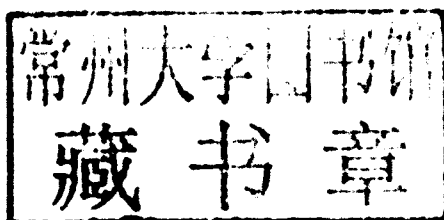


Drugs of Abuse: The International Scene Volume 1

Edited by

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Series Preface

Ever since the Shanghai Opium Commission in 1909, many countries around the world have found themselves grappling with problems of drug abuse and many conventions have formulated proposals to reduce the international trade in illicit substances. International collaborative efforts and policies have mostly been geared to obstructing the supply of drugs, while efforts to control demand have been left to national governments.

During the latter part of the 20th Century, a number of factors conspired to promote large programs of research in countries such as the United States on the etiology and epidemiology of drug abuse as well as on the drugs–crime relationship. These factors included a rapid growth in drug abuse, the diversification in drugs used, and a greater recognition of the social and medical harms resulting from drug abuse. In this latter respect, the spread of HIV infections was an important catalyst in stimulating research.

In 1995, the International Library of Criminology, Criminal Justice and Penology Series published a two-volume series on Drugs, Crime and Criminal Justice edited by Nigel South. The first volume examined social histories of drug use; theoretical perspectives and epidemiology; controls, treatment and prevention; and the ever-lively debate about the war on drugs versus calls for decriminalization. The companion volume covered drug use lifestyles and cultures, drug markets and drug distribution. It also dealt with the relationship between drugs and crime and with responses from a criminal justice and enforcement perspective.

Since the publication of South's volumes, an enormous amount of drugs-related research has appeared in print and the Library of Drug Abuse and Crime was launched to provide convenient access to the best of these studies in three volumes. The volumes cover between them the worldwide status of drug abuse, the drugs–crime connection and the prevention and treatment of drug abuse, including policies to reduce the supply of drugs and efforts made by scientists, practitioners and international organizations to reduce the consumption of drugs.

Each volume is a collection of the most significant peer reviewed journal articles from a variety of relevant disciplines including economics, science, sociology, psychology, criminology, criminal justice, medicine and social work. To be included, an article must hold relevance beyond the country where it originated. Most of the articles provide not only a thorough review of literature, but also an intellectual critique of the relevant studies. In addition, they identify gaps in research and policy relating to drug abuse and crime. Taken together the three volumes offer an invaluable resource to students and scholars interested in all aspects of drug abuse and crime.

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Introduction

This compendium of essays is the first of a three-volume set dealing with drug abuse. This first volume covers the status of drug abuse worldwide, while the second and third volumes deal with the drugs and crime and the treatment/prevention of drug abuse respectively. These volumes build on *Drugs, Crime and Criminal Justice*, a two-volume set edited by South (1995).¹ Since the publication of South's volumes an enormous amount of drugs-related research has appeared in print, and this new set of three volumes is intended to provide convenient access to the best of these studies. This Introduction begins with an overview of international research on drug abuse and then introduces the essays reprinted in the volume under four parts: (I) drug abuse in the developing world; (II) emerging drugs and poly drug use; (III) the normalization thesis and gateway drugs; and (IV) methodologies employed in recent research on drug abuse.

The 28 essays reprinted in this volume were selected from more than 500 English-language essays identified in an exhaustive review of the literature. All the reprinted essays were initially published in peer-reviewed, national and international journals. Most of them are quite recent and they contain critical reviews of past literature on the topics they cover. Each essay selected for inclusion was expected to meet at least one of three criteria: it should help to advance future research, it should contribute to theory, or it should assist policy thinking. Because this volume is intended for an international readership, each essay also had to meet one final criterion – it had to have relevance beyond the country in which it originated. Not every country plagued by drug abuse has the resources to undertake its own research, and it is vital that these countries, in particular, can learn from research undertaken elsewhere.

An Overview of the International Research on Drug Abuse

According to the UN World Drug Report 2008, about 208 million people, a little under 5 per cent of the world's population aged 15–64, use illicit drugs each year, of which only about one-tenth can be considered 'problem drug users'. This is a small proportion of the population, but their drug abuse has serious health, behavioural and social consequences, both for themselves and for those around them. For example, the World Health Organization (2003) reports that the injection of drugs is now the predominant mode of HIV transmission in many parts of the world. Moreover, 'pregnant women engaging in sex- and drug-related risk behaviors not only places the women at risk for HIV, it also poses a risk to their unborn children' (Ramsey, Engler and Stein, 2007, p. 519; see also Tompkins et al., 2006).

¹ South's first volume examines social histories of drug use; epidemiology; controls, treatment and prevention; theoretical perspectives; and the ever-lively debate about the war on drugs versus calls for decriminalization. The companion volume covers drug-use lifestyles and cultures, drug markets and drug distribution. It then turns to the research literature on relationships between drugs and crime and concludes with a section on responses from a criminal justice and enforcement perspective.

With the advent of globalization, drugs are travelling across borders much more commonly than they once did. Many countries without histories of drug use, particularly developing countries, are now reporting problems of abuse because they have become transit points for international drug trafficking (Datta *et al.*, 2006; Wodak, Sarkar and Mesquita, 2004; Lagerspetz and Moskaiewicz, 2002). According to the World Drug Report 2008 (p. 301), in 1992, only 52 countries made reports to United Nations Office on Drugs and Crime (UNODC, which records worldwide trends in drug use), but in 2006 this number had increased to 97, or about half the countries belonging to the United Nations.

Hand-in hand with the worldwide proliferation of drug use, there has been an expansion in the kinds of drugs available and in their patterns of use. New forms of existing drugs have been developed (for example, smokable 'crack' cocaine), changes in the modes of administering these drugs have occurred (for example, transitions from opium smoking to heroin injection in Southeast Asia) and new synthetic drugs have been created (for example, MDMA 'ecstasy' or methoxy-4,5-methylenedioxyamphetamine, other amphetamine-type stimulants and so-called 'designer' drugs) (WHO, 2000). These patterns are not confined to Western or economically developed countries, but are spreading across developing economies (Patricia *et al.*, 2008; Beckerleg, Telfer and Sadiq, 2006; McCurdy *et al.*, 2005; Plüddemann *et al.*, Chapter 6, this volume; Ahmad, 2002; De Jong, Tsagarelli and Schouten, 1999). Particularly alarming are the development of new drugs and the growth of poly drug use.

The increasing use of drugs in developing countries and changes in the patterns of drug use are explored in greater depth in Parts I and II of this volume. Parts III and IV deal with issues arising from the vast amount of research which has recently been reported by developed countries that have experienced an increase in drug abuse. Part III concerns important questions about the normalization of drug use and the role of gateway drugs. These questions must be answered if effective preventive policies are to be developed. Part IV concerns the methodological advances made in the vast body of recent research on drug abuse. Many Western countries – particularly the United States, the United Kingdom and Australia – have invested considerable resources in studying the etiology and epidemiology of the problem because they have recognized that a deeper understanding of drug abuse is needed if effective public health and treatment policies are to be developed. A wealth of recent studies have reported upon: the nature, the patterns, and the extent of drug use/abuse; the pharmacological and psychological consequences of drug use; characteristics of users, risk and protective factors; the different impacts on individuals, families, age groups, gender, communities, and population groups; and public attitudes to drug use.

A remarkable feature of this body of research is the wide range of research techniques used in the reported studies. In addition to traditional population-based epidemiological surveys, capture–recapture techniques and rapid assessment methods are now increasingly used to estimate the size of the 'hard to reach' population of drug abusers. In addition, there is trend towards increasing use of ethno-epidemiology in drugs research – that is, qualitative methods used either on their own or in combination with quantitative methods. Because these methods provide quick and relatively inexpensive alternatives to population surveys for estimating the prevalence of drug abuse, they offer important advantages for research in developing countries and, in Part III of this volume, essays are included that illustrate this diversity.

Drug Abuse in the Developing World

In the past, drugs tended to be available only where they were produced, or close to the source of production (WHO, 2000). As mentioned above, increased globalization has facilitated the spread of drugs through expanded international transport, more extensive migration, improved communications technology, the expansion of the mass media and easy foreign money transfers. All these have helped to fuel the global supply of drugs and increased the demand for them. The increased reporting of drug abuse in the developing world no doubt represents some real growth in supply and demand. However, it might also reflect greater recognition of the threats that drug abuse presents and consequent efforts to improve data collection. Some countries that have not reported problems of drug abuse might not have experienced drug epidemics; on the other hand, they might lack the resources to keep track of the problem and, for some, drug use may be entrenched in the culture and thus not be seen as a serious problem.

The rapid diffusion of illicit drug use – in particular, of injecting drugs – is perhaps an unavoidable result of the ‘modernization’ of many countries, including those in Asia. In Chapter 1, Clyde McCoy *et al.* provide a comparative account of changing patterns of drug use in Asian countries, including India, Thailand and China. They also provide a detailed account of 630 heroin users in China’s Yunnan Province (located close to the Golden Triangle), studied between August 1997 and February 1998. The study found that there had been an increase in injecting heroin users, who, in comparison to non-injectors, were more likely to have used drugs for longer periods of time and to have used them regularly. They also report that women comprised a much higher proportion of urban subjects than rural subjects.

A United Nations survey in 2002 estimated that there were approximately 500,000 chronic heroin users in Pakistan, of whom 60,000 were thought to be injectors. In Chapter 2, Irene Kuo *et al.* report interviews with 72 recent-onset injection drug users and 241 non-injection drug users in Quetta and Lahore, Pakistan, in 2003. The interviews focused on drug-use behaviours and perceived changes in drug cost/supply. Logistic regression results indicated that in Lahore a perceived increase in drug cost was associated with higher odds of recent-onset injection, but there was no such association in Quetta. The study also showed that: (1) non-injecting heroin users were more likely to switch to injection of opioids rather than the non-injection of other non-opioid drugs; and (2) recent-onset injection was associated with a family history of drug use, group drug use, and sharing snorting/chasing tools.

Sarah Dewing *et al.* (Chapter 3) provide a concise review of the available literature pertaining to intravenous drug use (IDU) within six African countries – namely, Egypt, Kenya, Mauritius, Nigeria, South Africa and Tanzania. The increase in trafficking routes, ineffective supply control and increased availability of heroin and cocaine indicate a potential for the rapid diffusion of IDU practices in this region.

Using data for 1995, 1999 and 2003 from the European School Survey on Alcohol and Other Drugs (ESPAD), Ladislav Csemy, Pavla Lejčková and Petr Sadílek (Chapter 4) describe the rapid diffusion of drug use among adolescents in the Czech Republic and other European countries, and discuss attitudinal and behavioural correlates of drug use among young people. They found that marijuana was the most common illicit substance used by European adolescents. There was a marked increase in the number of adolescents who used substances

repeatedly between 1995 and 2003, and a marked increase in the popularity of ecstasy. The use of opiates and amphetamines in the Czech Republic decreased slightly.

In Chapter 5, Kimberley Brouwer *et al.* offer a descriptive account of current trends in cocaine and methamphetamine production, trafficking and consumption in Mexico, especially in the border cities of Ciudad Juarez and Tijuana. The authors examine the extent to which the increased use of cocaine and methamphetamine can be explained by the easy availability of these drugs at reduced prices.

Using multiple sources of data from 1997 to 2001, Andreas Plüddemann *et al.*'s study (Chapter 6) provides descriptive information about the extent and consequences of ecstasy use for five sites in South Africa. Ecstasy is predominantly used among white South African youth of both genders, with the age of users decreasing over recent years. Its use is increasing among other population groups, and some emerging health risks associated with club drug use were identified, including the use of ecstasy in combination with other substances.

In Chapter 7, José Carlos Galduróz *et al.* report of a 2001 survey of 8,589 individuals in the 107 major cities of Brazil, which used the Substance Abuse and Mental Health Services Administration's questionnaire, concluded that the lifetime use rates of most drugs were similar to those of Colombia, but lower than those of the United Kingdom and the United States. Thus, the lifetime use rate of marijuana in Brazil (6.9 per cent) approximated that of Colombia (5.4 per cent), but was much lower than that of the United States (34.2 per cent) and the United Kingdom (25.0 per cent). Despite Brazil's proximity to cocaine-producing countries, the prevalence of lifetime use of cocaine was 2.3 per cent, well below that for the United States (11.2 per cent). Abuse of inhalants was reported by 5.8 per cent of the population, higher than in Colombia (1.4 per cent), but only about one quarter of that found in the United Kingdom (20 per cent). Only four individuals surveyed reported having used heroin, equivalent to about 0.04 per cent of the sample and much lower than that in the United States with 1.2 per cent and in Colombia, which reached 1.5 per cent.

The Emergence of New Drugs and Poly Drug Use

Marijuana is consumed at a higher rate than other drugs worldwide, but heroin and cocaine have generally been considered to present the greatest threats. More recently, however, there has been much alarm about the health and social consequences of abusing amphetamine-type stimulants (ATS) especially MDMA (ecstasy). According to the National Institute on Drug Abuse (<http://www.nida.nih.gov/infofacts/>), these drugs are widely used in nightclub, bar, rave or trance settings. In the 1990s the use of ecstasy in rave or techno parties was commonly reported and was regarded as part of normal youth leisure activities. Tossmann's, Boldt's and Tensil's (2001) interviews with 3,503 participants in techno parties in European cities (including Amsterdam, Berlin, Madrid, Prague, Rome, Vienna and Zurich) indicate that the use of illegal substances is widespread in the techno party scene and that cannabis, ecstasy, amphetamines, cocaine and opiates are often taken together. Though many adverse consequences of using these drugs have been described (for example, Glasner-Edwards *et al.*, 2008; El-Mallakh and Abraham, 2007; Sexton *et al.*, 2006; Brouwer *et al.*, Chapter 5, this volume; Thomasius *et al.*, 2006; and Thomasius *et al.*, 2005), the evidence is not conclusive because a significant number of users experience only limited social, psychological or physical

dysfunction (Edwards *et al.*, 2008; Sommers *et al.*, 2006; Zweben, Cohen and Christian, 2004).

In Chapter 8, Jane Maxwell and Beth Rutkowski review epidemiological information about methamphetamine production and use in North America (Canada, Mexico and the United States) and of the geographic variations in types of the drug, ways of administering drugs and the different kinds of users. They report that there is a shift in the type of the most used stimulant from pharmaceutical amphetamine to powder methamphetamine, and then to the use of 'ice'. Use of these drugs is greatest in the western parts of North America and is moving eastwards, but the decreased availability of pseudoephedrine may have a significant impact on the nature of the epidemic in the future.

The study by Li-Tzy Wu, William Schlenger and Deborah Galvin (Chapter 9) provides population-based prevalence estimates and correlates of the use of club drugs, including methamphetamine, MDMA (ecstasy), LSD (d-lysergic acid diethylamide), ketamine, GHB (gamma-hydroxybutyrate) and flunitrazepam (rohypnol) in a nationally representative sample of American youths. A relatively high prevalence of lifetime use of these drugs was found. Among youths aged 16–23, one in five (20 per cent) had used at least one of these drugs. Multidrug use was very common (51 per cent), especially among females. Regardless of the type of club drugs used, nearly all users reported having used drugs other than club drugs.

In Chapter 10, Stephen Lankenau *et al.* describe ketamine-injecting among youths in New York City, New Orleans and Los Angeles and highlight the health risks associated with this emerging problem. (Ketamine is a synthetic drug that produces a range of experiences, including sedation, dissociation and hallucinations.) In-depth interviews with 213 young ketamine users indicate that six factors impacted on both positive and negative ketamine experiences: polydrug use, drug-using history, mode of administration, quantity and quality of ketamine, user group and setting. The authors report that, since ketamine is not the drug of choice for these users, they lack knowledge of the consequences of its extended use and of mixing it with other drugs.

Benedikt Fischer, Michelle Cruz and Jürgen Rehm (Chapter 11) review findings about the characteristics and consequences of illicit opioid use and present data from a study of 679 illicit opioid users in five Canadian cities in 2002. They conclude that illicit opioid use in Canada and elsewhere is becoming more heterogeneous in terms of the drugs used, with heroin playing an increasingly minor role; further, it predominantly occurs in a context of poly drug use (for example, cocaine-crack or benzodiazepines). Large proportions of illicit opioid users have physical and (or) mental health co-morbidities, including infectious disease and/or depression, and therefore require integrated interventions. Finally, morbidity risks among illicit opioid users are often predicted by social marginalization factors – for example, housing status or involvement in crime.

The National Survey on Drug Use is designed to provide estimates of the prevalence of legal and illegal drug use in the US population (aged 12 and over). Using data from this survey, Silvia Martins, Guido Mazzotti and Howard Chilcoat in Chapter 12 that ecstasy use increased from 1995 to 2001 for all demographic subgroups, with the highest rate of increase found in younger ages, especially 18–25. Ecstasy users were more likely than marijuana users to use other drugs, including alcohol, marijuana, cocaine, crack, heroin, LSD and stimulants. The association of ecstasy use with other drug use was strongest early in the 'epidemic' and diminished as the number of new users increased.

The Normalization Thesis and Gateway Drugs

Normalization Thesis

Attitudes to drug use have changed during the past two or three decades. Once considered to be confined to a deviant subculture, drug use has now become part and parcel of mainstream youth culture. Cannabis use has become culturally accepted and accommodated in many societies, in contrast to the use of cocaine and heroin. According to the normalization thesis, the feeling of uncertainty in a risk-laden society and people's feelings about lack of control of their own lives are two important elements of the risk society that affect adolescent drug use (see Parker, Aldridge and Measham, 1998; Parker, Williams and Aldridge, Chapter 13, this volume; Measham, Newcome and Parker, 1994). Though the normalization thesis is seemingly supported by research in the West, some scholars hold that it is of limited applicability in non-Western countries.

In Chapter 13, Howard Parker, Lisa Williams and Judith Aldridge report a study in which they monitored normalization of 'sensible' recreational drug use as part of the everyday lives of ordinary young people. Their study was based on the 'recapture' in 2000 of 465 young adults previously surveyed/interviewed during their adolescence (1991 to 1995). They found that the lifetime prevalence of drug use for this cohort was as much as 76 per cent. Drugs were widely available, with over 90 per cent of subjects having been in situations where they were offered drugs. Cannabis was the most widely available drug (and the most used), followed by 'dance drugs', but the steepest increase in availability was shown by cocaine. The rate of first trying drugs increased incrementally from 36 per cent at age 14 to 76 per cent at age 22. Nearly two-thirds of abstainers held tolerant or approving attitudes of drug use, with cannabis use being most tolerated. The authors suggest that in postmodern times consumption decisions are increasingly framed by new responsibilities and weekday work demands. This is well illustrated by the increasing focus on substances which do not impact negatively on getting up for work. This is one example of the way in which 'sensible' recreational drug use is becoming increasingly accommodated in the social lives of conventional young adults.

Nicola Cheung and Yuet Cheung (Chapter 14) investigate whether the normalization thesis fits the observed patterns of adolescent drug use in Hong Kong. Their study uses official data and surveys conducted in 2002–2004 of drug use among marginal youths (N = 504) and a matched sample of 504 secondary school students. It finds that recreational drug-taking is accepted and highly prevalent among marginal youths when compared to the student sample who generally disapprove of drug use. This suggests that some normalization of drug use among young people has occurred in Hong Kong, but not to the same extent as in the United Kingdom. Though Hong Kong is a modern society, the prevailing Chinese culture still has a major impact on young people, and the family unit still serves as an important social support that may play a buffer role in helping youngsters to cope with uncertainty.

Hilary Pilkington's essay (Chapter 15) argues that the Western normalization thesis has little explanatory value in Russia where drug use among youths is thought to be the result of an expansion in drug supply and, to a lesser extent, post-Soviet social and economic dislocation. Using data collected through a mix of research methods (surveys, semi-structured interviews and ethnographic observations) in various regions of Russia, she provides young people's

accounts of their drug choices in the context of local drug markets and broader socioeconomic processes. Her objective is to provide a synthesis of structural and cultural explanations in the context of the interaction between individuals' actions, micro-social contexts and macro-social change.

The normalization thesis has usually been invoked in respect of young drug users, but Geoffrey Pearson (2001) uses it in Chapter 16 to explain illicit drug use among adults. This qualitative research study explores recreational drug use (mainly cannabis and cocaine) among an adult friendship network in an inner London neighbourhood. It finds that the use of these drugs is accepted as a normal and routine aspect of daily life among these adults. This study concludes that recreational drug use among adults poses challenges for a new public health policy agenda for the twenty-first century.

Gateway Drugs

In 1975 Kandel's seminal essay proposed the thesis that there are developmental stages in drug use, which, over the years helped to shape the 'gateway' hypothesis that focuses on the causal role of marijuana in the subsequent use of other illicit drugs. Understanding the development stages of drug abuse is important not only in providing a framework for specific theories of initiation, habituation and desistance in drug use, but also in developing specific intervention strategies to deal with the various stages of participation in drug use and abuse.

In Chapter 17, Denise Kandel, Kazuo Yamaguchi and Kevin Chen report the results of a long-term follow-up study of 1,160 young adults aged 35 years, who were interviewed between 1971 and 1990 in New York State. They identify the sequential stages of involvement from adolescence to adulthood in alcohol and/or cigarettes, marijuana, other illicit drugs and medically prescribed psychoactive drugs. They find gender differences in this progression such that illicit drug use among men is dependent on prior use of alcohol, whereas for women either the use of cigarettes or alcohol is a sufficient condition for progression to marijuana. They also found that age of onset and frequency of use at earlier stages were strong predictors of further progression.

David Fergusson, Joseph Boden and John Horwood (Chapter 18) report a 25-year longitudinal study of a birth cohort of 1,265 children in New Zealand. Annual assessments of the frequency of cannabis use were obtained for the period 14–25 years, together with measures of the use of other illicit drugs during the same time period. The study found that, controlling for both non-observed fixed factors and observed time dynamic factors, the increased use of cannabis was related to increased rates of other illicit drug abuse/dependence. This association was found to be particularly strong during adolescence, but it declined rapidly as age increased. Though the findings support the gateway hypothesis, the actual causal mechanisms underlying such a process, and the extent to which these causal mechanisms are direct or indirect, remain unclear.

Using publicly available data from the National Household Survey on Drug Abuse (NHSDA) programme for 1979 through 1997, Andrew Golub and Bruce Johnson (Chapter 19) analysed stages of adolescent development and the risks of progression through four stages of drug use: (1) nonuse, (2) alcohol or tobacco, (3) marijuana, and (4) hard drugs. Logistic regression results indicate that those reporting alcohol and tobacco use before 15 years of age were much more likely to have progressed to marijuana or hard drug use than those who reported first

use of alcohol or tobacco after 17 years of age. Further, the probability of progression from alcohol or tobacco to marijuana use has increased in recent years, but the risk of progression by 17 years to cocaine powder, crack or heroin has so far remained at relatively low levels. The results suggest that the gateway phenomenon reflects norms prevailing among youths at a specific place and time and that the linkages between stages are far from causal.

In Chapter 20, Lesley Reid, Kirk Elifson and Claire Sterk examine whether, and to what extent, ecstasy serves as a gateway to the use of such hard drugs as cocaine, heroin and methamphetamine. They compare age of onset of alcohol and marijuana use and subsequent use of cocaine, heroin and methamphetamine among young adult ecstasy users. Using face-to-face interviews with 268 young adult ecstasy users in the United States, and discrete-time event-history analysis of the data, they report that age of onset of ecstasy use influences the initiation of cocaine and methamphetamine use for their sample of active ecstasy users. In addition, alcohol and marijuana use precedes initiation into cocaine and methamphetamine use, but only marijuana use influences initiation into heroin use. They conclude that the sequential progression of drug use proposed under the gateway hypothesis is not immutable and that it is important to take into account the changing popularity of drugs such as ecstasy over time when identifying patterns of drug-use onset.

Methodological Developments in Researching Drug Abuse

A variety of methods are used to measure the prevalence and incidence drug use and abuse, and to monitor trends. These methods include general population surveys, school surveys, household surveys, as well as statistics of individuals arrested for drug use and abuse and those undergoing drug treatment, urine or hair testing of individuals, number of people using drug hotlines, drug-related emergency department visits and drug-related interventions by ambulance services.

Macro-level epidemiological studies aim to provide robust estimates of the prevalence of drug and improved understanding of the factors that relate to the onset of drug use and the groups most at risk, whereas micro-epidemiological studies seek to unravel the specific risk and protective factors associated with the initiation and continuation of drug use. Zili Sloboda, in Chapter 21, addresses the need to make connections between the macro- and micro-studies if changing patterns of drug use are to be properly understood and so that they inform prevention and treatment efforts. She makes use of a broad variety of US studies to address the following issues: (1) changing trends in prevalence rates of illicit drug use in the United States; (2) convergence of prevalence rates by gender; (3) comparison of perceptions of the harmfulness of occasional marijuana use by age group; (4) epidemics or emergent trends; (5) the detection of emergent drug problems; and (6) marketing and trafficking of drugs.

In Chapter 22, Michael Clatts *et al.* discuss the limitations of institutionally derived 'sentinel marker' data (for example, law-enforcement data on drug seizures and arrests, and emergency department and drug treatment admissions,) in capturing hidden populations of drug users. Drawing on experiences from a multisite study of the injection of crack cocaine, they draw attention to the need for using ethnographic methods, including field-based community assessments, semi-structured qualitative interviews and direct observation of 'natural' venues in which drugs are bought, sold and used. The methods assist in the study of macro- and micro-