Female rats were fed a diet containing 35% ethanol-derived calories for 20 days or for 14 days of gestation; the latter group received for the last six days of gestation a control diet with an isocaloric amount of sucrose. A third group was pair-fed the control diet throughout gestation. All animals were sacrificed on day-20 of gestation. Offspring of day-20 animals, compared to pair-fed controls, had significantly reduced values for crown-rump length, brain weight, pairs of ribs and number of skull bones ossified. The brain weight of offspring of day-20 animals was significantly lower than that of day-14 animals.

EMOTIONAL REACTIVITY AND ALCOHOL INTAKE.† K. Paul Satinder. Lakehead University, Canada.

The relationship between open-field emotional reactivity and alcohol intake was investigated in the Maudsley and Roman genetic crosses of rats. No significant differences were found in any of the behaviors between the respective reciprocal crosses. The MR × RHA cross followed by the MR × RLA, MNR × RHA and MNR × RLA crosses showed relative correspondence between open-field defecation (OFD) and proportional choice intake of alcohol. Findings confirmed a prediction for the relationship between OFD and alcohol intake in these genetic crosses. It is concluded that emotional reactivity is a mediating process related independently to both OFD and alcohol intake but related to each other in genetic crosses due to possible genetic overlap between the genetic mechanisms mediating these two behaviors.

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ETHANOL AND NALOXONE EFFECTS ON DELAYED MATCHING PIGEONS. Mary Knopp and Stephen A. Daniel. Mercy College, NY.

The effects of acute administration of ethanol (PO) and naloxone hydrochloride (IM) on delayed matching to sample in pigeons (N=8) were investigated. Subjects were tested on a color matching task at delays of 0, 2 and 8 seconds. In experiment I, ethanol (0–1.50 g/kg) was administered and produced decreases in accuracy related to dose and delay. In experiment II, subjects were tested on the delayed matching task following a 17 day retention interval. Naloxone (2 mg/kg) or saline was given prior to the retention test. Subjects given naloxone showed superior performance on the two second delay.

EFFECTS OF ANTI-DEPRESSANT DRUGS UPON ASSOCIATIVE LEARNING. Pamela Clift Scavio, Joseph C. Marshall, Randall Scheibel and Michael J. Scavio. Department of Psychology, California State University, Fullerton, Fullerton, CA.

The purpose of the study was to investigate whether anti-depressants influence associative learning as measured by the classical conditioning of the rabbit's nictitating membrane response (NMR). The findings indicated that trazodone and maprotiline were equally effective in facilitating NMR conditioning. However, imipramine did not alter conditioning. The results may be related to drug actions. Trazodone and maprotiline respectively increase the function of serotonin and norepinephrine. Thus, each of these neurotransmitters appears to regulate learning. In contrast, imipramine has joint effects upon serotonin and norepinephrine. Consequently, the failure of imipramine to determine conditioning may have been due to a competitive antagonism between the neurotransmitters.

INTRACEREBROVENTRICULAR MORPHINE, NALTREXONE AND QUATERNARY NALTREXONE IN THE PIGEON. Charles P. France. University of Michigan, MI.

Pigeons trained to peck a single key, on a variable-interval 30 second schedule of food reinforcement, were stereotaxically implanted with a chronic intracerebroventricular (ICV) cannula. The cannula patency was periodically assessed by radiographic procedures. The opiate agonist morphine and antagonist quaternary naltrexone, were 90 and >280 times more potent in suppressing responding when administered ICV; 100.0 μg quaternary naltrexone suppressed responding for longer than 24 hr. Naltrexone (tertiary) did not markedly affect responding up to a dose of 178.0 μg (ICV). However, as an antagonist of morphine's rate-suppressing effects, naltrexone was equipotent when administered ICV or IM. Quaternary naltrexone (ICV) failed to display any antagonist actions against morphine.

PHARMACOLOGICAL MODIFICATION OF THE DISCRIMINATIVE STIMULUS PROPERTIES OF MORPHINE. Alice M. Young and Changiz Geula, Wayne State University, Detroit, MI.

The sensitivity of a morphine stimulus to alteration by ketamine or amphetamine was examined under a drug discrimination procedure. Saline and one of two doses of morphine (3.2 or 5.6 mg/kg) were established as discriminative stimuli for food-reinforced responses in Sprague Dawley rats. Neither ketamine nor amphetamine exerted morphine-like stimulus control in any subject. However, the concomitant administration of either drug modified the morphine stimulus. In subjects trained with 3.2 mg/kg morphine, moderate ketamine doses enhanced morphine's stimulus potency. In contrast, moderate amphetamine doses attenuated morphine's stimulus effects, producing a loss of stimulus control by 3.2 mg/kg morphine. Increasing the morphine training dose to 5.6 mg/kg appeared to diminish the sensitivity of the morphine stimulus to alteration by amphetamine.

THE EFFECT OF ENVIRONMENTAL CUES ON CONSUMPTION OF MORPHINE SOLUTION. Riley E. Hinson, C. X. Poulos and W. L. Thomas. Addiction Research Foundation, Toronto, Canada.

The effect of environmental stimuli on morphine consumption in rats was examined. Rats were first trained to consume a morphine solution (increased from 0.5 mg/ml to 1.2 mg/ml). Then, a period of abstinence was given. Next, rats received injections of morphine in one environment and injections of saline in a distinctively different environment (30 injections of morphine, dose increased from 5 mg/kg to 40 mg/kg). Finally, the effects of the different environments on consumption of morphine were determined. In a two-bottle test, there was almost no consumption of the morphine solution, regardless of environment. In a one-bottle test, significantly more morphine was consumed in the drug environment than in the saline environment.