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DRUG CONSUMPTION IN COLOMBIA¹

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Catherine Rodríguez

Abstract

This paper examines the evolution of drug use in Colombia over the past years. Our analysis, based on surveys from the *Dirección Nacional de Estupefacientes*, shows that drug consumption grew substantially between 1996 and 2013. The growth occurred for both genders, all ages, socioeconomic strata and types of occupation. The results also suggest that men of high socioeconomic strata who regularly consume alcohol and cigarettes and who are between 18 and 24 years of age are more likely to use drugs. Finally, the paper presents some indirect evidence that contradicts the alleged effects of the judgment of the Constitutional Court (*Sentencia* C-221 of May 1994) that decriminalized the personal dose on the consumption of drugs in Colombia.

Key words: Drugs, decriminalization.

JEL Classification: D12, I18.

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EL CONSUMO DE DROGA EN COLOMBIA²

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Resumen

El presente documento analiza la evolución del consumo de drogas en Colombia durante los últimos años. El análisis, realizado con base en las encuestas de la Dirección Nacional de Estupefacientes, muestra que el consumo de drogas creció de manera sustancial entre 1996 y 2013. El crecimiento se dio para ambos géneros, todas las edades, estratos y tipos de ocupación. Los resultados sugieren además que los hombres de estratos altos que consumen alcohol y cigarrillos y que están entre los 18 y los 24 años de edad son los más propensos a consumir drogas. Finalmente, el documento presenta algunos indicios indirectos que contradicen los supuestos efectos de la Sentencia de la Corte Constitucional (*Sentencia* C-221 de Mayo de 1994) que despenalizó la dosis personal sobre el consumo de drogas en Colombia.

Palabras clave: Drogas, despenalización.

Clasificación JEL: D12, I18.

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DRUG CONSUMPTION IN COLOMBIA

Adriana Camacho, Alejandro Gaviria and Catherine Rodríguez

I. Introduction

Historically, the study of the drugs problem in Colombia has focused on the dynamics of production and trafficking and their effects on the country's institutions and society in general (Grossman and Mejía, 2008; Mejía and Restrepo, 2010). There are also some studies of the relationship between the production and commercialization of drugs and violence in particular and the armed conflict in general (González and Smith, 2009; Echeverry and Partow, 2005; Medina and Martínez, 2003; Gaviria, 2000). The evolution of the consumption of drugs has been less studied. For example, there are no systematic studies in the country of the socio-economic characteristics of drugs consumers, nor about the risks associated with their consumption, and even less about perceptions of the individual and social consequences of consumption. These gaps in the analysis of the problem have made it difficult to design and put in place public policies aimed at the prevention of drug consumption and the treatment of addiction, as is documented by Larreamendy-Joerns and Vence (2011).

Among the few studies of the consumption of drugs, the following should be singled out: a) the nationwide studies of the consumption of psychoactive substances in the years 1992, 1996, 2008 and 2013 undertaken by the National Narcotics Administration (DNE) in collaboration with the Colombian School of Medicine (Escuela Colombiana de Medicina), the Center for Studies and Information on Health of the Fundación Santa Fe (CEIS), the Ministry of Social Protection and the Ministry of Justice.³; b) the surveys of the Programa Rumbos (Directions Program) and c) some qualitative investigations recently carried out (UNODC, 2006; Andean Community of Nations, 2009; Pérez, 2009). Although all of them contribute to our knowledge of the situation of the consumption of psychoactive substances in Colombia, the analyses have been

³ DNE, Fundación Santa Fe de Bogotá, Fundación Escuela Colombiana de Medicina and Ministerio de Justicia, 1992; DNE and CEIS, 1996; DNE and Protección Social, 2009; Ministerio de Justicia and Ministerio de Salud y de la Protección Social, 2014.

descriptive, for the most part, and have not examined the causes or determining factors of the observed phenomena.

The present article analyzes the evolution of the consumption of drugs on the basis of the information from national surveys by the DNE in the years 1992, 1996, 2008 and 2013. The chapter has four main objectives. To begin with, it describes the evolution of the consumption of psychoactive substances in Colombia. It then analyzes the demographic and socio-economic characteristics of the typical drugs user. In third place, it studies the perception of the risks and problems suffered by consumers of marijuana, cocaine and *bazuco*, the Colombian slang for crack cocaine. Finally, it uses the above results to throw light on the validity of the reasons wielded by the Colombian Government and Congress, towards the end of the administration of President Uribe,⁴ to harden the prohibition of the personal use of drugs into a constitutional norm. Specifically, it presents some indirect and suggestive evidence which contradicts the main justification for the above legal reform, the supposed effect of the Constitutional Court's 1994 decision (Sentence C-221, May/1994) to decriminalize the consumption of the personal dose of drugs in Colombia.

The main findings of this chapter show that the consumption of psychoactive substances has significantly increased in Colombia in recent years. This increase is found in both genders, and all age groups, social classes and occupational groups. Men from a prosperous background who steadily consume alcohol and cigarettes and are between the ages of 18 and 24 are the ones most prone to consume drugs. The consumers of psychoactive substances are more likely to suffer from conflicts with their families and friends than other kinds of problems. Finally, the dynamics of drug consumption in the course of the past thirty years, and comparisons between Latin American countries and between Colombian cities, suggest, as a whole, that the decriminalization of drugs consumption was not a major factor in the increased use.

⁴ In relation to this subject, see the chapter by Lemaitre and Albarracín (2011).

II. The Colombian Context and Changes in the Legislation Related to Drug Use

During the past few years, there was a heated debate on the consumption of psychoactive substances and the role of the State in this problem. The administration then headed by Álvaro Uribe repeatedly argued that, first, the consumption of drugs had substantially increased, and second, that the increase had been a direct result of a Constitutional Court ruling of 1994 which decriminalized what is known as the minimum dose. The Uribe government also asserted that the increased consumption of drugs was responsible for heightening the country's violence as criminal organizations fought for the control of what is known as the micro-trafficking of drugs.

The following declaration of the Uribe administration typified its position:

. . . the subject of consumption is not only a concern of the industrialized countries. Consumption is growing a great deal in our own society. We have a lot of problems here and this is linked to criminality. . . . [Likewise] . . . all of the studies show that the consumption of illegal drugs significantly increased in the country from the time the Constitutional Court authorized and decriminalized consumption.

In December 2009, the Colombian Congress passed a constitutional reform which explicitly prohibits the consumption of drugs in Colombia⁵ but the measure still lacks a regulatory framework. At the present time, the Congress is considering a bill which, among other measures, would stiffen prison sentences for drugs sellers and order the obligatory treatment of consumers. In principle, the initiative aims to reduce not only the consumption of illegal drugs but the violence associated with their trafficking. In line with the constitutional reform, the bill assumes that the decriminalization of the minimum dose, and the tolerance underlying the Court's ruling in general, had a substantial influence on the increase in consumption.

For the most part, the debate about the increase in the consumption of drugs has been characterized by the absence of empirical arguments. The proponents of prohibition have assumed, without proving it, that there is a direct link between decriminalization and the growth of consumption. Its critics, for their part, have cited general principles of

⁵ However, the norm has not been completely applied and in many cases depends on the discretionary nature and degree of understanding of its possible application. See reference in Lemaitre and Albarracín (2011).

a typically libertarian kind which oppose the paternalism of the State or its arbitrary attempts to regulate the private life of citizens. No one has sought, for example, to study the alleged impact of the Constitutional Court's sentence on the consumption of drugs in the country. There has not even been an attempt to make a contextual analysis of the increase in drugs use in Colombia, by comparing it, for example, with what is happening in other countries in Latin America.

The purpose of this chapter is to fill this empirical gap. It examines the available data and offers some conclusions that are relevant to this crucial debate on drugs consumption in the country. In general, it is prompted by the conviction that public policy on the consumption, production and trafficking of drugs must take the available evidence into account and not be based simply on supposed causal links or unquestionable philosophical principles.

Figure 1. Support for the legalization of drugs, in quintiles

Source: Encuesta Social y Política (2006). Our own estimates

It is also worth going beyond the data and statistical evidences to take a brief look at the climate of opinion about decriminalization or in more general (and ambiguous) terms, the legalization of drugs. The Social and Political Survey (ESP) from Universidad de los Andes, an opinion poll undertaken for the first time in the year 2006, originally included a question about the legalization of drugs: 2,600 people from the country's

four major cities were asked whether they were or were not in favor of legalization. Figure 1 shows the results for each quintile of socioeconomic strata (the quintiles were based on housing conditions and the ownership of durable goods). Those in favor of legalization barely passed the level of 20%. In addition, the differences between the rich and the poor are substantial. From those in the lowest quintile, 16% were in favor of legalization, compared to 35% of those in the highest one. These differences are not surprising, since, according to the same survey, there is a general difference between the attitudes of the rich and the poor in other areas like the market economy, interest in politics and support for harsher judicial measures. Nevertheless, of all the variables included in the survey, the legalization of drugs is the one which shows the greatest difference between the opinions of the rich and the poor.

III. Data

As was mentioned in the introduction, to analyze the evolution of the consumption of drugs in Colombia in recent years we used the information found in the national surveys undertaken by the National Narcotics Administration (*Dirección Nacional de Estupefacientes* – DNE) in 1992, 1996, 2008 and 2013. In this respect we need to clarify that these surveys are not wholly comparable, since they used different methodologies for sampling and compiling data. The population in the first two surveys was made up of people between the ages of 12 and 60. The 1992 sample is representative for the 6 main regions in Colombia. The 1996 survey includes people who live in 150 municipalities with a population of 7,000 or more inhabitants. In the 2008 and 2013 survey, the group was made up of people between the ages of 12 and 65 who live in departmental capitals and large municipalities with 30,000 or more inhabitants.

The four surveys contain information about the consumption of both legal and illegal psychoactive substances. Among them we find tobacco, alcohol, nervous system stimulants, marijuana, cocaine, *bazuco* (crack), heroin, ecstasy and LSD.

The informants were asked whether they had once tried any of the substances. If the answer was yes, they were also asked how frequently they had consumed the substance or substances in the year and month before the survey. The surveys also included a series of questions about the risks and problems caused by drugs consumption

(problems with family, friends, work and the law). In this chapter we focus on the five drugs most frequently used in Colombia: marijuana, cocaine, *bazuco*, heroin and ecstasy (on the latter there is only information for 2008 and 2013). The surveys of the DNE show that, generally speaking, there has been a substantial increase in drugs consumption in Colombia during the past 20 years. Whereas 3.4% of the population had consumed drugs at least once in their lives in 1992, this percentage had already risen to 5% by 1996, to 8.7% by 2008 and reached 12% in 2013. The consumption of alcohol (five or more drinks per week) corresponds to 3.2% in 1996 and raises approximately to 6% in 2008 and 2013. The consumption of cigarettes, on the other hand, showed a slight decline during the past seventeen years.

All surveys contain questions about the socio-economic characteristics of the individuals: gender, age, educational level, marital status, among others. Table 1 shows that, in all surveys men accounted for less than half of those polled, their average age gradually increased in each survey and hence the percentage of those who said they were employed also increased. For all surveys more than half stated they belonged to the poorer classes while, on average, less than 5% belong to a rich household. A comparison of the surveys shows important differences in the educational attainment of the people who were polled. Whereas 75% had not finished high school in the first survey and 9% had some university education, these percentages changed to 34% and 29%, respectively, in the last one. This difference is not only due to the progress of the country's educational system between the first and last survey, but also due to the difference in their geographical coverage. For example, the percentage of informants who lived in the major cities of the country was 10% in 1992, 21% in 1996, 35% in 2008 and 45% in 2013.

Table 1. Descriptive statistics of the variables used in the regression analysis

	1992	1996	2008	2013
Variable	Proportion/average %			
Consumption of a traditional drug in his or her lifetime	3.4	5	8.7	12.0
They smoked six or more cigarettes a day in the previous month	5.0	6.9	6.3	5.0
They drank five or more glasses of liquor in the previous week*	8.4	3.2	5.9	5.7
Men	44.7	48.4	46.8	48.5
Between the ages of 12–17	30.6	21.4	16	14.3
Between the ages of 18–24	26.5	18.6	17.7	17.1
Between the ages of 25–34	16.7	22.6	21.8	21.5
Between the ages of 35–44	12.7	17.7	20.2	18.7
45 years or older	13.5	19.4	24.1	28.7
Uneducated	23.3	25.3	8.3	1.2
Complete primary education	15.7	17.8	9.8	16.1
Incomplete secondary education	36.0	30.6	28.3	17.0
Complete secondary education	15.7	15.6	25.1	36.3
Incomplete university education	4.5	4.4	17.7	13.6
Complete university education	4.6	6.1	10.4	15.6
Workers	37.7	45.9	45	53.0
Students	30.9	22	21.1	18.9
Housewives	24.1	27.8	20.7	14.5
Unemployed	6.0	4.1	13	13.6
Married women or common law marriage	34.9	45.1	47.9	47.1
Widows or separated	5.6	6.8	7.7	8.0
Bachelor	58.3	47.9	44.2	44.4
Live in a rented room	3.1	2.6	NA	NA
Live in a shack or similar	7.7	7.5	NA	NA
Has a toilet	72.0	75.7	NA	NA
Access to public aqueduct	87.3	80.2	NA	NA
Low stratum	60.1	63.2	54.6	63.9
Middle stratum	37.7	34.3	39.7	31.3
High Stratum	2.2	2.3	5.7	4.7
Bogotá	6.1	10.6	18.4	24.1
Medellín	1.1	3.5	6.4	9.2
Cali	1.4	3.3	5.6	7.3
Barranquilla	2.2	3.1	4.4	3.9
Number of members of home	3.6	3.9	3.6	3.4
Number of observations	18,769	18,571	29,164	32,605

Source: DNE (1992, 1996, 2008), OCD (2013) and our estimates.

* The 1992 survey asks the question regarding how many times the individual drank five or more glasses of liquor in the last two weeks, and therefore we take those who reported having drunk this amount twice or more times in that period of time.

IV. Characteristics of Drugs Consumers in Colombia (1992–2013)

Table 2 presents some figures on the consumption of drugs in Colombia obtained from the four surveys described in the previous section. From each survey, we take the percentage of people who answered that they had consumed the different types of drugs mentioned above.

Table 2. Average consumption of drugs in Colombia (1992-2013)

Type of drug	1992			1996		
	Once in his or her life (%)	Previous year (%)	Previous month (%)	Once in his or her life (%)	Previous year (%)	Previous month (%)
Marijuana	4.00	0.39	0.34	4.68	1.24	0.59
Cocaine	1.86	0.1	0.1	1.13	0.29	0.13
Crack (<i>Bazuco</i>)	1.68	0.11	0.03	0.83	0.20	0.16
Heroin*	1.19	N,D	N,D	0.11	0.01	0.01
Ecstasy	N,D	N,D	N,D	N,D	N,D	N,D
Some kind of drug	3.42	0.52	0.42	5.06	1.41	0.74
Type of drug	2008			2013		
	Once in his or her life (%)	Previous year (%)	Previous month (%)	Once in his or her life (%)	Previous year (%)	Previous month (%)
Marijuana	7.99	2.27	1.60	11.48	3.27	2.18
Cocaine	2.48	0.72	0.43	3.23	0.70	0.40
Crack (<i>Bazuco</i>)	1.09	0.17	0.10	1.18	0.21	0.17
Heroin*	0.19	0.02	0.02	0.14	0.03	0.02
Ecstasy	0.91	0.28	0.11	0.71	0.19	0.02
Some kind of drug	8.70	2.68	1.82	12.04	3.52	2.32

Source: DNE (1992, 1996 and 2008), OCD (2013) and our own estimates.

*The 1992 survey asked about the joint consumption of heroin, opium and its derivatives (such as morphine).

In 1992, the percentage of those who consumed marijuana at least once in their lifetime was 4; the percentage of those who consumed cocaine, 1.86; for *bazuco*, it was 1.68 and finally, for heroin, the percentage was 1.19.⁶ The percentages of those who answered that they had consumed drugs in the previous year are smaller, for obvious reasons: 0.39

for marijuana and 0.1 for cocaine and *bazuco*. The percentages for people who answered that they had consumed some kind of drug in the month before the survey were 0.34 for marijuana, 0.1 for cocaine and very low for *bazuco*. Table 2 also shows these same percentages just described for 1992, but corresponding to the years 2006, 2008 and 2013. The figures show a substantial increase in the consumption of most of the psychoactive substances during the period 1992–2013. The reported consumption of marijuana at least once reached 4.68% in 1996, 7.99% in 2008 and 11.48% in 2013. That of cocaine reached 1.13% in 1996, 2.48% in 2008 and 3.23% in 2013. That of *bazuco* decreased to 0.83% in 1996 but then increased gradually to 1.09% in 2008 and 1.18% in 2013. Finally, the consumption of heroin and ecstasy decreased since 2008 from 0.19% and 0.91% to 0.14% and 0.71% in 2013, respectively. These percentages imply a growth between 1992 and 2013 in the ‘at least once in their lifetime’ consumption of marijuana and cocaine by 187, 74%, respectively. Heroin consumption increased between 1996 and 2013 by 27%; while crack consumption decreased by 30% between 1992 and 2013, and ecstasy consumption decreased by 22% between 2008 and 2013.⁷ The figures show a similar increase for consumption in the previous year, except again in ecstasy, where there was an important decline. For consumption in the previous month for the period between 1992 and 2013, that of marijuana grew by 541%; of cocaine, 300%; of *bazuco* by 467%; and that of heroin by 100.0% between 1996 and 2013. Finally, between 2008 and 2013 the consumption of ecstasy declined by 82%.

These figures show that the consumption of most of psychoactive substances in Colombia substantially grew in the period between the years 1992 and 2013. As we mentioned before, the administration headed by President Álvaro Uribe repeatedly argued that this increase was mostly due to the decriminalization of the personal dose (Sentence C-221, May/1994). This hypothesis will be analyzed, indirectly, in a later section of this chapter. The available figures suggest that the hypothesis is doubtful in the best of cases, and false, in the worst.

Regardless of the debate about the causes or determinants of the increased use of drugs, the trend is worrying and indicates the need to strengthen policies for preventing consumption and treating addiction. An epidemiological characterization of

⁷ For heroin and ecstasy these percentages are not estimated for the whole period between 1992 and 2013 due to differences in the questions in each survey as detailed in the footnote of Table 2.

drugs consumers is a fundamental factor in the design of these policies. In particular, it is important to understand the risk factors associated with consumption and the manner in which they have changed over time.

Figure 2 shows the average age when people began to consume drugs. The informants were grouped into eleven cohorts, each spanning approximately seven years. This grouping allows one to analyze the changes in the age of first use in different generations. As is seen, there are significant differences both in the prevalence of consumption and the age at which people began to use drugs. Overtime a bigger percentage of individuals in the younger generations report having consumed drugs once in their lives. In addition, the starting age is increasingly younger. For example, on the basis of the 2013 survey, one finds that 7.77%% of those born between 1943 and 1949 answered that they had consumed drugs at least once. In this group the average age of first use was 24.45. But for those born between 1992 and 1996, the percentage of those who consumed drugs at least once is 17.25% and the age of initiation, 14.7 years on average.⁸

Figure 2. Average age when people began to consume drugs

⁸ The differences seen for the last cohort, those born between 1997 and 2001, may be due to the fact that they are still at a young age and it is thus necessary to wait a few more years to have a more accurate information about drugs consumption. Furthermore, due to restrictions on the information, this final cohort is constructed on the basis of a lesser number of years. It should also be taken into account that the starting age reported by older cohorts may face more problems of memory.

The above information suggests that prevention policies should focus on people of increasingly younger ages. But it is still incomplete or insufficient. It does not take into account other characteristics of these people, apart from age, that may also have an influence on the consumption of drugs. Up to now the studies done in Colombia provide some evidences in this respect, but, as they are based on simple correlations, they do not achieve an adequate identification of the main risk factors. With this aim in mind, we made some estimates on the basis of some binary response models which study the relationship between the demographic and socio-economic characteristics of people and the likelihood that they will consume drugs. In general terms, our main interest is to estimate how the different individual characteristics affect the probability of consuming drugs. In the specific case of this chapter, our variable of interest is a binary variable which takes a value of one if the individual reports having consumed drugs at some point in his or her life and zero otherwise.⁹ Due to this definition of the variable of interest, the exercise in question does not characterize a typical addict but only those who report having consumed illegal psychoactive substances at least once in their lives. In order to undertake an analysis of the characteristics of an addict, a more detailed survey would be necessary, one that would oversample drug consumers and thus allow one to identify habitual consumers in a more exact way (World Health Organization, 2005).¹⁰

Among the variables included in the estimations there are some demographic and socio-economic characteristics of the people, like age, gender, educational level, main source of income and the economic stratum to which the person belongs, among others. Additionally, all of the estimated models include dummy variables which identify the residents of the country's four major cities (Bogotá, Medellín, Cali, Barranquilla). These latter variables enable one to control for non-observed characteristics of the cities which do not change over time and which may affect the average level of consumption of the people who live there. The models presented in this chapter are based on Probit

⁹ The same regressions were estimated for each kind of drug in a separate manner. However, this chapter only shows the combined version, since the predictive power of these models is low, due to the low number of observations of consumers per specific drug.

¹⁰ As may be seen in table 2, all surveys allowed for the obtention of information about those people who consumed some kind of drug in the last year and the last month. Nevertheless, the available information does not allow us to exactly determine whether they are or are not addicts under the World Health Organization's definition of addiction.

models (Wooldridge, 2008). The models were separately estimated for each survey, which allows for an analysis of the way in which the profile of the typical drugs consumer has changed in this period of time. The main results are shown in the table in the chapter's appendix.¹¹ The estimates show that, while the characteristics associated with the probability of consuming drugs have remained relatively constant over time, the magnitude of their influence changed during the period in question. The figures and numbers shown below describe these changes.

The first thing which stands out, evident in Table 2, is that the percentage of people who report having consumed drugs once in their lives increased between 1992 and 2013. In percentage terms, although not shown, the increase in consumption was similar for men and women. For men, the percentage rose from 5.7% to 17.3%, an increase of 203% in the past 20 years. For women, the consumption changed from 1.6 to 4.6% – an increase of 195% for the same period. These numbers also show that, on average, men in Colombia are more prone to consume drugs than women.

Figure 3 shows the change in the consumption of drugs according to the age of the people, after the direct effect of the other variables in the model has been taken into account. In general, in all the cohorts the consumption of psychoactive substances rose between 1992 and 2013. As was to be expected, the younger cohorts have a higher probability of reporting that they consumed drugs throughout their lives than the people older than 44. But the differences between cohorts were accentuated over time. In particular, the consumption of drugs was much higher among youngsters between the ages of 18 and 24 than in any other of the groups under consideration. In this group reported consumption nearly quadrupled. Age, which has always been a risk factor, seems to have become even more important in recent years.

¹¹ The table shows the marginal effects estimated on the basis of the survey made in the years 1992, 1996, 2008 and 2013, respectively.

Figure 3. Likelihood of consumption of drugs according to the age

Source: DNE (1992, 1996 and 2008), OCD (2013) and our own estimates.

The person's educational level does not seem to have an important influence on the probability of consuming drugs at some point of his or her life. Although a larger proportion of uneducated people reported having consumed drugs in comparison with those who have high school or university diplomas, this difference, nearly one percentage point, is not statistically significant. The results of the estimation show, in particular, that the effect of education occurs in terms of the socio-economic level, possibly because of its effect on people's acquisitive powers. Once the socio-economic level is controlled for (social strata in this case), the effect of education disappears or even becomes negative. Figure 4 shows that the consumption of drugs increased in a proportional manner in all strata.¹² In general however, consumption is greater in the higher strata than in the others. Specifically, in the higher strata, consumption increased by nearly 226% over the past 20 years. Thus, belonging to the higher strata is an important risk factor nowadays.

¹² Strata 1 and 2 correspond to lower; 3 and 4 to middle; 5 and 6 to upper.

Figure 4. Likelihood of consumption of drugs according to the stratum

Source: DNE (1992, 1996 and 2008), OCD (2013) and our own estimates.

It is interesting to note that the unemployed are more likely to consume drugs than students, employees and housewives in all surveys analyzed. As shown in the appendix, the differences are statistically significant and by 2013 they amount to around 2 and 3 percentage points on average when compared with housewives or students respectively.

Finally, Figure 5 shows that the consumption of psychoactive substances is strongly linked with the habits of drinking and smoking cigarettes. For example, for the year 2013, a person who has more than five drinks a week is 8.4 percentage points more likely to have consumed drugs than one who does not (this effect takes into account the effects of the other variables in the estimation). Something similar happens with the consumption of cigarettes. For the year 2013, a person who smokes more than 6 cigarettes a week is 15.5 percentage points more likely to have consumed drugs than one who does not.

Figure 5. Likelihood of consumption of drugs according to the consumption of alcohol and cigarettes

Source: DNE (1992, 1996 and 2008), OCD (2013) and our own estimates.

The above results enable us to identify some of the risk factors associated with drugs consumption. The most important factors are the following: being a man, being between the ages of 18 and 24, belonging to high social strata, having more than five drinks a week and smoking more than six cigarettes daily. These factors appear significant in all four surveys, but the importance of age seems to have grown over time. In general, policies for the prevention of drugs use should take these factors into account, and specifically, be aimed at young men from the middle and higher social strata.

V. Problems and Risks Associated with the Consumption of Drugs

One of the arguments most frequently mentioned by those who uphold the penalization of drugs consumption are the problems and risks which consumption may bring both to the consumer and third parties. The DNE surveys for 2008 and 2013 have some questions which allow one to evaluate the dimensions and the frequency of the problems and risks associated with drug consumption. Both surveys asked those who consumed some psychoactive substance during the previous year if they had any problem at home, at work, in the place where they studied or with the authorities, or if the drugs affected their physical health.

Figure 6 shows descriptive statistics on the percentage of consumers of marijuana, cocaine or *bazuco* who reported that they had been involved in some kind of problem in 2008 or 2013. There are no significant differences in the number of problems drug

consumers report they get involved when comparing the answers in both surveys. However, for both years the kind of problem varies with the type of drug that is consumed. Problems at home, at work, with the family, with the authorities or with their own physical health are more common among consumers of *bazuco* (or at least more commonly reported). The problems mentioned by the consumers of marijuana and cocaine are similar, but with two statistically significant differences. For 2008, the consumers of cocaine report significantly more problems with their physical health. For 2013, the consumers of cocaine report significantly more assaults to other individuals under the influence of the drug.

Figure 6. Problems related to the consumption of traditional drugs

Source: DNE (2008), OCD (2013) and our own estimates.

The questions used in the above figure were only asked to drugs consumers, which hinders the possibility of making a comparative analysis of the extent to which drugs use caused the reported problems. We do not know, for example, if non-consumers are less prone to get involved in those kinds of situations. Future surveys should ask all the individuals about these problems in order to make case comparisons.

The 2008 and 2013 surveys included a question about the level of risk towards the individual associated with the consumption of different amounts of marijuana, cocaine or alcohol. Those surveyed (both consumers and non-consumers) were asked to grade the risk they would bear associated with consumption on a scale from 1 to 4, that is, from lowest to highest.

Figure 7. Average scores for risks of consuming different types of drugs

Source: DNE (2008), OCD (2013) and our own estimates.

Figure 7 shows the average value of the answers for consumers and non-consumers related with the risks of consuming different types of drugs. The first fact that should be noticed is that non-consumers believe that the consumption of alcohol and drugs have significantly higher risk levels than what consumers believe. Differences between these two groups of individuals are particularly stark for the risks of trying some type of drug and the consumption of marijuana reaching 12% and 21% respectively. For non-consumers, the highest risk levels are those associated with the use of *bazuco* and cocaine, while the lowest is that of alcohol. For the consumers of some drug, the highest risk level is likewise attributed to the consumption of *bazuco*. The consumers

nevertheless believe that the risk associated with trying some drug or the consumption of marijuana is low, and even less than the risk associated with the frequent use of alcohol. Comparing the answers between 2008 and 2013 interesting results emerge. While the perception on the levels of risks associated with drug consumption did not change for non-consumers in the past five years, for consumers these same beliefs considerably changed in the case of marijuana. In particular, the risks consumers believe of consuming this drug decreased by 6% in the past five years.

This section evaluates, in an indirect manner, the possible consequences of the ruling (Sentence C-221, May, 1994) that decriminalized the minimum dose. The analysis includes three independent but complementary arguments. First, on the basis of the 2008 survey, we reconstruct the evolution of the new consumers since the early 1980s and, through a simple time series methodology, we examine whether the rapid growth in the number of new consumers in this period did in fact coincide with decriminalization. Second, we ask whether the growth in drugs consumption in Colombia is in line with what has occurred in other countries. If it were, the supposed effect of sentence C-221 would be doubtful or would at least raise the question of why consumption rose in a similar manner in other countries where there were no legal changes. And third, we analyze whether the growth of consumption has been different in the center of the country, or much greater in some cities than others, for example. If that were so, it would likewise raise doubts about the argument that a uniform legal change, which in theory affected the whole country in an equal manner, was a major factor in the rapid growth of consumption.

The Evolution of Consumption

On the basis of the information in the surveys undertaken by the DNE in 2008, we built a variable which shows, for each year, the percentage of people between the ages of 18 and 25 who consumed drugs for the first time. To do that we used two sources of information: the age of the individual at the time of the survey and the reported age when the person first consumed drugs. On the basis of these two figures, it is possible to calculate the time which elapsed since the first use, and, in addition, the year when consumption first occurred. For example, if the figures show that a person began

consuming ten years before, that person will be classified in the group of new consumers corresponding to the year 1998, taking into account that the survey was carried out in 2008. The total number of new consumers for each year obtained in this way is divided by the number of people surveyed. As was already indicated, the analysis was limited to people between the ages of 18 and 24, taking into account that the results discussed in the previous section show a higher frequency of drugs use in that age range.

Figure 8 shows the evolution of the variable in question (percentage of new consumers between the age of 18 and 24) and a change of trend in 1994, the year when the consumption of drugs was decriminalized in Colombia. The figure shows that consumption, measured by the appearance of new consumers, doubled between the mid-1990s and 2008, and tripled between the end of the 1980s and the end of the previous decade. These figures are consistent with those presented in a previous section, which were based on a comparison between the 1996 and 2008 surveys.

Figure 8. Evolution percentage of new consumers between the age of 18 and 24

Source: DNE (2008) and our own estimates.

One way to empirically determine whether the increase in consumption was actually due to the decriminalization decreed in 1994 is to verify if there was a structural change in the trend of the series of new consumers. With that aim in mind, twelve models with

different changes of trend were constructed. The first assumed that the change in trend occurred in 1992, the second, in 1993, the third, in 1994 and so forth until the year 2003 is reached.

For each estimated model, the explanatory power was tested by means of the R^2 .¹³ Figure 9 shows this statistic for each of the estimated models. The best adjustment is obtained at the beginning of the 1990s. The results are not definitive enough to identify a structural change in the trend of drug consumption. It seems equally probable that the break might have occurred before 1994 or a little later. In the end, the available evidence does not allow for a definite confirmation that the consumption of drugs suddenly and drastically rose from the time that the personal dose was decriminalized. The data are perfectly consistent with an alternative hypothesis, with a break in the trend towards the growth of consumption before, not after, Sentence C-221 of 1994.

Figure 9. Year with the best adjustment in the change of the trend of drugs consumption

Source: DNE (2008) and our own estimates.

¹³ The R^2 corresponds to the goodness of fit of the econometric model employed. The R^2 is a value between 0 and 1, which will be higher when the explicative variables contain more information about the explained variable.

An International Comparison

As was already noted, the comparison between the growth of drugs consumption in Colombia and other countries may throw some light on the effect of decriminalization on internal consumption. Once again, if the growth and level of consumption observed in Colombia does not differ from that seen in other countries, it would be more difficult to argue that decriminalization had a substantial effect. In other words, an international comparison partly addresses the contra-factual question asked in this section, that is: what would the growth of drugs consumption in the country have looked like if the minimum dose had not been decriminalized in 1994?

Figure 10. Consumption of cocaine at least once in one's life, international level (1996-2013)

Source: For Argentina see Míguez (1999) and Ahumada (2011). For Chile see SENDA (2013). For Colombia DNE (1992, 1996 and 2008), OCD (2013) and our own estimates. For Perú see Contradrogas (1999), CICAD (2008) and Comisión Nacional para el Desarrollo y Vida sin Drogas (2011). For Mexico see Brower (2006) and Villatoro-Velazquez et al. (2012).

There are comparable international figures for all the surveys in four additional countries in the region. Figure 10 compares the consumption of cocaine in Argentina, Chile, Colombia, Peru and México for the years 1996–1999, 2008 and 2010–2013.¹⁴ The figure shows the percentage of people who reported that they had consumed cocaine at least once in their lifetime. In the late nineties consumption of cocaine was higher in Argentina and Chile, while Colombia, Peru and México had very comparable figures. For the growth of consumption between the mid-1990s and 2008, Argentina and Peru had a growth rate of 5%; while Chile, Colombia and México had much higher growth rates of 127, 92 and 60% respectively. Comparing this same group of countries between 2008 and 2013, there is an evident reduction in the growth rates of cocaine consumption for Argentina and Chile of 23% and 28% respectively. For their part, Colombia, Peru and México had an increase in their growth rates of 29, 24 and 37% respectively.

The comparison reveals, on average, a greater level of consumption in Argentina and Chile by mid-nineties compared to the other three countries. By 2013 however, consumption in México and Colombia increased to levels similar to Argentina but still lower than Chile. Peru shows a much lower level of consumption compared to other countries in the region, while Argentina is the only country in which consumption decreased between 1996 and 2013. Finally it is worth noting that the trends and levels of consumption for México and Colombia are very similar.

As previously mentioned, in 1994 the Constitutional Court decriminalized the consumption of the personal dose of drugs in Colombia, but in 2009 the Colombian Congress passed a constitutional reform which explicitly prohibited the consumption of drugs in Colombia. As has been said, if the effect of decriminalization (or later criminalization) had been significant, the growth of consumption in Colombia would have been, in relative terms, much greater (or lower) than that in other countries. The data is not consistent with that story, which throws much doubt on the supposed

¹⁴ Data was obtained from different sources and hence we do not have it for the same years in all countries. For Argentina we have data for 1999, 2008 and 2010; for Chile we have data on 1996, 2008 and 2012; for Peru we have data on 1996, 2008 and 2011 and for Mexico we have data on 1996, 2008 and 2011. The sources are listed in the References.

importance of such laws. Between 1996 and 2008 the growth rate of drug consumption in Colombia was similar to the growth rate of Mexico, a country that during that period had not decriminalized consumption yet. Similarly, between 2008 and 2013, when drug consumption was criminalized again, Colombia did not have the lowest consumption growth rate in the region. In fact, after México it had the highest consumption growth rate while consumption in Argentina actually decreased in this period even though consumption in this country was decriminalized in 2009.¹⁵

A Comparison between Different Colombian Cities

The surveys done in 1992, 1996, 2008 and 2013 allow us to compare the growth of consumption in different Colombian cities. Figure 11 illustrates the change in the percentage of people who reported having consumed drugs in the cities of Bogotá, Medellín, Cali and Barranquilla, and in the rest of the country. The differences in the frequency of consumption are notable. In Medellín, for example, the consumption registered in 2013 was three times of that observed in Barranquilla in the same year.

Figure 11. Consumption of drugs, by cities (1996-2013)

Source: DNE (1992, 1996 and 2008), OCD (2013) and our own estimates.

¹⁵ See for example <http://www.eltiempo.com/archivo/documento/CMS-5995507>.

But we would like to emphasize another fact. The growth of consumption was quicker in the cities where consumption was lower in 1996. For example, consumption grew by 382% in Barranquilla (where it was initially very low) and 82% in Medellín (where it was initially very high). Figure 11 suggests, in particular, a certain convergence of the regional rates of consumption. Or, in other words, Figure 11 suggests a reduction of the formerly significant differences between regions. This fact suggests that the growth of consumption may be associated either with regional factors or with endogenous processes of change. Whatever the case, the regional pattern of growth does not seem consistent with the hypothesis that consumption mainly grew as a result of a legal change which, by definition, uniformly applied to all of the country's regions.

VI. Conclusions

On the basis of the best available figures, this chapter documents the growth of drugs consumption in Colombia. Between 1992 and 2013 consumption almost quadrupled. Young men who are habitual consumers of liquor of tobacco and members of the middle and upper classes are the most frequent consumers of psychoactive substances. However, the growth of consumption occurred in all demographic groups and in all regions.

The available evidence – which is far from definitive but, on the contrary, merely indirect and suggestive – casts much doubt on the idea that the increased use of illegal drugs in Colombia was due to the decriminalization in 1994 of the minimum dose. The causes of this increased consumption are not fully known. The literature on other countries obliges us to be modest about our conclusions. As occurs with many social phenomena, the consumption of drugs has diverse causes that mutually reinforce one another. Often, small changes are enlarged through mechanisms of contagion and are thus undetectable in retrospect.

This chapter is barely a starting point, an initial contribution to the understanding of a complex and pressing subject. We hope that this chapter will help bring about an informed discussion, based on the facts and evidence, of the consumption of drugs in particular and anti-drugs policies in Colombia in general.

References

- Ahumada, Graciela (2011) "Tendencia en el consumo de sustancias psicoactivas en Argentina 2004-2010." Observatorio Argentino de Drogas y Presidencia Argentina.
- Brower, Kimberly C. (2006) Trends in Production, Trafficking and Consumption of Methamphetamine and Cocaine in Mexico. *Subst Use Misuse*, 41(5): 707–727.
- CICAD/OAS (2008), *Primer estudio comparativo sobre consumo de drogas y factores asociados en población 15 a 64 años*, Lima, Tetis Graf E.I.R.L.
- Comisión Nacional para el Desarrollo y Vida sin Drogas. (2011) Informe Ejecutivo. Encuesta Nacional de Consumo de drogas Población General Perú 2010.
- Comunidad Andina de Naciones (2009), *Estudio epidemiológico andino sobre consumo de drogas sintéticas en la población universitaria de Bolivia, Colombia, Ecuador y Perú, 2009*. Lima, Tetis Graf E.I.R.L.
- Conace (1996), *Estudio nacional de drogas en la población general de Chile*, Gobierno de Chile.
- Contradrogas (1999), *Informe final de la encuesta nacional sobre prevención y uso de drogas*, Lima, Fondo Editorial Contradrogas.
- DNE and CEIS (1996), *Consumo de sustancias psicoactivas en Colombia 1996: Informe final*, Bogotá.
- DNE, Fundación Santa Fe de Bogotá, Fundación Escuela Colombiana de Medicina and Ministerio de Justicia (1992), *Estudio nacional sobre consumo de sustancias psicoactivas, 1992*, Bogotá, Editorial Carrera 7ª Ltda.
- DNE and Ministerio de la Protección Social (2009), *Estudio nacional de consumo de sustancias psicoactivas en Colombia 2008: Informe final*, Bogotá, Editora Guadalupe S. A.
- Echeverry, J. C. and Partow, Z. (2005), *Why Justice is Unresponsive to Crime: The Case of Cocaine in Colombia*, Bogotá, Banco de la República, Borradores de Economía, n. 003778.

- Gaviria, A. (2000), 'Increasing Returns and the Evolution of Violent Crime: the Case of Colombia', *Journal of Development Economics*, vol. 61, n. 1, pp. 1–25.
- González, T. and Smith, R. (2009), *Drugs and Violence in Colombia: a VECM Analysis*, London, Birkbeck Working Papers in Economics and Finance N° 0906.
- Grossman, H. and Mejía, D. (2008), 'The War Against Drug Producers', *Economics of Governance*, vol. 9, n. 1, pp. 5–23.
- Larreamendy-Joerns, J. and Vence, M. F. (2011), 'La demanda como drama: la prevención y el tratamiento del uso de drogas en Colombia', in Gaviria, A. and Mejía, D. (eds.), *Políticas antidroga en Colombia: éxitos, fracasos y extravíos*, Bogotá, Ediciones Uniandes.
- Laufer, J. (1996), *Segunda encuesta nacional sobre consumo de drogas en el Ecuador*, Quito, Consep.
- Lemaitre, J. and Albarracín, M. (2011), 'Patrullando la dosis personal: la represión cotidiana y los debates de políticas públicas sobre el consumo de drogas ilícitas en Colombia', in Gaviria, A. and Mejía, D. (eds.), *Políticas antidroga en Colombia: éxitos, fracasos y extravíos*, Bogotá, Ediciones Uniandes.
- Medina, C. and Martínez, H. (2003), *Violence and Drug Prohibition in Colombia*, Munich, MPRA Paper N° 6935.
- Mejía, D. and Restrepo, P. (2010), 'The War on Illegal Drug Production and Trafficking: An Economic Evaluation of Plan Colombia', Bogotá, Documentos CEDE 005123, Universidad de los Andes-CEDE.
- Míguez, H. (1999), *Encuesta epidemiológica sobre prevalencia de consumo de sustancias psicoactivas en Argentina 1999*, Observatorio Argentino de Drogas.
- Ministerio de Justicia y del Derecho and Ministerio de Salud y de la Protección Social (2014), *Estudio nacional de consumo de sustancias psicoactivas en Colombia 2013: Informe final*.
- ONUDD (2006), *Jóvenes y drogas en países suramericanos: un desafío para las políticas públicas. Primer estudio comparativo sobre el uso de drogas en población secundaria de Argentina, Bolivia, Brasil, Colombia, Chile, Ecuador, Paraguay, Perú y Uruguay*, Lima, Tetis Graf E.I.R.L.

SENDA (2013) Decimo estudio Nacional de Drogas en Poblacion General. Principales Resultados. Observatorio Chileno de Drogas, Servicio Nacional para la Prevención y Rehabilitación del Consumo de Drogas y Alcohol (SENDA).

Villatoro-Velazquez, J.A. et al. (2012) El consumo de droga en México: Resumen de la Encuesta Nacional de Adicciones 2011. Salud Mental, Vol 35 No.6.

World Health Organization (2005), *Neurociencia del consumo y dependencia de sustancias psicoactivas*, Washington, WHO.

Pérez, A. (2009), 'Transiciones en el consumo de drogas en Colombia', *Adicciones*, vol. 21, n. 1, pp. 81–88.

Substance Abuse and Mental Health Services Administration (1997), Results from the 1996 *National Survey on Drug Use and Health: National Findings*, OAS Series #H-13, DHHS Publication N° (SMA) 97–3149, Rockville, MD.

Wooldridge, J. (2008), *Introducción a la econometría: un enfoque moderno*, 2nd ed. Paraninfo.

Appendix

Marginal effects resulting from Probit regression model

	1992	1996	2008	2013
	(1)	(2)	(3)	(4)
Variables	Consumption of traditional drugs during the person's lifetime	Consumption of traditional drugs during the person's lifetime	Consumption of traditional drugs during the person's lifetime	Consumption of traditional drugs during the person's lifetime
Man	0.02374***	0.02811***	0.06123***	0.09664***
Age 12-17	-0.00432	-0.00761*	0.01292	0.00862
Age 18-24	0.01696***	0.01474***	0.07168***	0.08904***
Age 25-34	0.01836***	0.01595***	0.03649***	0.05654***
Age 35-44	0.01597***	0.01472***	0.00637	0.01226**
Middle stratum	-0.00047	-0.00023	0.00765***	0.01263***
High Stratum	0.01836*	0.02209**	0.04745***	0.05391***
Has job	-0.00877***	-0.01093***	-0.00812**	-0.00797**
Studying	-0.01217***	-0.01372***	-0.03217***	-0.03452***
Housewife	-0.01270***	-0.01499***	-0.02224***	-0.02379***
Six or more cigarettes daily in the previous month	0.06379***	0.07102***	0.11918***	0.15550***
Has drunk five or more glasses of liquor in the previous week	0.03534***	0.03244***	0.08572***	0.08422***
Complete primary educ.	-0.00499*	-0.00539*	-0.00556	-0.00688
Complete secondary educ.	0.00009	0.00031	-0.00812*	-0.00101
Complete university educ.	-0.00008	0.00095	-0.01191**	-0.00837
Married or common law marriage	-0.00451*	-0.00492**	-0.00010	-0.01606***
Widower or separated	0.00242	0.00335	0.00698	-0.00991**
Lives in a rented room	-0.00172	-0.00043	NA	NA
Lives in a shack or similar	-0.00826**	-0.00807**	NA	NA
Home has indoor toilet	0.00887***	0.00816***	NA	NA
Access to public aqueduct	0.01143***	0.01154***	NA	NA
Number of people between the ages of 16 and 65 who live in the home	0.00073	0.00025	-0.00372***	-0.00261**
Bogotá	0.01745***	0.01600***	0.02460***	0.02047***
Medellín	0.08656***	0.08465***	0.09839***	0.13902***
Cali	0.02568**	0.02385**	0.04877***	0.08563***
Barranquilla	-0.01637***	-0.01624***	0.00137	-0.00534
Observations	18.769	17.991	29.164	32.605
Pseudo R-squared	0.146	0.153	0.149	0.162

Significance levels with respect to p-value. *** p<0.01, ** p<0.05, * p<0.1

Source: DNE (1992, 1996 and 2008), OCD (2013) and our own estimates.