

sons are less responsive to intervention because of difficulties in attending to information relevant to their counseling.

ALCOHOLISM RISK, ALCOHOL USE, AND SPINAL CORD INJURY. Steven L. Schandler, Michael J. Cohen, Julia Cavin-Stice, Michael Mardis and Sherry Rascoe Frank. Veterans Affairs Medical Center, Long Beach, CA.

This study examined: a) the relationship between the spinal cord injured and their personal and family history of alcohol use and abuse; and b) whether these alcoholism risk factors are related to the cause of the spinal cord injury. Relative to the noninjured population, there was a significantly higher probability that spinal cord-injured persons were at risk for alcoholism prior to their injury. Spinal cord-injured persons with a family history of alcoholism displayed personality profiles similar to those of noninjured adult children of alcoholics and recovering alcoholics. The data further indicated that this personality profile, together with certain information-processing deficits, is associated with enhanced susceptibility to catastrophic injury.

BEHAVIORAL APPROACHES ASSURING COMPLIANCE WITH TUBERCULOSIS-TREATMENT REGIMEN IN METHADONE-MAINTAINED PATIENTS. Ronith Elk. University of Texas Health Science Center, Houston, TX.

Tuberculosis (TB) is on the rise in the United States with IV drug users being one of the groups most at risk. Treatment is lengthy, has toxic side effects, and simultaneous drug use places patients at grave medical risk. Two behavioral interventions, aimed at assuring patient compliance with TB treatment and decreasing concomitant drug use, were implemented. In the first, positive reinforcers for drug-free urines (patient-determined methadone dose) and punishers (methadone dose decrease, with discharge at <40 mg) were implemented. Nine patients participated. After varying time periods, seven were discharged due to drug use. The second, ongoing intervention, consists of a shaping procedure, in which successive decreases in cocaine use are reinforced with immediate payment. Three patients are currently enrolled, with effective initial decrease in drug use. Compliance with TB treatment in both interventions was very effective. We will report on attendance, compliance with tuberculosis regimen, drug screen results, and other related data.

CUMULATIVE VERSUS STABILIZING EFFECTS OF METHADONE MAINTENANCE. Keiko I. Powers and M. Douglas Anglin. University of California, Los Angeles, CA.

A repeated treatment design, a methodologically sophisticated quasiexperimental design, was applied to longitudinal self-report data to examine whether methadone maintenance treatment demonstrates cumulative improvement or merely stabilizing effects on behavior over multiple treatment episodes. Nearly 1,000 narcotics addicts in Southern California provided retrospective self-report information on their narcotics addiction histories. Eight measures were examined: 1) daily narcotics use, 2) abstinence from narcotics use, 3) property

crime involvement, 4) dealing, 5) alcohol use, 6) marijuana use, 7) employment, and 8) marriage. Repeated measures ANOVAs demonstrated stabilizing effects on most measures, particularly narcotics use variables. However, no cumulative effects were observed.

PAPER SESSION

Psychopharmacology.

Chair: *John R. Glowa*, National Institutes of Health, Bethesda, MD.

CHRONIC AND ACUTE TOLERANCE TO SUBJECTIVE EFFECTS OF NICOTINE. K. A. Perkins, J. E. Grobe, L. H. Epstein, A. Caggiula, R. L. Stiller and J. E. Goettler. University of Pittsburgh School of Medicine, Pittsburgh, PA.

Subjective responses to nicotine as a function of smoking status (chronic tolerance) and immediately preceding nicotine exposure (acute tolerance) were determined. Smokers and nonsmokers participated in four morning sessions, involving 0, 5, 10, or 20 $\mu\text{g}/\text{kg}$ nicotine via nasal spray at 30 min for four presentations (trials 1-4), with doses presented on separate days and order of doses counterbalanced across days. In addition, on each day subjects subsequently received a challenge administration of 20 $\mu\text{g}/\text{kg}$ nicotine. Dose-dependent increases during trials 1-4 were observed with Profile of Mood States (POMS)-Tension and visual analog scales of "head rush," "dizzy," and "jittery." Smokers tended to show smaller increases from pre-drug baseline than nonsmokers, consistent with chronic tolerance. However, nicotine tended to have *opposing* effects in smokers vs. nonsmokers on other POMS measures. For smokers, nicotine increased POMS-Vigor and Arousal but decreased Fatigue and had no effect on Confusion. For nonsmokers, nicotine decreased Vigor, increased Confusion, and had no effect on Fatigue, while the effect on Arousal appeared to be curvilinear (increased at low doses, decreased at high dose). In general, smokers, but not nonsmokers, showed acute tolerance to most effects, as responses to the challenge dose were smaller as a function of increasing dose amount during preceding trials 1-4. Thus, long-term nicotine exposure via smoking can lead to chronic tolerance to nicotine's aversive effects and enhancement of positive effects. Long-term exposure also appears necessary for the development of acute tolerance to subjective effects.

TIME-SENSE AND SUBJECTIVE INTOXICATION: A NEW BALANCED PLACEBO DESIGN. William M. Lapp, R. Lorraine Collins, William H. Zywiak and Charles V. Izzo. Research Institute on Alcoholism, Buffalo, NY.

A new balanced placebo design will be presented that permits the use of high dosages while preserving the control, pure drug and pure expectancy conditions found in the original design. The observed patterns of objective and subjective intoxication conformed to the desired manipulations in the new balanced placebo design. In addition, a covariance structure model was computed to evaluate the contribution of alcohol-related time distortion to subjective intoxication. Both the dose and expected effects of alcohol affected subjects' time perception as well as their subjective levels of intoxication; however, the effect of time distortion on subjective intoxication was constant.