

## INTRODUCTION.

The influence of behavioral factors in modifying the behavioral effects of a drug has long been recognized. Factors such as the baseline rate of responding can determine whether a drug increases or decreases response rate. Conditioning influences can determine whether a drug is self-administered or not. Further, the history of an animal, both with different behavioral baselines and with different drugs, can greatly influence the effect of a drug. Despite the profound influence behavioral variables can have on a drug's effect, these factors are often ignored when considering a drug's influence on behavior. These behavioral factors take on added importance when studying drugs of abuse, because of their profound central nervous system effects. The purpose of the proposed symposium is to present an up-to-date view of this area of behavioral pharmacology. The focus of the symposium will be on behavioral influences on the effects of abused drugs. An overall view of behavioral influences in drug abuse will be given by Dr. Dews. Drs. Higgins and Nader will discuss how stimulus control and behavioral history can also dramatically alter the effects of abused drugs. Dr. Goldberg will discuss how conditioning of drug effects to environmental stimuli can greatly influence self-administration behavior in animals. Dr. Childress will demonstrate how these influences directly affect human drug self-administration, and how those influences can affect the treatment of drug abuse. All of the proposed speakers are recognized experts in the field, and the proposed topics cover a wide range of issues important to the field. Because of the profound influence of drug abuse on our entire society, the symposium should be of interest to a wide range of APA members, and in particular to those members of APA who are also members of Division 28.

**BEHAVIORAL CONTEXT OF ABUSE.** Peter Dews. Harvard Medical School, Boston, MA.  
(Abstract not available)

**MODULATION OF DRUG EFFECTS ON COMPLEX DISCRIMINATED BEHAVIOR.** S. T. Higgins, Warren Bickel and J. R. Hughes. University of Vermont, Burlington, VT.  
(Abstract not available)

**THE INFLUENCE OF EXPERIMENTAL HISTORY ON THE BEHAVIORAL EFFECTS OF DRUGS.** Michael Nader. University of Chicago, Chicago, IL.

In most studies using nonhuman animal subjects, experimental history is controlled by using experimentally naive subjects. However, a growing body of data indicates that experimental history can have profound and long-lasting effects on the behavioral effects of drugs. In addition to documenting the malleability of behavior following different experimental histories, evaluation of factors such as baseline schedule, drug type and dosing regimen will help elucidate the interactions of experimental history with ongoing behavior. For example, acute administration of methadone or *d*-amphetamine affected fixed-interval (FI) responding differently depending on whether the subjects were first exposed to a schedule that generated high (fixed-ratio; FR) or low (inter-response times > t-sec; IRT > t-sec) rates of responding. This differential effect of methadone was not due to differences in baseline rate of responding. The current contingencies controlling behavior are also important determinants of the influence of schedule history. In separate experiments, different reinforcement schedule histories did not differentially affect response rates following acute methadone or *d*-amphetamine when behavior was maintained

under variable-interval (VI) schedules. However, when methadone was administered daily before VI sessions, tolerance was more rapid and more complete in pigeons with prior experience under the low-rate schedule. This suggests that the influence of reinforcement schedule histories may be different depending on whether drugs are administered acutely or chronically. Further examination of variables such as interresponse time distributions may help in understanding the long-lasting influence of prior experience. Experimental history may produce effects in addition to changes in response rates or response topography. In a preliminary study (Barrett, J. E.; Nader, M. A. *Drug Dev. Res.* 10: 1990) pigeons were initially trained to key peck under an FI schedule. When responding was stable, each pigeon was implanted with a chronic intraventricular cannula to allow for cerebrospinal fluid withdrawal during experimental sessions. Concentrations of dopamine, serotonin and norepinephrine metabolites were measured during FI sessions, before and after different reinforcement schedule histories. Levels of the serotonin metabolite 5-hydroxyindoleacetic acid were significantly lower in pigeons with an IRT > t-sec history compared to FR-history subjects. Consideration of environmental (schedule of reinforcement) and behavioral (response rates, pattern of responding) variables, in addition to neurochemical changes that may be a consequence of different reinforcement schedule histories, will lead to a better understanding of the determinants of drug effects on behavior.

**THE INFLUENCE OF ENVIRONMENTAL STIMULI ON DRUG-SEEKING BEHAVIOR.** Steven R. Goldberg and Charles W. Schindler. National Institute on Drug Abuse, Addiction Research Center, Baltimore, MD.  
(Abstract not available)

**REPEATED EXPOSURE TO DRUG "REMINDER" CUES CAN REDUCE CRAVING AND AROUSAL IN DRUG ABUSERS.** Anna Rose Childress. University of Pennsylvania, Philadelphia, PA.  
(Abstract not available)

## SYMPOSIUM

*Aids Prevention Policy for IV Drug Users When Politics and Science Meet*

Chair: *William A. Bailey*, American Psychological Association, Washington, DC

**DOES STREET-BASED AIDS PREVENTION WORK?: THE CASE OF SYSTEMATIC INTERVENTION WITH IVDUs.** John K. Watters. University of California, San Francisco, CA.

Data will be presented from San Francisco examining the role AIDS education has played in self reported risk behavior and HIV seroprevalence among heterosexual intravenous drug users (IVDUs). In collecting the data, seven cross-sections of IVDUs were recruited in both clinical and street settings from 1986 through 1989. The first cross-section antedates the implementation of a street-based community outreach program to IVDUs. Subsequent cross-sections were sampled at six month intervals beginning six months after implementation of the intervention. Interviews were conducted by trained interviewers independent of any outreach program. A targeted sampling procedure was used netting approximately 500 interviews per cross-section. Questionnaires focused on demographics; drug use and medical histories; and knowledge, attitudes, beliefs, and behaviors relevant to HIV transmission. Data on key behavioral variables (e.g., needle hygiene, use of condoms during intercourse, number of needle-