal process with proper and more accurate history gathering and documentation if we become a party to such an investigation.

Alcohol use disorders and the brain.
Rao, Rahul
Addiction, Vol 115(8), Aug, 2020. pp. 1580-1589.
Abstract:

A diagnosis of alcohol use disorder is associated with a higher risk of dementia, but a dose–response relationship between alcohol intake consumption and cognitive impairment remains unclear. Alcohol is associated with a range of effects on the central nervous system at different doses and acts on a number of receptors. Acute disorders include Wernicke's

encephalopathy (WE), traumatic brain injury, blackouts, seizures, stroke and hepatic encephalopathy. The most common manifestations of chronic alcohol consumption are Korsakoff's syndrome (KS) and alcohol-related dementia (ARD). There is limited evidence for benefit from memantine in the treatment of ARD, but stronger evidence for the use of high-dose parenteral thiamine in the progression of neuropsychiatric symptoms for WE. Accumulating evidence exists for pharmacological treatment in the prevention of hepatic encephalopathy. Rehabilitation of people with ARD may take several years, and requires an approach that addresses physical and psychosocial factors.

Intentions and motives to experience alcohol-induced blackout among young adults in college.

Miller, Mary Beth

Psychology of Addictive Behaviors, Vol 34(6), Sep, 2020. pp. 690-698.

Abstract:

Blackouts are typically considered a negative consequence of alcohol use. Yet some college students report consuming alcohol with the intention of blacking out. This study examined intentions and motives for blackout drinking among young adults in college. College students with a past-year history of blackout (N = 350, 56% female, 73% White) completed an anonymous online survey. Descriptive statistics were used to examine the incidence of blackout intentions, and individuals who did and did not report future blackout intentions were then compared on drinking patterns, depressive symptoms, social norms, and outcome expectancies. Overall, 135 participants (39%) reported consuming alcohol in the past 30 days with the intention of losing memory of the night’s events, and 107 (31%) reported blackout intentions in the next 30 days. When asked (via open text box) to indicate their motives for past blackout intentions, the majority of participants provided responses that fit with coping, social, or enhancement drinking motives. A larger proportion of men than women reported blackout intentions. As a group, those reporting future blackout intentions reported heavier, more frequent, and more problematic drinking, as well as more symptoms of depression and more positive (but not negative) outcome expectancies. A substantial subset of college students reporting a blackout in the past year also endorsed intentions to experience a blackout in the next 30 days. Given strong associations between intentions and subsequent behavior, interventions targeting blackout styles of drinking are warranted. The extent to which 'blackout' drinking motives differ from traditional drinking motives is unclear.

How much and how fast: Alcohol consumption patterns, drinking-episode affect, and next-day consequences in the daily life of underage heavy drinkers.

Carpenter, Ryan W et al.

Drug and Alcohol Dependence, Vol 218, Jan 1, 2021. ArtID: 108407

Abstract:

Understanding how alcohol consumption patterns are associated with negative and positive outcomes can inform efforts to reduce negative consequences through modification of those patterns. This is important in underage drinkers, many of whom drink heavily despite negative consequences. Most work has focused on the amount of alcohol consumed, but amount provides limited information about consumption patterns compared to rate of consumption, or how fast individuals drink. We therefore examined associations of both amount and rate of consumption with negative and positive outcomes (immediate affective states and next-morning consequences) in daily life. Method: Ninety-five college students aged 18–20 years completed ecological momentary assessment over 28 days. Participants reported number of standard drinks consumed and positive and negative affect hourly

within drinking episodes. Estimated blood alcohol concentration (eBAC) values were used to create amount and rate of consumption indicators. Each morning after drinking, participants reported negative (e.g., blackout, hangover) and positive (e.g., new friend, making others laugh) consequences. Results: Within drinking episodes, multilevel models showed faster consumption was associated with reduced negative affect and both larger amount and faster consumption were associated with greater positive affect. Further, amount and rate were both associated with greater likelihood of a negative consequence the next morning. Rate, but not amount, was associated with more positive consequences. Conclusions: Not only how much but also how fast individuals drink may be important for the positive and negative outcomes they experience. Interventions to reduce negative alcohol-related outcomes should consider not only amount, but also rate of consumption.

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.