

providing information relevant to the clinical effects of drugs on behavior.

YOUNG PSYCHOPHARMACOLOGIST AWARD AND INVITED ADDRESS

Chair: *Larry Byrd*, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA
(Awardee to be announced)

SYMPOSIUM

Self-Quitters: Smoking Cessation in the Real World

Chair: *John R. Hughes*, University of Vermont, Burlington, VT

SMOKING CESSATION: A COMPARISON OF AIDED VS. UNAIDED QUITTERS/ATTEMPTERS. Gary A. Giovino. Center for Disease Control, Rockville, MD; John R. Hughes. University of Vermont, Burlington, VT; John P. Pierce. University of California, San Diego, CA; and Stephen E. Marcus. Center for Disease Control, Rockville, MD.

National survey data indicate that over 90% of the people who quit smoking between 1976 and 1985 did so without the help of formal cessation programs. If the smokers who get help differ from those who quit on their own, then the external validity of studies of program attenders may be challenged. Data from two national probability sample surveys, the 1986 Adult Use of Tobacco Survey (AUTS) and the 1987 National Health Interview Survey (NHIS) Cancer Control Supplement, will be employed to generate a profile of smokers in the United States. Analyses of the AUTS indicate that, in 1986, of all current cigarette smokers 52.9% were male; 85.3% were White and 11.7% were Black; 6.3% were Hispanic; 66.4% were married/cohabitating and 16.4% were never married; 28.1% had attended college; 19.9% of those employed were employed in administrative/technical occupations; 36.1% had never made a previous attempt to quit; and 6.8% smoked cigars and/or pipes. The mean age of these smokers was 40.5 years (S.D. = 14.9). They had smoked an average of 21.0 cigarettes (S.D. = 12.1) per day for an average of 21.7 years (S.D. = 14.2). This profile of all current smokers in the United States will be updated and expanded upon with data from the 1987 NHIS. In addition, descriptions will be provided of current smokers who have quit for at least one day in the previous year and of former smokers. The 1986 AUTS data will be used to compare current smokers who attempted to quit on their own with current smokers who attempted to quit using formal programs. Comparisons of former smokers who quit with and without formal programs will also be made. Variables available for analysis include demographic characteristics, smoking characteristics, and several psychosocial variables (e.g., intention to smoke in five years, reasons for quitting, and presence of worksite smoking restrictions).

PREDICTORS OF EARLY RELAPSE. Arthur J. Garvey, Ryan E. Bliss and Kenneth D. Ward. VA Outpatient Clinic, Boston, MA.

Most studies of relapse have dealt with the 5% of smokers who attend special stop-smoking programs, despite evidence that this population is quite different from the large majority of smokers who make unaided quit attempts (self-quitters). The purpose of this study was to examine biological and behavioral factors related to relapse in a sample of self-quitters. Subjects (N = 112) were recruited from newspaper advertisements. Each subject was interviewed prior to cessation, then reinterviewed at 1 day postcessa-

tion, 3 days postcessation, 8, 15, 30, 45, 60 days postcessation, and then monthly thereafter for a total follow-up period of 1 year. Information collected included a complete smoking history, indices of social support, motivation, confidence in the ability to succeed in the quit attempt, self-reported withdrawal symptoms, and objective indices of withdrawal such as heart rate, blood pressure, weight, and catecholamine excretion. Subjects ranged in age from 24–76 years (mean = 45 years). Sixty percent were males, approximately 50% were college graduates, and mean amount smoked was 28 cigarettes/day. Relapse was very rapid, with 23% relapsed by 1 day postcessation, 66% by 7 days, and 76% by 14 days postcessation. The very earliest relapsers tended to be of lower education, higher on amount smoked, and lower in confidence. Dramatic decreases in heart rate, blood pressure and catecholamine excretion were observed after cessation, but these changes were similar for relapsers and abstainers. Self-reported withdrawal (e.g., restlessness, inability to concentrate) likewise did not have major effects on relapse, though there was a slight trend for those who relapsed after day 3 to report more distress at day 3. Results reinforce earlier findings of extreme rapidity of relapse for self-quitters. Behavioral parameters (e.g., confidence, education) seem to predict relapse better than do biological variables. Surprisingly, severity of withdrawal was not significantly related to relapse. Findings suggest that self-quitters need to be especially vigilant in the early days after quitting, and that additional attention needs to be given to the smoker's preparation for quitting.

SITUATIONAL DESCRIPTORS AND COPING IN HIGH RISK AND RELAPSE SITUATIONS. Ellen R. Gritz, Clifford R. Carr and Alfred C. Marcus. University of California, Los Angeles, CA; Saul M. Shiffman. University of Pittsburgh, Pittsburgh, PA; and Donald R. Shopland. National Cancer Institute.

Smokers who volunteered to stop smoking without formal assistance on either the Great American Smokeout or New Year's Day (N = 554) were followed for one year. At each follow-up those who had stopped smoking were asked to describe their highest risk or relapse situation and how they coped with that situation. Abstainers and Relapsers were compared on the characteristics of their high risk and relapse situations and their coping techniques. A total of 868 instances of high-risk/relapse situations were described by all subjects across all follow-ups. The highest percentage of the situations occurred at home (38%), from 5 to 9 p.m. (36%), while the subject was alone (35%). The most common affect identified was anxious/nervous/tense (30%), 26% of the subjects were socializing at the time, and 46% were experiencing withdrawal symptoms. Forty-one percent of the subjects reported that how they were feeling was the most important trigger for the situation. The results of a discriminant analysis comparing Abstainers and Relapsers on the descriptors of the situation (place, time, affect, activity, withdrawal symptoms, trigger, presence of other persons, whether the other persons were smoking) will be reported. Subjects were asked to report, in an open-ended format, three thoughts or actions they used to cope with each high-risk/relapse situation. Three coping techniques were used in over ten percent of the situations, two cognitive and one behavioral: willpower (15%), "don't blow it now" thoughts (13%), and oral substitutes (14%). Abstainers and Relapsers were compared on the number of coping techniques employed; the number of cognitive and behavioral techniques employed; whether a cognitive, behavioral, or any coping technique was employed; whether either cognitive or behavioral techniques were employed exclusively; and the technique employed. The results of a cluster

analysis that grouped coping techniques and differentiated between Abstainers and Relapsers will be reported.

SMOKING CESSATION CHANGES PSYCHOSOCIAL FACTORS. Suzy B. Gulliver, John R. Hughes and Laura M. Solomon. University of Vermont, Burlington, VT.

To date, psychosocial variables (e.g., self-efficacy, social support, daily hassles) have been relatively weak predictors of smoking cessation. Most studies have used prequit baseline measures of psychosocial factors to predict outcome. Smoking cessation has recently been described as a more dynamic process (Prochaska, 1988); thus, we decided to test whether cessation itself can change psychosocial factors. In a large study of self-initiated quitters, self-efficacy was measured by DiClemente's Self-Efficacy Scale, level of stress was measured by DeLongis' Daily Hassles Scale and social support was measured by Coppotelli and Orlean's Partner/Closest Friend Inventory. These scales were collected at a precessation baseline, and at 7, 14, and 30 days postcessation. Data are available for 225 7-day quitters, 185 14-day quitters and 113 30-day quitters as well as a control group of 57 nonquitters. Cessation was associated with decreased Hassles Scores at 7, 14, and 30 day follow-ups (-3.0 , -5.3 , -3.6 , $p < 0.001$) compared to an increase in Hassles scores in nonquitters. Cessation also was associated with an increase in self-efficacy ($+1.0$, $+1.4$, $+1.5$, $p < 0.001$) compared to a decrease in nonquitters. Cessation did not change partner support. These results suggest psychosocial factors are effected by the very behavioral change researchers are often trying to predict. Perhaps future research should focus on *change* in psychosocial variables immediately after cessation as predictors of abstinence rather than a priori absolute values.

STAGES OF SELF-CHANGE: TREATMENT IMPLICATIONS. James O. Prochaska. University of Rhode Island, Kingston, RI.

Six conclusions and supporting data on self-initiated attempts at smoking cessation are presented. Six stages of change exist: a) precontemplation, b) contemplation, c) action, d) relapse, e) maintenance, and f) termination. Change is cyclical rather than linear. Successful self-changers recycle 3 to 4 times through the stages over a 7- to 10-year period. Self-changers use 8 to 10 processes of change but more than 130 techniques. Successful change involves an integration of the stages and processes. Who you are does not matter as much as what you do and when you do it: Process variables are better predictors than demographics, smoking history or health history variables. Self-changers cope with their environments better than their emotions: Two-thirds of relapses are due to emotional distress. These six conclusions have important implications for interventions. Four implications are: 1) Match treatment programs and processes to the stage clients are in. For example, excellent action programs fail miserably with people in the precontemplation, contemplation, and relapse stages. 2) Do not treat chronic behaviors as if they are acute problems. (a) One trial of an excellent treatment will fail with a majority of participants. (b) Recycle clients through several trials of treatment. 3) Processes of change clients use between therapy sessions account for more progress than processes therapists use within sessions. Impacting on processes clients initiate between sessions is an excellent way to increase the power of our interventions. 4) Relapse is not the major challenge for interventions. Major challenges include: (a) Overcoming resistance to change when treating precontemplators; (b) Getting contemplators to take ac-

tion; (c) Sustaining action long enough to learn something; (d) Learning to cope with emotions in the maintenance stage; (e) Learning from relapse rather than becoming demoralized is a major challenge for clients and practitioners alike; (f) Across all stages, the biggest challenge is getting more people to participate in excellent interventions.

SYMPOSIUM

An Animal Model for the Development of Drug Abuse Pharmacotherapies

Chair: Robert L. Balster, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA

Discussant: Charles R. Schuster, National Institute on Drug Abuse, Rockville, MD

INTRODUCTION.

There is increasing scientific interest in new treatments for substance abuse disorders, including new pharmacotherapies to be used as adjuncts to treatment. As is the case in developing any new medications, it is important to have animal models which can be used to predict efficacy. This symposium will present the results of studies using intravenous drug self-administration procedures in rhesus monkeys to evaluate pharmacological modification of drug-taking behavior. The first three speakers will show data primarily on drug effects on cocaine self-administration. The last speaker will summarize the results of an unpublished investigation some years ago where drugs currently in use in opiate treatment were evaluated in an animal model which involved both opiate and stimulant self-administration. The papers will be discussed by the Director of the National Institute on Drug Abuse, who was an early pioneer in the use of drug self-administration as an animal model in drug abuse research.

DRUG MODIFICATION OF COCAINE SELF-ADMINISTRATION: ACUTE EFFECTS. Robert S. Mansbach and Robert L. Balster. Medical College of Virginia, Virginia Commonwealth University, Richmond, VA.

(Abstract not available)

MODIFICATION OF COCAINE SELF-ADMINISTRATION BY LONG-TERM DRUG TREATMENT. William L. Woolverton and Mark Kleven. Drug Abuse Research Center, University of Chicago, Chicago, IL.

(Abstract not available)

DRUG SELF-ADMINISTRATION MODELS FOR EVALUATING NEW PHARMACOTHERAPIES. Nancy K. Mello, Jonathan B. Kamian, Jack H. Mendelson and Scott E. Lukas. Harvard Medical School-McLean Hospital, Belmont, MA.

(Abstract not available)

METHADONE, BUPRENORPHINE AND NALTREXONE EFFECTS ON OPIATE SELF-ADMINISTRATION. David A. Downs. Pharmaceutical Research Division, Parke-Davis, Ann Arbor, MI.

(Abstract not available)

SYMPOSIUM

Behavioral Modification of the Effects of Abused Drugs

Chair: Charles W. Schindler, National Institute on Drug Abuse, Addiction Research Center, Baltimore, MD