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0521783496 - Stages and Pathways of Drug Involvement: Examining the Gateway Hypothesis

Edited by Denise B. Kandel

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## Stages and Pathways of Drug Involvement

### *Examining the Gateway Hypothesis*

This book represents the first systematic discussion of the Gateway Hypothesis, a developmental hypothesis formulated to model how adolescents initiate and progress in the use of various drugs. In the United States, this progression proceeds from the use of tobacco or alcohol to the use of marijuana and other illicit drugs. This volume presents a critical overview of what is currently known about the Gateway Hypothesis. The authors of the chapters explore the hypothesis from various perspectives ranging from developmental social psychology to prevention and intervention science, animal models, neurobiology, and analytical methodology. This book is original and unique in its purview, covering a broad view of the Gateway Hypothesis. The juxtaposition of epidemiological, intervention, animal, and neurobiological studies represents a new stage in the evolution of drug research, in which epidemiology and biology inform one another in the understanding of drug abuse.

Denise B. Kandel is Professor of Public Health and Psychiatry at the College of Physicians and Surgeons of Columbia University and Chief of the Department of the Epidemiology of Substance Abuse at the New York State Psychiatric Institute. She has published numerous articles in *Science*, the *American Journal of Public Health*, *Drug and Alcohol Dependence*, *Archives of General Psychiatry*, the *Journal of the Academy of Child and Adolescent Psychiatry*, the *American Journal of Sociology*, and the *American Sociological Review*.

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# Stages and Pathways of Drug Involvement

*Examining the Gateway  
Hypothesis*

Edited by

Denise B. Kandel

*Columbia University*



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## Foreword

*Alan I. Leshner*

National Institute on Drug Abuse

A key element to thoughtful discussions on this topic is alluded to in the title of this book, *Stages and Pathways of Drug Involvement: Examining the Gateway Hypothesis*. Dr. Kandel and her colleagues do an excellent job of presenting what science has to offer on this subject. Although the verdict is still out on whether or not the Gateway Hypothesis represents a true causal progression, one point is certain: There is nothing inevitable about drug progression from alcohol and/or nicotine to drugs such as cocaine and heroin.

This notion of inevitability creates a problem in the way the Gateway Hypothesis has been used in policy formation. There is a connotation associated with this concept that the original researchers who coined the phrase probably never intended. Most of the world has interpreted the pattern or sequence of drug use as a pathway, whereas at best it is more like a funnel. According to this metaphor, everyone who has ever tried or used drugs is at the large end of the funnel, and, although events may foster more drug use for some individuals, there remains only a small subset of users who actually go on to become addicts at the other end of the funnel. Why is this? I believe a key part of the answer to questions about drug use patterns and behaviors lies in increasing our understanding of the neurobiological basis of addiction, specifically the brain mechanisms involved in the transition to addiction and of how the brain is sensitized to or cross-sensitized by various drugs.

Over the past two decades our understanding of drug abuse has grown tremendously, including our knowledge of both the neurobiology of addiction and the factors that increase the risk that an individual will initiate drug use or will escalate to a level of drug addiction or a substance

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abuse disorder. Studies dating back to the 1970s suggest that adolescents tend to use alcohol and/or tobacco before marijuana, and marijuana and alcohol before other illicit drugs, such as cocaine and/or heroin. Research conducted by many of the authors assembled in this book has shown that there does appear to be an agreed-upon model of sequential stages of involvement with substances, which typically begins with beer and wine. Although there appears to be some variation in the model, each stage seems to play some kind of important role in the movement to the next stage, although this kind of staged progression is not a prerequisite for drug addiction. In fact, the majority of individuals at one stage do not progress to another stage. National drug use and behavior studies show that although a great many, perhaps even a majority of, adolescents have some experiences with alcohol and/or tobacco, most do not go on to become drug addicts. But the other side of the coin is clear: The majority of the nation's heaviest drug users did use tobacco and/or alcohol before using drugs like heroin or cocaine.

There is also new research emerging that shows that use of cigarettes, alcohol, marijuana, and illicit drugs may be related to later psychiatric disorders. This finding adds yet another wrinkle to the drug use pattern dilemma. Not only do we have to consider that use of nicotine and alcohol may be a precursor to later drug abuse, but they may also open the door for later psychopathologies as well. Thus it is more critical than ever that prevention efforts be targeted to preteens and adolescents. It is also crucial that we keep our public health priorities in perspective and do not underestimate the health consequences associated with alcohol and tobacco use. They are major problems in their own way.

This book is not the final chapter on the question of gateways or pathways to drug use. But it is an excellent beginning of the next chapter. We now know there is no single factor that determines whether a person might abuse a substance; instead, substance abuse develops from the interaction of complex biological, psychological, and social/environmental determinants. We as a society urgently need the research community to sort this all out further as quickly and as clearly as possible.

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## Preface

The notion that use of certain drugs is a precursor to the use of other drugs was first proposed in the 1970s. The notion derived from the empirical observation that young people progressed from the use of legal drugs, such as tobacco or alcohol, to the use of illicit drugs, such as marijuana, cocaine, and heroin. In the 1980s, the term *Gateway drug* was introduced and it was emphasized that certain drugs serve as gateways for other substances. Because of the theoretical and public policy implications of the Gateway Hypothesis for understanding the progression of adolescent drug use and for formulating prevention and intervention programs, a conference was organized to examine the hypothesis critically. That conference, *Stages and Pathways of Drug Involvement: Examining the Gateway Hypothesis*, was held in Los Angeles on June 27–30, 1998. This book derives from the conference.

To evaluate current thinking and the strengths and weaknesses of various aspects of the Gateway Hypothesis, a multidisciplinary group of scientists was brought together, representing the disciplines of sociology, psychology, epidemiology, statistics, animal behavior, molecular biology, and prevention. In addition to the authors of the chapters in this volume, several senior scholars attended the conference: Lee Robins of Washington University in St. Louis, Klaus Hurrelmann of the University of Bielefeld of the Federal Republic of Germany, David Huizinga of the Institute of Behavioral Research of the University of Colorado, Charles O'Brien of the University of Pennsylvania, James D. Colliver and Lucinda L. Miner of the National Institute on Drug Abuse, Vivian Faden of the National Institute on Alcohol Abuse and Alcoholism, and Herbert Simpson of the Traffic Injury Research Foundation.

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Each participant was asked to consider three broad issues: the nature of the pathways into drug abuse, the risk and protective factors that predict progression along the pathways, and the policy implications of the Gateway Hypothesis. Within these three areas, specific questions were highlighted. These are presented in Chapter 1.

Richard Jessor, Director of the Institute of Behavioral Science of the University of Colorado at Boulder, invited me to organize the conference. The conference was sponsored by the Youth Enhancement Service, a division of the Brain Information Service of the University of California at Los Angeles, directed by Michael Chase. Richard Jessor and Michael Chase were closely involved in planning the conference. Their contributions helped make it a successful forum for a stimulating and critical interchange of ideas. Michael Chase and his staff, especially Jena Miller, provided exceptional administrative support and contributed immeasurably to the success of the meeting. Funding for the conference was provided to the Youth Enhancement Service by the Anheuser-Busch Foundation, whose support is greatly appreciated. My work on this volume was supported by a Research Scientist Award (K05 DA00081) from the National Institute on Drug Abuse, for which I am most appreciative. I am particularly grateful for the contributions of the participants, which form the body of this volume.

Many of the ideas developed in the concluding chapter incorporate issues and points raised by the participants at the conference and in the chapters of this volume. Many ideas derive from my long-standing collaboration with Kazuo Yamaguchi on the study of stages of drug involvement. Many issues were clarified by the conference. But many remain unresolved and much remains to be done.