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Expectancy of analgesic effectiveness is a recognized modulator of pain perception. An experimental pain paradigm was used in a balanced placebo design to evaluate the independent effects of an analgesic or a placebo, unconfounded by subjects' expectation of receiving either. Results indicate that experimental effects that are attributable mainly to psychological mechanisms were more powerful than effects attributable to drugs. The powerful effects of expectation were also evaluated in the context of postsurgical pain. Subjects given higher levels of expectancy reported significantly less pain than subjects with low induced expectancies. High-expectancy subjects returned to work sooner and took fewer painkillers. The results are examined in light of the extant models of expectancy.

SELF-ADMINISTRATION OF HYPNOTICS: DOSE ESCALATION. T. A. Roehrs, B. Pedrosi and T. Roth. Henry Ford Hospital, Detroit, MI.

Eighteen patients with two differential insomnia diagnoses were studied. Each received both drug (triazolam) and placebo conditions: three nights of enforced administration of a pill, followed by four choice nights, when they had the opportunity to self-administer 0, 1, 2, or 3 pills before bedtime. On 56% of the choice nights, 51% of drug nights, and 61% of placebo nights, a pill was self-administered by the two groups. One insomnia group selected pills on more nights than the other group. A greater number of placebo pills were taken compared to active drug. Paired night-to-night analyses revealed an increase in placebo pills and a small reduction in triazolam pills, a drug by night pair interaction with placebo but not triazolam varied night-to-night, and a group by night pair interaction had one group varying night-to-night and the other group remaining consistent after an initial increase.

AWARENESS AND COMPENSATION OF VISUOSPATIAL DEFICITS BY ADULT CHILDREN OF ALCOHOLICS. Steven L. Schandler, Michael J. Cohen, Edward Dana, Jr., Connie Thomas-Bigney and Stephanie K. Klucas. Chapman University and Veterans Affairs Medical Center, Long Beach, CA.

Persons with a family history of alcoholism display visuospatial learning that is significantly poorer than that displayed by persons with no family alcoholism history. This study indicated that persons with a family alcoholism history display an enhanced awareness of and concern about their visuospatial learning performance and an enhanced resistance to information about their learning that differs from their own perceptions. However, these factors do not result in the incorporation of strategies leading to enhanced visuospatial learning performance.

POSTER SESSION

Substance Abuse: Clinical and Experimental Issues I.

EFFECTS OF AGE, STRAIN, AND NICOTINE ON RATS' ACOUSTIC STARTLE. Jane B. Acri,* Mazen I. Saah,† Kelly J. Brown‡ and Neil E. Grunberg.† *NIDA Addiction

Research Center, Baltimore, MD, †University of Virginia, Charlottesville, VA, ‡Uniformed Services University of the Health Sciences, Bethesda, MD (K.J.B., N.E.G.).

These experiments examined the effects of age and strain on acoustic startle reflex (ASR) amplitude and prepulse inhibition (PPI). The first experiment examined effects of chronically administered nicotine and saline in Sprague-Dawley, Long Evans hooded, and Wistar rats. A second experiment examined the effects of chronically administered nicotine and saline in rats of two age groups. Results of the experiments indicate that rats of different ages and strains have significant differences in ASR amplitude and PPI, and that older animals are slightly more responsive to nicotine. These are, therefore, important variables in the analysis of drug effects in animals.

INTERACTIONS OF STRESS AND NICOTINE ON PPI AND ACOUSTIC STARTLE. Jane B. Acri,* Stephanie Nespore,† Kelly Brown‡ and Neil E. Grunberg.† *NIDA Addiction Research Center Baltimore, MD, †Uniformed Services University of the Health Sciences, Bethesda, MD.

This experiment investigated effects of stress and nicotine on acoustic startle reflex (ASR) amplitude and prepulse inhibition (PPI) in rats. Saline or nicotine was administered by osmotic minipump. On drug administration day 10, rats were exposed to either no stress (control) or restraint stress, or were in the presence of restrained rats. Then, rats were tested for ASR amplitude and PPI. Stress and nicotine interacted significantly to reduce the amplitude of ASR and reduce PPI to the level of saline controls. Results indicated that nicotine can counteract the effects of stress on startle measures, and this effect may help to explain why people smoke under stress.

PRENATAL COCAINE EXPOSURE AFFECTS MOTOR ACTIVITY FOLLOWING ACUTE QUINPIROLE INJECTION IN WEANLING RATS. Alissa B. Gilde,* Harry E. Hughes and Diana L. Dow-Edwards.† *Hofstra University, Hempstead, NY, and †SUNY Health Science Center at Brooklyn, Brooklyn, NY.

This study examined the effects of prenatal cocaine exposure on motor activity following quinpirole challenge in weanling rats. Pregnant rats received 30 or 60 mg/kg/day cocaine HCl orally during gestational days 8-22. A vehicle-intubated control group pair-fed to rats receiving the higher dose of cocaine was also maintained. Offspring were evaluated daily for the onset of developmental milestones up to 21-22 days of age. Compared to pair-fed controls, a delay in onset of walking was observed in cocaine-exposed rats. Pups then received 0, 0.08, 0.5, or 1.0 mg/kg of the D2 agonist quinpirole SC followed immediately by 60 min of activity monitoring. Data regarding motor activity are forthcoming.

PAVLOVIAN CONDITIONING AND TOLERANCE TO THE ANORECTIC EFFECT OF NALOXONE. Tina M. Goodison and Shepard Siegel. McMaster University, Hamilton, Ontario, Canada.

The present experiment assessed the effects of repeated administration of naloxone on 10% sucrose intake and the importance of learning principles in mediating these effects.

Daily administration of naloxone (1 mg/kg, IP) to mildly food-deprived adult male Long-Evans rats resulted in tolerance to the anorectic effect of naloxone. This tolerance to the intake-suppressive effects of naloxone was more pronounced when the drug was administered in the context of the usual predrug cues than when it was administered in the context of alternative cues. Furthermore, administration of saline in the context of naloxone-associated cues elicited a compensatory CR of sucrose overconsumption.

ALCOHOL QUANTITY-FREQUENCY OF SELF-REPORT MEASURES: CONVERGENT AND DISCRIMINANT VALIDITY. Paul E. Greenbaum, Mark S. Goldman, Jack Darkes, and Bruce C. Rather. University of South Florida, Tampa, FL.

The convergent and discriminant validity of four extensively used measures of drinking quantity and frequency were assessed in 224 subjects using recently developed confirmatory factor analytic models of multitrait, multimethod matrices. Results showed that all four measures gave highly overlapping (interchangeable) estimates of both drinking quantity and frequency. Some divergence was found between quantity and frequency indices; the overlap between them was extensive. Hence, in some samples discriminating between quantity and frequency may not be theoretically meaningful; researchers wishing to make this claim need to show meaningful independent variation of these two indices.

EFFECT OF STRESS ON ORAL FENTANYL CONSUMPTION IN FEMALE RATS. Laura C. Klein,* Yavin Shaham,† Kevin Alvares* and Neil E. Grunberg.* *Uniformed Services University of the Health Sciences, Bethesda, MD, and †Concordia University, Montreal, Quebec, Canada.

The effect of mild footshock stress on oral opioid consumption was examined in female rats. Fentanyl (50 µg/ml) self-administration (SA) was initiated in operant chambers under a partial water deprivation schedule. Animals were tested for lever pressing for fentanyl under fixed-ratio 6 (FR-6) and progressive-ratio (PR) schedules of reinforcement for 30 min/day. Stress increased lever pressing for fentanyl under the FR-6 schedule. There were no stress effects for lever responding for a quinine control solution. Also, estrous cycle had no effect on SA behavior. Results support the interpretation that stress causes increased opioid SA and that an operant paradigm can be used to examine this relationship.

POSTER SESSION

Substance Abuse: Clinical and Experimental Issues II.
Chair: *Harvey Skinner.*

URGE RESPONSE TO ALCOHOL CUE AND AFFECTIVE IMAGERY IN ALCOHOLICS. Karen Obremski Brandon and Timothy P. Hayes. SUNY, Binghamton, NY.

This study examined the role of affect and alcohol-related cues on perceived urges to drink alcohol within an imagery paradigm. Thirty-one male recovering alcoholics were instructed to listen to and imagine audiotaped scripts containing six different types of stimuli: positive, neutral, or negative affect, and each of the three affect types with alcohol-related

cue references embedded within the scripts. Subjects rated the vividness of the image, mood, and urge to drink after each script presentation. Imagery-induced negative and positive affect increased perceived urge to drink, while alcohol-related cue content did not. Subjects abstinent fewer than six months perceived stronger urges following positive and negative scenes than did longer abstaining subjects.

SOCIAL SUPPORT SYSTEMS IN CRACK ABUSERS WITH CHEMICALLY DEPENDENT PARENTS. Barry D. Caudill,* Jeffrey A. Hoffman,* Patrick M. Flynn† and James W. Luckey.† *Koba Institute, Washington, DC, and †Research Triangle Institute, Research Triangle Park, NC.

Adult children of substance-abusing parents (CSAs) have often been identified as at-risk for substance abuse and other disorders. Another important risk factor often linked to healthy functioning and success in avoiding relapse is social support. In examining the support systems of crack-abusing CSAs, these clients were found to exhibit significantly less social support satisfaction and less support for abstinence, and are exposed to more drug and alcohol abuse than are non-CSAs. CSAs have larger support systems, but derive little support from them. The need to target and enhance cocaine-abusing CSAs dysfunctional social support systems is emphasized.

A CHOICE PROCEDURE TO QUANTIFY ETHANOL PREFERENCE FOLLOWING ETHANOL PRELOAD. Mary Ann D. Chutuape, Suzanne H. Mitchell and Harriet de Wit. University of Chicago, Chicago, IL.

Does a predose of ethanol increase preference for ethanol in normal social drinkers? Ethanol preference was assessed by allowing subjects to earn an ethanol-containing beverage or money on a series of concurrent random-ratio (RR) schedules. In experiment 1, the RR schedule associated with earning money varied (RR 12.5 to RR 1.3), while the schedule associated with earning beverage remained constant (RR 3.125). In experiment 2, the beverage schedule varied (RR 12.5 to RR 1.3), while the money schedule remained constant (RR 3.125). Subjects consumed a preload beverage containing placebo or ethanol before performing this task. Subjects tended to respond more following the ethanol preload only when the beverage schedule was varied (experiment 2) and not when the money schedule varied (experiment 1).

A TELEMETRIC DEVICE FOR MEASURING SMOKING TOPOGRAPHY. Bradley N. Collins, Thomas H. Brandon and Wayne Kashinsky. SUNY, Binghamton, NY.

We have developed an apparatus to measure smoking topography less obtrusively than previous instruments. The Telemetric Topography Device (TTD) consists of a micropressure transducer and radio transmitter housed in a free-standing, bored nylon cylinder. As the subject inhales on a cigarette (placed in a holder attached to the TTD), the transmitted radio signal shifts upward in proportion to the strength of inhalation and returns to baseline afterwards. Radio signals are stored on the audio channel of a VCR. Signals can be replayed and fed into the A/D board of a PC that digitizes the data for subsequent analysis.