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# **THE SCIENCE, TREATMENT, AND PREVENTION OF ANTISOCIAL BEHAVIORS**

**APPLICATION TO THE CRIMINAL JUSTICE SYSTEM**

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**Edited by  
Diana H. Fishbein, Ph.D.**

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# Foreword: The Science of Prevention

In the mid-1990s, the field of prevention of public health problems such as drug abuse, delinquency, conduct disorder, antisocial behaviors, and violence reached a watershed of research knowledge that brought authenticity to the concept of prevention science. Prompted by landmark studies and summative research reviews on risk and protective factors for drug abuse and criminal behavior (Hawkins et al., 1992; Hawkins et al., 1995), prevention science based upon etiology and developmental epidemiology attained a theoretical basis for preventive interventions.

Evidence-based knowledge from well-controlled preventive trials increased dramatically as reported by comprehensive meta-analyses that assessed the efficacy and effectiveness of a variety of theory-based preventive interventions (Mrazek & Haggerty, 1994; Tobler & Stratton, 1997; Bukoski, 1997; Durlak & Wells, 1997). Research reviews of prevention science in substance abuse and mental disorders demonstrated that adolescents exposed to certain theory-based preventive interventions, in comparison to controls, incurred statistically and clinically significant positive outcomes, including reduction in risk, enhancement of protective factors, and decreased incidence and prevalence of problem behaviors.

The most significant of all the research reviews and analyses in prevention science during the 1990s was edited by Patricia Mrazek and Robert Haggerty. This landmark volume was titled *Reducing Risks for Mental Disorders* and was published by the Institute of Medicine, National Academy Press in 1994. This volume for the first time created a coherent and logical definition of prevention that included three levels: universal, selective, and indicated prevention interventions. The study, commissioned by the U.S. Congress, recommended the avoidance of the definitional confusion caused by the medical model of primary, secondary, and tertiary prevention and instead promoted the concept of a distinct field of prevention in contrast to the fields of treatment and rehabilitation.

The text provided an authoritative, evidence-based review of prevention research that revealed that a substantial prevention science knowledge base already existed for a variety of mental and addictive disorders. Research from a number of well-controlled preventive trials indicated that certain theory-based prevention interventions for specific problem behaviors showed significant positive effects and that these tested preventive strategies were now ready to be implemented by professionals in the field of prevention. To do this, the volume recommended a strategic and coherent plan of action to bridge the gap between prevention science and practice in order to reduce a variety of public health problems nationwide.

This critically acclaimed work substantively reinforced the conceptual framework for a science of prevention that was heralded in an influential article published earlier by a number of leading prevention scientists, including John Coie, Norman Watt, Steven West, J. David Hawkins, and Beverly Long. The article was entitled “The Science of Prevention: A Conceptual Framework and Some Directions for a National

Research Program (Coie et al., 1993). In the view of these scientists, sufficient research evidence existed to warrant the use of the term “prevention science” to describe the advanced state of our knowledge.

As a result of significant progress in prevention science, prevention researchers and policy makers are now recommending the timely implementation at the state and community level of science-based prevention interventions that have demonstrated levels of efficacy and effectiveness.

The process of bridging the gap between science and practice is evidenced by the formation of partnerships between programs at the National Institutes of Health (NIH) and those agencies charged with the responsibility of promoting prevention at the national, state, and local levels. These action-oriented agencies include the U.S. Department of Education, the Substance Abuse and Mental Health Administration in the Department of Health and Human Services, and the Department of Justice, in particular the Office of Juvenile Justice and Delinquency Prevention.

Likewise, an independent professional research association, the Society for Prevention Research (<http://www.preventionresearch.org>), has identified the task of advocating for adoption of science-based prevention programs and policies at the state and community level as an important priority for immediate action.

However, this is only the beginning; there is much work ahead. What is still missing from the discussion of prevention science is the articulation of communication linkages between basic science in genetics and neuroscience and the behavioral and social sciences in psychology, epidemiology, education, and sociology.

Basic science provides a unique source of fundamental knowledge that promises to advance the field of prevention science, if barriers between basic research and applied prevention science can be permeated through increased communications and implementation of integrated basic and applied research studies. A good example of bridging the gap between basic and applied research is occurring at the University of Kentucky’s Center for Prevention Research under the direction of Richard Clayton, Ph.D. At this prevention center funded by the National Institute on Drug Abuse (NIDA), neuroscientists involved in the study of reward centers in the brain and novelty seeking in animals are collaborating with communications researchers who are measuring sensation-seeking in humans and testing targeted media drug prevention messages for high-risk youth.

A second critical need is to bridge the gap between evidence-based prevention research from multiple problem areas such as drug abuse, delinquency, and antisocial behaviors and to communicate prevention findings from these disciplines to prevention policy makers and program administrators. As part of this process, it is important that science-based prevention principles and practices emerging from prevention research are translated into consumer friendly packages that practitioners can readily adopt for implementation at the state and local level. To be successful, the development of scientifically sound and user-friendly prevention packages will require the active interaction of prevention researchers with prevention practitioners working collaboratively on the development of science-based prevention programs and policies that seek to prevent multiple problem behaviors.

Prevention science reveals that problem behaviors may share common risk and protective factors, and it identifies rich and provocative findings from preventive intervention trials within specific problem areas that may offer important insights for

the prevention of specific problem behaviors and for the prevention field in general. Research is demonstrating that the implementation of science-based prevention programs for high-risk youth in elementary school can lead to increased bonding to school, significant educational outcomes, and reduced substance abuse when measured later in high school (Hawkins et al., 1999).

It is quite possible that in the near future, a “cost economy” of prevention programming could be reached (Bukoski & Evans, 1998). Cost efficient prevention could occur when prevention practitioners systematically identify common risk and protective factors for multiple public health outcomes, such as substance abuse and delinquency, and implement a core set of science-based preventive interventions that have been thoroughly tested through controlled research.

The current volume edited by Dr. Diana Fishbein is an important scientific commentary on the unique contributions of basic and applied science related to antisocial behaviors, criminality, substance abuse, and related mental disorders. This volume provides a highly relevant integration and synthesis of research knowledge from scientific disciplines fundamental to critically important public health problems that adversely impact millions of Americans.

The challenge of this text is the same one that confronts the science of prevention—the integration of basic and applied prevention science into a common framework that recognizes the contributions of both domains. In the future, prevention science will need to address research questions that may require collaborative investigations that wed the best of both basic and applied prevention science into a more meaningful research enterprise. Prevention science needs to creatively promote synergy and productive partnerships between scientists in centers of research excellence and practitioners in communities across the nation.

The chapters in this volume describe a rich and intensive research base and promote a more rigorous understanding of antisocial behavior. Collectively the book chapters raise important future research questions that must be addressed by partnerships of scientists and practitioners who will need to penetrate categorical barriers between their disciplines. The process of expanding prevention science to the study of research dissemination and diffusion of innovative practices offers exciting and requisite developmental experiences for new career prevention scientists who will take our science into the next millennium.

Most importantly, the results of an emerging prevention science will provide valuable science-tested preventive interventions that, if implemented with fidelity by the practitioner community, can lead to significant reductions in the cost and suffering caused by antisocial behavior and related public health problems. Investments today in new and better partnerships between scientists and practitioners hold the key to the successful transition of prevention science into practice.

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**Scott D. Lane, Ph.D.**, received his doctorate in experimental psychology from Auburn University. He completed his postdoctoral training in psychopharmacology at the University of Texas Health Science Center at Houston under a fellowship from the National Institute on Drug Abuse. He is currently a member of the Human Psychopharmacology Laboratory in the Department of Psychiatry and Behavioral Sciences at the University of Texas Health Science Center at Houston. His research interests include laboratory measurement of variables related to pathological behavior, including risk taking, aggression, and impulsivity. Relevant research projects are supported by NIDA grants DA 10592 and DA 10552.

**Michele J. Liebman, B.S.**, is a graduate student in psychology at the University of Houston at Clear Lake. She is the chief research technician in the Cognitive Neuroscience Laboratory at the University of Texas Medical Branch, Galveston. Her interests include psychometrics, neuropsychology, and learning theory.

**Dwaine McCallon, M.D.**, is a board-certified pediatrician with a lifelong interest in child development and learning problems. He is the medical director of a 1,000-bed medium security prison and supervises the medical care in a boot camp as well as three honor work camps of inmates. He began the first treatment study for attention

deficit disorder in prison populations ten years ago. His present research has extended into Tourette's syndrome, obsessive thinking including the fantasies of sex offenders, and determining behavioral warning signs for future violent crime in adolescents and children. Having presented his work at several national meetings, he is collaborating on an extensive work with Dr. Comings to be titled *Treatable Criminal Minds*.

**Brian McNamee, M.D.**, is currently in the private practice of radiology and the practice of law in greater Metro Cleveland.

**David N. Nurco, D.S.W.**, research professor in the Department of Psychiatry, University of Maryland School of Medicine, Baltimore, has been a prominent contributor to national substance abuse policy and research for the past thirty-five years. His expertise focused on the area of narcotic addiction and in examining the connection between drug use and crime. He served as principal investigator for numerous federally funded studies dealing with the treatment of drug abusing offenders and drug abuse prevention efforts involving inner-city youth. Sadly, Dr. Nurco died in December, 1998. He will be sorely missed by his friends, colleagues, and others in the field.

**Richard L. Nygaard, U.S.C.J.**, has been a judge for eighteen years and is on the U.S. Court of Appeals for the Third Circuit. He received his juris doctorate from the University of Michigan and an LL.D., *honoris causa*, from Edinboro University of Pennsylvania. He has written and lectured extensively on penal philosophy, to promote both research into the genetics of criminal misbehavior and a more humane treatment of rehabilitable miscreants. He is a lecturer in law at Pennsylvania State University at Erie and sits on its Masters in Psychology Advisory Board.

**Kevin O'Grady, Ph.D.**, is an associate professor in the Department of Psychology, University of Maryland at College Park. Having a background of training and experience in clinical psychology, he specializes in data processing and statistical analysis in the medical and behavioral science areas, serving as a consultant and collaborator in substance abuse prevention and treatment research. He has numerous technical and clinical publications.

**Nathaniel J. Pallone, Ph.D.**, is University Distinguished Professor of Psychology at The State University of New Jersey at Rutgers, where he previously served as dean and as academic vice president. He had earlier served at the University of Notre Dame and at New York University and, on leave from Rutgers, as a visiting professor in the Department of Legal Medicine at Harvard's School of Public Health and as Hill Foundation Distinguished Visiting Professor at the University of Minnesota in Duluth. His clinical experience includes twenty-two years as chairperson of the Classification Review Board for Sex Offenders in the New Jersey Department of Corrections. He also served as a consulting psychologist to the New York State Narcotics Addiction Control Commission, the Connecticut Commission on Criminal Administration, and the Criminal Justice Research Center in Albany, New York, and to social service agencies in the northeast and midwest. His current research interests focus on the psychobiology

of risk taking, both pro- and antisocial. His recent books include *Altruism, Narcissism, Comity: Research Perspectives from Current Psychology* (1999); *Tinder-Box Criminal Aggression: Neuropsychology, Demography, Phenomenology* (1996); *Fraud and Fallible Judgment: Varieties of Deception in the Social and Behavioral Sciences* (1995); and *Criminal Behavior: A Process Psychology Analysis* (1992, 1994). Earlier notable books include *Rehabilitating Criminal Sexual Psychopaths: Legislative Mandates, Clinical Quandaries* (1990) and *On the Social Utility of Psychopathology: A Deviant Majority and Its Keepers?* (1986). Dr. Pallone presently serves as executive editor of *Current Psychology*, an international research quarterly, and as editor-in-chief of the *Journal of Offender Rehabilitation*, which specializes in correctional psychology.

**Roy W. Pickens, Ph.D.**, has a doctoral degree in experimental psychology from the University of Mississippi (1965) and received postdoctoral training in psychopharmacology from the University of Minnesota (1965–1966). In 1966 he was appointed to the faculty in the Departments of Psychiatry and Psychology at the University of Minnesota, where he taught, conducted research, and provided clinical service. In 1985 Dr. Pickens was appointed Director of the Division of Clinical Research at the National Institute of Drug Abuse in Rockville, Maryland. In 1986 his duties at NIDA were extended to include associate directorship for AIDS. In 1989 he was appointed Scientific Director of the NIDA Intramural Research Program (Addiction Research Center) in Baltimore. He held this position until 1994, when he returned to the laboratory as Chief, Clinical Neurogenetics Section and Associate Director for Training and Education. In July 1999, he accepted the position of Associate Vice President for Research and Director of Research and professor in the Department of Psychiatry at Virginia Commonwealth University.

**Wendy Richardson, M.A., L.M.F.C.C.**, is a Licensed Marriage, Family, Child, Counselor and Certified Addictions Specialist who has been working in the mental health field for twenty-two years. Ms. Richardson is nationally recognized as an expert on ADHD and co-occurring addictions, eating disorders, and relationship issues. She provides training for criminal justice personnel, teaches graduate level courses, and trains professionals on ADHD in America and abroad. Ms. Richardson's new book, *The Link Between ADD and Addiction: Getting the Help You Deserve*, is the first book that sensitively addresses the problems of ADD and co-related addictions, eating disorders, and behavioral addictions; it offers practical solutions in a reader friendly format that people can use to actively address their problems.

**Ty A. Ridenour, Ph.D., M.P.E.**, received his doctorate in school psychology in 1996 from Ball State University in Indiana and his masters in psychiatric epidemiology in 1998 from Washington University School of Medicine. Presently, he is an NIMH post-doctoral fellow in biostatistics and epidemiology at Washington University School of Medicine (grant MH17104). Dr. Ridenour's research interest in the epidemiology and development of antisocial behavior grew out of his four years of counseling and assessment of juvenile delinquents at an Indiana county Boy's Residential Unit and in school settings. His current area of research interest is the etiology of antisocial behavior and substance misuse.

**Matthew Robinson, Ph.D.**, received his doctorate from the Florida State University School of Criminology and Criminal Justice in Tallahassee and is an assistant professor of criminal justice at Appalachian State University in North Carolina. His research focuses primarily on criminological theory, criminal victimization, crime prevention, and criminal justice education. His most recent publications appear in the *British Journal of Criminology*, *Journal of Crime and Justice*, the *Advances in Criminological Theory* series, *Journal of Security Administration*, *International Journal of Risk, Security, and Crime Prevention*, and *Environment and Behavior*.

**Dace S. Svikis, Ph.D.**, received her doctorate in clinical psychology from the University of Minnesota in 1989. After completing a postdoctoral fellowship and internship, she became Director of the Center for Pregnancy and Addiction (CAP) at Johns Hopkins Bayview Medical Center in Baltimore in 1992. In addition to her CAP administrative activities, she engages in clinical practice, teaching, and research and has consultantships with several large state and national organizations. She is currently an associate professor in the Department of Psychiatry and Behavioral Sciences and also has an appointment in the Department of Obstetrics and Gynecology at the Johns Hopkins University School of Medicine. Her research interests are primarily in the development and evaluation of interventions to reduce licit and illicit drug use by pregnant women.

**Ralph E. Tarter, Ph.D.**, obtained his doctorate in biological psychology from the University of Oklahoma in 1971. Since then his research has focused on the causes, correlates, and consequences of alcohol and drug abuse. On these topics he has edited or co-edited ten books and authored over 250 articles and book chapters. Currently he is Director of the Center for Education and Drug Abuse Research; this is a NIDA-funded multidisciplinary prospective investigation of 1,000 youth and their families.

**Hans Toch, Ph.D.**, obtained his doctorate in psychology at Princeton University. He is affiliated with the School of Criminal Justice, University, State University of New York at Albany. Among his books are *Violent Men: An Inquiry into the Psychology of Violence*, *Living in Prison: The Ecology of Survival*, *Mosaic of Despair: Human Breakdowns in Prison*, and *The Psychology of Crime and Criminal Justice*.

**Marianne B. M. van den Bree, Ph.D.**, received a master's degree in experimental psychology from the Vrije Universiteit in the Netherlands in 1988. She received a doctorate in human genetics from Virginia Commonwealth University in Richmond in 1994. She is currently employed as a research scientist by Hopkins Bayview Medical Center in Baltimore, and works at the National Institute on Drug Abuse in the same city. She is also an adjunct assistant clinical professor in the Department of Human Genetics at Virginia Commonwealth University. She has published scientific articles on headaches in school children and the genetics of sports participation, heart rate and blood pressure, and diet. Since working at NIDA, she has focused on substance abuse and has published books and articles on genetic aspects of alcoholism, drug use, and drug abuse/dependence.



**Michael M. Vanyukov, Ph.D.**, is Director of Genetics Module at the Center for Education and Drug Abuse Research (CEDAR) and assistant professor of psychiatry and human genetics at the University of Pittsburgh. Dr. Vanyukov graduated from Moscow State University in 1978 and received his Ph.D. from the Institute of Medical Genetics, USSR Academy of Medical Sciences, in 1984. In December 1990, he emigrated to the United States and received his postdoctoral training in psychiatry at the Western Psychiatric Institute and Clinic at the University of Pittsburgh. His main research interest is in the genetic studies of substance abuse and antisociality and the search for both genetic and environmental factors influencing variation in human behavior. His current work includes studies of substance abuse and antisociality and the search for both genetic and environmental factors influencing variation in human behavior. His current work includes studies on the association of candidate genes and environmental characteristics with the risk for substance abuse as well as childhood and adult behavioral traits in families and populations.

**Cathy Spatz Widom, Ph.D.**, received her doctorate in psychology from Brandeis University in Waltham, Massachusetts, with a specialization in personality and psychopathology. She taught previously at both Harvard and Indiana University and currently is professor of criminal justice and psychology at the State University of New York at Albany. She is a fellow of the American Psychological Association (Division 41, Law and Psychology) and the American Psychopathological Association. She has published extensively on topics including child abuse and neglect, juvenile delinquency, violence, psychopathy, female criminality, and prostitution. Dr. Widom has received numerous awards for her research. Her recent research focuses on the intergenerational transmission of violence and she is currently engaged in a large study to determine the long-term consequences of early childhood abuse (physical and sexual) and neglect. She serves on the Committee on Law and Justice at the Commission on Behavioral and Social Sciences at the National Research Council.