

# NewsScan

## NIDA ADDICTION RESEARCH NEWS

### Research News

#### Antipsychotic Drug Risperidone Reduces Euphoric Effects of Cocaine

Repeated dosing with risperidone, an antipsychotic drug used to treat disorganized or psychotic thinking, was effective in blunting the euphoric highs associated with cocaine use in nine human volunteers.

The subjects treated with low doses of risperidone for 5 days prior to receiving intravenous (IV) cocaine reported perceiving less of a high than they did from the same amount of IV cocaine received prior to the risperidone pretreatment. The scientists from the UCLA School of Medicine who conducted the study say that risperidone reduced the high a significant but modest degree, about 15 percent.

Previous studies using a single dose of dopamine antagonists failed to reduce the perceived effects of cocaine. The UCLA scientists concluded that repeated dosing, rather than a single treatment, may be necessary. Medications such as risperidone block specific dopamine and serotonin receptors, elements of the brain circuitry that are thought to play a role in the perception of pleasure and in craving.

■ **WHAT IT MEANS:** Although risperidone effectively blocked dopamine receptors, there was only a modest reduction in cocaine-induced euphoria, suggesting that mechanisms other than those receptors may be important in drug induced euphoria. A better understanding of the neurochemical basis for stimulant-based euphoria is critical to the development of better treatments for stimulant addiction.

Lead investigator Dr. Thomas F. Newton published the study in issue 102:3 of *Psychiatry Research*.

#### Personality, Family Characteristics Differentiate Adolescent Substance Abusers

Contrary to previously held views that adolescent substance abuse is exclusively an “externalizing” disorder, investigators from the University of Miami School of Medicine found that teens who abuse drugs include “internalizers,” “externalizers,” and some who are a combination of the two personality types. Teens who externalize problems tend to exhibit a general lack of control or tend to “act out” distress whereas those who internalize tend to over-control or to direct their stress inward.

The researchers found that the 236 adolescents in the study –largely inner-city, economically disadvantaged males involved with the juvenile justice system–did not represent a homogenous group. Rather, there appeared to be subtypes. The investigators concluded that treatment approaches would be most effective when tailored to the various subgroups, not to the stereotypical adolescent drug user.

The majority of the youth in the study tended to be externalizers. These adolescents were more likely to come from homes with high conflict, disorganization, and low levels of cohesion. For teens in this situation, a primary goal of therapy may be to repair strained parent-adolescent relations, and resolve conflicts that are the product of years of family dysfunction.

A smaller group in the study manifested coexisting externalizing problems and internalizing problems. They experience many of the problems noted in the externalizing group but are marked by greater parental psychopathology. For this group, engaging the parents in the child’s treatment may be a primary concern, given that these parents may be even more disorganized,

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conflicted, and overwhelmed with their own problems than parents of externalizing adolescents.

A third group in the study experienced normative levels of both externalizing and internalizing problems. These adolescents are likely to use marijuana heavily but report less alcohol use and experience less preoccupation with substance abuse than the other two groups. Their substance abuse may be more socially motivated than driven by the need to relieve psychological stress. These teens probably have the best prognosis.

■ **WHAT IT MEANS:** Adolescent substance abusers' personality types and family characteristics need to guide decisions regarding treatment approaches.

Lead investigator Dr. Cynthia Rowe reported the study in the December 2001 issue of the *Journal of Child and Adolescent Substance Abuse*.

### **Study Finds That Beliefs About Health Effects of Cigarette Smoking Change with Age**

Surveys of more than 7,000 individuals questioned periodically from middle school through their mid-30's about their beliefs concerning the risks from smoking cigarettes and the value they place on health reveal that these attitudes change with age.

A research team from Arizona State University and Indiana University drew participants for the study from a large, Midwestern community. At the most recent assessment, 26 percent smoked cigarettes.

The researchers found that:

- Between the ages of 11 and 14, the perception that smoking would harm one's own health decreased. However, between the ages of 15 and 18 and continuing to age 24, there was an increased belief that smoking can be harmful to one's personal health.
- Throughout adolescence and young adulthood, there was a small but statistically significant increase in the belief that cigarette smoking is harmful to people's health in general.
- Between the ages of 15 and 18, the value that adolescents placed on health decreased. However, the value placed on health increased starting at age 19 and continued to increase up to age 29.
- Between ages 11 and 14, belief in the positive psychological consequences of smoking increased; however this trend reversed between ages 15 and 18.
- Between 11 and 14, the belief that cigarettes are addicting decreased, but between the ages of 15 and 18 and between ages 19 and 24, both smokers and nonsmokers increased their belief that cigarettes are addicting.
- Across all age groups, those who smoked were significantly less likely to believe that smoking is harmful to either health in general or to their own personal health, and smokers placed significantly less value on health than did nonsmokers.

■ **WHAT IT MEANS:** Smoking interventions aimed at adolescents must counter the perception among middle school students that cigarette smoking does not pose a risk of addiction or a risk to one's own health, and must counter the declining values placed on health by high school students.

The research team led by Drs. Laurie Chassin and Clark Presson from Arizona State University and Dr. Steven J. Sherman from Indiana University published the study in the September, 2001 issue of *Health Psychology*.

### **Study Sheds New Light on the Age Most at Risk for Drug Use and Transition from First Drug Use to Dependence**

Researchers from the Johns Hopkins University report on data from the National Comorbidity Survey which investigated the age at which individuals are at greater risk for starting to use marijuana, alcohol, and cocaine and when dependence on these drugs is likely to occur. More than 8,000 individuals ages 15 to 54 answered questions regarding the age at which they first used these drugs, and at what age they became dependent. Of this sample, almost half (3,940) had used marijuana; the majority (7,485) had used alcohol; and fewer than 20 percent (1,337) had used cocaine. There were 354 cases of marijuana dependence, 220 cases of cocaine dependence, and 212 cases of alcohol dependence.

The survey indicated that the ages at which individuals are more at risk for starting to use alcohol and marijuana are 17 to 18 years, about 2 years earlier than for cocaine. However, once use of cocaine begins, cocaine dependence occurs earlier and more rapidly, with more than 5 percent of cocaine users becoming dependent on the drug during the first year of use. Within 10 years of their first use, more than 15 percent of those who used cocaine were dependent, versus 8 percent of marijuana users and approximately 12 percent of individuals who used alcohol.

The data also indicated that the risk of developing alcohol dependence extends through middle age, whereas for marijuana and cocaine users, the period of developing dependence generally has ended by ages 30 and 35 years, respectively.

■ **WHAT IT MEANS:** The periods of risk for developing dependence on alcohol, marijuana, and cocaine are not the same. Cocaine dependence almost always develops within the first several years after initial use, while alcohol dependence develops more insidiously, often many years after starting to drink. Interventions seeking to prevent or delay development of cocaine dependence among cocaine users should be timed to occur soon after the start of cocaine use, since cocaine dependence may occur within the first few years of use.

This study was authored by Dr. Fernando Wagner and Dr. James C. Anthony, and was published in the electronic online journal, *Neuropsychopharmacology* (the official journal of the American College of Neuropsychopharmacology), and is due to appear in a hard-copy issue of *Neuropsychopharmacology* early in 2002.

### **Alcohol Use Prior to Smoking Marijuana Results in Increased THC Absorption**

Scientists at McLean Hospital/Harvard Medical School observed that male volunteers who drank alcohol (vodka mixed with orange juice) prior to smoking marijuana detected the effects of marijuana more quickly, reported more episodes of euphoria, and had higher levels of THC in their blood than did subjects who smoked marijuana without first ingesting alcohol.

The investigators concluded that alcohol might increase the absorption of THC, the active ingredient of marijuana, into the body, resulting in a higher high than is experienced when using marijuana alone.

■ **WHAT IT MEANS:** Marijuana and alcohol are often used together, but little is known about why they are combined. The results of this experiment suggest that these two drugs are used to maximize the desired effects of the drug experience and so may explain the popularity of this combination.

The study was published in Volume (issue): 64 (2) 2001 of the journal *Drug and Alcohol Dependence* by lead investigator Dr. Scott E. Lukas.

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## **Upcoming Events**

### **NIDA Sponsors Blending Clinical Practice and Research Conference in New York City March 14-15, 2002**

As in other fields of medicine, a gap exists in the drug abuse treatment field between clinical practice and scientific research. To help close this gap, NIDA is sponsoring a conference, **Blending Clinical Practice and Research: Forging Partnerships to Enhance Drug Addiction Treatment**, at the Grand Hyatt New York March 14 and 15.

This meeting will provide an important opportunity for clinicians and researchers to examine cutting-edge scientific findings about drug abuse and addiction and their application to clinical practice. Conference participants also will have the opportunity to help determine additional areas in need of research related to drug addiction treatment.

Teams of nationally recognized clinicians and researchers will conduct plenary presentations and workshops on a variety of relevant topics, including smoking cessation; prescription drug abuse; trauma and drug addiction; innovative behavioral therapies and development of medications to treat addiction; club drugs; gender issues in addiction; drug abuse and infectious diseases; and craving and relapse.

Drug treatment counselors, social workers, health care providers, criminal justice staff, marriage and family counselors, public health workers and clinicians are expected to attend. Civic leaders and policymakers who wish to learn more about drug addiction and its treatment are also invited.

Media representatives are invited to attend. For more information, call the NIDA Information Office, 301-443-6245, or check the conference Web site at <http://www.mac1988.com/BlendingNYC>.

**Exciting Addition to Blending Meeting Agenda!**  
**A Seminar for Health, Medical, Science and Lifestyle Writers**

NIDA will hold a half-day seminar for writers on Thursday, March 14 at the Grand Hyatt New York. The seminar, **Covering Substance Abuse and Addiction Issues: What's New?**, will give members of the media the opportunity to hear presentations by scientists and specialists in addiction research, treatment, and prevention; to participate in discussions with these experts; and to meet other journalists to discuss the challenges of covering substance abuse and addiction issues.

The seminar will be held from 1-5 p.m.

For more information or to register, contact Sara Rosario in the NIDA Information Office, telephone (301) 594-6145 or email: [srosario@mail.nih.gov](mailto:srosario@mail.nih.gov). Please respond by March 11, 2002.

**For more information about any item in this NewsScan:**

- Reporters, call Michelle Muth Person, NIDA Information Office, at 301-443-6245
- Congressional staffers, call Mary Mayhew, NIDA Office of Science Policy and Communications, at 301-443-6071.

The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports more than 85 percent of the world's research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to ensure the rapid dissemination of research information and its implementation in policy and practice. Fact sheets on the health effects of drugs of abuse and other topics can be ordered free of charge in English and Spanish by calling NIDA Infobox at 1-888-NIH-NIDA (644-6432) or 1-888-TTY-NIDA (889-6432) for the deaf. These fact sheets and further information on NIDA research and other activities can be found on the NIDA home page at <http://www.drugabuse.gov>.

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