

ADAI TODAY

Research in Alcoholism and Drug Abuse at the University of Washington
June 1979



Professor Alan Marlatt readies BARLAB, a new research facility in Guthrie Hall for the study of drinking behaviors (see story on page 4).

The ADAI—A Resource for Campus and Community

The Alcoholism and Drug Abuse Institute (ADAI) at the University of Washington was established in 1973 as an interdisciplinary center to further research efforts in the field of alcohol and drug abuse. The institute is funded primarily by state tax dollars from alcohol sales, with supplemental funding from federal and private agencies. The commitment of the ADAI to understanding and ultimately preventing alcohol and drug-related problems is reflected in its (1) research activities, (2) dissemination of research findings, and (3) community assistance.

Core Research Program

The research activities of the director, the research associates, and the

postdoctoral fellows at the Alcoholism and Drug Abuse Institute constitute the intramural or core research program. During 1977/78, the three major areas of inquiry pursued were: (1) investigating the biological and social factors that predispose certain individuals to become alcoholic, (2) developing methods for early detection and prevention of alcohol and drug abuse, and (3) studying the effects of parental alcoholism on the development of their children.

Investigation in many other areas is under way. For example, during 1977/78, two projects examined policy issues in the state of Washington. One focused on the impact of the decriminalization of public drunkenness (implemented in January, 1975) and



has provided valuable insights into the functions and strategies employed by law enforcement officers under the new policy. Another study has collected information about the incidence of marijuana offenses in two Washington communities and is expected to contribute to a greater understanding of the use and abuse of this drug, as well as the ways in which its use affects local communities.

Technical Assistance to State and Community Agencies

The technical assistance provided by the institute to state and community agencies falls into two categories:

(1) helping agencies develop appropriate evaluation procedures for their programs, and (2) sharing recent research findings and tools that have direct relevance for the medical, educational, or therapeutic strategies used in the community. During 1977/78, the institute provided such technical assistance in response to at least fifteen requests. This included reviewing grant applications prepared by community agencies, setting up standardized written records for clients, designing interviews and questionnaires tailored to individual agency needs, recommending alternative strategies for treatment and assessment, and conducting computer analyses of information for those without backup resources to do this.

Dissemination of Research Findings

While conducting scientific inquiry is the primary function of the institute, there are a number of compelling reasons for devoting energy toward disseminating the results of the completed studies. Ordinarily, research findings are published in highly technical professional journals and texts, often with a lag time of one to three years. In addition, students, teachers, and community professionals need access to up-to-date information in order to further their research and treatment approaches. Finally the

presentation of objective information relevant to this field provides a much needed forum for communication and collaboration among University investigators and community professionals.

A. Research Forum Series

In 1977/78, twenty two eminent scholars and scientists participated in the Research Forum Series. Lectures are advertised in the community as well as on campus, and the visiting scholars provide consultation to all interested University investigators and graduate students. A faculty committee advises in the selection of speakers, based on the current research activities of the institute affiliates.

B. Workshops and Short Courses

The institute periodically sponsors workshops and short courses as an efficient means of delivering considerable contemporary knowledge to a variety of audiences. These activities are financially self-supporting.

C. Institute Newsletter

The mimeographed newsletter "Nepenthe" is published cooperatively by the institute and Washington State University's Alcoholism Training and Research Unit in Pullman. Intended as a means of briefly describing research developments in relation to alcohol and other drugs. "Nepenthe" is now received by more than fifteen hundred individuals throughout the state.

D. Conferences

Since 1974, the institute has sponsored an annual conference on the University of Washington campus. The conferences often are designed on a particular theme of scientific inquiry. The 1977 summer conference had as its title "Policy Alternatives in the Control of Alcohol Abuse, Drug Abuse, and Smoking." Papers highlighting the principal contributions from this conference have been pub-

lished as a special issue of the journal *Contemporary Drug Problems*.

E. Institute Reports

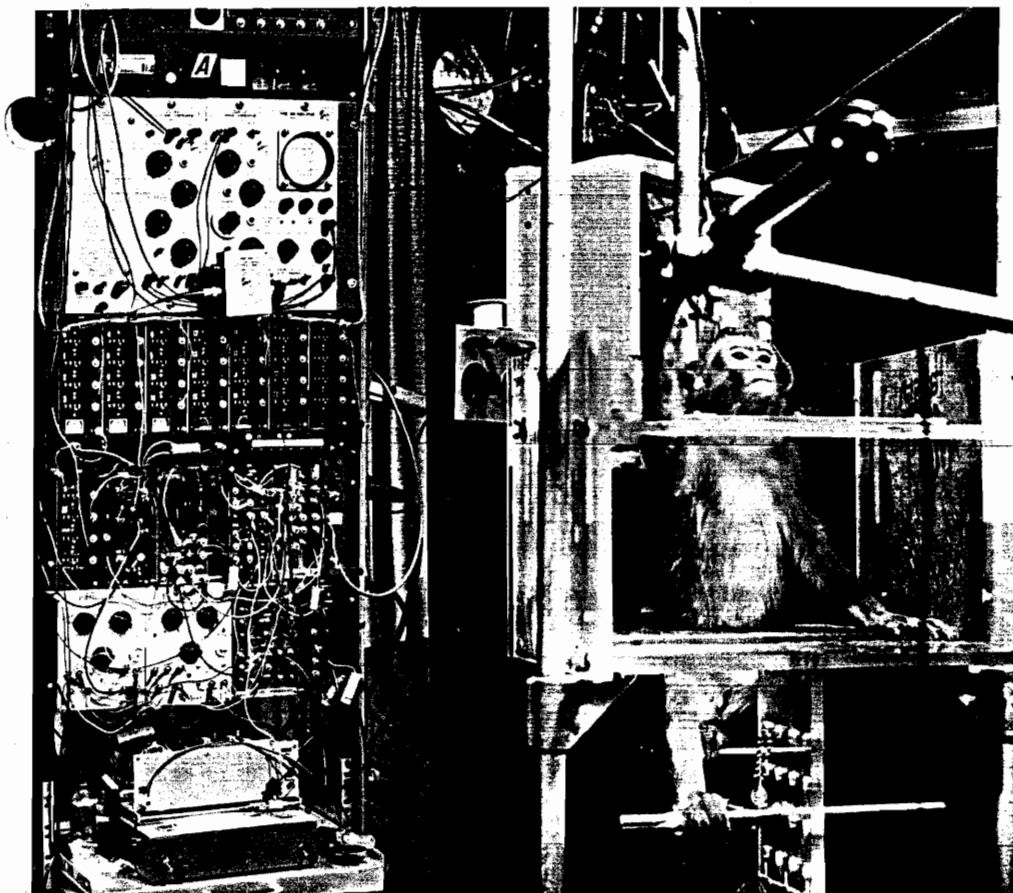
Largely to overcome the problem of lag time in scientific publications, the institute issues a series of reports or "preprints" of research papers that eventually will appear in the literature. These institute reports facilitate the early transmittal of findings among investigators and are available to professionals in community treatment programs. Two recent examples that have been frequently requested are comprehensive bibliographies on smoking during pregnancy and the Fetal Alcohol Syndrome.

Development of Research Resources

The institute has developed several resources to support and encourage scientific inquiry as a service to researchers on campus and in the community. The ADAI research librarian catalogs the many scientific journals, books, and monographs utilized by researchers, prepares bibliographies, and acquires difficult-to-find publications.

A committee of individuals from the UW faculty and community agencies previews and makes recommendations on the acquisition of films related to alcohol and other drugs. Heavily used by treatment agencies as well as researchers, the film library has become a valuable resource for disseminating contemporary knowledge.

During 1978, a new affiliate program was initiated to involve researchers and community professionals with the Alcoholism and Drug Abuse Institute. The research affiliates and professional affiliates provide advice to the institute as well as receive benefits, such as assistance in developing bibliographies, technical assistance in designing and developing grants, and the timely distribution of announcements concerning available research funding opportunities.



Using Primates in Studying the Effects of Drugs

Because of the nature of scientific inquiry, it is frequently inappropriate or impossible to obtain desired information by using humans as experimental subjects. The reasons for use of animal models in research could be ethical, economic, or simply the ease of doing the research. The ultimate intent of such research is to provide essential information that is applicable to the human situation.

A number of animal models are being used in several departments at the University of Washington for studying drug-related questions. The intent of this and future articles on this topic is to inform the campus community of the existence of this research and how it relates to the goals of the ADAI. Although small rodents (rats and mice) have historically been used for drug-related research (this continues to be true at the University), this article will focus on primate models currently being established.

One project has been ongoing for a

number of years at the Medical Lake Branch of the University's Primate Center in Eastern Washington. Headed by Dr. Robert Elton, director of Eastern Washington State College's Primate Research Program, it examines the consumption of ethanol by macaque monkeys in small social groups. The monkeys live in large enclosures that provide free access to drinking spouts yielding refrigerated screwdrivers (alcohol in orange juice). The animals are initially given only the juice, and the alcohol is gradually introduced. Dr. Elton has found that the more dominant monkeys tend to be the smallest alcohol consumers, with other animals (sometimes the most subordinate and other times the intermediate monkeys socially) consuming enough to become frequently intoxicated. He has been trying to determine if some monkeys will develop an addiction to alcohol in this voluntary type of setting. He also hopes to determine if the ability of the monkeys to communicate among themselves is compromised by alcohol (*i.e.*, to see if they "slur" their language when intoxicated, thereby re-

ducing the efficiency of their communication).

A somewhat related project is under way at the Primate Center here on campus under the direction of Dr. Roger J. Jones (a post-doctoral fellow at the ADAI,) and Dr. Douglas Bowden, professor of psychiatry and behavioral sciences. Monkeys will be placed, three at a time, into a small enclosure with alcohol in orange juice freely available. The groupings will be shifted such that, on different occasions, a given monkey will be the most dominant, the most subordinate, or the intermediate individual. The intent of the experiment is to determine how alcohol consumption varies among individuals and how this interacts with social status and experience. Both this and the previous study have been subsidized in part by small grants from the ADAI.

A third project involving monkeys is being initiated in the Department of Pharmacology under the directorship of Assoc. Prof. Lawrence Halpern. For several years, Dr. Halpern has been perfecting a system wherein monkeys can perform a variety of behaviors while physiological parameters are being monitored. Halpern is presently planning to apply this model to an investigation of drugs and tooth pain. Basically, a controlling system periodically increases the electrical input into the nerves associated with dental pain. The monkey can reduce the input by making the appropriate response—depressing a lever above its head (see the accompanying photograph). Once the animal has been trained to make this response routinely, reducing the intensity of the input whenever it becomes unpleasant, drugs can be administered that are thought to interact with the perception of pain. Although a number of classes of drugs, including antidepressants are hoped to be studied, Halpern initially intends to investigate the endorphins. These are compounds that have been found in the brain and that behave similarly to morphine in reducing the response to pain. This research has been subsidized by the Center for Research in Oral Biology.

Funds Available for Alcoholism and Drug Abuse Studies

In order to further research efforts in alcoholism and drug abuse, the ADAI has established a small research grants program. Faculty and graduate students are encouraged to seek research funding through this program and may obtain guidelines for the submission of proposals by contacting the institute.

A Small Grants Review Committee, comprised of faculty members from a wide range of disciplines, meets three times each year in order to evaluate the proposals on the basis of their scientific merit and relevance to the alcoholism and drug abuse fields. Generally, the awards given are in the \$5,000–\$7,000 range, and they are seen as particularly appropriate for the development of pilot studies, the conducting of secondary analyses involving data already collected, or as a means of augmenting ongoing investigations through the addition of pertinent research activities.

A recent review of this program revealed fifty-five grants were awarded between 1975 and 1978, the overall cost amounting to \$285,000. A clear indication that the small grants are indeed stimulating faculty interest is the fact that nearly two thirds of the funded investigators had never conducted research in this field before. Moreover, four-fifths are continuing to focus their research efforts in this area, and many are successfully competing for outside funding.

The Future of Today's Adolescent Alcohol Abuser

It has become increasingly clear from research evidence that both alcohol and illicit drug use have been escalating among adolescents. With the spread of the use of any mind-altering substance being perceived as a public health problem, the possibility of young people establishing excessive or inappropriate use patterns that may carry over into adulthood

has become a primary concern of health planners.

A two-and-one-half-year research project, entitled "A Panel Study of Adolescent Substance Abuse Careers," is in progress at the Alcoholism and Drug Institute. The project, which began September 1, 1978, is directed by Elizabeth Morrissey, research consultant, and funded by the National Institute on Drug Abuse.

Because the simultaneous use and abuse of alcohol and other drugs is a relatively new phenomenon, little is understood regarding the course of attendant problems among adolescents. The danger of drug interactions is particularly high among youth, because they are likely to purchase drugs on the street that are not pharmacologically pure, to take drugs and alcohol in combination, and to be unaware of the nature of the substances they are ingesting. Research findings from the project will provide insights concerning characteristics of youth that put them at greatest risk for continuing to use substances into adulthood, and will provide an understanding of consequent social, psychological, and mental-health problems that may be found.

The study is a follow-up of 857 adolescent clients of three King County Community Alcohol Centers and of 613 young people held in juvenile court detention in 1976. The young people included in the follow-up were originally interviewed by youth counselors in the Community Alcohol Centers and by University of Washington undergraduate students in juvenile court detention. The initial interviews were completed as part of the Alcoholism and Drug Abuse Institute's community research services program. In this program, institute staff members assist alcoholism and drug-abuse treatment agencies in developing and executing research programs useful to the agencies. In both the Community Alcohol Centers and detention, the agency staff members used the interview as a diagnostic tool. Information gathered through the use of the interview was prepared for computer analysis by the staff of the

Alcoholism and Drug Abuse Institute, and the agencies involved in the collection of data were provided with reports of the characteristics of their clients. All of the agencies in which baseline data were collected are cooperating in the follow-up of the clients. The \$205,000 grant from the National Institute on Drug Abuse will allow the agencies to assess outcomes for a select population of youthful clients, as well as allow the researchers to test specific hypotheses.

Four specific sets of factors will be examined as predictive of stable heavy intake of alcohol and drugs and of the development of resultant problems. Independent variables hypothesized to relate to substance abuse outcomes are: (1) prior psychiatric diagnoses; (2) seriousness of deviant history; (3) initial levels of substance intake and related problems; and (4) sex role attitudes and behaviors. The effects of these independent variables will be examined and controlled both for the type of intervention to which the youth were initially subjected and for demographic characteristics.

Analysis of the baseline data already completed indicate that even though the 847 youths interviewed in the Community Alcohol Centers were referred for alcohol-related violations, they are also heavily involved in the use of illicit drugs. Young people contacted in juvenile court detention also were found to be involved in polydrug use. A characterization of the natural history of abuse patterns and problems will result in the establishment of psychiatric diagnostic criteria for alcoholism and drug abuse that will be useful in screening youthful populations.

BARLAB—A Semi-naturalistic Setting for Studying Drinking Behaviors

On March 7, a bar opened "for business" on the University of Washington campus. No—this is not the bar that some faculty urged for the Faculty Center. This bar is located in Guthrie Hall (Psychology) and is

known by the name of BARLAB: the Behavioral Alcohol Research Laboratory. This unique research facility is designed for the direct observation of drinking behavior in a semi-naturalistic setting. Plans for the bar were developed by Prof. Alan Marlatt, a clinical psychologist who specializes in research with addictive behavior problems. Dr. Marlatt believes we can learn a great deal about social drinking and the development of potential drinking problems by directly observing drinking behavior in settings similar to those found in the outside world. In the BARLAB, observation of drinking is made possible through the use of video tape facilities, located behind the one-way viewing mirror that is built into the back of the bar itself (thereby reducing the intrusiveness of the observation process).

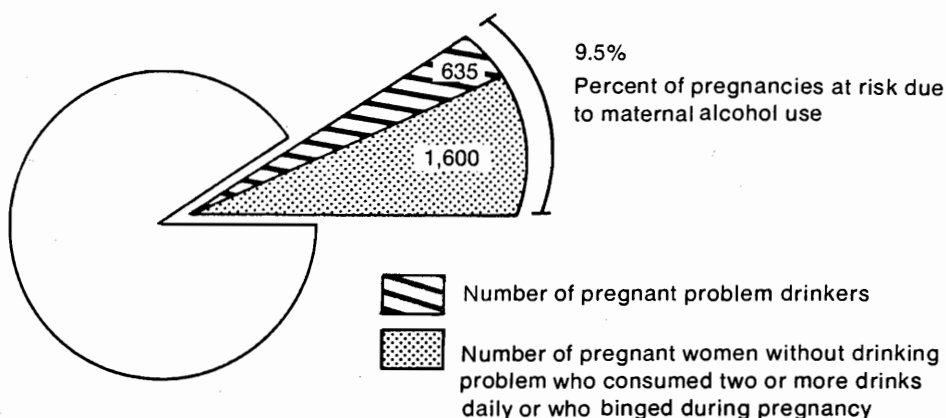
A number of studies are planned for the BARLAB. In studies of social drinking behavior, for example, the laboratory will be used to investigate the effects of group size and other social factors on drinking rates and patterns. Do people drink more when alone or with others? What are the effects of peer pressure and interpersonal stress on drinking behavior? Do some people drink to reduce stress, while others drink just to have a good time? Answers to these and other questions will be determined through a series of experiments to be performed in the bar over the next year or two with funding from the National Institute on Alcohol Abuse and Alcoholism. Studies of social drinking may help investigators determine what kinds of drinking styles may lead to problem drinking behavior in the future. Prevention programs could be established to ward off the development of alcohol problems once the "early warning signs" of problem drinking are identified (e.g., drinking too fast, ordering straight liquor instead of mixed drinks, giving in too easily to social pressure, masculinity challenges involving competitive drinking in some males, etc.).

In addition to research designed to identify the early predictors of potential problem drinking, Dr. Marlatt and

his colleagues are also planning research designed to teach certain "high risk" groups procedures to curtail and control drinking that may already have begun to reach problem levels. Individuals who have been arrested for impaired driving under the influence of alcohol, for example, will be involved in a pilot project to determine if a prevention and remedial program of skill training will reduce the risk of future accidents. These in-

dividuals will be taught how to foresee problem situations (e.g., arguments with friends, peer challenges) that may lead to excessive drinking followed by driving that may endanger the lives of themselves and others. Although the laboratory is primarily designed for behavioral research of the type described above, the facility will also be made available for other investigators who desire this sort of environment for their research.

PREGNANT WOMEN IN KING AND PIERCE COUNTIES
DRINKING ABOVE RISK LEVELS
1975
Estimated number of pregnancies in King and Pierce counties
23,536



Preventing Fetal Damage by Reaching Out to Drinking Pregnant Women

Drinking during pregnancy and its effect on the fetus has been a subject of concern since ancient Greek times. But it was only five years ago that fetal alcohol syndrome was first identified in this country by a team headed by Dr. David Smith, professor of pediatrics at the University of Washington, and Dr. Kenneth Jones, now a member of the faculty at the University of California (San Diego). In the ensuing years, intensive research on the consequences of drinking during pregnancy has been undertaken. Much of this research

has been conducted here at the University by a team known as the Pregnancy and Health Study, headed by Drs. Ann P. Streissguth and Joan and Donald Martin of the Department of Psychiatry and Behavioral Sciences.

As the public became aware of the danger of drinking in pregnancy, calls began to come in to researchers in the field requesting clinical services. The calls came from pregnant women—drinking and in crisis—and from women who feared that they might already have a child affected by their drinking. To serve these women, a new clinical service has been established. Recently opened in

April, it is called the Pregnancy and Health Program.

The program is a federally funded demonstration project that has the goal of developing effective methods of education, screening, and intervention in alcohol abuse to prevent fetal damage. The target population is all pregnant women in King and Pierce counties, and women in this area who already have an alcohol-affected child. The program is headed by Dr. Ruth Little, Director of the Alcoholism and Drug Abuse Institute. Co-investigators are Dr. Streissguth, a professor of psychiatry and behavioral sciences, and Dr. Gay Guzinski, an assistant professor of obstetrics and gynecology. Four types of services are offered:

Services to women. A staff of trained counselors provides information, evaluates maternal drinking, and refers the women to treatment if necessary. All pregnant women concerned with their alcohol use are encouraged to use this service, whether or not they feel they have a drinking problem. One-to-one counseling, as well as a variety of educational and support groups, is available. A twenty-four-hour crisis line accepts calls for information and assistance. Persons calling on the crisis line will be seen within twenty-four hours of contact.

Services to children. After her baby is delivered, a personal visit is made to the mother by her counselor and a nurse-psychometrist, who conducts a psychological and dysmorphic screening. The mothers are encouraged to continue utilizing program services. These include postpartum support groups and referral for any problems that may be apparent. In addition, women who have already had a child may use program services. Maternal counseling and psychological assessment of the child are offered.

Public education. An extensive public education network using public media, posters, and brochures will promote awareness of the problems

of drinking during pregnancy. Trained speakers are available to any lay group wishing to learn more about drinking during pregnancy.

Professional training. Professionals who desire more information in this rapidly developing field are encouraged to use program staff. A core of University faculty members in various disciplines is available for formal presentations and informal consultation.

The need for this program is clear when recent research findings are reviewed. With very heavy drinking during pregnancy, there is, of course, a chance of bearing a child with fetal alcohol syndrome. Smaller amounts of alcohol appear to be related to lesser effects. The safe level of alcohol use during pregnancy has not been established, but it is apparently low. Recent studies have shown intrauterine growth retardation, increased risk of anomalies, and behavioral deficits in the newborn with as little as two drinks a day. Brain malformations may be associated with binges of five or more drinks on occasions during pregnancy.

If these amounts of alcohol are taken as risk levels, the magnitude of the problem becomes apparent. As shown in the accompanying table, almost ten percent of pregnant women in King and Pierce counties were drinking above risk levels in 1975. Most of these women did not have a problem with alcohol, but were simply unaware of the possible consequences of their consumption. The Pregnancy and Health Program should develop this awareness in women who are now, or who will be, pregnant in the future. Other women are problem drinkers. By intervening in their alcohol abuse and effecting long-term recovery, fetal damage is minimized and fetal alcohol syndrome prevented in subsequent pregnancies. And with recovery, these children will be raised by a mother who is free of alcohol problems.

For further information about the Pregnancy and Health Program, please telephone Dr. Ruth Little, 543-9799.

Dr. Ruth Little Named ADAI Director

Dr. Ruth E. Little, a member of the faculty of the Department of Psychology and Behavioral Sciences at the University of Washington, has been named the Director of the Alcoholism and Drug Abuse Institute. Dr. Little received her baccalaureate degree in economics, *cum laude*, from Indiana University, where she was also a member of Phi Beta Kappa. In 1958, she received a master's degree in economics from Indiana University. A second master's in mathematics was awarded in 1968 from the University of Washington. Dr. Little's doctorate in science (mental health and epidemiology) was awarded by the School of Hygiene and Public Health at Johns Hopkins University in 1975.

Dr. Little is the principal investigator of an NIAAA demonstration Project to Prevent Fetal Alcohol syndrome and Intervene in Alcohol Abuse During Pregnancy" (see accompanying story). She is also actively involved in research pertaining to hyperactivity, alcohol-associated epilepsy, and neuropsychological impairment in the offspring of alcoholic women.

From 1970 to 1972, Dr. Little was Director of Research and Evaluation at the Vocational Resources Center (for alcoholic rehabilitation) in Seattle. She serves as a member of the Policy Committee, Research Society on Alcoholism (National Council on Alcoholism), is a member of the Board of Directors of the Seattle-King County Council on Alcoholism, and is active as well on the executive boards of a number of other alcoholism treatment facilities.

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