

**SELF-REPORTED AND SELF-MONITORED SMOKING PATTERNS.** Saul Shiffman and Mark Prange. Department of Psychology, University of South Florida, Tampa, FL.

Individual differences in smoking patterns are usually assessed with self-report measures (e.g., Horn's Motives for Smoking Test), which have not been systematically validated. This poster compares results from several self-report scales with self-monitoring data obtained from 164 smoking clinic subjects who monitored their smoking for at least two days. Self-monitoring data were factor-analyzed and correlated with self-report measures. Most of the hypothesized relationships failed to appear. The Tension-reduction factor of the Motives test received the strongest support. In general, however, the results did not support the validity of commonly-used self-report scales of smoking motives and situations.

**RELATIONSHIP BETWEEN THE EFFECTS OF DRUGS ON CIGARETTE SMOKING AND SUBJECTIVE RESPONSE.** Jack E. Henningfield and Roland R. Griffiths. NIDA Addiction Research Center, The Johns Hopkins University School of Medicine, MD.

Data from studies of the effects of drugs on cigarette smoking and subjective response were analyzed using correlation tests to discover possible relations among the variables. The studies were all conducted using similar procedures, testing instruments and dependent measures. The drugs were *d*-amphetamine, ethanol, pentobarbital, caffeine, methadone, mecamylamine, and nicotine. When the drugs increased scores on scales of well being or euphoria, cigarette smoking was increased, whereas, when the drugs produced dysphoria, cigarette smoking was decreased. These relationships were reversed when mecamylamine (nicotinic blocker) or nicotine were given.

**SENSORY FACTORS IN SMOKING SATISFACTION: EFFECTS OF AIRWAY ANESTHESIA.** Jed E. Rose, Murray E. Jarvik, Donald P. Tashkin, Alan Ertle, Michael Zinser\* and Robert Lafer\*. University of California and \*Veterans Administration Medical Center, West Los Angeles, CA.

Local anesthesia of the respiratory airways was used to investigate sensory factors in smoking motivation. Cigarette craving was assessed in smokers before and after receiving controlled doses of cigarette smoke. In one condition subjects rinsed their mouths, gargled and inhaled a mist containing the topical anesthetic lidocaine. A control condition presented saline. Lidocaine blocked the reduction in craving produced by smoke inhalation, suggesting that stimulation of the respiratory tract contributes to smoking satisfaction. A second experiment demonstrated that mouth-alone anesthesia affected cigarette craving less than anesthesia of both upper and lower airways.

**TRANSDERMAL NICOTINE AS A TECHNIQUE FOR SMOKING REDUCTION AND CESSATION.** Jed E. Rose and Murray E. Jarvik. University of California, CA.

Transdermal nicotine administration was studied in two experiments. The first experiment determined the physiological response to nicotine applied to the skin. Within 30 minutes after applying 9 mg nicotine (base) to the forearm, significant levels (50 ng/ml) were detected in the saliva. This was accompanied by an increase in heart rate (15 bpm) and blood pressure (15 mm Hg) comparable to that produced by smoking. A second experiment examined the effects of transdermal nicotine on smoking withdrawal symptoms. Transdermal nicotine appears promising as a smoking cessation aid, and has significant advantages over other routes of nicotine administration.

**CONTINGENT REINFORCEMENT FOR SMOKING ABSTINENCE.** Cynthia Rand. The Johns Hopkins University, MD.

Contingent reinforcement procedures were used with eighteen hired regular smokers to promote total abstinence for a two week period. Prior to the abstinence trial a week of baseline Carbon monoxide (CO) values were collected and a one week contingent reinforcement cutdown test was implemented. During the cutdown test subjects were paid on a sliding scale for reducing their baseline CO levels. During the abstinence trial subjects were paid \$12.00 a day for CO levels less than 11 ppm. Success on the cutdown test predicted success during the abstinence trial. 61.1% of the subjects remained abstinent (confirmed by CO samples) for the two weeks. Five subjects continued completely abstinent for the three week followup period.

**THE ROLE OF CIGARETTE SMOKING AND CAFFEINE USE IN DRUG AND ALCOHOL ABUSE.** L. T. Kozlowski, S. Herling, G. Leigh, L. Jelinek, M. Pope, C. A. Haertzen\* and J. E. Henningfield.\* The Addiction Research Foundation, Canada and Addiction Research Center, MD.\*

Researchers for the Clinical Institute of the Addiction Research Foundation (Toronto) have started a collaborative effort with researchers from the Addiction Research Center (Baltimore) to explore the role of cigarette smoking and caffeine use in alcohol and drug abuse. A progress report will be given on the results of an examination of subject data files for previously unexplored associations between cigarette smoking and caffeine use and the abuse of other substances. Preliminary findings that severity of alcoholism covaries with amount of coffee and tobacco use suggest that these substances may be factors of importance in the treatment of alcohol and drug abuse.

**DIAZEPAM-IMPAIRED HUMAN MEMORY: IS LONG-TERM MEMORY CONSOLIDATION DISRUPTED?** Christian Mueller,\* Robert Mann, Barbara Nicholls, Claudio Naranjo and Howard Cappell. \*University of Toronto and Addiction Research Foundation, Toronto, Canada.

In a two-day double-blind study involving 10 mg of oral diazepam, 16 male volunteers performed several memory tasks. Consistent with past research, performance on the diazepam day was impaired relative to placebo when sub-

jects were tested using traditional measures of recognition and recall. When testing involved a substantially different kind of task, however, in which list items (e.g., CUPCAKE) were re-presented as fragments to be completed (e.g., \_U P\_ \_K E), no evidence of impairment was found. Since fragment completion was unimpaired long after list presentation, the typical amnesic effects demonstrated for diazepam cannot be explained simply on the basis of poor consolidation into long-term store. Parallels with normal forgetting and the clinical amnesias suggest an alternative account.

**TRYPTOPHAN DEFICIENT DIET LOWERS MOOD IN NORMAL MALES.** Scott E. Smith, Robert O. Pihl, Simon N. Young and Frank R. Ervin. McGill University, Canada.

Sixty subjects ingested either a tryptophan loaded, tryptophan deficient, phenylalanine-tyrosine loaded phenylalanine-tyrosine deficient, or balanced amino acid mixture. Five hours later the tryptophan deficient group displayed a 76% mean reduction in plasma tryptophan. Unlike the other groups, the tryptophan deficient group also showed a significant elevation on the depression scale of the Multiple Affect Adjective Checklist and impaired performance on a proofreading task when dysphoric themes were used as a distractor. It appears then, that diet induced tryptophan depletion lowers mood as measured by self-report and task performance. This may be interpreted as evidence for the involvement of 5-hydroxytryptamine in depression.

**DIETHYLSTILBESTROL AND PSYCHIATRIC DISORDER.** M. Fried-Cassorla, H. D. Strassman, M. I. Rothman and E. J. Bowers. Cooper Hospital/University Medical Center, Camden, NJ.

Prenatal exposure to the synthetic estrogen diethylstilbestrol (DES) has repeatedly been found to pathologically influence genital and reproductive development. Psychological studies of DES-exposed individuals have, however, been largely limited to assessing the reactions of individuals informed that they are 'at risk' for, or suffering from DES-related physical conditions. The present research is studying the relationship between DES exposure and emotional and behavioral psychopathology. Using one experimental and two control groups, the researchers are utilizing the NIMH Diagnostic Interview Schedule to uncover current and past psychological functioning. Increased knowledge of the psychiatric vulnerability of people exposed to DES will permit the generation of new hypotheses concerning the roles of the hormones of the hypothalamic-pituitary-gonadal adrenal axes, and their contributions to the physiological bases of psychiatric disturbances.

**SIMULATION OF GAMBLING RESPONSES ON THE ADDICTION RESEARCH CENTER INVENTORY.** John E. Hickey, Charles A. Haertzen and Jack E. Henningfield. NIDA Addiction Research Center, Baltimore, MD.

The present study investigated possible commonalities between compulsive gambling and abuse of psychoactive

drugs. Eleven volunteers with histories of compulsive gambling were tested using the Addiction Research Center Inventory (ARCI). Subjects were tested twice with the ARCI, once answering items as they felt at the time of the test, the other time as they felt while winning at gambling. The main finding was that as measured on the ARCI, winning at gambling produced a euphoria similar to the euphoria induced by the psychoactive drugs of abuse, particularly psychomotor stimulants.

**MENTAL REHEARSAL FACILITATES TOLERANCE DEVELOPMENT TO ETHANOL.** E. Rawana, M. Vogel-Sprott, R. Webster. University of Waterloo, Waterloo, Ontario, Canada.

Thirty-six male social drinkers were randomly assigned to three equal groups. They learned a motor-skill task and then drank the same dose of ethanol (0.66 gm/kg) on five sessions. Sessions 1 and 5 provided pre- and posttreatment measure of performance under ethanol. During treatment sessions, one group (P) practiced and another (M) mentally rehearsed the task after ethanol was administered. A control group (C) rested. On the posttreatment session, groups P and M did not differ and both were less impaired (i.e., more tolerant) than C. Since mental rehearsal of this task under ethanol facilitated tolerance, it, may similarly influence other tasks, like driving.

**EFFECTS OF DRINKING HISTORY ON DEVELOPMENT OF ALCOHOL-TOLERANCE IN HUMANS.** Raymond Niaura and Peter Nathan. Alcohol Behavior Research Lab, Rutgers University, NJ.

This study investigated the hypothesis that prior experience with alcohol would influence the capacity to acquire tolerance more quickly after a period of abstinence. Two groups of heavy (n=2) and light (n=3) male social drinkers underwent voluntary abstinence from alcohol for 2 weeks in order to allow tolerance to dissipate. Tolerance was then induced in both groups during three identical drinking sessions occurring within one week. Tolerance was shown to dissipate only for a measure of nystagmus, while it increased for other cognitive and psychomotor skills despite abstinence. There was no effect of drinking history on the rates of tolerance acquisition. Overall, tolerance developed more quickly for cognitive, as opposed to psychomotor, skills, supporting previous research. The results have implications for the generalization and measurement of tolerance phenomena in humans.

**ADMISSION AND REFERRAL PATTERNS AMONG ALCOHOL DETOXIFICATION PATIENTS.** Dennis McCarty, Alcohol and Health Research Services, Stoneham, MA and Dave Mulligan, Massachusetts Department of Public Health, Boston, MA.

A systematic sample of 447 patients drawn from the 11,323 detoxification clients in the Massachusetts Alcoholism Management Information System data base was examined to determine admission frequencies, amount of