dependent population. (Supported by R18DA06113.)

ADHD AND UADD: DIFFERENTIAL TREATMENT EFFECTS OF STIMULANT MEDICATION. Richard A. Campbell. University of Texas Southwestern Medical Center, Dallas, TX; Sebastian Striefel. Utah State University, Logan, UT; Dennis Odell. Developmental Center for Handicapped Persons, Logan, UT; Phyllis Cole. Utah State University, Logan, UT; Sunita Steward. University of Texas Southwestern Medical Center, Dallas, TX.

This study investigates the treatment effects of methylphenidate in Attention Deficit-Hyperactivity Disorder (ADHD) and Undifferentiated Attention Deficit Disorder (UADD) using a pretest-posttest experimental design. Twelve children diagnosed as ADHD and 12 children diagnosed as UADD were compared on measures of self-reported depression and self-esteem and parent and teacher ratings of problem behavior before and after a 3-month trial of methylphenidate. Significant improvement was found in self-reported depression and self-esteem and inattention/hyperactivity in both groups following a trial of stimulant medication. Significant improvement was found in anxiety, depression, and uncommunicative behavior in the UADD group but not in the ADHD group. Significant improvement was found in aggressive problem behavior in the UADD group. Stimulant medication does not reduce the aggressive behavior of ADHD children, suggesting a multimodal treatment approach for ADHD children with aggressive problem behavior.

SEVERITY OF DRUG WITHDRAWAL EFFECTS IS ALTERED BY BEHAVIORAL ECONOMIC VARIABLES. Marilyn E. Carroll. University of Minnesota, Minneapolis, MN.

Phencyclidine (PCP) withdrawal was studied under several different economic conditions. Withdrawal effects were measured by disruptions in food-reinforced responding. In the first experiment, the cost of food or fixed-ratio (FR) value was varied over a wide range. The severity of PCP withdrawal disruptions increased as the cost of food increased. In the second experiment the availability of food was altered such that the monkeys had to earn all their food (closed economy) or the earned food was supplemented by the experimenter (open economy). When earned food was supplemented, the same amount of food was earned, but the effects of PCP withdrawal on the amount of earned food was markedly greater than when only earned food was available. In the third series of experiments the combined effect of PCP and caffeine withdrawal and PCP and ethanol withdrawal was compared to that of each drug alone. Results indicated that the withdrawal of drug combinations was more severe than that of either drug alone.

COCAINE DIFFERENTIALLY AFFECTS ENRICHED AND ISOLATED RATS' ATTENTIONAL PERFORMANCE. J. Michael Chase and Stephen C. Fowler. University of Mississippi, University, MS.

At 220 days of age rats reared/housed in an enriched condition (EC) or isolated condition (IC) were divided into 3 EC and 3 identical IC chronic cocaine dosing groups (0.0, 2.5, or 7.5 mg/kg, IP, daily, 10 min presession). These six groups were trained to perform a Sustained Attention Task, receiving daily injections of cocaine for 53 sessions until the task was learned. Doses of cocaine (0.0, 0.63, 1.25, 2.5, 5.0, 10.0, and 20.0 mg/kg, IP, 10 min presession) were tested for their ability to enhance performance. Rate of head insertion was dose-dependently disrupted, while time on task and reinforcements received showed enchancement at low doses. Effects may be due to rate-dependency and deficiency compensation. (Supported by DA05310.)

DEFEATED HUMANS SHOW ANALGESIA: ENDOGENOUS OPIOIDS IMPLICATED. Desmond J. Coen. Workers Compensation Board of British Columbia, Vancouver, BC.

The effects of victory and defeat in human competition upon cutaneous sensitivity were studied. Defeat increased sensation and pain perception thresholds to electrical stimulation, while victory decreased pain perception threshold. This pattern of results was seen in highly competitive karate, wrestling, and chess, but not in recreational sports where the intensity of competition was low. Social defeat analgesia and social dominance hyperalgesia were prevented in wrestlers by administration of 50 mg of the opiate antagonist naltrexone. These findings suggest that winning or losing can respectively sensitize or inhibit pain control systems through opioid activity.

TIME COURSE OF BUCCAL NICOTINE ABSORPTION. Caroline Cohen, Aleksandras Radzius, Eric Simmons and Jack E. Henningfield. Addiction Research Center, National Institute on Drug Abuse, Baltimore, MD.

Nicotine polacrilex gum can be a useful adjunct in treating tobacco dependence if adequate dosing levels are achieved. Factors such as salivary pH and chew rate affect nicotine absorption from the polacrilex. In addition, an experiment with smokeless tobacco suggested that the length of time saliva remains in the mouth is a determinant of nicotine absorption. The present study was conducted to determine effect of varying the time nicotine from polacrilex is held in the mouth. Rather than have the subjects swallow their saliva at various intervals we instructed them to spit at intervals of 6, 12, 24, 48, or 96 seconds while chewing 4 mg nicotine polacrilex. A preliminary analysis of data from the first 3 subjects indicates that at all spitting rates, a significant increase in serum nicotine is achieved when measured 20 and 35 minutes after start of chewing. At 20 minutes after start of chewing, there appears to be an orderly increase in serum nicotine from pregum levels at 6-, 12- and 24-second spitting rates and a leveling off after the 24-second spitting rate. At 35 minutes after start of chewing, there is little difference in change of serum nicotine levels from pregum levels across spitting rates. Our current findings suggest that a patient should keep saliva resulting from chewing nicotine polacrilex gum in the mouth for at least 12 to 24 seconds to achieve maximal buccal nicotine absorption.

SECOBARBITAL EFFECTS ON HUMANS' LEVER PRESSING SUPPRESSED BY RESPONSE CONTINGENT POINT LOSS. Mark Egli and Don R. Cherek. University of Texas Health Sciences Center, Houston, TX.

Two adult male human volunteers lever pressed for points (worth 10 cents each) under a variable interval schedule. Responding was suppressed by response contingent point subtraction in one component, and by a tandem interresponse time 2 second condition in the other. Secobarbital (50, 100, and 200 mg/70 kg), administered 20 minutes prior to the first component, increased lever press rates from low placebo baseline rates and