

Library Watch on driving

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Toking and driving: Characteristics of Canadian university students who drive after cannabis use. An exploratory pilot study.

Fischer B; Rodopoulos J; Rehm J; Ivsins A. *Drugs: Education, Prevention and Policy* 13(2): 179-187, 2006. (36 refs.)

Cannabis use is increasingly prevalent among young adults in Canada. Due to cannabis' impairment effects, driving under the influence of cannabis has recently developed into a traffic-safety concern, yet little is known about the specific circumstances and factors characterizing this behavior among young people. In this study, we interviewed a sample of university students (n = 45; age 18 - 28 years) in Toronto who had driven a car after cannabis use in the past year. The study collected information on respondents' sociodemographic characteristics, cannabis and other drug use, cannabis use and driving (CUD) experiences, law enforcement and accident exposure, perceptions of cannabis and alcohol impairment effects as well as future anticipated substance use and driving behaviors. Results indicated that: CUD originated primarily from social settings; that impairment risks from cannabis were perceived to be low; and that the level of anticipated future CUD was high. Furthermore, high frequency of CUD in the past year was associated with high frequency of cannabis use. Interventions aiming at CUD among young people need to be anchored in the specific sociocultural settings of this behavior; targeted information needs to address cannabis' impairment potential for driving; possibilities for harm-reduction measures for CUD need to be considered. Copyright 2006, Taylor & Francis Ltd.

The prevalence of drinking and driving in the United States, 2001–2002: Results from the National Epidemiological Survey on Alcohol and Related Conditions.

Chou SP; Dawson DA; Stinson FS; Huang B; Pickering RP; Zhou Y; Grant BF. *Drug and Alcohol Dependence* 83(2): 137-146, 2006. (57 refs.)

Traffic deaths and injuries are among the most frequent causes of deaths and disability worldwide. In the United States, the National Highway Transportation Safety Administration (NHTSA) reported that approximately 40% of all traffic fatalities were

alcohol-related. Yet, information about the prevalence of drinking and driving behaviors of the U.S. general population is lacking. The purpose of this study was to examine the magnitude of driver-based (i.e., driving while drinking and driving after having too much to drink) and passenger-based (i.e., riding with a drinking driver and riding as a passenger while drinking) drinking and driving behaviors confronting contemporary America. The past-year prevalence data were stratified by major sociodemographic characteristics to identify important determinants of drinking and driving behaviors for further research. Data were derived from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC, n=43,093). In 2001-2002 there were 23.4 million, or 11.3%, of American adults who reported engaging in at least one of the four driver- or passenger-based drinking and driving behaviors. The prevalences of passenger-based drinking and driving behaviors were generally greater than those of the driver-based measures. For all four drinking and driving behaviors, age was inversely associated with the risk and males were at greater risk with the associated male-to-female ratios of approximately 3.0. Our data also suggested that Native Americans, individuals who were widowed/separated/divorced or never married, and those with greater than a high school education were also at greater risks of all drinking and driving behaviors. Copyright 2006, Elsevier Science.

The impact of later trading hours for hotels on levels of impaired driver road crashes and driver breath alcohol levels.

Chikritzhs T; Stockwell T. *Addiction* 101(9): 1254-1264, 2006. (24 refs.)

Aim: To examine the impact of later trading hours for licensed hotels in Perth, Western Australia on levels of associated impaired driver road crashes and driver breath alcohol levels (BALs). Design: Police data on the 'last place of drinking' for impaired drivers involved in road crashes and their corresponding BALs were examined to identify those associated with Perth hotels between 1 July 1990 and 30 June 1997. During this period, 43 (23%) of the 186 hotels meeting study criteria were granted an Extended Trading Permit for 1 a.m. closing (ETP hotels), while the rest

continued to close at midnight (non-ETP hotels). Time-series analyses employing multiple linear regressions were applied to determine whether an association existed between the introduction of extended trading and (i) monthly levels of impaired driver road crashes associated with ETP hotels and (ii) driver BALs associated with ETP hotels. Trends associated with non-ETP hotels were included as controls and possible confounders were considered. Findings: After controlling for the trend in crash rates associated with non-ETP hotels and the introduction of mobile police breath testing stations to Perth freeways, a significant increase in monthly crash rates for ETP hotels was found. This relationship was largely accounted for by higher volumes of high-alcohol content beer, wine and spirits purchased by ETP hotels. No relation was found between driver BALs and the introduction of ETPs. Conclusions: Late trading was associated with increased levels of impaired driver road crashes and alcohol consumption, particularly high-risk alcoholic beverages. Greater numbers of patrons and characteristics specific to clientele of hotels which applied for late trading hours (i.e. younger age, greater propensity to drunk-drive, preference for high-risk beverages) were suggested as having contributed to this increase. Copyright 2006, Society for the Study of Addiction to Alcohol and Other Drugs.

Psychiatric disorders in a sample of repeat impaired-driving offenders.

Lapham SC; Baca JC; McMillan GP; Lapidus J. *Journal of Studies on Alcohol* 67(5): 707-713, 2006. (35 refs.)

Objective: This study was conducted to assess alcohol and drug-use disorders and other psychiatric disorders in a sample of repeat driving under the influence (DUI) offenders. Method: We interviewed offenders to estimate lifetime and 12-month prevalence of psychiatric disorders as designated by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (alcohol and drug abuse and dependence, major depressive or dysthymic disorder, bipolar disorder, posttraumatic stress disorder [PTSD], and obsessive-compulsive disorder). The offenders interviewed (385 men, 74 women) were those who had been adjudicated in the Multnomah County OR, Driving Under the Influence of Intoxicants Intensive Supervision Program. Psychiatric diagnoses were assessed using the Composite International Diagnostic Interview. Results: The majority of respondents (53.8%) were alcohol dependent. Sixty-five percent of men and 79.7% of women had at least one lifetime disorder comorbid with alcohol abuse or dependence. The most prevalent lifetime non-substance-use

disorder was major depressive or dysthymic disorder (30.9%) followed by PTSD (15.3%). Approximately 40% of subjects reported meeting criteria for lifetime nonalcohol drug abuse for at least one drug type, and 30% were drug dependent for at least one drug type; overall, 54% of all offenders had drug abuse or dependence disorders. Conclusions: Assessment and treatment services for repeat alcohol-impaired driving offenders should be sufficiently comprehensive to provide care for drug-use disorders and other psychiatric problems. Copyright 2006, Alcohol Research Documentation, Inc.

The effects of coffee and napping on nighttime highway driving: A randomized trial.

Philip P; Taillard J; Moore N; Delord S; Valtat C; Sagaspe P et al. *Annals of Internal Medicine* 144(11): 785-791, 2006. (37 refs.)

Background: Sleep-related accidents often involve healthy young persons who are driving at night. Coffee and napping restore alertness, but no study has compared their effects on real nighttime driving performances. Objective: To test the effects of 125 mL of coffee (half a cup) containing 200 mg of caffeine, placebo (decaffeinated coffee containing 15 mg of caffeine), or a 30-minute nap (at 1:00 a.m.) in a car on nighttime driving performance. Design: Double-blind, randomized, crossover study. Setting: Sleep laboratory and open highway. Participants: 12 young men (mean age, 21.3 years [SD, 1.8]). Measurements: Self-rated fatigue and sleepiness, inappropriate line crossings from video recordings during highway driving, and polysomnographic recordings during the nap and subsequent sleep. Intervention: Participants drove 200 km (125 miles) between 6:00 p.m. and 7:30 p.m. (daytime reference condition) or between 2:00 a.m. and 3:30 a.m. (coffee, decaffeinated coffee, or nap condition). After intervention, participants returned to the laboratory to sleep. Results: Nighttime driving performance was similar to daytime performance (0 to 1 line crossing) for 75% of participants after coffee (0 or 1 line crossing), for 66% after the nap ($P = 0.66$ vs. coffee), and for only 13% after placebo ($P = 0.041$ vs. nap; $P = 0.014$ vs. coffee). The incidence rate ratios for having a line crossing after placebo were 3.7 (95% CI, 1.2 to 11.0; $P = 0.001$) compared with coffee and 2.9 (CI, 1.7 to 5.1; $P = 0.021$) compared with nap. A statistically significant interindividual variability was observed in response to sleep deprivation and countermeasures. Sleep latencies and efficiency during sleep after nighttime driving were similar in the 3 conditions. Limitations: Only 1 dose of coffee and 1 nap duration were tested. Effects may differ in other patient or age groups. Conclusions: Drinking coffee or

napping at night statistically significantly reduces driving impairment without altering subsequent sleep. Copyright 2006, American College of Physicians.

Validity of the passive alcohol sensor for estimating BACs in DWI-enforcement operations.

Voas RB; Romano E; Peck R. *Journal of Studies on Alcohol* 67(5): 714-721, 2006. (24 refs.)

Objective: The effectiveness of driving while intoxicated (DWI) operations in deterring impaired driving depends on the ability of police officers to detect heavy drinkers. The passive alcohol sensor (PAS), which can detect alcohol in expired breath at a distance of 6 inches from the face, provides a means for detecting heavy drinking within 15-30 seconds. The objective of this study was to determine the accuracy of the PAS unit for estimating the blood alcohol concentration (BAC) of drivers and study its potential use as a screening device for estimating BAC in relation to several factors related to its use (age, gender, light conditions, and police confidence in the PAS measure). Method: A recent study funded by the National Highway Traffic Safety Administration of the BAC levels of crash-involved and randomly stopped drivers as a control group for comparison provided 12,587 cases in which both a breath test and a PAS measure of BAC were obtained for each driver studied. This research involved a secondary analysis of that data set using regression and receiver operator curves methodology to determine the accuracy and utility of the PAS for use as a screening device for DWI violations. Results: PAS scores were a strong predictor of a driver's BAC status. The only other variable having a significant and consistent relationship independent of PAS was police confidence. Detection sensitivity and specificity for each PAS cut-point score were estimated. Conclusions: By selecting a PAS cut-point score appropriate to the enforcement operation being undertaken, the PAS can be an effective tool for officers when deciding whether to initiate a DWI investigation. Copyright 2006, Alcohol Research Documentation, Inc.

Alcohol-impaired driving and its consequences in the United States: The past 25 years. (review).

Williams AF. *Journal of Safety Research* 37(2): 123-138, 2006. (37 refs.)

Introduction: Progress in dealing with the alcohol-impaired driving problem in the United States during the past 25 years is addressed. Methods: Trends in various measures of the problem were tracked and a thorough review of the relevant literature conducted. Results: In the 1980s and continuing into the early 1990s, major decreases occurred in alcohol-impaired

driving and its consequences. The contribution of alcohol to fatal crashes dropped by 35-40% during this period. Two primary reasons for the decline appear to be the emergence of citizen activist groups that mobilized public support and attention to the problem, and the proliferation of effective laws. Since about 1995 the alcohol-impaired driving problem has stabilized at a reduced but still quite high level. Conclusions: Highway safety organizations and citizen activist groups have continued to highlight the problem, but its status as a social issue has diminished. We know the primary target groups are and measures that would work to reduce the problem if implemented more fully. It is likely that a resurgence in citizen activism will be necessary to foster these elements and refocus the nation on the unfinished battle against alcohol-impaired driving. Copyright 2006, National Safety Council.

Drinking status and fatal crashes: Which drinkers contribute most to the problem?

Voas RB; Romano E; Tippetts AS; Furr-Holden CDM. *Journal of Studies on Alcohol* 67(5): 722-729, 2006. (27 refs.)

Objective: The object of this study was to estimate the relative contribution of various classes of drinkers (including those with alcohol-use disorders) to alcohol-related fatal motor vehicle crashes. Method: Using the National Epidemiologic Survey on Alcohol and Related Conditions conducted in 2000, the percentage of state residents falling into six nonoverlapping alcohol-user categories -- dependent drinkers, abusive drinkers, dependent and abusive drinkers, heavy episodic drinkers, current normative drinkers, and current nondrinkers--was determined based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, classifications. The percentage of residents in each state in each of these user categories and their relationships to the number of drinking drivers involved in fatal crashes in that state were determined through regression analysis using data from the Fatality Analysis Reporting System. Results: The proportion of drinkers in a state in each of the six consumption categories was positively related to the number of drinking drivers in fatal crashes in that state. Conversely, the percentage of the state's population who were current nondrinkers was negatively related to the number of drinking road users in crashes. Conclusions: Although alcohol abusive and heavy episodic drinkers had substantially higher associations with impaired drivers in fatal crashes, half of such drivers were associated with the percentage of current normative drinkers in the state. Despite the relevancy of these findings, they must be qualified by

statistical limitations associated with the use of state as the unit of analysis. Copyright 2006, Alcohol Research Documentation, Inc.

The acute effects of d-amphetamine and methamphetamine on attention and psychomotor performance.

Silber BY; Croft RJ; Papafotiou K; Stough C. *Psychopharmacology* 187(2): 154-169, 2006. (66 refs.)

Rationale: It is not clear how the deleterious effects of amphetamines on driving performance are mediated in terms of select cognitive processes. Objectives: The current three separate experiments assessed the acute effects of an oral dose of either 0.42-mg/kg d-amphetamine, d,l-methamphetamine and d-methamphetamine on driving-related cognitive functions in a total of 60 healthy non-fatigued adults. Materials and Methods: Three separate repeated measures counterbalanced, double-blind, placebo-controlled designs were employed in which 20 volunteers completed two treatment conditions, either d-amphetamine, d,l-methamphetamine or d-methamphetamine and placebo. Performance was assessed on a range of attentional, psychomotor and perceptual speed tasks. Results: Mean blood concentrations at 120-, 170- and 240-min postdrug administration were 83, 98 and 96 ng/ml, respectively, for d-amphetamine, 90, 95 and 105 ng/ml, respectively, for d,l-methamphetamine and 72, 67 and 59 ng/ml, respectively, for d-methamphetamine. The amphetamines, in general, improved various aspects of attention (Digit Vigilance, Digit Symbol Substitution Test and Movement Estimation Performance) with some evidence to suggest possible enhancement in psychomotor functioning (Tracking ability) and perceptual speed (Inspection Time). Conclusions: The current series of studies primarily provides evidence of low-level amphetamine-related enhancement of function; however, it also provides evidence of less conservative movement estimation that might contribute to amphetamine-related road fatalities. Copyright 2006, Springer.

Use of designated boat operators and designated drivers among college students.

Cheong J; Hall NM; MacKinnon DP. *Journal of Studies on Alcohol* 67(4): 616-619, 2006. (18 refs.) Objective: Prior research has shown that designated drivers are widely used as a preventive measure for driving under the influence. Despite the prevalence of alcohol involvement in boating accidents, much less is known about the use of a designated boat operators.

The current study investigated their prevalence in recreational boating and compared the characteristics of designated driver users and designated boat users. Method: Several survey questionnaires were distributed to a group of undergraduate students at a large southwestern university for the purpose of investigating demographic characteristics, alcohol-use pattern, and other alcohol-related problem behaviors, such as driving and boating under the influence. Results: Approximately 45% of the boaters reported they had drunk alcohol while boating, and approximately 70% had used a Designated boat operator in the most recent boating event. The designated boat operator used were found to be similar to the designated driver users in terms of drinking pattern, age of drinking onset, and driving behaviors. Conclusions: High rates of alcohol use in recreational boating suggest the need for prevention strategies. Furthermore, future studies are needed to investigate the selection process of the designated boat operators and the differences between passengers and boat operators, which could shed light on strategies to prevent alcohol-involved boating injuries. Copyright 2006, Alcohol Research Documentation, Inc.

Driving, drug use behaviour and risk perceptions of nightclub attendees in Victoria, Australia.

Degenhardt L; Dillon P; Duff C; Ross J. *International Journal of Drug Policy* 17(1): 41-46, 2006. (17 refs.) Aim: Prior to introducing roadside saliva testing in Victoria for recent THC and methylamphetamine use, this study examined the prevalence of illicit drug use among nightclub attendees in Melbourne, Victoria; their transport methods; and their drug use and driving histories. Methods: 273 persons were interviewed as they entered nightclubs in the inner Melbourne area. Questionnaires addressed drug use, risk perception and driving behaviour. Results: Drug use on the night of interview was common, with notable proportions reporting that they had used or intended to use cannabis (22%), ecstasy (18%), speed (13%) and crystal/base methamphetamine (6%). Around one in ten participants reported that on the night of interview, they would either drive or be driven by someone under the influence of alcohol (10%), cannabis (11%) and/or methamphetamine (8%). Seventy percent reporting having heard of roadside drug testing and 65% supported it. Forty percent reported that roadside drug testing would change their drug driving behaviour. Conclusions: Drug testing may have positive impacts upon drug use and driving risk behaviours among. Copyright 2006, Elsevier Science.