smokers, and smokers who smoked before a discriminative force-time emission task, was measured in terms of peak force, response duration, and response latency. Abstinent smokers exhibited significantly greater variability in both force emission and response latency compared to either nonsmokers or smokers who smoked. Abstinent smokers' greater response variability may reflect withdrawal from nicotine and a decreased ability to regulate force emission and time estimation.

PHYSIOLOGICAL AND VERBAL MANIFESTATIONS OF SMOKING URGES PRODUCED THROUGH IMAGERY. Stephen T. Tiffany, Denise M. Hakenewerth, David J. Drobes and Peg M. Maude-Griffin. Purdue University, West Lafayette, IN.

The results of two studies will be reviewed showing that smoking urges can be elicited in the laboratory through a procedure in which smokers are instructed to vividly imagine scripts presented by audiotape. The data indicate that the magnitude of self-reported urges and cravings produced through imagery can be manipulated by the urge and affective content of the imagery scripts. Furthermore, urge-eliciting scripts also produce somatovisceral changes during imagery trials, e.g., increases in heart rate and decreases in skin conductance habituation. The potential applications of the imagery paradigm in the study of the structure and function of drug urges will be discussed.

NICOTINE ALTERS INSULIN LEVELS IN RAT HYPOTHALAMI. Margarita Raygada, Stephanie M. Nespor and Neil E. Grunberg. Uniformed Services University of the Health Sciences, Bethesda, MD.

Effects of nicotine administration and cessation on insulin levels in hypothalami of rats were examined. Subjects were 63 rats that received 12, 8, 6, 4, or 0 mg nicotine/kg body weight/day by osmotic minipumps for 14 days. Hypothalami were assayed for insulin at the end of the drug administration period or 7 days after drug cessation. Nicotine administration was related to hypothalamic insulin values by a U-shaped function. Cessation of nicotine was accompanied by a dose-related decrease in hypothalamic insulin levels. These changes in hypothalamic insulin may underlie actions of nicotine on energy intake and expenditure.

NICOTINE AND BODY WEIGHT: EXAMINING THE ROLE OF ENDOGENOUS OPIOIDS. Elizabeth C. Sibolboro and Neil E. Grunberg. Uniformed Services University of the Health Sciences, Bethesda, MD.

To determine whether effects of nicotine on body weight and food consumption are mediated by opioid mechanisms, rats received nicotine, naltrexone, nicotine and naltrexone, or saline. Nicotine or naltrexone alone had similar suppressive effects on body weight and sweet food consumption. Together, these drugs suppressed body weight additively, but suppressed food consumption similar to each drug alone. After drug cessation, subjects gained more weight than controls. These results indicate that effects of nicotine on body weight and food consumption are not mediated by the endogenous opioid peptides. Effects of nicotine and naltrexone on body weight involve energy intake and expenditure during, and energy intake after drug administration.

THE EFFECT OF TRIAZOLAM ON COGNITIVE PERFORMANCE. Rosemarie L. Duncan. Walter Reed Army Institute of Research, Washington, DC; Lisa M. Simon. National Institute of Drug Abuse, Rockville, MD; and Vincent M. O'Donnell, Robert K. Winegar, Debra S. Friedman and Gregory L. Belenky. Walter Reed Army Institute of Research, Washington, DC.

The objective of this study was to determine the effects of a low dose of triazolam on cognitive performance on a variety of tasks across time. Subjects (151 males) were randomly administered either a 0.125 mg dose of triazolam or placebo and began a series of cognitive performance tasks forty minutes postdrug administration. Mean data were statistically evaluated using analyses of variance. Significance level was set at $p<0.05$. A treatment effect was found for a high memory load letter search task. The triazolam group attempted fewer items, scored fewer hits, and recorded fewer correct rejects than did the placebo group. To our knowledge, this study was the first to find cognitive impairment with the 0.125 mg dose of triazolam. These results suggest that the effects of the 0.125 mg dose on performance are strongest within the first hour postdrug and that in normal subjects, this dose of triazolam will only impair performance when the task taxes the ability of the subject.

INDIVIDUAL DIFFERENCES IN THE EFFECTS OF TRIAZOLAM ON COGNITIVE PERFORMANCE. Debra S. Friedman. Walter Reed Army Institute of Research, Washington, DC; Lisa M. Simon. National Institute of Drug Abuse, Rockville, MD; and Vincent M. O'Donnell, Rosemarie L. Duncan, Robert K. Winegar and Gregory L. Belenky. Walter Reed Army Institute of Research, Washington, DC.

The purpose of this study was to determine if the cognitive effects of triazolam, a benzodiazepine hypnotic, are dependent on the baseline personality of the subject. One hundred fifty-one subjects were given the Eysenck and Freiburg Personality Inventories and, the State-Trait Anxiety Inventory, in order to determine personality type. Each subject was then administered either placebo or a 0.125 mg dose of triazolam. The subjects performed a series of cognitive tasks during periodic testing from 40 minutes to 5 hours postdrug administration. On each of the personality dimensions, subjects were divided into high and low trait groups using a median split of their scores. Two-way analyses of variance were conducted to determine if interaction effects were present. Many of the cognitive tests were differentially affected by treatment (triazolam vs. placebo) depending on subject personality type. Portions of the Differential Aptitude Tests (DAT), the Symbol Digit Modalities Test, and a letter search task revealed a significant ($p<0.05$) drug by personality interaction. Dimensions of personality interacting with drug included anxiety, sociability, neuroticism, impulsivity, and stability. This is the first study to demonstrate interactive effects of triazolam and personality on cognitive performance.

THE EFFECTS OF TRIAZOLAM (HALCION) ON HUMAN MULTI-OPERANT RESPONDING. Ralph Spiga, Don R. Cherek, Richard A. Meisch and John D. Roache. University of Texas Health Science Center at Houston, Houston, TX.

The acute effects of triazolam on multi-operant responding were studied under controlled laboratory conditions. Three response options were provided: 1) lever A responding maintained by the presentation of points exchangeable for money, 2) lever B responding which ostensibly subtracted points from another person, i.e., aggressive responding, and 3) lever C responding which protected the subject's counter from point subtractions for some period of time, i.e., escape responding. Aggressive and escape