of the 1940s developed by recovering alcoholics using the A.A. philosophy. The failure of their attempts to diagnose alcoholics, reach alcoholics in higher management, and their naivete at influencing the business organization will be described. The growth and development of programs spurred by the Hughes Bill and the mandate of the occupational branch of the National Institute on Alcohol Abuse and Alcoholism to affect alcoholism in the workplace will be discussed. The training of a national corps of occupational program consultants and the development of an intervention strategy based on job performance will be detailed. The procedure of monitoring job performance and the process and philosophy behind the "constructive confrontation" of the alcoholic employee will be described. The social support system of the program along with the threat of job loss as a motivation to treatment and to recovery will be discussed.

The continued development of workplace based programs into Employee Assistance Programs will be described along with the consequences to the alcoholic of such broadening. The advantage of reducing the stigma associated with participation in the program will be contrasted with the dilution of emphasis on the alcoholic along with increased attention to other personal problems that affect job performance.

The presentation will conclude with the results of research demonstrating the effectiveness of the program and with a discussion of future development of programs in the workplace.

ALCOHOL SENSITIVITY AND ALCOHOL INTAKE: ACROSS- AND WITHIN-ETHNIC GROUP ANALYSES. Julia A. Lee. Alcohol Research Group, University of California, Berkeley.

Alcohol sensitivity and alcohol intake were determined for five ethnic groups: Chinese, Japanese, other Asian, White, and Black. Data were gathered from a questionnaire survey administered to a probability sample of nine West Coast colleges. Analysis of the relationship between alcohol sensitivity and alcohol intake across groups revealed a high, negative correlation. Groups with higher alcohol sensitivity had lower alcohol intake. Within groups, no such relationship occurred. Based upon these results, alcohol sensitivity is not associated directly with individual alcohol intake. However, ethnic-group alcohol sensitivity may have influenced the evolution of alcohol-use customs, which in turn influenced alcohol intake.

DIFFERENTIATING PIPE AND CIGAR SMOKERS BY SELF-REPORT AND EXPIRED-AIR CO. Seymore Herling and Lynn T. Kozlowski. Addiction Research Foundation, Toronto, Ontario.

Pipe and cigar smokers were interviewed about their smoking history and administered a questionnaire containing items related to various smoking motives (Russell *et al.*, *J R Statist Soc A* **137**: 313–333, 1974). In addition, as an objective indicator of smoke inhalation, breath samples were collected to measure expired-air carbon monoxide (CO) levels. Although history of cigarette use was somewhat related to expired-air CO levels, self-report of inhalation/noninhalation predicted expired-air CO levels 83% of the time. In agreement with the notion that the pharmacological activity of tobacco smoke is obtained almost exclusively by inhalation into the lung, pipe and cigar smokers who inhaled scored higher than noninhalers on Russell questionnaire items related to "pharmacological addiction."

ONE-TRIAL DISCRIMINATIVE REWARD LEARNING: REWARD MAGNITUDE AND SPATIAL REVERSAL EFFECTS. David H. Malin, Phillip D. Jenkins, Mary Jo Watts, Patricia E. Spezia and Barbara Novy. University of Houston-Clear Lake.

This study evaluated an original procedure for one-trial reward learning of a spatial/visual discrimination with 24 hour retention. The apparatus was a radial maze with four black alleys and a baited white alley with ascending ladder floor. Rats receiving ten reward pellets in a single training trial showed significantly faster running speed and fewer errors (unbaited alleys entered) than non-rewarded controls in a retention trial 24 hours later. Changing the location of the white alley between training and retention caused a partial but significant decrement in retention. Retention varied with the amount of reward, but leveled off above four pellets.

PSYCHOLOGICAL SYMPTOMS AND EMPLOYMENT AMONG HEROIN ADDICTS IN METHADONE TREATMENT. David S. Metzger, Jerome J. Platt and Ingrid Morton-Bey. School of Medicine, Hahnemann University.

This paper reports on the results of analyses comparing the psychological symptomatology of 122 employed and 276 unemployed methadone clients. As hypothesized, the unemployed clients reported a significantly greater degree of symptom distress as measured by the SCL-90. Symptomatology, however, was not correlated with the length of employment, suggesting a stable difference present at the time of employment acquisition. Theoretical and practical implications are discussed.

EFFECT OF COCAINE ON RATE OF CIGARETTE SMOKING. R. Nemeth-Coslett, Jack Henningfield, Jonathan Katz and Steven Goldberg. National Institute on Drug Abuse, Baltimore, MD.

Second order schedules of cocaine self-administration were studied in six human volunteers who had histories of both cocaine and cigarette smoking use. During 3-hour test sessions, each subject was given the opportunity to self-administer intravenous injections of either cocaine or saline. Subjects were cigarette deprived for 1-hour prior to and during the test session. Afterwards, they were free to resume ad lib smoking. The number of cigarettes smoked during the first hour after sessions was recorded for each subject and the main finding was each subject smoked a significantly greater number of cigarettes on active (cocaine) drug days than on placebo days.

SOCIAL CONFORMITY AND SUBSTANCE USE: SEX DIFFERENCES ON LONGITUDINAL ASSOCIATIONS. Judith A. Stein, Michael D. Newcomb and Peter M. Bentler. University of California, Los Angeles.

The impact of Social Conformity on Alcohol and Hard

Drug Use was tested in a series of latent variable longitudinal models, separately for men and women and then contrasted directly. Social Conformity measured at Year 5 (high school age) of a longitudinal study of 654 subjects was used as a predictor of less Alcohol and Hard Drug Use at Year 9 (young adulthood). It was found that Social Conformity predicted less Hard Drug Use for both males and females and less Alcohol Use for females only. Structural patterns between latent variables were quite similar for both males and females for Hard Drug Use, but less so for Alcohol Use. The social implications of the differential acceptability of Alcohol Use by sex are discussed.

NICOTINE AS A REINFORCER AMONG EX-SMOKERS AND NEVER-SMOKERS. Gail K. Strickler, John R. Hughes and David A. King. Dept. of Psychiatry, University of Vermont.

Ten never-smokers and 10 ex-smokers received nicotine or placebo gum hourly for 4 hours on one day and the converse on the second day. On the third day subjects were given concurrent access to nicotine and placebo gums and told to chew ad lib. All of the never-smokers and 7 of the ex-smokers self-administered less nicotine gum than placebo. However, ex-smokers self-administered more nicotine gum than never-smokers. These results indicate (1) nicotine is a punisher among nonsmokers and (2) nicotine is less of a punisher among ex-smokers than among never-smokers.

BRAIN STIMULATION DETECTION: A METHOD FOR ASSESSING CENTRAL DRUG ACTIVITY. Joseph E. G. Williams and Conan Kornetsky. Boston University School of Medicine.

The effects of various drugs on thresholds for the detection of non-rewarding electrical stimulation were determined from different sites of the rat brain. The detection stimulus was delivered through one electrode and served as a cue for the availability of rewarding stimulation delivered to a second electrode located in the medial forebrain bundle-lateral hypothalamic area. Current intensities of the detection stimuli were varied, while the contingent rewarding stimulation remained fixed at a supra-threshold level. This multiple electrode procedure is useful for identifying differential drug effects on the detection of stimulation to specific brain regions.

EFFECTS OF CIGARETTE ROD LENGTH ON SMOKING TOPOGRAPHY. Phillip P. Woodson and Roland R. Griffiths. Dept. of Psychiatry and Behavioral Sciences, Johns Hopkins University.

Clipped tobacco rods were found to produce less intensive puffing patterns than did full length rods. The diminished draw resistance of the former could account for this. Clipped cigarettes also produced a shallower depth of smoke inhalation which could be a defensive response to the hotter smoke generated. A less intensive puff and inhalation pattern should result in less smoke exposure. The lower CO boosts generated by the clipped cigarettes confirm this. Neither of these smoking conditions could, however, fully account for the changes which occur as a cigarette is smoked down the rod in a more natural fashion.

SUGAR REDUCES IMPAIRMENT WITHOUT ALTERING BLOOD ALCOHOL LEVELS IN MALES. Camillo Zacchia and Robert O. Pihl. McGill University; Simon N. Young and Frank Ervin. Dept. of Psychiatry, McGill University.

Male social drinkers were given doses of alcohol sufficient to raise their blood alcohol level (BAL) to around 0.10 mg%. The drinks contained either 100 g of sugar, 35 g or an artifical sweetener and no sugar. In all three groups BALs were similar. However, various indices of intoxication including subjective feelings of intoxication, memory, reaction times, body sway and pursuit rotor performance showed that the subjects were less impaired when they received sugar with the alcohol. The attenuation of ethanol-induced intoxication was greater with the high dose of sugar than with the moderate dose. Sugar, given without alcohol, had no effect on any performance measure.

DOES SUCCESSIVE DRUG DISCRIMINATION TRAINING DISRUPT ORIGINAL TRAINING? Jay Nierenberg and Nancy Ator. Johns Hopkins University School of Medicine.

Rats were trained (Phase 1) under a food-maintained, drug versus no drug procedure to discriminate either 1.0 mg/kg diazepam (3 rats) or 10.0 mg/kg pentobarbital (3 rats); the two groups subsequently were retrained (Phase 2) to discriminate the other drug from no drug. In Phase 1, diazepam, pentobarbital, triazolam, zopiclone, and meprobamate occasioned drug-lever responding in both groups. In Phase 2, tests with the original training drug indicated that the original discrimination was effectively overridden by retraining with the second drug. Unlike successive drug discrimination training with drugs from different pharmacological classes, successive drug discrimination training with two sedative drugs apparently disrupted control by the original training condition.

EFFECTS OF PAVLOVIAN CONDITIONING ON THE ETHANOL WITHDRAWAL SYNDROME. Robert Numan. Santa Clara University.

Twelve male rats were made dependent upon ethanol using intravenous infusions. Following this, dependence was maintained, but now a tone (CS) was associated with ethanol infusions (US) that reduced withdrawal distress. A pretest-posttest, counterbalanced, repeated measures design was used to determine the effects of three treatments (ethanol, tone, none) on withdrawal reactions (withdrawal signs, body temperature, open field activity) assessed under blind conditions. Our results show that only the ethanol treatment reduced withdrawal distress, suggesting that classical conditioning did not occur. We also found that ethanol withdrawal is associated with hypothermia and hypoactivity, and that ethanol infusions in alcohol dependent rats (at 10 hr withdrawal) lead to hyperactivity. Our data also suggest that handling stress may play an important role in temperature changes observed in studies of classically conditioned drug effects.