

# Acknowledgements

This book is the first in the ESSD series published by Pabst Science Publishers. The European Society for Social Drug Research (ESSD) was established in 1990. The principal aim of the ESSD is to promote social science approaches to drug research, with special reference to the situation in Europe. Organizing annual conferences is a core activity of ESSD.

For this book a number of participants who presented their studies on cannabis at the 18<sup>th</sup> annual conference in Warsaw, Poland, in October 2007, have been invited to submit a chapter. In addition, Dominique Vuillaume was invited to write a chapter on major developments in cannabis research on cannabis and cannabis use in the past decades. After a first review of outlines by the Editorial Board, submitted papers were peer reviewed by distinguished scholars. This book only contains chapters that successfully passed this peer review process. The editors thank the authors for their diverse and interesting contributions to this book, their painstaking comments to the editor's and peer reviewer's queries and comments, and their adherence to deadlines. We gratefully thank the anonymous peer reviewers for their time and insightful comments.

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# Cannabis research in Europe: an introduction to social science studies

*Dirk J. Korf*

## **Abstract**

*Cannabis has been used in Europe for centuries, both for treating physical ailments and for the psychoactive qualities of the drug. In the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, hashish played a significant role as a medicine, but that was quickly to change (Fankhauser, 2008). After a timid re-entry as a psychoactive substance in the 1950s and early 1960s, the spread of cannabis use accelerated, and from the late 1960s it became an increasingly collective phenomenon.*

*Drugs have social meanings, both for users and for non-users. Not only can the same substance (say, cannabis) have different meanings at the same time, but the social meaning of a particular drug can also change drastically over time (Fountain & Korf, 2007). Whereas initially, in the 1960s and early 1970s, the modern use of hashish and marijuana was strongly associated with deviancy and mental health problems, as well as with countercultures, the realisation slowly dawned that the vast majority of cannabis users were people who held jobs or attended school or college. Far from being under the spell of cannabis, they just used it for personal recreation. Cannabis came to be less and less an element of deviant lifestyles; the former dividing line between users and non-users began to blur. This development led Parker, Aldridge and Measham (1998) to speak of normalisation.*

*Today, some four decades after the revival of cannabis use in Europe, old paradigms are having renewed appeal. While social scientists were convinced that the pathologisation of cannabis use would gradually fade, they are*

*now forced to recognise, sometimes to their undisguised disappointment (Schneider, 2008), that no such development has occurred. Powerful advances in biomedical and neuropsychological research have delivered more and more information about the genetic aspects of drug use and addiction and about the actions of drugs on the brain. Drug addiction is often referred to nowadays as a brain disease.*

*Yet drugs are more than just chemical substances that influence individual human behaviour through their effects on the brain. As Zinberg (1984) showed, a drug user's personality, attitudes, expectancies and motivations – and particularly the settings in which drug use occurs – have a greater influence on both the user and his or her drug-taking patterns than a drug's pharmacological properties. These are issues that lie squarely in the realms of sociology, anthropology, psychology and criminology.*

## **1 Cannabis and schizophrenia**

The past few years have seen a profusion of writings on the subject of cannabis and schizophrenia. Indeed, the insights into this phenomenon are now far more precise than they once were. Yet it seems as if a new generation of researchers is poorly acquainted with the older literature on the subject, thus leaving the impression that the relation between cannabis use and schizophrenia is a new discovery. Perhaps that is because the phenomenon now called 'cannabis schizophrenia' was formerly referred to as 'cannabis psychosis' – a term that still exists today but now refers solely to certain acute effects of cannabis use. Undoubtedly this hiatus in historical awareness can be blamed on the fact that many older publications are not available on the Internet – the quintessential literature search medium for the researchers of today.

Whilst the evidence for cannabis use as a causal factor in psychosis seems to steadily mount, the French researcher *Vuillaume* (Chapter 2) points out that many open questions still exist. Most of these lie in the field of the natural sciences, but a no less important socioepidemiologic issue is that the increase in cannabis use has not automatically been accompanied by a meaningful rise in the number of young people diagnosed with psychosis in clinical settings.

## **2 Changing cannabis policies**

Denmark and the Netherlands are the European countries with long-standing reputations for 'liberal' cannabis policies. In both countries, a noticeable

swing has occurred towards increasing repression in recent years. In Copenhagen, the numerous marijuana stalls in the park in Christiania have been shut down by police, and the policy of tolerating ‘hash clubs’ was also brought to an end (Asmussen, 2007). A new Danish response to cannabis has been to introduce treatment for cannabis problems among prison inmates. *Dahl, Asmussen Frank and Kolind* (Chapter 3) explore the interrelationship between drug control and cannabis treatment in Danish prisons, and they discuss how changes in national drug legislation and cannabis policy have influenced the development of cannabis treatment as well as its outcomes.

Although the sale of cannabis is still allowed in the Dutch ‘cannabis coffee-shops’, policy shifts in recent years have had a drastic impact on the stocking of these officially tolerated selling points. In chapter 4, *Wouters* accounts how thousands of marijuana cultivation sites in the Netherlands are currently being raided and dismantled and large numbers of marijuana plants confiscated and destroyed.

An interesting highlight of the Danish and Dutch contributions is their analysis of how changes in government cannabis policy are shaped on the ground, and in particular how the original plans and aims of higher-echelon policy-makers become concretely implemented by lower-echelon ‘street-level bureaucrats’ (Lipsky, 1980) – along with the unforeseen risks and unintended effects that can arise in the process.

### **3 Domestic cannabis cultivation**

The vast quantities of marijuana seized in the Netherlands each year stand in stark contrast to the small numbers of plants cultivated by most of the home growers interviewed by the Belgian criminologist *Decorte* (Chapter 5). A remarkable number of them make no use of modern growing techniques for indoor cultivation, but grow their plants outdoors on a very small scale. Besides the financial advantages of growing their own marijuana, a prime motive lies in the pleasure they derive from seeing their own plants grow. Normative considerations, such as avoiding contacts with criminal dealers in the commercial cannabis market, may also play a role. Building on the thesis that cannabis markets have the least damaging consequences when they are the least populated by criminal enterprisers, *Decorte* initiates an appeal for what one might call harm reduction on the supply side of the cannabis market. Government-tolerated ‘hobby cultivation’ could help destabilise the role of criminal organisations.

According to opponents of the 2004 liberalisation of UK cannabis legislation, developments have been triggered that already justify reversing this decision. One of their arguments is that downgrading cannabis to a Class C (least harmful) drug has fostered an increase in domestic production – thereby inducing more cannabis use. Drawing partly on his own fieldwork as well as on interviews with different types of marijuana growers and a range of professionals, the criminologist *Potter* (Chapter 6) subjects this claim to critical scrutiny and offers alternative explanations for the spread of domestic cannabis cultivation.

#### 4 Cannabis retail markets

At the consumer level, the cannabis market is characterised by small-scale activities, so concludes the German researcher *Werse* on the basis of his research in Frankfurt am Main. Using a fine combination of quantitative and qualitative data, he describes and analyses the characteristics of an urban retail cannabis market (Chapter 7). Many cannabis users do not buy their own hashish or marijuana, but satisfy their needs by sharing joints. Many consumer-level cannabis transactions also conceal themselves from the public eye in that the drug is sold mainly within informal social networks of friends and acquaintances – who are expressly not labelled as dealers. The phenomenon is sustained by cannabis prohibition, and it enables frequent users to earn enough for their personal smoking needs by selling to others. Only a small market segment is left to street dealers, who are mostly ‘outsiders’ – usually migrants who have much less social access to the informal peer networks of ‘established’ cannabis users. For the street dealers, selling cannabis and other drugs is basically a survival strategy, although it also commands respect and boosts their status within their own circles (*Bucerius*, 2007).

Research by *Stevenson* (Chapter 8) in Northern Ireland concurs with *Werse*’s findings in many ways, but interesting contrasts also emerge. As in Germany, informal peer networks play a significant role in the supply of cannabis to consumers. Northern Irish cannabis users also prefer not to call their suppliers ‘dealers’, but ‘friends who deal’ or simply ‘sellers’. But whilst *Werse* concentrates on the retail level, *Stevenson*’s essay also highlights middle- and upper-level suppliers – and in the eyes of cannabis users and small-scale suppliers, it is mainly (but not only) these suppliers who are the ‘real dealers’. *Stevenson* persuasively elucidates how social control and respectability among cannabis users relates to the type of cannabis supplier they patronise. Fearing intimidation by criminals, arrest by police or discovery by employers, cannabis users with sensitive jobs avoid any contact with ‘real dealers’ and rely entirely on trusted friends. This contrasts with users from lower socioeconomic classes or

holding non-professional jobs, who see no point in concealing their cannabis use from employers and are comfortable contacting anyone to obtain cannabis.

## **5 Drug prevention for vulnerable young people**

Under drug policy, law enforcement primarily targets the supply side of the market. The demand side is typically the work domain of prevention and treatment services. Prevention has many forms, ranging from drug and alcohol education for adolescents who have never taken any drugs to harm reduction efforts targeting groups of experienced users. Schools undertake substance use prevention activities everywhere in Europe, albeit with wide variations in methods and intensity. Some characteristics in common are information provision (which may or may not be combined with other components like social skills training), mainly classroom delivery, and a primary focus on pupils in early adolescence (roughly aged 12 to 15). When it comes to illicit substances, the chief emphasis is logically on cannabis, since that is normally the first drug that young people come into contact with, and the one with the highest prevalence of use by far.

An advantage of prevention activities like these is they are capable of reaching large groups in a relatively simple, cost-effective manner. A major drawback is that the very groups with the highest risks of taking drugs and developing drug-related problems are less effectively reached, or not at all. This typically involves truants and school dropouts, but other examples are adolescents in residential treatment for emotional or conduct disorders. The latter group is the focus of research by *Vander Laenen and De Wree* (Chapter 9). Of particular interest in their study is their innovative methodological approach, which they combine with authentic curiosity about the role that cannabis plays in the life worlds and mindsets of these young people. They also report the views these adolescents express as to the do's and don'ts of drug prevention.

## **6 Vocal cannabis users**

By and large, the spread of cannabis took place earlier and on a larger scale in the countries of Western Europe than in those of Central and Eastern Europe. Political changes – in particular the removal of the Iron Curtain, the subsequent relaxation of border controls, and the free movement of people and goods between more and more new EU member states – brought with it an upsurge in the availability and use of cannabis. Notwithstanding this, striking

differences still exist between the countries in question in terms of the pace and scale of the spread of cannabis (Moskalewicz et al., 2008). Hungary is one Central European country where the number of cannabis users has grown rather rapidly. *Sárosi and Demetrovics* (Chapter 10) describe and analyse the diverse reactions in the Hungarian political arena and public debate to the emergence of cannabis use. Following a period of increasingly stringent legislation, a policy shift occurred, and it also created more latitude for civil movements campaigning for legalisation or decriminalisation of cannabis. An interesting aspect is how movements such as these, like organisations of professionals, reach across borders and increasingly work together with movements in other European countries.

## References

- Asmussen, V. (2007). Danish cannabis policy in practice: The closing of 'Pusher Street' and the cannabis market in Copenhagen. In: J. Fountain & D.J. Korf (Eds.), *Drugs in society. European perspectives*, 14-27. Oxford: Radcliffe.
- Bucerius, S.M. (2007). 'What else should I do?' Cultural influences on the drug trade of migrants in Germany. *Journal of Drug Issues*, 37 (3), 673-697.
- Fankhauser, M. (2008). Cannabis as medicine in Europe in the 19th century. In: Rödner-Sznitman, S., Olsson, B. & Room, R. (Eds.) *A cannabis reader: global issues and local experiences*. Lisbon: EMCDDA Monographs, 8 (Volume I), 3-14.
- Fountain, J. & Korf, D.J. (Eds.) (2007). *Drugs in society. European perspectives*. Oxford: Radcliffe.
- Moskalewicz, J., Alaste, A.A., Demetrovics, Kelmova, D. & Sieroslawski, J. (2008). Enlargement 2005: cannabis in the new EU Member States. In: Rödner-Sznitman, S., Olsson, B. & Room, R. (Eds.) *A cannabis reader: global issues and local experiences*. Lisbon: EMCDDA Monographs, 8 (Volume I), 63-93.
- Parker, H., Aldridge, J. & Measham, F. (1998). *Illegal leisure. The normalization of adolescent recreational drug use*. London: Routledge.
- Schneider, W. (2008). Cannabis: Gefahr für die Jugend? Kritische Anmerkungen zur aktuellen Cannabisdebatte. *Wiener Zeitschrift für Suchtforschung*, 29 (1/2), 15-26.
- Zinberg, N.E. (1984). *Drug, set and setting: the basis for controlled intoxicant use*. New Haven: Yale University Press.



# 2

## Changing scientific perspectives on cannabis use

*Dominique Vuillaume*

### **Abstract**

*Of all the drugs in common use in western societies, cannabis is unquestionably the substance that provokes the strongest feelings and most heated debates. Medical circles and the scientific community are not immune to this emotional element.*

*The current disagreements over the nature and real scale of the risks associated with cannabis use are partly a reflection of the gaps in knowledge and uncertainties that persist in the scientific study of this substance. After a late start in the research effort due to the chemical complexity of this drug, the knowledge acquired over time has afforded only partial insights into its action mechanisms, thus providing scope for differing interpretations.*

*The significant advances made in the last fifteen years by the neurobiological and molecular approaches have prompted renewed interest in many of the scientific questions surrounding cannabis, but without managing to dispel a good many uncertainties as to the 'hidden' risks of this substance.*

### **1 Introduction: prohibitionists and militants**

The website 'Doctissimo' ([www.doctissimo.fr](http://www.doctissimo.fr)) is one of the French-language medical information sites most consulted not only by the general public but also by health professionals. If we open the 'cannabis' file, we immediately come across a rather provocative title: 'Cannabis, between vice and virtue!', and a no less intriguing sub-title: 'Cannabis, between supporters and detractors. . . '.

This dramatic introduction to the subject is symptomatic of the strong feelings which cannabis continues to arouse in western societies. Of all the licit or illicit psychoactive substances in common use in those societies, cannabis is the one which triggers the sharpest divisions between the supporters of prohibitionist approaches – based principally on strict legal prohibition – and the supporters of more liberal approaches – based on prevention through education and rehabilitation through care. This dividing line continues to run through political circles, the general public, the media and also medical circles.

A very recent survey by Zullino et al. (2008) on beliefs and attitudes with regard to cannabis among Swiss psychiatrists illustrates these divisions. According to this survey, Swiss psychiatrists fall into three groups roughly equal in size: the ‘prohibitionists’ who are convinced that cannabis use causes a wide range of psychiatric disorders and must be prohibited; at the opposite extreme, the ‘cautious liberals’ who are not convinced that cannabis can lead to mental disorders; and, in the middle, the ‘causalists’ who think that cannabis is involved in the onset of schizophrenia, but not in the causation of other mental disorders.

Given the close interaction between medical and scientific circles, particularly in the biomedical research field, these strong feelings and divisions are noticeable even today in scientific seminars and colloquies on cannabis, in opinions given by certain official academic bodies and even in some publications labelled as scientific. In this connection, some scientists have become, over time, true ‘militants’ for the prohibition of cannabis (Contentin, 2006; Nahas & Latour, 1992). The way they go about writing their articles or books is quite simple: from the current worldwide profusion of scientific literature on cannabis, they select only those studies (fundamental, clinical and/or epidemiological) whose findings support the case for a reassessment of the risks associated with cannabis use. Other studies are mysteriously overlooked.

It was partly to dispel the general confusion regarding the state of knowledge in this field that, in 2000, the French authorities took the initiative of commissioning the French National Institute of Health and Medical Research (INSERM) to conduct a systematic critical appraisal of validated knowledge relating to the effects of cannabis use on health and behaviour (Expertise Collective Inserm, 2001). With the same aim in view, at the request of the health ministers of five European countries (Belgium, France, Germany, Netherlands and Switzerland) a group of 24 scientific experts drew up a consolidated report on cannabis in 2002 incorporating the main points under discussion in the scientific and medical community (Cannabis 2002 Report).

## **2 First steps in the development of cannabis research**

The current profusion of scientific literature on cannabis should not obscure the fact that scientific research on this substance started at a relatively late stage compared with research on other drugs, opioids in particular. The first studies actually date back to the 1940s and 1950s. Two factors can be adduced to account for this late start: an external factor, namely the very limited spread of cannabis use in western countries up to the end of the 1960s (except in former colonies); and an internal factor, namely the very great chemical complexity of the substance. To date, chemists have identified over 60 cannabinoids in the plant (Mechoulam & Hanus, 2000), which makes it easily as complex as tobacco.

From the 16<sup>th</sup> to the mid-20<sup>th</sup> century, studies of cannabis were essentially descriptive and were carried out by isolated individuals.

It was not until the middle of the 19<sup>th</sup> century that the physical and psychological effects of cannabis intoxication were described for the first time. This was the work of a French psychiatrist, Joseph Moreau de Tours (1845), who was fascinated by the hallucinatory potential of cannabis and its ability to mimic the typical hallucinations of madness. He brought together his ideas in a book written in 1845 and is famous to this day in psychiatric circles. In 1893, faced with the worrying spread of cannabis use among workers on the great colonial plantations in India, the British Government commissioned a voluminous memorandum on the effects of cannabis on the ability to work and mental health. The 7,500 page memorandum is inconclusive where mental health is concerned, but highlights the fact that the hallucinogenic potential of cannabis is only achieved at high doses and that, at low doses, the effects observed are harmless (Kaplan, 1969).

Research into the chemical composition of cannabis and work to identify the active ingredient responsible for its psychoactive effects did not really begin until the 1940s. But another 25 years elapsed before two chemists, Mechoulam & Gaoni (1965), finally established the chemical structure of the main constituents of cannabis and succeeded in identifying and synthesising D9-tetrahydrocannabinol (THC), recognised among the hundred or so compounds present as being the one chiefly responsible for the plant's psychoactive effects (Pomielli, 1999). Following this major breakthrough, research into the modes of action of cannabis and its effects on the organism was able to begin.

### **3 Three main periods marked by changes in the pattern of knowledge**

Broadly speaking, three main periods can be identified in the development of scientific thinking on cannabis since the early 1970s.

The first period, from the early 1970s to the mid-1980s, saw a predominance of experimental or clinical studies on the effects of cannabis on different vital organs and functions. This was followed by a second period running from the mid-1980s to the mid-1990s characterised by significant progress in epidemiological knowledge relating to the growth of cannabis use among adolescents and young adults in the developed countries and analysis of the risk factors associated with that use. Then, with the discovery of the cannabis receptors and the first studies of the endocannabinoid system between 1988 and 1995, a third period commenced which is still ongoing and which is typified by a clear predominance of the neurobiological paradigm in the current research effort into the modes of action of cannabis and its effects on behaviour and health.

The succession of these three periods has led to some significant changes in the pattern of knowledge, thus prompting considerable debate and successive shifts in scientific thinking on cannabis.

### **4 Pioneering experimental and clinical studies (1970-1985): a virtually harmless drug**

With the identification and synthesis of D9-THC, the possibility opened up for the scientific community to conduct controlled studies on the effects of this substance. Numerous studies were accordingly carried out, which can be broken down into three main sub-groups.

The first sub-group of studies were concerned with the *somatic effects* of cannabis intoxication in the context of acute use. These studies highlighted the often minor nature of the effects and the fact that they were not felt continuously and were totally reversible upon cessation of use, whether these effects were cardiovascular, bronchopulmonary or ophthalmological (red eyes). The only more extensively documented point concerned the possibility of death by acute intoxication with inhaled D9-THC. No case of death after intoxication in humans has ever been published. In experiments using animal models, researchers had to administer significant doses of D9-THC to cause deaths. Bro et al. (1975) analysed a number of clinical cases in which a massive ingestion of D9-THC in young children had been followed by consciousness disorders, with respiratory depression and coma.