

least 100-fold for naloxone; there was no difference for nalorphine, morphine, U 50,488, or pentobarbital, suggesting supersensitivity in non-dependent squirrel monkeys results, in part, from opioid antagonist actions.

AMNESTIC PROPERTIES OF THE BENZODIAZEPINES. William T. Kirk and Roland R. Griffiths. Dept. of Psychiatry, Johns Hopkins University.

The cognitive, subjective and psychomotor effects of two benzodiazepines and pentobarbital were examined, at doses that were selected to produce comparable levels of sedation, in healthy, male volunteers recruited from the community at large. Results demonstrated a time-related impairment in psychomotor performance (eye-hand coordination and balance) following administration of active compounds which were reflected in the subjective ratings of drug effects. Additional performance deficits in picture recognition and number recall were observed suggesting that these compounds have amnesic as well as sedative properties.

PHYSOSTIGMINE-INDUCED ANALGESIA IN MATURE AND SENESCENT RATS. Janet S. Knisely. Dept. of Pharmacology and Toxicology, Medical College of Virginia; and Robert J. Hamm. Virginia Commonwealth University.

To investigate the role of the cholinergic system in the production of analgesia during aging, rats (3-month, 17-month and 25-month) were injected with physostigmine (0.015625, 0.0625 or 0.25 mg/kg). Before drug administration, baseline pain sensitivity was assessed using three tail-flick trials. Following the injections, tail-flick latencies were measured at 5 minute intervals for 30 minutes and at 45, 60, 75 and 90 minutes. Post-drug tail-flick latencies were converted to percent maximum possible effect (% MPE) and were analyzed by a 3(Age) \times 4(Dose) \times 11(Time) analysis of variance. The analysis revealed no age-related change in physostigmine-induced analgesia however, there were main effects of Dose and Time and all interactions were significant ($p < 0.001$) except Age \times Dose. Thus, increasing the dose of physostigmine enhanced analgesia and the analgesia displayed, varied across time. A lack of age-related differences in analgesia produced by physostigmine is in agreement with other research which has demonstrated that stimulation of the cholinergic system produces an equivalent or increased pharmacological responsiveness in aged animals.

AUTONOMIC HYPER-REACTIVITY, SENSITIVITY TO ALCOHOL AND GENETIC RISK FOR ALCOHOLISM. Peter R. Finn and Robert O. Pihl. McGill University.

A genetic predisposition in the etiology of alcoholism in some individuals is indicated from adoption studies of the sons of alcoholics. A high risk paradigm was used to compare the degree of autonomic nervous system (ANS) reactivity to signalled shock and the effect of alcohol on ANS reactivity in 3 groups (high, moderate and low risk) of 12 non-alcoholic males divided according to the extent of family history for alcoholism. The high risk subjects were significantly more reactive to the shock procedure on cardiovascular and electrodermal measures when sober, and alcohol significantly reduced their reactivity more so than the other two groups.

The methodology and results of this study have relevance for (1) the etiology of alcoholism in high risk males, (2) high risk paradigms in alcohol research, (3) tension reduction models of alcohol consumption.

VASOPRESSIN ENHANCES MEMORY FOR PROSE. Bill E. Beckwith, Thomas V. Petros, Paula Bergloff and Robin Staebler. University of North Dakota.

The effects of treatment with DDAVP on memory in healthy and adult human males was investigated. Each subject received 60 micrograms of DDAVP intranasally and then heard six narrative passages of prose presented at differing rates of presentation. Proportion of recall was measured at high, medium, and low levels of importance of idea units within the passage. Treatment with DDAVP facilitated recall for both high and medium importance idea units. Treatment did not interact with rate of presentation. These findings provide further evidence for the modest facilitation provided by acute administration of DDAVP on human memory.

THE THEORETICAL MODEL: AROUSAL, COERCION AND THERAPY AS PREVENTION METHODS. Arthur P. Sullivan. New York City Board of Education, New York, NY; Robert Guglielmo. NYC Family Court Mental Health Services, New York, NY; and Roxane Polak. Hofstra University.

Substance use is taxonomized into psychologically adaptive use (experimental and recreational) and maladaptive (abuse and addictive). Descriptors which differentiate persons who use substances abusively or addictively from those who do not and seem characteristically resistant are examined. Etiological considerations are used to construct three methods for preventing, in the sense of lessening the likelihood or intensity of, abuse and addiction. *Coercive* methods are proposed for the immature and unintelligent, consisting primarily in using group enforcement procedures to enforce drug-free norms imposed on the group from without. *Arousal* methods are suggested for those whose distress from which relief is sought in substance use is primarily environmental. *Therapy* or counseling procedures are recommended for those suffering imperceptible distress of which they do not become aware until the drug experience brings immediate but brief respite. Distress caused by inadequate self esteem is explored in terms of origin, course of treatment, and prognosis.

PEER-GROUP COUNSELING TO PREVENT SUBSTANCE ABUSE. Barbara A. Taylor. Lord Stirling School, Glen Ridge, NJ.

The New York Model for drug prevention is a multi-phasic, multi-level program which includes primary and junior high school classroom education programs, with peer-group counseling for selected students. Peer-group counseling, led by trained personnel, can be an effective tool in preventing substance abuse in students who have personal, school, social or family difficulties. Initially, these students often feel vulnerable and inadequate in facing difficult situations so they often avoid any uncomfortable experiences (classwork, competition). They use maladaptive

means of relieving the discomfort. Peer-group counseling can offer intervention in these circumstances and has wide applicability. Students who do not display present drug use or pathology can benefit, as well as those who do. Group process and group dynamics are used to identify difficulties, reflect feelings, and introduce new ways of handling problems.

The expected outcomes of peer-group counseling are that (1) self-significance is learned and self-esteem improves as they identify with and are accepted by others with similar experiences. As conflicts emerge in the group, and the student remains part of the group despite differences, it becomes more possible to see that discomfort and conflict can be survived elsewhere. (2) As students learn new ways of addressing and coping with conflicts, substance abuse reduces and danger of addiction reduces. Escape from discomfort no longer is seen as the only or best way to deal with problems. (3) Classroom and school involvement become more satisfying to the student although overt performance may not differ. As the students realize that others share similar problems, and find new means of coping with them, the need to escape from all uncomfortable situations starts to lift. They become more aware of areas they can control. Vulnerability and feelings of inadequacy begin to lessen, and they are able to become more involved in productively meeting positive goals.

MANAGEMENT OF SCHOOL BASED SUBSTANCE ABUSE PREVENTION PROGRAMS. Roberta Blotner and Levander Lilly. New York City Board of Education, New York, NY.

New York City School-Based Substance Abuse Prevention Programs were begun in 1971 with a group of ex-addicts describing the horrors of drug abuse to children. Despite political, social, and economic pressures which have operated to inhibit the development of programs, they have evolved into a large network of services which employ sophisticated and diverse prevention and intervention activities to more than 200,000 children per year.

Innovative practices continue to be added to existing services to enrich the programs. The most recent efforts focus on incorporating services from outside agencies to provide a more comprehensive approach to drug abuse prevention. For example, the Police Department has joined the Board of Education in providing prevention activities to elementary-school children. The collaboration of agencies with such diverse approaches to children has presented problems and has required the development of creative solutions.

EVALUATION: ELICITATION, RESPONSE, RESPONSE APPROPRIATENESS, AND OUTCOMES. Arthur P. Sullivan. New York City Board of Education, New York, NY.

Short term evaluation of process and outcome is discussed. Outcome measures sensitive to short term changes are preferred, for example, a measure of classroom participation is expected to reflect changes in the student more rapidly and more sensitively than a gross attendance count

when the presenting behavior is truancy or class cutting. Several juries are employer, including the teacher or other who referred the student to the prevention program, and program worker as well as the student. Other outcome measures are discipline, peer relations, positive attitude, and self esteem. Process measures assess the prevention activities directly, ascertaining to what extent practices are employed which are expected to have the desired outcomes at a later time when the students are no longer accessible for testing and observation. Observers assess worker elicitation of student concerns and worker response quantitatively; scoring is accomplished by summing the elicitation and response rating, then adding the sum of the cross products of student concerns with responses appropriate for that concern. Outcomes are judged against a non-program comparison group, process measures are judged against an optimal match of elicitation and appropriateness of response.

TREATMENT OF AIDS IN SUBSTANCE ABUSE PROGRAMS. James L. Sorensen, Steven L. Batki, Barbara Faltz and Scott Madover. University of California, San Francisco.

This presentation describes treatment issues for working with intravenous drug abusers with AIDS and AIDS-related conditions. The authors work in a substance abuse program with a specialized project that focuses on AIDS and substance abuse. These patients can present with medical, psychiatric, or strictly drug-related problems. Treatment tasks include appropriate engagement of patients into treatment, establishing relevant treatment goals, coordinating with medical and social service agencies, and developing clear guidelines about confidentiality. Treatment strategies must attend to staff attitudes and morale. The presentation stresses a need to learn from experience and to develop policies for coping with this problem.

DOUBLE-BLIND VERSUS DECEPTIVE ADMINISTRATION OF PLACEBO CAFFEINE. Irving Kirsch and Lynne J. Weixel. University of Connecticut.

Subjects were given varying doses of placebo caffeine with double-blind or deceptive instructions. The deceptive administration condition simulated clinical situations in that subjects were not informed that they might receive a placebo. Double-blind and deceptive administration of placebo caffeine produced different and in some instances opposite effects on pulse rate, systolic blood pressure, and subjective mood. Deceptive administration produced an increase in pulse rate, whereas double-blind administration did not. A theoretically predicted quadratic effect on systolic blood pressure, alertness, tension, and certainty of having consumed caffeine was observed among deceptive administration subjects only; scores on these variables rose through moderate doses and then declined at extreme dose levels. Double-blind administration produced curves in the opposite direction on each of these variables. These data challenge the validity of double-blind experimental designs and suggest that this common method of drug assessment may lead to spurious conclusions. Three ecologically valid alternatives to double-blind designs are recommended.