

relationships between patterns of substance use (in adolescence and young adulthood) and measures used to assess the personality and perceived environment systems of problem behavior theory. Data were obtained from a sample of 765 respondents (298 males, 467 females) who completed questionnaires at the 1974, 1980, and 1986 waves of a longitudinal study designed to examine the social psychology of nonmedical drug use. Analyses were carried out separately for males and females. Results indicate that the patterns of substance use established in 1974, when respondents were aged 15-18, remained stable through young adulthood (i.e., when respondents were 27-30 years of age). In addition, adolescent measures of problem behavior theory provided a reasonable account of substance use in both adolescence and young adulthood. On the other hand, measures of personality and perceived environment were not as successful in accounting for substance use in either 1980 or 1986. Implications for problem behavior theory are evident from results presented in the longitudinal structural model.

DRUG USE, AGENCY AND COMMUNALITY: CAUSES AND CONSEQUENCES AMONG ADULTS. Michael D. Newcomb and Lisa E. Jack. University of Southern California, Los Angeles, CA.

Causes and consequences of drug use in the third decade of life may be quite different and distinct from those during adolescence. Although stereotypic and perhaps in transition, generally young adult men must prepare for being wage earners and family providers (an instrumental or agentic orientation towards life), whereas young adult women prepare themselves for family responsibilities and childrearing (a relational or communal orientation to life). Based on these gender difference expectations for young adult development, four predictions are made regarding how drug use may be influenced by or generated from the degree to which accomplishment of these life tasks occur. For men, if they are not achieving their goal of agentic success, they may increase their drug use to self-medicate the pain of their failure. Similarly women who have difficulty accomplishing their communal role may increase their drug use to relieve and assuage their frustrations. On the other hand, drug use may interfere with the attainment of these goals for men and women. Specifically, earlier drug use may impede the development of agentic skills for men and communal skills for women.

These hypotheses are tested in prospective data with repeated multiple assessment of drug use, agency, and communality. Data were from community samples of men and women assessed four years apart, first in young adulthood (average age 21) and then in adulthood (average age 25). Latent-variable models were used to test for both standard (construct-to-construct) and specific effects (those not strictly limited to between constructs; involving residual variances).

Results for the women revealed that early success and communality reduced polydrug use four years later, whereas only one small effect was found for the reversed associations. However, two significant effects were found that earlier polydrug use reduced satisfaction with future and work (two indicators of agency). For the men, three specific effects were found whereby indicators of earlier agency reduced later types of drug use, whereas four specific effects were found for earlier types of drug use reducing later measures of agency. Although there were no effects from early communality to later drug use for men, there were five specific effects relating types of

earlier drug use to reduced types of communality four years later.

In conclusion, all four hypotheses received at least some support, some more strongly than others. In addition, several unanticipated findings emerged. For instance, early drug use severely affected later indicators of communality for men, but less so for women. On the other hand, early drug use reduced two types of agency for women. These results reflect findings predicted for the opposite gender.

PAPER SESSION

Behavioral Pharmacology: Laboratory Studies.

Chair: *Chris-Ellyn Johanson*, NIDA Addiction Research Center, Baltimore, MD.

CONTINGENT TOLERANCE TO MIDAZOLAM-INDUCED ELEVATION OF OPERANT RESPONSE FORCE. Stephen C. Fowler, Scott E. Bowen, John Stanford and Mary J. Kallman. University of Mississippi, University, MS.

Rats learned an operant force-band task in which responses having peak forces falling within specified lower and upper limits were reinforced with water. Acute doses of midazolam (0.3 to 30.0 mg/kg, orally) increased peak force of response in a dose-related manner and concomitantly reduced the proportion of reinforced responses. For 30 days, half of the rats received 10.0 mg/kg midazolam before operant sessions, and the other rats were treated after sessions with the same dose. Redetermination of dose-effect functions for peak force of response indicated that the chronic pre-session dosing produced greater tolerance than the post-session drug (i.e., contingent tolerance was observed). The midazolam-related increase in peak force of response was discussed in terms of the benzodiazepines' putative disinhibiting effects on behavior. Contingent tolerance phenomena were viewed within the context of the reinforcement loss hypothesis as modified to include a role for effort-to-reward ratio in addition to time rate of reinforcement. (Supported by DA05253.)

VALIDATION OF THE MULTIPLE-CHOICE PROCEDURE AS AN EFFICIENT APPROACH FOR ASSESSING DRUG REINFORCEMENT IN HUMANS. Roland R. Griffiths and Craig R. Rush. The Johns Hopkins University, Baltimore, MD.

This study was conducted to further validate a novel multiple-choice procedure which has been proposed as an efficient procedure for assessing drug reinforcement in humans (*Behav. Pharm.*, in press). Regular cigarette smokers participated in up to 40 trials per day. Each trial consisted of completing a multiple-choice form involving a series of choices between receiving money or cigarettes; one choice was randomly reinforced. One experiment examined the effect of extinction in five subjects. Another experiment examined magnitude of reinforcer manipulation in four subjects. The maximum monetary value at which subjects chose the "item" over money decreased under the extinction condition and showed magnitude-related increases in the second experiment.

DISCRIMINATIVE STIMULUS EFFECTS OF *d*-AMPHETAMINE, CAFFEINE, AND MAZINDOL IN HUMANS. Stephen J. Heishman,* Richard C. Taylor,* Melissa