and arousal with feelings of power than were younger subjects. Results failed to indicate a significant interaction between gender and age.

DEFEAT AND THREAT OF ATTACK OCCASION PENTYLENETETRAZOLE-APPROPRIATE RESPONDING. Jeffrey A. Vivian, E. M. Weerts and Klaus A. Miczek. Tufts University, Medford, MA.

Being threatened by an attacking conspecific prompts defensive and submissive reactions and may induce anxiety. Male Long-Evans rats were trained to discriminate 20 mg/kg pentylenetetrazol (PTZ) or 0.4 mg/kg midazolam (MDZ) from saline in a two-choice drug-discrimination task. After brief defeats (Ss serving as intruders), a) administration of saline engendered PTZ-appropriate responding in the intruder but b) did not alter MDZ-appropriate responding after flumazenil pretreatment. During four exposures to the threat of attack, saline generated 55, 42, 56, and 33% PTZ-appropriate responding. These results suggest that an anxiety-like state occurs during defensive behavior and does not appear to be associated with long-term changes at the benzodiazepine receptor.

REPEATED ADMINISTRATION OF PCP AND AMPHETAMINE: EFFECTS ON SOCIAL BEHAVIOR. Rhea E. Steinpreis, J. D. Sokolowski, A. Papanikolaou and J. D. Salamone. The University of Connecticut, Storrs, CT.

Both phencyclidine (PCP) and amphetamine produce psychotic reactions in humans that resemble different aspects of schizophrenia. Our laboratory has previously demonstrated that acute administration of these drugs also affects social behavior in rats. The present study was used to determine the effects of repeated administration of these drugs on rat social behavior. Rats were given repeated daily IP injections of either PCP (4.0 mg/kg), amphetamine (4.0 mg/kg) or 0.9% saline for 7 days. On days 1, 4, and 7 rats were placed in a stable home colony of three other rats and observed for social behavior in 30-min sessions. On the first day of administration both drugs reduced various social behaviors. With repeated injections, the effects of PCP showed tolerance and the effects of amphetamine demonstrated sensitization.

STRAIN-DEPENDENT EFFECTS IN BEHAVIORAL PHARMACOLOGY. John R. Glowa. National Institutes of Health, Bethesda, MD.

Several behavioral differences between the histocompatible LEW/N and F344/N rat are described, including data on the behavioral effects of corticotropin-releasing hormone (CRH) and the effects of alprazolam and buspirone on the startle response. Since these strains have known differences in their stress response, GABAergic and serotonergic function, alcohol intake, and preference for cocaine and morphine, these strain-dependent differences are discussed in light of possible relationships between the stress response and individual susceptibility to stimulant abuse. It appears that the degree of sensitivity of central components of the stress response may be better than the magnitude of the glucocorticoid response in predicting abuse potential.

OPIOID SENSITIVITY AS MEASURED BY OPERANT SCHEDULE-CONTROLLED RESPONDING. Gregory I. Elmer,* J. O Pieper,* Steven R. Goldberg* and Frank R. George.† *National Institute on Drug Abuse Addiction Research Center, Baltimore, MD, and †University of New Mexico, Albuquerque, NM.

The purpose of this study was to determine the effect of an opioid on schedule-controlled behavior in genotypes that differ significantly in innate opiate receptor concentration. The effects of etonitazene on fixed ratio responding for water was examined in CXBK/ByJ, CXBH/ByJ, C57BL/6J, and DBA/2J mice; the ED_{50} for etonitazenes rate-depressant effects were 38.4, 16.6, 13.1, and 8.8 μg/kg, respectively. There appears to be no relationship between sensitivity to the rate-depressant effects of etonitazene and previously reported differences of the analgesic, stimulant or reinforcing properties of etonitazene.

NICOTINE INCREASES PRE-PULSE INHIBITION OF ACOUSTIC STARTLE REFLEX IN RATS. Jane B. Acri,* David E. Morse† and Neil E. Grunberg.* *Uniformed Services University of the Health Sciences, Bethesda, MD, and †Food and Drug Administration, Rockville, MD.

Nicotine can increase acoustic startle amplitude and may enhance attention, but effects of nicotine on pre-pulse inhibition (PPI) of acoustic startle are not known. PPI reflects gating of sensory stimuli related to attention. In the present study, acutely administered nicotine had a biphasic dose effect on startle amplitude in rats, with increases at lower doses (0.01 mg/kg) and decreases at higher doses (0.5–5.0 mg/kg) compared to controls. Lower doses of nicotine also increased amount and percentage of PPI, whereas higher doses reduced amount but not percentage of PPI. Results are consistent with nicotine's reported effects on attention and biphasic dose effects.

CONSUMPTION OF CONCURRENTLY AVAILABLE MONEY AND CIGARETTES: RESPONSE REQUIREMENT EFFECTS. Richard J. DeGrandpre, Warren K. Bickel, Stephen T. Higgins and John R. Hughes. University of Vermont, Burlington, VT.

In behavioral economics, consumption of a reinforcer is determined by its price and by the price of other available reinforcers. This study examined the effects of price manipulations on the consumption of concurrently available money and cigarettes. During approximately fifteen 4-h sessions, money and cigarettes were concurrently available according to fixed-ratio (FR) schedules of reinforcement. After consumption stabilized under a FR 100 for both reinforcers, the response requirement for each reinforcer was varied separately (FR 100, 1,000, 2,500), while the other reinforcer was held constant at FR 100. Increasing the FR value decreased money and cigarette consumption to a similar degree and in a positively decelerating fashion. Also, as the price for one reinforcer increased, consumption of the other generally increased. These results indicate that the demand for these two commodities can be significantly altered by own-price and other-price manipulations.