

Research News

Deficits in Neurocognitive Functions May Affect Outcomes of Preventive Interventions Among Adolescent Boys

Deficits in executive control functions—such as abstract thinking, planning, and self-control—may play a direct role in regulating behavioral problems such as drug abuse and violence. Results of a NIDA-funded study suggest these neurocognitive functions may also influence an adolescent's ability to respond to drug abuse and violence prevention interventions.

Dr. Diana Fishbein, of RTI International, and her colleagues examined neurocognitive function and emotional perception in 120 ninth-grade boys. Approximately half of the study participants had conduct disorder (CD)—a host of disruptive behaviors that increase the risk for substance abuse. Following a series of tasks measuring neurocognitive and emotional perception, the students were assigned to an experimental or control group. The experimental group completed a prevention intervention designed to teach specific social skills and help reduce their risk of becoming victims or perpetrators of violence. The teens completed virtual reality vignettes and three questionnaires designed to measure social competency skills such as negotiation, delayed gratification, and impulse control in each student.

The researchers found that students with CD and poor cognitive and emotional performance were less responsive to the prevention curriculum and experienced difficulties adopting social competency skills such as problemsolving and negotiation. Adolescents reporting past drug abuse also had lower social competency skills when compared with those who had never abused drugs.

- **WHAT IT MEANS:** These study findings suggest that variations in certain neurocognitive functions and emotional deficits may play a role in an individual's ability to respond to and adopt positive behaviors fostered by preventive interventions. Thus, tailoring intervention strategies to target specific neurocognitive and emotional deficits may improve prevention success and decrease drug abuse and violence among adolescents.

The paper is available for online viewing in the March 15, 2006 issue of *Drug and Alcohol Dependency*.

Teens Who Engage in Risky Behaviors Are More Likely To Become Depressed

New research suggests that adolescents—particularly girls—who engage in sex and drug-taking are at significantly greater risk for depression than their abstaining peers.

Researchers analyzed various sex and drug behavior patterns via data from The National Longitudinal Study of Adolescent Health (Add Health), surveys of 13,491 teens in grades 7–12 who were interviewed in 1995 and again in 1996. The researchers clustered the teens into 16 groups according to their behaviors. Groups included abstainers (who refrained from using drugs and sex), teens who tried drugs a few times, teens who experimented a few times with sex, binge drinkers, regular marijuana users, those who regularly abused marijuana and other drugs, and intravenous drug abusers.

The researchers found that girls who tried drugs of abuse, sex, or alcohol were 2 to 3 times more likely to be depressed when interviewed a year later, compared with abstainers. Boys who tried drugs or sex showed little added risk, but their risk of depression increased 3 to 4 times, compared with abstainers, if they participated in binge drinking and frequent marijuana use.

- **WHAT IT MEANS:** This is the first study to suggest that substance abuse precedes depression, particularly among adolescent girls. Future research will help clarify the mechanisms that underlie the connections between adolescent behaviors and depression, and determine whether preventing these behaviors—or intervening when they are present—also will reduce the risk of developing depression.

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The study, led by Dr. Denise Hallfors of the Pacific Institute for Research and Evaluation in Chapel Hill, North Carolina, was published in the October 2005 issue of the *American Journal of Preventive Medicine*.

Lack of Empowerment on the Job Is Associated With Higher Risk of Drug Abuse

Job environments characterized by job strain (a combination of high demand and low control) may increase the risk of ill health, particularly cardiovascular disease. Now, results of a recently published study suggest that young adult workers who are in “low control” jobs—little decision-making authority, and little flexibility in how they accomplish their tasks—have a higher risk of developing drug addiction.

In 2000–2001, job strain assessment data were collected for 1,418 young adults who were working for pay and not self-employed. About 1 year later, data were collected for 985 members of the group.

Slightly more than 5 percent of the 985 workers qualified for the study’s case definition of drug addiction at the one-year follow-up. When the scientists analyzed data for 861 young adults who initially showed no clinical features of drug addiction, they observed that those who had the least job control had an almost threefold excess risk of having developed drug addiction at the one-year follow-up.

- **WHAT IT MEANS:** Young adult workers whose job-related stress stems from low control may be at increased risk of drug addiction. Future research may help define how particular aspects of the work environment might guide specific physiological and psychological mechanisms that cause drug addiction, setting up new opportunities for drug abuse prevention in the young adult years.

Dr. Philip Reed and Dr. James Anthony of Michigan State University and Dr. Carla Storr of The Johns Hopkins University Bloomberg School of Public Health published their NIDA-supported study in the March 1, 2006 issue of the *American Journal of Epidemiology*.

New Behavioral Intervention Shows Promise in Patients with Co-Occurring Disorders

A recent NIDA-funded study finds Behavioral Treatment for Substance Abuse in Severe and Persistent Mental Illness (BTAS)—a behavioral approach that combines social skills training, motivational interviewing, and urine checks—may be effective in treating co-occurring, severe mental illness and drug abuse disorders.

A team of scientists led by Dr. Alan Bellack from the University of Maryland randomized 129 patients with drug dependence (heroin, cocaine, and marijuana) and severe mental illness to receive BTAS or supportive group therapy—the standard form of treatment at the University of Maryland’s community mental health center. Both treatment groups met twice weekly for 6 months in small group settings.

The researchers found that BTAS was significantly more effective than supportive group discussion, producing a significantly higher proportion of clean urine tests, and greater periods of continuous abstinence at 4 and 8 weeks. BTAS was also associated with better meeting attendance, long-term adherence to the program, and improved quality of life.

- **WHAT IT MEANS:** Dual disorders are complex conditions that profoundly affect the everyday functioning and clinical treatment of an individual. These findings suggest that by targeting barriers to drug abuse reduction, BTAS may be an effective treatment approach for individuals with a dual diagnosis of severe mental illness and drug abuse (heroin, cocaine, and marijuana). Additional research is needed to develop parallel interventions for patients with serious mental illness who abuse other substances.

These study findings were published in the April 2006 issue of *Archives of General Psychiatry*.

PRISM Diagnostic Tool Reliably Diagnoses Substance Abuse, Psychiatric Disorders

Psychiatric and substance abuse disorders co-occur frequently but the complex, overlapping symptoms present challenges to diagnostic accuracy. A new study, supported in part by NIDA, indicates that many psychiatric disorders recognized by DSM-IV (Diagnostic and Statistical Manual, 4th edition)—including substance dependence, primary and substance-induced major depressive disorder, and primary and substance-induced psychotic disorder—can be reliably diagnosed with the Psychiatric Research Interview for Substance and Mental Disorders (PRISM), a semi-structured interview that aids in diagnosing psychiatric disorders in substance abusers.

A total of 285 substance-abusing patients with co-occurring mental disorders participated in the assessment, in which the researchers conducted interviews using PRISM.

Statistical measures showed that for most categories of DSM-IV substance dependence—including alcohol, cocaine, heroin, cannabis, and sedative dependence—reliability of diagnosis with PRISM was good to excellent. The results also

indicate that PRISM can reliably diagnose primary and substance-induced psychotic disorder, some primary anxiety disorders, antisocial personality disorder, and borderline personality disorder.

- **WHAT IT MEANS:** Understanding the relationship between substance abuse disorders and psychiatric disorders is important for identifying causes of the conditions and improve treatment. The study showed that most psychiatric disorders can be reliably evaluated in substance-abusing patients via PRISM.

Dr. Deborah Hasin, of Columbia University, and her colleagues published their findings in the April 2006 issue of the *American Journal of Psychiatry*.

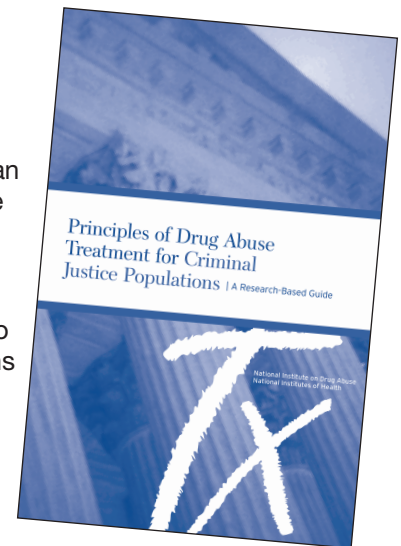
NIDA To Launch *Principles of Drug Abuse Treatment for Criminal Justice Populations*

Since it was established in 1974, NIDA has supported research on drug abuse treatment for individuals who are involved with the criminal justice system. This new treatment report is scheduled to make its debut during the annual meeting of the American Probation & Parole Association in Chicago, July 23–26. The report is intended to describe some of the treatment principles and research findings that are of particular relevance to the criminal justice community and to treatment professionals working with drug-abusing offenders.

The report is divided into three sections. The first section distills research findings into 13 essential principles that are relevant to the addicted offender. The next section contains a series of frequently asked questions about drug treatment for those involved with the criminal justice system. Finally, a resource section provides linkages to additional information.

The goals of drug abuse treatment are to help people change attitudes, beliefs, and behaviors related to drug use. Because these same goals are often related to decreasing criminal behavior, successful treatment can help reduce crime as well.

This booklet will complement NIDA's *Principles of Drug Addiction Treatment, A Research-Based Guide*, which was prepared to assist those dealing with drug addiction both in and out of the justice system.



Meetings/Events of Interest

National Association of Drug Court Professionals
June 21–24, 2006

Washington State Convention and Trade Center
Seattle, WA

(Visit NIDA's exhibit booth at the meeting.)

American Probation and Parole Association
July 23–26, 2006

Hilton Chicago Hotel, 720 South Michigan Avenue
Chicago, IL

(Visit NIDA's exhibit booth at the meeting.)

Seattle Blending Conference Scheduled

The Blending Conference—Blending Addiction Science & Practice: Bridges to the Future—will take place October 16–17 at the Washington State Convention & Trade Center in Seattle.

The 2-day conference will bring together clinicians and researchers to examine cutting-edge scientific findings about drug abuse and addiction and their applications to clinical practice. It is designed to bridge the gap that exists between scientific research and clinical practice.

Conference topics will include:

- adolescent treatment;
- treatment of criminal justice populations;
- relevance of neuroscience and genetics to understanding and treating addiction; and
- cultural and gender issues in addiction treatment.

NIDA and the Washington and Oregon/Hawaii Nodes of the National Drug Abuse Treatment Clinical Trials Network (CTN) are among the meeting's many co-sponsors.

More information about the conference will be available on NIDA's Web site at www.drugabuse.gov.

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First Annual Vigil for Lost Promise

The first annual Vigil for Lost Promise brought together families, friends, and those concerned about the toll that drug abuse takes on all of us. The event took place at the headquarters of the U.S. Drug Enforcement Administration (DEA) in Arlington, Virginia on the evening of June 8.

The families of nine young people who were taken before their promise was fully realized came together to plan this event, which called attention to the tragedy of drug abuse and the terrible impact drug abuse has on families and communities.

NIDA was a co-sponsor of the event, along with the DEA, Community Anti-Drug Coalitions of America, Drug Free Kids: America's Challenge, National Families in Action, and Partnership for a Drug Free America.

The families and individuals who joined together in this included Ginger Katz (Honorary Chair), who lost her son, Ian, to heroin in 1996; Francine Haight, whose son, Ryan, died at age 18 from an overdose of prescription drugs; Don Hooton, whose son, Taylor, took his life at age 17 after using steroids; Kim and Melissa Manlove, whose son, David, died from inhalants at age 16; Kate Patton, whose daughter, Kelley, died at age 23 from ecstasy; David Pease, whose son David died at age 23 from an overdose of heroin, and whose son Casey died on his 24th birthday in an alcohol-involved car crash; Imelda Perez, whose sister Irma died from an ecstasy overdose at age 14; and the Surks family, in which family member Jason died from an overdose of prescription drugs at age 19.

Funding News

Cutting-Edge Basic Research Awards (PAR-06-209)

NIDA invites applications for Cutting-Edge Basic Research Awards (CEBRA) to foster innovative or conceptually creative research that advances the understanding of drug abuse and addiction, its prevention, and treatment.

CEBRA is specially designed to support high-risk and potentially high-impact research that is underrepresented or not included in the Institute's current research portfolio. It targets experienced drug abuse researchers who wish to develop or adapt new methods or techniques, and new investigators or scientists with expertise in other fields who wish to establish pioneering programs in drug abuse research.

The goal of NIDA's CEBRA program is to accelerate the pace of discoveries that can advance addiction research by encouraging scientifically sound proposals that focus on innovation, explore new approaches, test imaginative new ideas, and challenge existing paradigms in human and animal models.

To view more information about this program announcement (PA) go to <http://grants.nih.gov/grants/guide/pa-files/PAR-06-209>.

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

- Reporters, call Sara Rosario Wilson at 301-443-6245.
- Congressional staffers, call Geoffrey Laredo at 301-594-6852.

The National Institute on Drug Abuse (NIDA) is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most 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 are available in English and Spanish. 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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The National Institute on Drug Abuse
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