

Library Watch on driving

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Self-reported driving behaviour and attitudes towards driving under the influence of cannabis among three different user groups in England.

Terry P; Wright KA. *Addictive Behaviors* 30(3): 619-626, 2005. (9 refs.)

The study characterized self-reported driving behaviour, attitudes towards driving and assumptions about the effects of cannabis on driving, among two different volunteer groups: 63 regular cannabis users (RCUs; cannabis use > monthly) and 46 undergraduate student users, all from the West Midlands. More detailed information was provided by structured interviews with an additional sample of 23 regular users from southern England. Within each group, many respondents had driven whilst under the influence of cannabis (regular users, 82%; students, 40%; interviewees, 100%). Majorities among the regular users and interviewees continued to do so at least monthly. Most users believed that cannabis impaired driving only slightly. More stops by the police for drug-driving than for drink-driving were reported, but these rarely resulted in conviction and were not deterrent. Hence, cannabis users are very willing to drive after using the drug (often combined with alcohol), and even while intoxicated. They consider its effects on driving to be minimal; indeed, many consider it to promote better driving. Attitudes towards drink-driving were much more negative. Finally, most interviewees said that roadside drug testing would be the only efficacious deterrent to drug-driving. Copyright 2005, Elsevier Science Ltd.

Profiles of alcohol- and marijuana-impaired adolescent drivers.

Lewis TF; Thombs DL; Olds RS. *Addiction Research & Theory* 13(2): 145-154, 2005. (39 refs.)

The aim of the study was to identify risk factors that distinguish alcohol-impaired and marijuana-impaired drivers from non-impaired drivers, among adolescents with a history of using these substances. An anonymous questionnaire was administered to 6594 seventh- to twelfth-grade students in nine Ohio public school districts. Data analyses were conducted on the 11th to 12th grade sub-sample that had prior experience of alcohol (n = 1378) and/or marijuana use (n = 678). Logistic regression analyses confirmed that

the involvements in alcohol-impaired and marijuana-impaired driving were both associated with higher levels of use of these two drugs. However, the profiles of these two risk behaviors were relatively distinct. Boyfriend/girlfriend alcohol use, hours spent at a job, race, family structure, and academic performance also had significant, independent relationships with the two driving practices. To effectively deter impaired driving among adolescents, prevention efforts must address the social context of adolescent alcohol and marijuana use. Copyright 2005, Taylor & Francis Ltd.

The effects of dexamphetamine on simulated driving performance.

Silber BY; Papafotiou K; Croft RJ; Ogden E; Swann P; Stough C. *Psychopharmacology* 179(3): 536-543, 2005. (26 refs.)

Rationale: The number of road fatalities related to the presence of amphetamines in drivers has been relatively constant over the past 10 years. However, there remains uncertainty as to the extent that these drugs induce driving impairment, and whether any such impairments translate to an increase in road fatalities. Objectives: To examine the acute effects of 0.42 mg/kg dexamphetamine on simulated driving performance, and to establish which, if any, simulated driving abilities become impaired following dexamphetamine administration. Methods: A repeated-measures, counter-balanced, double-blind, placebo-controlled design was employed. Twenty healthy volunteers completed two treatment conditions - 0.42 mg/kg dexamphetamine and placebo. Performance was assessed using a driving simulator task. Blood and saliva samples were obtained prior to the driving tasks and immediately after task completion (120 min and 170 min post-drug administration, respectively). Results: Mean dexamphetamine blood concentrations were 83 ng/ml and 98 ng/ml at 120 min and 170 min, respectively. Results indicated a decrease in overall simulated driving ability following dexamphetamine administration during the day-time but not the night-time scenario tasks. Contributing to this performance reduction, "incorrect signalling", "failing to stop at a red traffic light" and "slow reaction times" were the behaviours most strongly affected by dexamphetamine. Conclusions: The decrease in simulated driving

ability observed during the day-time driving tasks are consistent with the perceptual narrowing or tunnel vision that is associated with dexamphetamine consumption. Copyright 2005, Springer-Verlag.

Drug use and the severity of a traffic accident.

Smink BE; Ruiter B; Lusthof KJ; de Gier JJ; Uges DRA; Egberts ACG. *Accident Analysis and Prevention* 37(3): 427-433, 2005. (24 refs.)

Several studies have showed that driving under the influence of alcohol and/or certain illicit or medicinal drugs increases the risk of a (severe) crash. Data with respect to the question whether this also leads to a more severe accident are sparse. This study examines the relationship between the use of alcohol, illicit drugs and/or medicinal drugs and the severity of an accident within a group of drivers that were involved in a crash in The Netherlands. Blood samples of 993 drivers, collected in the period from October 1998 through September 1999, were linked to accident characteristics as available from the National Transport Research Centre. The outcome measure was the severity of the accident. An accident was considered severe when the accident had resulted in hospital admission or death. All the blood samples obtained after the accident were screened for the presence of alcohol, illicit drugs (opiates, amphetamines and amphetamine-like substances, cocaine and metabolites, methadone, cannabinoids) and medicinal drugs (benzodiazepines, barbiturates and tricyclic antidepressants). The strength of the associations between exposure to the different classes of alcohol/drugs/medicines and the severity of the accident was evaluated using logistic regression analysis and were expressed as odds ratios (OR), adjusted for age, gender, time of the day, day of the week and urban area. The most frequently detected drugs were cannabinoids, benzodiazepines and cocaine. Our results showed no clear association between the use of alcohol, illicit drug and/or medicinal drug use and the severity of the accident. Given the process of obtaining blood samples from drivers involved in accidents and the retrospective nature of the study, we cannot rule out the occurrence of selection bias. Therefore, our findings need further confirmation. Copyright 2005, Elsevier Science.

Marijuana use and car crash injury.

Blows S; Ivers RQ; Conno J; Ameratunga S; Woodward M; Norton R. *Addiction* 100(5): 605-611, 2005. (28 refs.)

Aims: To investigate the relationship between marijuana use prior to driving, habitual marijuana use and car crash injury. Design and setting: Population

based case-control study in Auckland, New Zealand. Participants: Case vehicles were all cars involved in crashes in which at least one occupant was hospitalized or killed anywhere in the Auckland region, and control vehicles were a random sample of cars driving on Auckland roads. The drivers of 571 case and 588 control vehicles completed a structured interview. Measurements: Self reported marijuana use in the 3 hours prior to the crash/survey and habitual marijuana use over the previous 12 months were recorded, along with a range of other variables potentially related to crash risk. The main outcome measure was hospitalization or death of a vehicle occupant due to car crash injury. Findings: Acute marijuana use was significantly associated with car crash injury, after controlling for the confounders age, gender, ethnicity, education level, passenger carriage, driving exposure and time of day (OR 3.9, 95% CI 1.2-12.9). However, after adjustment for these confounders plus other risky driving at the time of the crash (blood alcohol concentration, seat-belt use, travelling speed and sleepiness score), the effect of acute marijuana intake was no longer significant (OR 0.8, 95% CI 0.2-3.3). There was a strong significant association between habitual use and car crash injury after adjustment for all the above confounders plus acute use prior to driving (OR 9.5, 95% CI 2.8-32.3). Conclusions: This population-based case-control study indicates that habitual use of marijuana is strongly associated with car crash injury. The nature of the relationship between marijuana use and risk-taking is unclear and needs further research. The prevalence of marijuana use in this driving population was low, and acute use was associated with habitual marijuana use, suggesting that intervention strategies may be more effective if they are targeted towards high use groups. Copyright 2005, Society for the Study of Addiction to Alcohol and Other Drugs.

Driving under the influence (DUI) among US ethnic groups.

Caetano R; McGrath C. *Accident Analysis and Prevention* 37(2): 217-224, 2005. (19 refs.)

Objective: To report nationwide survey data on driving under the influence of alcohol and drugs (DUI) among U.S. ethnic groups. Methods: Data come from a probability sample of 39,250 adults 18 years of age and older interviewed by the U.S. National Household Survey on Drug Abuse in 2000. Interviews averaging 1 h in length were conducted in respondents' homes by trained interviewers. The survey response rate was 74%. Results: Self-reported rates of DUI were highest among White men (22%), Native American/Native Alaskan men (20.8%) and men of mixed race (22.5%).

Twelve-month arrest rates for DUI were highest among men of mixed race (5%) and Native American/Native Alaskan men (3.2%). Drinkers who DUI are more likely to be men (regardless of ethnicity), not married, consume more alcohol, and be alcohol dependent than drinkers who do not engage in alcohol-impaired driving. However, important ethnic specific predictors are also identified across the different ethnic groups. Copyright 2005, Elsevier Science, Ltd.

Perceptions of policy change: Hispanics speak out on the 1998 New Mexico drive-up liquor window closure.

C'de Baca, J.; Lapham, SC. *Drugs: Education, Prevention & Policy* 12(3): 197-211, 2005

Public health policies are intended to influence behaviors, and should be in accordance with differing cultures and social, legal and economic environments (WHO, 2000). However, studies of whether policy changes differentially affect minority populations are rare. Hispanics are the fastest growing ethnic group in the USA, and are over-represented among those arrested for driving while impaired (DWI). The relationship between the availability of alcohol and alcohol-related problem behaviors has been established. Drive-up liquor window sales may facilitate drinking and driving, and may be disproportionately found in minority neighborhoods. In 1998 New Mexico (NM) became the twenty-seventh state to close drive-up liquor windows. This study examines how the closure was perceived by Hispanics versus people of other ethnicities. We conducted a telephone survey followed by a mailed questionnaire. The telephone survey was completed by 108 residents from four NM communities, and the mailed survey was responded to by 133 residents living within two blocks of a closed liquor window. Many Hispanic telephone-survey respondents felt the closures only effect on the community was reducing DWI crashes (44%). Respondents of other ethnicities were more likely to be unsure of its effects. Mailed-survey results of Hispanics indicate similar views, with 48% reporting that the closure reduced DWI crashes. Respondents of other ethnicities more often felt the closure had little effect on the neighborhood. The qualitative analysis revealed three themes: 'zero tolerance;' 'ineffective;' and 'right track.' Hispanics generally thought the closure was an ineffective means of addressing the DWI problem, while respondents of other ethnicities felt the closure was a step in the right direction. Respondents living closest to the former drive-up windows strongly felt the closure resulted in safer streets, less noise, fewer accidents, and less 'wild driving.' Copyright 2005, Taylor and Francis.

Reducing DUI among US college students: Results of an environmental prevention trial

Clapp JD; Johnson M; Voas RB; Lange JE; Shillington A; Russell C. *Addiction* 100(3): 327-334, 2005. (17 refs.)

Aims: Driving under the influence (DUI) of alcohol is among the most common and serious alcohol-related problems experienced by US college students. Community-based prevention trials using environmental approaches to DUI prevention have been effective in reducing DUI. Such interventions remain untested in college settings. This study is the first to test the efficacy of an environmental prevention campaign to reduce DUI among college students. Design: We used a quasi-experimental non-equivalent comparison group design to test the efficacy of the DUI prevention intervention. Students at the experimental university were exposed to a DUI prevention intervention that included a social marketing campaign, a media advocacy campaign and increased law enforcement (DUI checkpoints and roving DUI patrols). Setting: Students from two large public universities located along the US/Mexico border participated in the seven-semester study. Participants In total, 4832 college students took part. Measures: Using telephone interviews of randomly selected students, we took pre- and postintervention measures of self-reported DUI. Findings: Self-reported DUI (past year) decreased significantly from pre-test to post-test (odds ratio = 0.55) at the intervention school, whereas rates at the comparison campus remained stable. The campus-intervention interaction was statistically significant ($P < 0.05$), suggesting that the campaign led to the observed change in DUI. Conclusions: Environmental DUI campaigns similar to those validated in community prevention trials can be effective in college settings. Further research, however, is needed to determine the robustness of the changes associated with such campaigns. Copyright 2005, Society for the Study of

Effects on alcohol related fatal crashes of a community based initiative to increase substance abuse treatment and reduce alcohol availability.

Hingson RW; Zakocs RC; Heeren T; Winter MR; Rosenbloom D; DeJong W. *Injury Prevention* 11(2): 84-90, 2005. (27 refs.)

Objective: This analysis tested whether comprehensive community interventions that focus on reducing alcohol availability and increasing substance abuse treatment can reduce alcohol related fatal traffic crashes. Intervention: Five of 14 communities awarded Fighting Back grants by The Robert Wood Johnson Foundation to reduce substance abuse and related

problems attempted to reduce availability of alcohol and expand substance abuse treatment programs (FBAT communities). Program implementation began on 1 January 1992. Design: A quasi-experimental Design: matched each program community to two or three other communities of similar demographic composition in the same state. Main outcome measures: The ratio of fatal crashes involving a driver or pedestrian with a blood alcohol concentration of 0.01% or higher, 0.08% or higher, or 0.15% or higher were examined relative to fatal crashes where no alcohol was involved for 10 years preceding and 10 years following program initiation. Results: Relative to their comparison communities, the five FBAT communities experienced significant declines of 22% in alcohol related fatal crashes at 0.01% BAC or higher, 20% at 0.08% or higher, and 17% at 0.15% or higher relative to fatal crashes not involving alcohol. Conclusions: Community interventions to reduce alcohol availability and increase substance abuse treatment can reduce alcohol related fatal traffic crashes. Copyright 2005, BMJ Publishing Group.

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had significant, independent relationships with the two driving practices. To effectively deter impaired driving among adolescents, prevention efforts must address the social context of adolescent alcohol and marijuana use. Copyright 2005, Taylor & Francis Ltd.

An investigation of the effect of privatization of retail sales of alcohol on consumption and traffic accidents in Alberta, Canada.

Trollid B. *Addiction* 100(5): 662-671, 2005. (40 refs.)
 Aims: Privatization of the retail sale of alcohol in Alberta took place primarily between the end of the 1980s and the beginning of the 1990s. The aim of this study was to evaluate the effects of this privatization on alcohol sales and on the incidence of fatal motor vehicle traffic accidents in the province. Data and method: Interrupted time-series analysis (ARIMA) with a quasi-experimental control area design was used, and all series were differenced to remove long-term trends. Canada, with the exception of Alberta, was the control area. The effects of privatization were measured by means of created privatization variables. In the analyses of the effects of privatization on alcohol sales, the inhabitants' disposable income and alcohol prices were used as control variables. The study period was 1950-2000. When effects on the number of fatal motor vehicle traffic accidents were analysed the number of road motor vehicle registrations was used as a control variable, and the study period was 1950-98. Findings: Privatization had a significant permanent effect on the sale of spirits, but the effect was not large enough to affect total sales. The effect on wine and beer sales was not significant. There was no significant effect on the number of fatal motor vehicle traffic accidents. Conclusion: The fact that sales on the wholesale level continued to be monopolized, along with the fact that alcohol sales were never allowed in ordinary grocery stores, may explain the lack of any larger effects of privatization on alcohol sales in Alberta. Copyright 2005, Society for the Study of Addiction to Alcohol and Other Drugs.