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EPIDEMIOLOGY AND PSYCHOSOCIAL RISK FACTORS ASSOCIATED WITH ADOLESCENT DRUG CONSUMPTION

Buelga, S (1) & Ravenna M. (2) & Musitu, G. (1) & Lila M. S (1)

SUMMARY

Adolescence is a critical period in a person's lifetime in relation to the initiation and regular practice of risk behaviours. This chapter deals with drug consumption during this stage of life. Firstly, we carried out an epidemiological analysis of this behaviour, where we studies factors such as the age of initiation, regular use, and prevalence or consumption patterns of legal and illegal drug use. Secondly, after reviewing the various explanatory models and current theories on drug consumption, we explored this behaviour from a psychosocial perspective. Finally, we carefully examined the factors that account for the use of drugs during adolescence within different interrelated contexts (individual, microsocial and macrosocial).

1. Introduction

The widespread use of illicit drugs in Europe is a recent phenomenon that has developed from the post-war period until the present day. Over time, it has taken on different characteristics and forms of expression: in the mid-sixties, the age and typology of the drug user changed; drug use became a specifically teenage youth reality; the number of drug users increased, different types of drugs were introduced and various forms of excessive and destructive consumption greatly increased (Ravenna, 1997). In social life, drug use appears as a dynamic phenomenon that is in constant evolution. This dynamism can also be found in the relationship that individuals establish with the different substances.

Studies carried out since the late seventies, in both epidemiological and psychosocial spheres, have shown that adolescence is the crucial time for experimenting with both legal and illicit drugs. It is specifically between the ages of 11 and 18 that premises are established for types

(1) University of Valencia. Spain.
(2) University of Ferrara. Italy.

of drug use that do not involve any great risk and for those that can turn into abuse and addiction (Elliot, Orr, Watson, & Jackson, 2005). The specific characteristics that the phenomenon has acquired do not allow that it be explained through pathological or deviant processes of the person, but through a more complex framework of psychological processes related to adolescence (Hansen & O' Malley, 1996; Hawkins, Catalano, & Arthur, 2002; Musitu, Buelga, Lila, & Cava, 2000).

Drug consumption is defined by the World Health Organization (WHO, 1998) as the use of a substance, which once introduced in a live organism can modify one or several of its functions. It is, therefore, a kind of risk behaviour, such as unsafe sexual practices, inadequate nourishment, and criminal behaviour (Buelga & Musitu, 2004). From this perspective, drug consumption is considered to be closely related to the various developmental tasks that adolescents must cope with at this specific stage of their lives; and especially those tasks are related to the reorganization of self-concept (Pinquart, Silbereisen, & Wiesner, 2005).

The importance of this risk behaviour involves considerable effort on the part of researchers and scholars to explain the mechanisms underlying drug consumption. The complexity of this topic has resulted in the appearance of different theories and models in which the concept of drug itself is, from the start, difficult to define. The conceptualisation of what is considered to be a drug is more influenced by sociocultural circumstances of a given historical period than by the quality of a given substance and its effects on living organisms (Ravenna, 2005).

Among the many taxonomies proposed to classify the different psychoactive substances, one of the simplest and most widespread in the scientific literature classifies drugs in accordance with their different pharmacological effects on the central nervous system (WHO, 1998). From this perspective, drugs are classified into three large groups of substances: depressant, stimulant and psychodysleptic or psychotometic. Alcohol, opiates, hypnotics and sedatives are some of the various depressant substances that affect neural and motor activities, while amphetamine and other synthetic drugs (such as ecstasy), cocaine, xanthine (tea and coffee) and tobacco activate or stimulate the functions of the central nervous system. Finally, hallucinogens (LSD, mescaline), derivatives from cannabis, inhalants, and other chemicals, such as antidepressants, corticosteroids, and beta-blocking are regarded as psychodysleptic substances, which can modify or disturb the activity of the central nervous system by producing more or less intense perceptive distortions, illusions, and hallucinations in the individual.

There is currently already well-sustained evidence of the existing relationship between the different substances in the progression of drug consumption. Thus, authors point out the influence of legal drug consumption (alcohol, tobacco) on the initiation of illicit drug consumption. A classic study by Kandel (1980) outlines the existence of a sequence of four stages in the consumption of various substances: wine and beer; tobacco, or alcoholic drinks with higher alcohol content; marijuana; and other dangerous drugs such as cocaine. Following this model, which is known as the gateway theory, the author emphasizes the facilitating effect of legal drugs on the use of illicit drugs. This model is based upon the idea that the use of alcohol, tobacco, and marijuana at early stages acts as a "gateway" to experimenting with other drugs such as amphetamines, cocaine, hallucinogens, or heroin. However, consuming a specific substance in one phase of the sequence does not necessarily imply the subsequent consumption of other substances. In fact, the gateway effect is complex and cannot be reduced to a simple model (Buelga & Musitu, 2004; Kandel & Jessor, 2002).

The consumption of any kind of drug generally follows a course with an initial phase, a development phase (a combination of change, fluctuation, and stabilisation) and an end phase. A complex weave of factors that have a diversified role in the different stages of the development of this course comes into play (Ravenna, 1997). In the approach stage, the adolescent decides whether or not to try consumption. If the adolescent continues (the stabilisation phase), different styles of consumption may be adopted (occasional or regular), alternating between the two or breaking off completely. The willingness to try substances is, in fact, the result of a process of social construction which may imply different strategies of elaboration. In some cases this process is influenced by the stimuli present at a particular time in the surrounding environment (Ravenna & Cavazza, 2003; Rohrbach, Sussman, Dent, & Sun, 2005).

2. Epidemiological studies on licit and illicit drug consumption in childhood an adolescence in Europe

Most European countries have made significant efforts in the past few years to determine the current trends in legal and illicit drug consumption among teenagers. However, when interpreting the results of these studies, the different methodologies applied in each country and the cultural diversity among the European countries should be taken into acount. In spite of these limitations, epidemiological studies are a valuable source of information about drug consumption patterns among young people.

2.1. Legal drugs

Smoking is currently one of the most serious health problems in the 21st century. It is the most important avoidable cause of disease and premature death (WHO, 2004). Tobacco use often starts before adulthood. About 80 per cent of adult smokers start before the age of 18 (WHO, 2005). Adolescence is, consequently, a decisive period for determining the use of tobacco in adulthood.

The last report of the European School Survey Project on Alcohol and Other Drug Use Among Students in 35 European Countries (ESPAD, 2003) shows that the habit of smoking has decreased in the last five years. Although this habit is still widespread and varies considerably across countries, there seems to be an encouraging decline in cigarette smoking among young people in many European countries. The prevalence of cigarette smoking during the last 30 days among 15 and 16-year-olds decreased between 1999 and 2003, from 37 per cent to 35 per cent (Hibell, Andersson, Bjarnason, Ahlström, Balakireva, Kokkevi, & Morgan, 2004).

Despite this promising finding, tobacco is, together with alcohol, the most commonly used drug by young people. The mean age for the onset of smoking is about 12.5 years old; for regular consumption, it is about 15 years old (WHO, 2004). Both experimental and regular consumption increase significantly with age (ESPAD, 2003). In France, for example, the proportion of daily smokers (at least one cigarette per day) increases from 9 per cent to 25 per cent between the ages of 14 and 18 in boys, and from 10 per cent to 28 per cent in girls (Choquet, 2004).

The starting age seems to be related to the regular consumption of tobacco. Godeau, Raha, and Hubbet (2004) found that among 15-years-old, 49 per cent of daily smokers started smoking (for the first time) before the age of 11. This early age suggests that regular smoking seems to be associated with lower ages of experimental smoking. Obviously, a majority of adolescents who experiment at an early age with tobacco do not repeat this experience and do not acquire the habit of smoking.

Another interesting result is related to gender differences in tobacco use. The Health Behaviour in School-Aged Children Survey (HBSC 2001/2002), which was carried out in 35 countries in the WHO European Region and North America, and the ESPAD survey (2003) found a gender gap depending on geographical areas and regions of Europe (see Figure 1.1).

In eastern European countries, there are more boys who smoke than girls. In northern and western Europe, the pattern reverses: there are more girls who smoke than boys. In the southern and central countries of Europe, the rates are similar for both genders.

This data indicates that in the Ukraine, Lithuania, Estonia and Poland, boys smoke twice as much as girls. In the Ukraine for example, there are almost three times more boy smokers than girl smokers (35.2% vs. 13.5% respectively). Moreover, in these countries, instead of decreasing the habit of smoking has significantly increased in recent years among young people. For example, in Lithuania and Estonia, daily smoking rates for 15-year-old adolescents have increased 12 per cent with respect to 1998 (Godeau, Rahav, & Hubbet, 2004).

The data for northern and western Europe indicates the reverse in gender pattern. Although differences between boys and girls are not as important as in eastern Europe, in Germany, Austria, Spain and England, the results show that there are more girl smokers (24.1%) than boy smokers (19.5%). These gender differences are much more evident in Sweden, where the rate of young smokers is one of the lowest. In this Nordic country, girls smoke twice as much as boys (13.8 % girls vs. 5.7% boys).

FIGURE 1.1. NEAR HERE

Tobacco is highly addictive (Atrens, 2001), which explains the dependence and maintenance of its use after adolescence. Moreover, it seems to facilitate the use of other drugs (Kandel, 1980, Kandel & Jessor, 2002). In this sense, Lloyd and Lucas (1998) point out that the experimentation and use of alcohol is more frequent among smokers than among non-smokers. These authors also found that whereas 90 per cent of non-smokers had not experimented with cannabis, 84 per cent of smokers had done so. Indeed, some of these smokers continue smoking cannabis occasionally (28%) and some frequently (34%).

Nowadays, if tobacco and caffeine are excluded, alcohol is the drug that is most experimented with and consumed by young people (EMCDA, 2003). Young people start experimenting with alcohol at very early ages of adolescence (see Table 1.1.) The mean age of the onset of alcohol drinking is 12.6 years old (as is the case for tobacco). The first experience of drunkenness occurs at about 13.7 years old (HBSC 2001/2002). Boys are more precocious in these

experiences of initiation and in the use and regular abuse of this drug (ESPAD, 2003; Schmid & Gabhainn, 2004; WHO, 2005).

This gender gap is more obvious for specific patterns of alcohol consumption. Differences between sexes are smaller for the age of onset of drinking and drunkenness and are larger for weekly drinking and frequency of drunkenness (Schmid & Gabhainn, 2004). One third more boys than girls drink weekly, and a higher proportion of boys repeat situations of drunkenness (HBSC 2001/2002).

TABLE 1.1. NEAR HERE

The frequency and quantity of alcohol consumed from the ages of 15 and 16 until early adulthood are becoming significantly higher. In Spain, a study by Pons, Buelga, and Lehalle (1999) reveals that 18.4 per cent of 15 to 19-year-old adolescents are abusive consumers.

In fact, at 15 years old, 30 per cent of European students show a pattern of regular alcohol consumption (HBSC 2001/2002). Countries like England, the Netherlands and Wales are significantly above the average rate of consumption. More than 50 per cent of students report drinking weekly (WHO, 2005, see Figure 1.2). The opposite case has been observed in Portugal (15%) and the USA, Latvia, France and Finland (16-17%).

In these countries of low alcohol consumption, there is an interesting gender gap. Boys drink alcohol regularly twice as much as girls. This is the case of France, the USA, and Portugal. These gender differences are much lower in countries with high alcohol consumption. In Wales and Scotland, for example, the proportion of girls (48%) who drink regularly is almost equal to the proportion of boys (51%) who drink regularly. In contrast, in Malta and Italy, which are countries that show high alcohol consumption, gender differences are large. In these two Mediterranean countries, there may be cultural factors that can explain why girls drink much less alcohol in comparison with boys.

Although there are important differences in drinking cultures among countries, beer and spirits are the beverages more consumed by young people. In fact, beer is the most popular drink for European youth. It is more consumed by boys than girls. This gender preference is true for the western parts of Europe.

FIGURE 1.2 NEAR HERE

Data from the HBSC 2001/2002 Survey show that almost half of Danish boys who are 15 years old (47.7%) drink beer weekly; and more than a third of boys also consume this drink in

Wales, the Netherlands, Germany, England and Belgium (Flemish) (33.2%-43.1%). Moreover, boys prefer beer over spirits and wine in other parts of Europe like Malta, The Ukraine, the The Czech Republic and Italy (35.1%-40.1%). Girls also show this same preference in some of these countries. The highest consumption of beer is found in Denmark (31.5%). Other high prevalence countries for girls include the Czech Republic, Italy, Germany, the Netherlands, and Belgium (23.1%-16.7%).

In the Baltic countries, although the consumption of beer in boys is not as high, they drink four times more than girls. In this sense, in Croatia, Slovenia and Estonia, 26.6 per cent of boys drink beer, but the proportion decreases to 6.3 per cent for girls. The lowest consumption of beer among young people (boys and girls) with a percentage of nine per cent or less, is found in Finland, Spain, Portugal and Ireland (9-7.5%).

With regard to the consumption of wine, Finland, Portugal, Ireland and Norway, present the lowest rate of consumption among young people (2.5% or less). Actually, the regular consumption of this drink among 15-year-old adolescents is very low (lower than 0 %). However, it is significantly higher in countries where wine is part of the traditional culture with the exception of Spain. In comparison with the average consumption (7.25%), about one quarter of students (23.9.%) in Malta drink wine weekly and about one fifth (18.4%) in Italy. In Hungary, which is a wine-producing country, the proportion of regular drinkers (16.9%) is twice the average consumption. And, also, in all these countries, more than twice the number of boys drink wine in comparison with girls.

These gender differences are reversed in some countries of Western Europe. In England, Austria and Wales, the percentage of girls who drink wine (13.5%-15.5%) is twice the European average (7.25%). It is also double the consumption of boys (6.1-9.6%). In Germany, which has low consumption rates, girls also drink more wine than boys (8.2% vs. 5.7% respectively). In the rest of Europe and North America, with the exception of the the Czech Republic, boys consume more wine than girls (Schmid & Gabhainn, 2004).

With regard to the consumption of spirits, boys consume more than girls (12.4% for boys vs 9.7% for girls). Countries with higher rates of spirits consumption are Malta, England, Scotland and Denmark (28.8%-34.8%). In these countries, almost a third of 15-year-old adolescents regularly drink these strong beverages.

In England, Scotland and Wales, girls show a clear preference for the newly designed premixed drinks (alcopops). Since their recent appearance on the market in the mid-nineties, these alcoholic drinks, which are often characterised by sweet tastes and fruity flavours, have increased in popularity among young people, mainly girls. This is the case of the United Kingdom, Ireland, Norway, Denmark, and Switzerland. In Ireland, for example, alcopops consumption has increased among girls from three per cent in 1998 to eight per cent in 2002 (National Health and Life Style Survey, 2003). The Swiss Institute of Prevention of the Alcoholism and Other Drug Addictions reveals that, in this country, the sale of alcopops between 2000 and 2002 multiplied by 40 (ISPA, 2003). In Norway, 50% of 15 to 17- year-old adolescents drank three or more bottles the last time they consumed alcopops (Norwegian Gallup on behalf of Alkokutt, 2003).

With regard to the regular consumption of alcoholic drinks, a major concern is related to the increase in levels of drunkenness and binging for recreational purposes among young people. The practice of binge drinking, that is to say, the frequency of having five or more drinks in a row, seems to have increased among adolescents in northern and western Europe (Hibell et al. 2004). In fact, in Denmark, Ireland, the Isle of Man, the Netherlands, Norway, Poland, and the United Kingdom, approximately 24-32 per cent of 15-year-old students have practised this behaviour in the last month. This excessive consumption of alcohol is logically associated with episodes of intoxication. In Denmark and Ireland about one fourth of the students have been drunk three times or more during the last month (ESPAD, 2003). Also, in the United Kingdom, the Isle of Man, and Austria, between 22 per cent and 27 per cent of young people have had repeated experiences of intoxication.

It becomes obvious that an excessive or abusive use of alcohol at any stage of a person's lifetime represents a problem that affects the different vital contexts of individuals in significant ways: friendship, health, family life, profession, studies and economy (Babor, Del Boca, & Griffith, 2002; Jernigan & Mosher, 2005). The fact is that about 55, 000 young people die of causes related to alcohol in the European Region every year (WHO, 2005).

2.2. Illicit drugs

Different research lines suggest that the pattern of illicit drug consumption is different from that of legal drugs. Thus, the existence of a curvilinear relationship between age and illicit drug use has been outlined. The frequency and quantity of consumption remain low until the age of 14 (Ravenna, 1993, 2005). As age increases, so does illicit drug consumption, until the

maximum level is reached in the first stage of adulthood. This can be set, depending on the different authors, between the ages of 18 and 25 (Nyberg, 1979; Sloboda & Bukoski, 2003). After this age, consumption decreases significantly, when the acquisition of an adult social role takes place. An exception to this might be cannabis consumption. In fact, the regular use of cannabis is very usual until the age of 25; and this drug consumption is extremely high among young adults between 25 and 34 years old (EMCDA, 2004).

Currently, cannabis is the illicit drug that is most frequently consumed by both adolescents and adults. During the 1990's, its consumption significantly increased among adolescents (EMCDA, 2004). For instance, between 1995 and 1999, the experimental use of cannabis by 15 and 16-year-olds students doubled in several countries such as Finland and Norway. Nowadays this consumption is beginning to stabilize and even to decrease in countries like Ireland, which ten years ago had one of the highest rates of experimental consumption in Europe.

Today, the highest rates of experimental consumption in 15-year-old adolescents are in other countries like Switzerland and Canada (HBSC 2001/2002). The lifetime prevalence of cannabis use is over 40 per cent in Canada and 37 per cent in Switzerland (see Table 2.1). Additionally, more than a third of young students of 15-year-old students have tried this drug in very different and geographically distant countries such as Greenland, the United States, Spain, England and Scotland. With the exception of Greenland, the data also suggest that a significant proportion of these adolescents repeat the consumption of this substance between 3 and 39 times a year. These adolescents perceive the regular use of cannabis as a normal behaviour in the culture of the peer group (Ter Bogt, Fotiou, & Gabhainn, 2004; WHO, 2005). In Canada, almost 20 per cent of adolescents aged 15 years old are regular users. Switzerland (17.4%) and Spain (15%) also stand out because of their high prevalence rates. These numbers contrast with those found in eastern European countries, where the experimental and recreational consumption are particularly low. In countries like the former Yugoslav Republic of Macedonia, Lithuania, Latvia and the Russian Federation, less than three per cent of young people are regular consumptions of cannabis.

Most of the other western European countries, such as Germany, the Netherlands or Denmark have a moderate prevalence rate and fall between these two extremes. It is interesting to point out that in the Netherlands, where the sale and the use of cannabis are allowed in about 1200 coffee-shops (Barendregt, 1996), the consumption of this drug is relatively moderate. In fact,

this consumption is lower than in many other European countries and North America, although it is higher than in other countries.

TABLE 2.1 NEAR HERE

In all countries and for all patterns of cannabis consumption, boys consume more than girls. Gender differences are much more significant in the eastern and southern countries of Europe (EMCDA, 2004). In France, for example, this gender pattern becomes more noticeable with age (Choquet, 2004). At 17 years old, twice the number of boys than girls consume cannabis (14% vs. 6% respectively). And at 18 years old, this figure increases to three times (21% boys vs. 7% girls).

The heavy consumption of cannabis (more than 40 times within a year) is also much more frequent in boys than in girls. Actually, an important minority of young people are heavy users (EMCDA, 2004; WHO, 2005). This kind of consumption may be associated with problems at school, depression, risk-taking and deviance (Ter Bogt et al. 2004).

The 2001/2002 HBSC survey found that the top country in heavy consumption is Switzerland. Almost ten per cent of adolescents aged 15 years old are heavy users. Other countries with high prevalence rates are Canada, the USA, England, Scotland and Spain (5-8%). However, in the vast majority of European countries, the group of heavy users is less than three per cent.

Many authors emphasize that cannabis consumption in adolescence commonly takes place within the group of friends. Thus, the consumption of this drug with other users, may provide a platform of acceptability for trying other drugs (Pudney, 2002; Shillington & Clapp, 2002) Moreover, this concomitant exposure to other consumers increases the probability of access to illegal markets, which also might influence the gateway effect for other illicit drugs (EMCDA, 2004).

After cannabis, inhalants are currently the illicit drugs that are most consumed by adolescents (EMCDA, 2003). These drugs wich contain many different chemical components (glue, petrol, paint thinners, domestic polish, aerosol sprays-poppers-) are normally used between late childhood and early adolescence. According to the National Survey on Drug Use and Health (NSDUH, 2003), the first use of inhalants ocurrs on average about age 12.

According to data from ESPAD (2003), the highest prevalence of inhalants is reported in Greenland, where 22 per cent of adolescents have used them some time. There are also high rates of consumption in the Isle of Man, Ireland, Cyprus, Malta and Slovenia (15-19%). By contrast, in Romania, only one per cent has used it; and in Bulgaria, Hungary and Turkey, consumption is reported to by five per cent or less.

In general, the use of inhalants decreases quickly with age, so that its consumption in the school-age population is mainly experimental and occasional (NSDUH, 2003). In fact, the abuse of inhalants in both developing and developed countries is a problem that most affects the poorest sectors of society, in particular, street children and indigenous young people (Mallett, Rosenthal, & Keys, 2005; WHO, 2005). In Brazil, for example, 88 per cent of street youths use inhalants and solvents daily or several times a week (Inciardi & Surratt, 1998).

A very different reality exists with regard to other illicit drugs that are preferentially consumed in recreational settings related to rave culture. Indeed, the consumption of some synthetic drugs, mainly ecstasy (MDMA) and its derivates (MMDA, MDA, MDEA, MDBM) is most frequent by rave party visitors in dance music settings (techno, house,….) (Calafat, Stocco, Mendes, Simon, & Sureda et al. 1998; Engels & Ter Bogt, 2004).

Different researchers confirm that the small but significant group of adolescents who frequent recreational environments of this kind commonly consume this drug (Panagopoulus & Ricciardelli, 2005). A research study with a sample of 1,121 Dutch ravers showed that the lifetime prevalence of the use of ecstasy was 81 per cent (Van de Wijngaart, Braam, De Bruin, Fris, Maalsté, & Verbraeck, 1997). In techno dance settings, lifetime prevalence in the United Kingdom was 85 per cent (EMCDA, 2003), and in the Netherlands, 22 per cent of young people who attend rave parties consume this synthetic drug weekly (EMCDDA, 2004).

Ecstasy consumption among young people significantly increased during the decade of the 1990's. This increase has been very noticeable in some countries like the United Kingdom, the Netherlands, Germany, and Spain (Calafat et al. 1998). Actually, the use of this design drug, which is more frequently consumed by boys than girls, has exceeded the consumption of amphetamines in these and other countries. This synthetic substance is one of the illicit drugs that is most commonly used by adolescents (EMCDDA, 2004). In the Czech Republic, the data indicate that not only the use of ecstasy has increased, but also the use of methamphetamines (mainly pervitin), principally among girls.

Since coming on the scene, evidence suggests that, even though the prevalence in the use of ecstasy is very high in many countries, the use of this drug among young people has stabilized and decreased. In Spain, for example, the consumption of ecstasy doubled between 1998 and 2000, and has recently decreased to almost half. In fact, the National Drug Plan of Spain indicates that the use of this drug in the past 12 months among adolescents between 15 and 18 diminished between the years 2000-2004, from 6.7 per cent to 3.7 per cent (DGPNSD, 2005). However, in this country, the use of ecstasy begins at an earlier age (around 15.5 years old) in

comparison with other countries. In Switzerland, the age of maximum prevalence in the consumption of this drug according to Graf (1997) is between 18 and 26. In the United Kingdom, the age of maximum prevalence seems to range between 19 and 24 years (Chivite-Matthews, Richardson, O'Shea J, Becker, Owen, Roe, et al. 2005).

Polyconsumption is a widely extended practice among ecstasy consumers (Degenhardt, Barker,& Topp, 2004, NSDUH, 2003). According to Graf (1997), 94 per cent of ecstasy consumers have also tried other illicit drugs during the past 12 months. Likewise, in Italy, 86 per cent of ecstasy users have consumed this substance along with other drugs (Schifano, Di Furi, Miconi, & Bricolo, 1996). Schifano's study reveals that more than half of these consumers have used ecstasy jointly with cannabis or alcohol, and one third with popper or cocaine (see Figure 2.1).

FIGURE 2.1 NEAR HERE

Cocaine is another illicit drug whose consumption has also increased in the last decade in many European countries. This increasing trend contrasts with the generalized decrease in the use of hallucinogens (LSD and hallucinogenic mushrooms).

The increase in cocaine use seems to have occurred in the same countries where ecstasy consumption has also risen: the United Kingdom, Denmark, Germany, the Netherlands, and Spain. Recent surveys in these countries have found a lifetime prevalence in the use of cocaine between 5 and 13 per cent among 15 to 24- year-old males (EMCDA, 2004).

Although cocaine consumption is limited in the European school-age population, in countries like Spain, the use of cocaine has consistently increased in recent years. In 2004, the consumption of this drug was three and even four times higher among 15 to 18-year-old adolescents, in comparison with 1994. In 1994, practically no adolescent had tried cocaine in the last 12 months (0.9%), while in 2004 a percentage of 3.2 had tried it. This number was four times higher at the age of 17 (from 2.7% in 1994 to 14.0% in 2004)

It is clear that the growing tendency in the use of certain drugs has become a worrisome challenge in Europe in the 21st century. In recent years there has been an important increase in the number of cases seeking help and assistance for psychological dependency on these drugs within a context of clubbing and party-going (Green, O'Shea & Colado, 2004; Maxwell, 2003). In addition, some studies are already reporting deaths and psychiatric illnesses related to these new drugs (Gill, Hayes, DeSouza, Marker, & Stajic, 2002; Gree et al. 2004). In the United Kingdom, for instance, ecstasy- related deaths increased from 16 in 1998 to 55 in 2001 (EMCDDA, 2004).

For all these reasons, it has become a major priority to implement preventive strategies to fight the growing consumption of drugs in adolescence. Therefore, a psychosocial perspective of the various factors associated with drug use is essential. These factors span a continuum from individual to macro-environmental factors and are probably different for recreational and serious use.

3. Factors associated with drug consumption: a biopsychosocial approach

3.1. Initial approach

Even though each substance has its own specific domain, and the consequences of tobacco consumption, abuse of alcohol or, abuse of other drugs are essentially different, there are clear similarities in their models of development. Thus, the abuse of tobacco, alcohol, and illicit drugs show similar epidemiological and etiological models and reveal numerous coincidences in the approaches to the treatment and prevention of these problems (Hansen & O' Malley, 1996). Furthermore, on many occasions, it has been demonstrated that social influence is an important factor that promotes the experimentation, increased use, and continued consumption of all these substances regardless of the differences in the pharmacological effects of each one.

From this perspective, researchers point out two general factors that influence substance consumption. Firstly, it is clear that previous consumption of a substance is a determinant factor of subsequent consumption, as stated above. Some substances produce addiction by generating symptoms of abstinence and psycho-pharmacological tolerance (Hodgkins, Cahill, Seraphine, Frost-Pineda, & Gold, 2004). Secondly, previous studies have also shown that psychosocial factors, such as the influence of peers, play an important role in the initiation and progressive development of substance consumption (Musher-Eizenman, Holub, & Arnett, 2003).

In this sense, Becker (1974) emphasizes the importance of the interaction with others in the approximation and initiation stages of drug consumption. This author regards the progression in drug consumption to be the result of a complex succession of psychological and social experiences, in which the context of interaction with other consumers reinforces or modifies the pre-existing attitudes towards drug consumption (a predisposition towards consumption or towards rejection). The moment and conditions in which that interaction takes place become particularly important, because they represent a change from a simple predisposition to direct experimentation with a substance.

The underlying complexity of drug consumption in both the initiation and continued drug consumption stages has led to important efforts by researchers to develop theoretical models that are powerful enough to explain at least some of the main processes and factors that are related to this social problem.

3.2. The development of the interpretative models: from an intrapersonal approach to an ecological perspective

The initial approaches developed in the sixties were focused on explanations of drug consumption through unidimensional factors. Thus, individual or situational factors were considered to predictive factors of the use of substances. Some of the variables outlined in these approaches concerned specific personality features, deficits in identity development, influence of behaviour models, or disorders in the relationship between the subject and the social context.

Subsequent studies disregard explanation of this kind and support the fact that the personality variables, as well as any other unidimensional factor cannot be predictive of drug behaviour. Furthermore, the epidemiological data obtained in the seventies show that drug consumption is not a specific reality of a few individuals, but rather a behaviour pattern that is widespread in adolescent population (Ravenna, 1993). Widespread drug consumption allows researchers to definitely rule out interpretations that considerer drug consumption to be something specific to a restricted number of disturbed or deviant subjects. Other factors related to adolescent life styles should be introduced into the analysis (Coslin, 2002; Moffit, 1993).

Even though a unitary model has not been achieved as yet, a great number of theories have attempted to explain drug consumption in adolescence. Nowadays, some of the most widely accepted approaches are those that are based on the patterns obtained from a psychosocial framework that moves from the subject to the community (FearnowKenney, Hansen, & McNeal, 2002; Musitu et al., 2000).

One of the most relevant proposals of the interdisciplinary approach to risk behaviours is the Problem Behaviour Theory proposed by R. Jessor and E. Jessor (1980). This theory considers adolescent risk behaviours to be an interrelation between risk factors and protective factors. This approache distributes the factors that contribute to adolescent risk behaviours in five areas: (1) biological or genetic factors; (2) social environment, which includes factors such as poverty and marginality; (3) perceived environment, which refers to how adolescents perceive

their own environment; (4) personality factors, wich include variables such as self-esteem, expectations about their own future, their tendency to assume risks, and values related to achievement and health; and (5) behavioural factors, such as school attendance and alcohol consumption. This theory also emphasizes the importance of the protective factors that mitigate the adolescents' participation in risk behaviours.

The Problem Behaviour Theory also suggests that the behaviour of drug consumption is related to an underlying trend towards deviation (R. Jessor, 1991, 1993). The initiation into the use of substances is considered to be the milestone from which the trend to be implicated in a deviated behavioural style increases. Furthermore, the initiation into the use of substances, on the one hand, conveys an increasingly important and negative influence of the deviated peers, and, on the other hand, becomes the gateway to more problematic behaviours, such as alcoholism or the abuse of other drugs (Gossman, 1992; Shillington & Clapp, 2002). Field studies in Italy have fully confirmed that a specific risk behaviour is generally associated with other problematic behaviours. This association is more evident in those adolescents who are more involved with drug consumption (Ravenna & Cavazza, 2000; Ravenna & Kirchler, 2000).

Longitudinal studies on the influence of problematic behaviours at an early age (before the age of 15) in adolescent psychosocial development show that the consequences arising from these behaviours increase the probability of initiating drug consumption (Rohrbach, Sussman, Dent, & Sun, 2005). According to Robins and McEvoy (1990) there exists a significant relationship between the number or extent of problematic behaviours at early ages, and the age in which the initiation in drug consumption takes place. Thus, the initiation in drug use at more precocious ages increases with the number of problematic behaviours (Buelga & Lila, 1999; Wills, Walker, & Resko, 2005).

The Bio-Psychosocial Model proposed by Igra and Irwin (1996) also emphasizes the importance of using a psychosocial perspective in order to explain the adolescent risk behaviours.With reference to the consumption of different drugs, these authors identify several risk factors associated to the subjects and the social system. They emphasise the interrelationship of these factors within a bio-psychosocial model, which also includes an evaluation of cultural factors. The authors propose some biological and psychological factors as individual risk variables. Specifically, the biological ones are genetic predisposition, direct hormonal influences, hormonal interactions, and the age of puberty development. The

adolescents' cognitive ability and the predisposing personality features are judged as decisive elements in relation to the psychological area. With regard to the social or environmental system, authors suggest that the role of peers and parents, the family structure, and the social institutions are important factors that contribute to risk behaviours.

Finally, another interesting proposal is the model by Hawkins, Catalano and Miller (1992). This model is based on the assumption that the different risk factors that configure the biopsychosocial matrix do not occur independently or in isolation but frequently take place in combination, thus affecting different areas of the adolescent's performance. Adolescents that are susceptible to high-risk behaviours show problems in multiple areas and tend to belong to social networks that foster the development of these risk behaviours and reinforce their continued performance (Hawkins et al. 2002). These authors consider it necessary to study the different risk factors that are present in substance consumption from an ecological perspective, which takes into account five basic contexts: individuals, school, family, peers, and community. In this respect, they consider laws and normative behaviours, availability of substances, economic deprivation, neighbourhood disorganization, and mobility to be important risk factors for substance consumption in the society-community context. In the family context, organization, practices of family control, conflicts, and parental styles are also considered to be relevant risk factors. In the academic area, some significant factors are recurrent absenteeism, low academic performance, little connection with the school environment, and the existence of persistent and early antisocial behaviours. In relation to the peer group**,** Hawkins et al. (1992, 2002) regard peer rejection (or indifference at elementary school), favourable attitudes to substance consumption as well as behaviours of substance use by peers to be facilitator factors of drug consumption. Finally, in an individual context, biological and cognitive factors, rebellion against normative attitudes and values of society, lack of coping abilities, and a precocious initiation in deviant behaviours are considered by these authors to be important predictors of substance consumption.

4. Applying the constructs from the biopsychosocial model to initiation and continued drug use

In accordance with the main contexts (individual, family, peer group, and community) proposed in the biopsychological theories mentioned above, we will now try to integrate the different concepts and constructs on which these approaches are based in an explicative model that is focused on the risk factors associated to the different phases of drug consumption.

As is shown in more detail below, while a considerable number of these risk factors concern the individual at different levels (biological, psychological, and socio-demographical), some refer to the influences of significant others (family and peers), and some refer to elements of a macro social order.

4.1. The individual: biological, psychological and structural variables

4.1.1. Biological variables

The studies carried out in this field have shown that various drugs that produce an increase in a positive mood or euphoria, such as nicotine and alcohol, directly or indirectly affect the inhibiting neurotransmitter GABA, dopamine in the accubems nucleus or in the prefrontal cortex (Hodgkins et al., 2004; Tomkins & Sellers 2001). The stimulation of these dopaminergic mechanisms represents the most important factor in explaining the strengthening effects and the potential addiction of various abusive substances. In addition to dopamine, it has been confirmed that certain proteins and other neurotransmitters contribute to the pathophysiology of the individual risk of drug dependency (Smith, & Capps, 2005).

4.1.2. Psychological variables

Several studies have underscored the importance of certain psychological variables as vulnerability factors in drug consumption: cognitive and motivational factors, sensation and excitement seeking, and social facilitation. These and other psychological variables will be explained in detail.

Cognitive factors

The literature on this topic suggests that the first experimentation of any substance can be predicted from positive attitudes, expectations, and attributions on consumption. In this respect, Jessor (1991) argues that attitudes and expectations about the consequences of consumption predict the initial use. Also, Cook, Lounsbury, and Fontenell (1980) with reference to Fishbein and Ajzen's (1975) model have pointed out that a favourable attitude to drug behaviour is correlated to drug consumption.

Underestimating the risks associated with the drug use, overrating one's own abilities of self-control and the spread in drug use in one's own living environment or among friends are all elements that can facilitate and support drug use behaviour (Ravenna & Nicoli, 1991a, 1991b). In this sense, the "false consensus effect" is due to the fact that real or potential drug users, who tend to form relationships with others that share the same beliefs and behaviour, are in general led to believe that the number of drug users is higher than it actually is. This

increases the attributes of normality and attractiveness of drug use, rendering it more acceptable in certain aspects (Pudney, 2002; Ravenna, 2005).

Likewise, the values system seems to be another important variable. Thus, according to Schwartz's model (1992), the dimension of "Openness to Changes", which comprises individual needs such as hedonism and stimulation, as opposed to the more pro-socially biased dimension of "Self-transcendence", becomes predictive both in the initial stage of drug use and in the continued consumption patterns. The literature has found some differences in the values system of drug consumers and non-consumers (Buelga & Pons, 2004). Whereas the consumers attribute more importance to the values related to individual needs, such as the seeking of pleasure and activation, the non-consumers assign more importance to values directed to the common welfare (Pons, Buelga, & Lehalle, 2000).

Hawkins et al. (1992) suggest that the rejection of the normative attitudes and values of society and the rejection of the commitment to social aims constitute important risk factors for substance consumption. From this point of view, for some adolescents, illicit drug use represents an expression of rebellion or transgression against the Establishment in a reactive attempt to build up a specific identity, which is different from the one offered by society. Moreover, the transgression incentive to carry out a forbidden action diminishes with age. This incentive is more important for adolescents aged 15 to 18 than for youths aged 19 to 24; for this second age group, it is more relevant than for those aged 25 to 29.

Motivational factors

Personal expectations and beliefs about the effects of various drugs play an important role both in favouring initial contact and in strengthening drug habits over time. In the first case, these expectations are founded on the adolescents' own elaboration about their relationship with the environment; in the second case, they are mainly based on direct experience (Allen, 2003). Much of the evidence from different conceptual and effective approaches shows that teenagers and young adults use licit and illicit drugs to look for states of excitement that make their relationships with others more intense and satisfying and that make their spare time activities more stimulating (Bonino, 1999; Palmonari & Ravenna,1988). They also look for states that stimulate the different processes of identification with their peers and that reduce the degree of embarrassment that is associated with growing up (Ravenna & Nicoli, 1991a; Schlaadt & Shannon, 1994).

Self-enhancement and regulation of emotions

Adolescents also adopt certain types of behaviour to enhance important aspects and dimensions of the self and identity. Since the definition of the self is a particularly crucial question in adolescence, certain behaviours may be undertaken to maintain or increase certain personal attributes (Buelga & Musitu, 2004). As the need to try different experiences increases, there is a greater probability for adolescents to identify smoking, drinking alcohol, or taking illegal drugs either as a way of experimenting with their own physical and psychological possibilities, or of trying out different social behaviours (possible selves) (Bonino, 1999; Palmonari, 1997). Being a smoker, a drinker, or a drug-taker is of immediate value in the subject's relationship with significant others (Emler & Reicher 1995). This behaviour provides information about the self that allows adolescents to be treated by the peer group as someone who is more adult, more emancipated, more capable of controlling their own life autonomously.

In certain circumstances, young people who feel insecure about their own abilities may resort to alcohol or other drugs in order to preserve a positive self image. They can avoid being blamed for possible failures and lay the blame on their state of intoxication. Therefore, as Jones and Berglas (1978) point out, they basically adopt a criterion according to which it is better to be seen as drunk or high rather than as incompetent. Although, many teenagers can recognise the emotions they feel, know how to express them, and understand how these emotions influence their behaviour, they are not able to control their emotional states. In other words, they are unable to produce positive emotional reactions or to play down negative ones in situations that require it (Labouvie, 1986). Difficulty or failure in facing states of anger, extreme excitement, or depression may help them to identify drugs as an effective strategy to obtain immediate gratification effects and increase feelings of self-control (Boys & Marsden, 2003; Panagopoulus & Ricciardelli, 2005).

Stress reduction

The more adolescents become aware of the difficulties in constructively facing the tasks of growing up, the more attractive drugs will be as a mean to reduce feelings of inadequacy and negative psychological states such as anxiety, anger, insecurity, depression (Palmonari, 1997; Wagner, 2001).

Drugs can allow adolescents to distance themselves from a present that is perceived to be highly unsatisfying (Bonino, 1999; Sher, Bartholow, & Wood, 2003). Adolescents who feel particularly overwhelmed by rules, norms, expectations and constraints in their daily lives

may live intentionally sought experiences through drugs, in which they abandon the experience of the self in ordinary life for a limited period of time (Ricci Bitti, 1997). The results of Labouvie's research (1986) on 677 young drug users show that an environment that is unable to stimulate satisfying social relationships may contribute to increasing feelings of helplessness, behaviour directed towards the search for sensations, and a greater involvement in drug use.

Drugs are also taken to find some way of adapting to social pressures related to competition and success. In these cases, drugs are identified as a means for reducing the conflict between certain personal needs and the strict demands made by the environment (Palmonari, 1993; Wagner, 2001).

Sensation and excitement seeking, modification of states of conscience

The need to modify states of conscience by taking the most disparate substances is nothing new. It has existed throughout human history and in every kind of society, and it has always pushed people to discover and invent new substances to achieve their goals (Gossop, 1987). Weil (1986) believes that the need to alter states of conscience is not only felt by young people and adults, but also by small children. This author hypothesises that this need evolves during the different stages of life and different solutions are found at each stage. The experiences that alter normal psychological states satisfy an innate inner need (like the sexual need). The experience of pleasure that is obtained can be reached in different ways: through games (spinning round until one feels dizzy, breathing deeply and quickly until a state of hyperventilation is reached, having one's chest or neck compressed until one feels faint), or by taking drugs to find those specific sensations that characterise the intermediate stage between waking and sleeping.

Adolescence is the time to expand the boundaries of one's own living space, to experiment with new and different styles of behaviour, and to search for adventurous and unusual experiences (Ames, Sussman, Dent, & Stacy, 2005; Palmonari, 1997). In this perspective, Zuckerman (1979) explains young people's attraction for reckless behaviour as the manifestation of a personality trait that is characterised by the desire to have new and different experiences. These experiences imply a certain degree of risk that they are prepared to run for the fun of it. The need for strong sensations is greater among males and is negatively correlated with age (Wagner 2001). It is closely tied to the use of psychoactive substances (Acton, 2003; Carrol, Zuckerman, & Vogel, 1982) and is included with other numerous

personality traits and characteristics such as hypomania, impulsive, antisocial or psychopathic tendencies, extroversion, non-conformity, creativity, independence from the field and the need for change, self-esteem and display (Sher et al. 2003).

Other explanations include the role of cultural influences in the search and display (in a variety of fields: sport, sex, travel) of extreme experiences that are considered to be unique and unrepeatable. Theses influences also affect the experiences that adolescents have with drugs; for example, when they do not know the real composition of the substance, or when they take massive doses to get the best high. Somehow, this type of behaviour promotes the idea "that there is a desire to be put to an extreme test, like pulling the rope to see how far you get. The desire is to succeed, to be the only ones capable of making it" (Le Breton, 1991).

Personality factors

Some authors consider that certain personality features are related to different levels of drug abuse (Kashdan, Vetter, & Collins, 2005). One of the most important formulations is the contribution of Eysenck (1988), who suggests that certain personality traits, such as psychopathy, neuroticism and antisocial personality are related to substance consumption. In this sense, extroversion and psychopathy are the dimensions that are most closely related to tobacco consumption. As explained above, impulsiveness and sensation seeking, and/or pessimistic states, depression and low self-esteem are all factors associated with alcohol and illicit substance consumption (Acton, 2003; Sher et al. 2003).

Shedler and Block's longitudinal research study (1990) analysed the relationship between the use of/abstention from drugs and the presence/absence of specific personal traits and characteristics in a sample of 101 subjects from 5 to 18 years old. Results show that, long before contact with drugs and before adolescence, regular users already had different symptoms of emotional suffering. These symptoms could be framed in a coherent syndrome characterised by alienation, impulsiveness, and social stress. It was precisely because they were unable to invest energy in relationships with others, at school, and at work, that they felt unhappy and inadequate to the point of progressively isolating themselves from others. According to the authors, this lack of interest and involvement in the different environments of daily life triggered emotional instability and a lack of direction and planning, which increased the importance of acting based on short-lived subjective aspects. These adolescents were attracted to drugs because they eased feelings of isolation, inadequacy, and the inability to achieve more lasting and significant gratification. In a longitudinal study on a group of 100

children from age 7 to age 20, van Aken and Heutinck (1998) found that adolescents who take drugs at 20 years old are characterised by higher levels of impulsiveness and extroversion and by lower satisfaction and responsibility. This study also found that the use of drugs by 20-year-olds can be predicted by levels of impulsiveness between the ages of 7 and 12.

In contrast, other authors support the idea that there are no specific personality characteristics associated with drug consumption (Hawkins et al. 2002; Musitu et al. 2000; Ravenna, 1993). In this perspective, it is believed that initiation is influenced, in most cases, by a series of features in the non-conventionality area or by temporary negative emotional states, rather than being associated to psychopathological-structured disorders. In relation to this, Moffit (1993) underlines that risk behaviour is not associated with any type of psychological alteration, but rather with a basic human characteristic (curiosity) which is especially relevant during adolescence. Some authors consider, from a basically statistical point of view, that the previous, more frequent type of personality among drug-abusers is the normal personality. Most forms of drug consumption and other risk behaviours among young people involve neither abuse nor social deviation, nor can be attributed to abnormal personalities or pathological socialisation processes. These kinds of behaviours even present characteristics of normativeness.

Social competence, coping, self-esteem, and problem behaviour

Social competence, or the capacity to behave appropriately in interpersonal relationships and situations, also plays an important role in drug use. The authors who base their works on Shiffman and Wills' coping theory (1985) claim the following: children and young people that have not had the opportunity to learn the appropriate social abilities, or have been poorly supported and valued in their experience of coping, or exposed to particularly negative events, have less probability of acquiring these adapting abilities and more risk for developing non-conventional behaviours.

From this perspective, coping strategies are essential to explain both initiation and continued drug use (Folkman, Lazarus, Gruen, & De Longis, 1986). Resorting to drugs allows the subject to escape from the adverse situations of daily life (see also "stress reduction"). The way problems are faced are different for users and non-users. Tackling problems by facing the situation that generates them is less frequent in the groups that consume alcohol and illicit drugs. Furthermore, those that only consume illicit drugs use the strategy of lack of

responsibility for the events that affect them more frequently (Minehan, Newcomb, & Galaif, 2000).

According to different studies, active coping strategies, such as cognitive redefinition or problem resolution are related to higher self-esteem. Thus, self-esteem is also a resource that people possess to face the different situations that occur in their lives (Lila, Musitu, & Buelga, 2001). A low self-esteem represents an important risk factor for continued drug use (Bonino & Catellino, 1998; Bonino & Ciairano, 1998; Bonino & Gangarossa, 1998).

Other research works have studied the relationship between early problematic behaviour and the use or abuse of drugs. Robins and McEvoy's retrospective study (1990) on a sample of 5,188 drug users shows that the early manifestation (before the age of 15) of problematic behaviour (unruliness, truancy, being expelled from school, running away from home, vandalism, thieving, and so on) increases the likelihood of drug consumption. This study also shows that the more frequently this type of behaviour occurs, the earlier the first contact with drugs. The amount of abuse also increases. In a longitudinal study on 545 young people between the ages of 13 and 25, Anderson, Bergman and Magnusson (1989) found that what increases the risk of abuse of alcohol in adolescence and adulthood is not a single kind of problematic behaviour (psychomotor unrest, aggressiveness, lack of concentration, low aspirations and educational motivation, poor peer relationships) but rather a "serious cluster of behaviours" before the age of 13. This finding is positively correlated to problems of deviancy and mental health.

Social facilitation

Expectations and beliefs connected with sociability carry great weight in teenage drug behaviour. The basic idea is that resorting to drugs strengthens comradeship, helps to create an atmosphere of cooperation, facilitates communication and the sharing of feelings and experiences, and permits the different processes of peer identification (Allen, Donohue, Griffin, Ryan, & Turner, 2003). This may take on different forms. Resorting to a type of drug may permit experiences of similarity with one's own group of drug-using friends (intragroup similarity). It may constitute a rite of bonding that is achieved by sharing the actions connected to the drug consumption while at the same time confirming and strengthening membership of in group (Atkinson, Richard, & Carlson, 2002; Bonino, 1999). It also allows teenagers to show their own diversity from those who do not engage in this kind of behaviour (intergroup differentiation). This may help to make the adolescents feel braver, stronger, and

freer and at the same time, allows them to build up their own reputation and status within the group (Emler & Reicher, 1995).

For the younger adolescents, an experience with drugs may represent, a challenge to the rules and norms put forward by parents; it is a way of distancing themselves from their world (Buelga & Musitu, 2004). Such an experience can also accelerate their identification with an older age bracket, thus allowing them to feel like they have taken a short-cut, to adulthood (Coslin, 2002). This is particularly true for those teenagers who want to enjoy the advantages of adult life without waiting, and for those who are more sensitive to peer pressure to appear more grown-up, independent, and cocky (Ravenna, 1997).

Resorting to drugs may also favour experiences of union between the individual and a larger group as in the processes of de-individuation described by Zimbardo (1969). A specific example of this is drug use that is linked to the discotheque, where the combination created by music, drug use, and the rites associated with these environments favour a collective experience defined as "*participation mystique*". This experience responds to the need to feel part of a large group and to be absorbed into a transforming and welcoming whole (Bricolo, 1996). Feeling anonymous in a group, focusing on the immediate present, is subjecting oneself to an overload of sensorial stimuli or the effects of the drugs are all conditions in which people's actions are guided more by momentary psychological states than by careful, far-reaching thought processes (Zimbardo, 1988).

4.1.3. Structural variables

Gender and Age

Gender is considered to be one of the most relevant risk factors associated with continued drug use as well as with the consumption patterns of the various substances. Many studies have found that the consumption of alcohol and illicit drugs is more frequent among male adolescents (Kashdan, Vetter, & Collins, 2005; Wagner, 2001). This trend is more evident when regular or frequent consumption is taken into account, with a male/female proportion of approximately 2 to 1 (EMCDDA, 2005, 2004, 2003).

The prevalence of males in the use of the various substances is explained in a similar way to that of other illicit or reprehensible behaviours. This prevalence is accounted for by the different styles of socialisation and control. Boys are given more freedom to adopt non-conventional behaviours, whereas there is stronger pressure on girls to comply with social norms (Estevez, Musitu, & Herrero, 2005). It is also explained in accordance with the

different kinds of attachments that both sexes have. Girls have a closer involvement in family and school life, while boys are more closely involved with their peers (Svensson, 2003)

It has been consistently demonstrated that age is a variable closely related to substance consumption. As mentioned above, it has become evident that there is a curvilinear relationship between illicit drug consumption patterns and age; as adolescents grow older, consumption increases, with a peak between the ages of 18 and 25 followed by a general decrease in the use of substances (Hansen & Malley, 1996; Sloboda & Bukoski, 2003).

Academic achievement and level

The educational context is the relational environment and space where intellectual development takes place. It is one of the most important systems for the prevention of behaviour problems. Poor academic performance, lack of commitment, and integration with the education received, are all factors that are frequently considered to explain risk behaviours, specifically, drug consumption (Lillehoj, Trudeau, & Spoth, 2005; Sutherland & Shepherd, 2001)

To this respect, various studies confirm the existence of a relationship between negative school performance and substance consumption (Bryant, Schulenberg, O'Malley, Bachman, & Johnston, 2003; Lillehoj et al. 2005). Students who repeat courses and those with a negative school or academic self-image show the highest levels of consumption of tobacco, alcohol, and illicit drugs. Academic level also appears to be related to consumption patterns (Jeynes, 2002).

Habitat and social class

Different studies have focused on habitat and social class. The contradictory results emerging probably depend on the influence of other modulating variables. Several studies show that young people who work (particularly those that work long hours) are more prone to drug use (EMCDDA, 2003). The unemployed also appear to be a group that is at risk of substance consumption (Zanis, 2004).

Affordability and leisure time

There are some connections between disposable income (pocket money) and regular drug consumption. Thus, significant relationships between becoming a regular consumer and having more money for weekly expenses have been found. These relationships are found in the consumption of all the substances: tobacco, alcohol, and illicit drugs.

Another interesting question is the amount of leisure time available to young people and the kind of activities they participate in in that period. Undoubtedly, there are more hours of leisure time at weekends and holidays. An important part of their leisure time is spent in interaction with their groups of reference; some of the most common activities are talking with friends, dancing, and drinking. To a large extent, these activities are associated with the consumption of various substances (Ravenna & Kirchler, 2000; Ravenna, & Cavazza, 2000). In relation to alcohol consumption, a number of studies have found that participation in religious activities is significantly associated in an inverse proportion with alcohol consumption. Likewise, participation in sports activities (Escarti, 2003), though not directly related to low alcohol consumption, does reduce the frequency of drunkenness. Therefore, a connection between participation in sports activities and a lower frequency of drunkenness is found. This relationship has already been highlighted in a study carried out among young athletes in Italy (Donato & Assanellieu, 1994).

4.2. Microsocial factors: family and peers

4.2.1. The family

The family, which is regarded as one of the most important support systems for the welfare and adjustment of its members, has also been analyzed in studies investigating certain risk factors associated with substance consumption. Some of the most important factors are educational parenting style, the relationship between parents and children, and the parents' role as behaviour models for their children (Barker & Hunt, 2004; Buelga & Pons, 2004; Kumpfer, Alvarado, & Whiteside, 2003; Lila & Gracia, 2005).

Parenting Style

Educational style is one of the principal ways for parents to alter their children's involvement in drug consumption. The scientific literature suggests that both the authoritarian parenting style, (where parenting control prevails over affective warmth), and the permissive parenting style, (where affection prevails over the control of the children's behaviour) are related to adolescent drug use (Martínez, Fuertes, Ramos, & Hernández, 2003).

Another style is the authoritative parenting style. In contrast with the other, this authoritative style is an important factor in the prevention of substance consumption among adolescents (Baumrind, 1991). The main characteristics of this educational style are affective warmth/acceptance and monitorization/discipline. These characteristics seem to be

particularly important in promoting a form of autonomy in children that is based on the ability to form deep relationships and prevent risk behaviours (Lila & Gracia, 2005).

Moreover, the studies suggest that the harmony/discrepancy level in the values system concerning the children's education is related to risk behaviours (McIntosh, MacDonald, & McKeganey, 2005). Thus, family cohesion and the consistency of the points of view on the children's education seem to influence drug consumption indirectly in two ways: (1) it diminishes the appearance of negative self images, while promoting self-esteem, and (2) it reduces the excessive dependency of adolescents on their peer groups (Martinez et al. 2003).

Family Relationships

The nature of the relationships between parents and children constitutes a family factor that also seems to be connected with drug consumption. One of the most widely accepted theories suggests that a positive parent-child relationship, in which the emotional link prevails, may act as a prevention mechanism in drug use (Kumpfer et al. 2003, Buelga & Pons, 2004). Consumers of legal and illicit drugs perceive greater conflict in their family environment than non-consumers. Important factors that are associated with drug use are: the lack of parent-child communication or negative communication patterns, such as double messages or criticism; and a family atmosphere with frequent conflicts and arguments between parents and children, and/or between parents (Musitu et al. 2000; Williams, McDermitt, Bertrand, & Davis, 2003).

Parental consumption model

The parents' level of drug use has been consistently related to the children's future level of consumption. A number of studies have also revealed a consistent correlation between adolescent drug abuse and parental use of alcohol and tobacco (Bonino & Cattelino, 1998; Bonino & Ciairano, 1998). Thus, there is a higher frequency of tobacco and alcohol consumption by adolescents when one or both parents smoke or drink alcohol. It is generally assumed that parents' drug consumption influences their children's drug behaviour, even though parents express negative verbal messages against these conducts. Parental drug use and a verbal message against consumption may lead to ambiguous behaviour in children regarding the identification of consumption with the status of adulthood (Barker & Hunt, 2004).

Parental modelling influences are an important learning factor in the development of drug consumption behaviour. Nevertheless, the imitation of a parental model is not produced in a direct way. It is biased by other modulating variables, such as the model's credibility, the

interpretation of the model´s behaviour, and the perception of the model´s attitudes and behaviour (Bandura, 1999).

4.2.2. The peer group

Group influence.

As stated above (see social facilitation), peer group influence is undoubtedly one of the most frequently recognised factors in the scientific literature (Allen et al. 2003; Musher-Eizenman et al. 2003). Therefore, even though the parental behaviour of legal substance consumption appears to be important for initiation into tobacco and alcohol consumption, the role of the peer group is fundamental for both the continued consumption of these substances and for the initiation into illicit drugs (Atkinson et al. 2002).

According to Rosenbaum (1979), there are also differences depending on the person who induces the adolescent to experiment with these drugs. In the case of boys, the person that commonly offers an illicit substance is a friend of the same sex. In the case of girls, it is generally a male friend or boyfriend.

In the peer group, the suggestion to experiment is frequently made by people with a higher status (from the adolescence's perspective). Consumption may have different meanings for different people. While for some, drug consumption may represent a ritual to reach maturity, for others, it is a ritual that allows them to take part in leisure activities and become integrated in the group. Illicit substance consumption is certainly a key criterion in defining membership to a group (Atkinson et al. 2002; Bonino, 1999). Those groups that commonly consume illicit substances can use drugs as a social identifier and/or a part of the established social rituals. A number of research data confirm that the initiation and the continued use of different drugs is, in most cases, produced through the influence of the group of friends (Allen et al. 2003).

The selection and projection model

In another work concerning group influence, Bauman and Ennet's proposal (1996) questions whether or not friends determine drug consumption. These authors emphasise that peer group influence has been overestimated with reference to the use of substances. It overlooks the fact that friendships are largely determined by drug consumption (selection), and that adolescents frequently attribute their own behaviour to their friends (projection). Thus, both the selection model (which places drug consumption at the base of friendship) and the projection model (which sees the behaviour attributed to friends as the consequence of one's own drug consumption) are employed by Bauman and Ennet (1996) to question the importance of the

group influence model. Note that, in most cases, the results obtained in different studies on adolescent drug consumption have not accounted for these processes of selection and projection. This probably depends on the fact that the researchers have generally employed cross-sectional research models, which are inadequate for studying the influence of selection.

4.3. Macrosocial Factors

4.3.1. Social Marginality

It is difficult to establish the relationship between marginality and drug consumption when the term marginality itself has different connotations. This term is, in fact, associated with the following characteristics: poverty and the consequent lack of resources; the lack of stable or healthy housing; malnutrition; low cultural level; lack of any type of power and absence of social participation channels (Compas, Hinden, & Gerhardt, 1995; Freisthler, Lascala, Gruenewald, & Treno, 2005).

Although drug consumption also occurs in all social groups, research shows that the use and abuse of drugs, delinquency, and other risk behaviours are relatively more frequent among the marginal groups in a situation of serious poverty, homeless people, or those living in very deteriorated neighbourhoods (Edmonds, Sumnall, McVeigh, & Bellis, 2005; Freisthler et al. 2005). Studies related to this topic also point out that, in marginal populations, particularly among young people, the age of initiation with the various drugs is lower, and that multi-consumption and multi-toxicomania prevail (Jotcham, 2001; Mallett et al. 2005).

4.3.2. Substance availability

It is widely recognised that experimenting with or consuming different substances depends, to a large extent, on the availability of the product. Undoubtedly, the nearer and more easily available the substance is, the greater the probability of consumption (Knibbe, Joosten, Derickx, Choquet, Morin, Monshouwer, & Vollebergh, 2005). Easy access to a product, in terms of availability and price, significantly influences its use, especially among new consumers, who want to try a substance to test its effects (Komro, Flay, Hu, Zelli, Rashid, & Amuwo, 1998). This access in terms of availability and price also accounts for the continued consumption of many substances.

Easy access to tobacco and alcohol on the part of minors in the family environment, and also in public premises and shops, becomes an important facilitating factor for initiation as well as for continued consumption. In some countries, problems can arise from the fact that alcohol and tobacco are legal drugs, but their purchase, possession, and use by children under 16 is

illegal. Thus, even though there are regulations preventing sales to minors, adolescents can easily access these drugs. These substances are frequently available in supermarkets, where they are cheaper and less controlled. Access to illicit substances such as synthetic drugs or hallucinogens is also relatively easy at discos and nightclubs.

4.3.3. The Mass Media

The influence of the media is nowadays so great, that it is difficult to analyze the problems of society without relating them to radio, television, and the written press. For adolescents, watching television is one of their favourite leisure activities. Those aged 13 to 15 spend approximately 1500 hours per year in front of the television and witness approximately 670 murders, 858 fights, and 18 cases of drug consumption (sniffing, intravenous consumption) per week (De Noray & Parvex, 1994).

Adolescents increasingly have to cope with contradictory messages. They receive information from campaigns against drugs, which clearly reject drug consumption. They also observe advertising messages for legal drugs, which enhance the value of the product through its connection with famous people. This is done by relating their consumption to supposedly positive effects: escape, unity and integration with the peer group, and entertainment (Priester, 2001).

CONCLUSION

The use of legal and illicit drugs is currently a phenomenon that is particularly common among the adolescent population, principally in male adolescents (Kashdan et al. 2005, Wagner, 2001). This situation is constantly changing with regard to the type of substances taken, the circumstances, and the activities connected with drug use. As we have discussed here, it is no easy task to obtain a homogeneous view of the trends of this phenomenon, since the epidemiological studies performed in the various countries use different data-collection methodologies. With respect to subjective experience, drug consumption responds to the diversified needs that are linked with overcoming the specific development tasks of this stage of life, especially those relating to the definition of the self and identity. Drug consumption has been classified as a risk behaviour that does not occur in isolation. It is mainly associated with other risky or problematic behaviours. There are a number of factors that tend to favour initial contact and also consolidate consumption habits over time. Among these are individual, microsocial and macrosocial factors, which play a crucial role. Although adolescents are often subject to the restrictions and influences of their social environment and to fortuitous

circumstances, they actively construct their own relationship with drugs and are not limited to simply reacting to the circumstances and to the models of behaviour they are faced with.

Valuable examples of the possible relationships that exist among the various risk factors (biological, psychological, and those relative to social influences) are given in relevant interactionist theories such as Jessor and Jessor's theory of problematic behaviour (1980, 1990), Igra and Irvin's bio-psychosocial theory (1996) and Hawkins, Catalano and Miller's model (1992), which have all proved to be instrumental in perceiving the multidimensional nature of drug use phenomenon.

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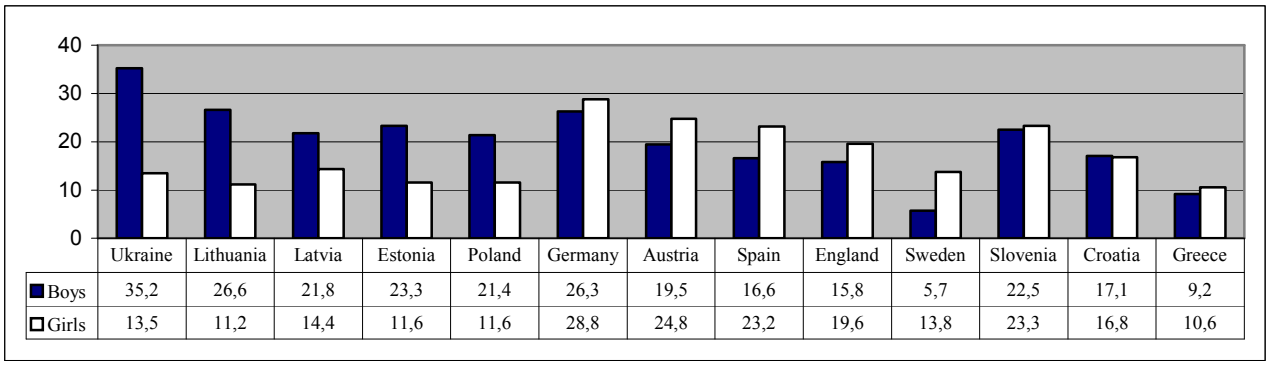
FIGURES AND TABLES

Figure 1.1. - Daily smoking among 15-year-old adolescents in several European countries (%).

Average of all HBSC countries: Boys: 18.1%, Girls:16.9%



	Ukraine	Lithuania	Latvia	Estonia	Poland	Germany	Austria	Spain	England	Sweden	Slovenia	Croatia	Greece
Boys	35,2	26,6	21,8	23,3	21,4	26,3	19,5	16,6	15,8	5,7	22,5	17,1	9,2
Girls	13,5	11,2	14,4	11,6	11,6	28,8	24,8	23,2	19,6	13,8	23,3	16,8	10,6

Adapted from HBSC 2001/2002 survey

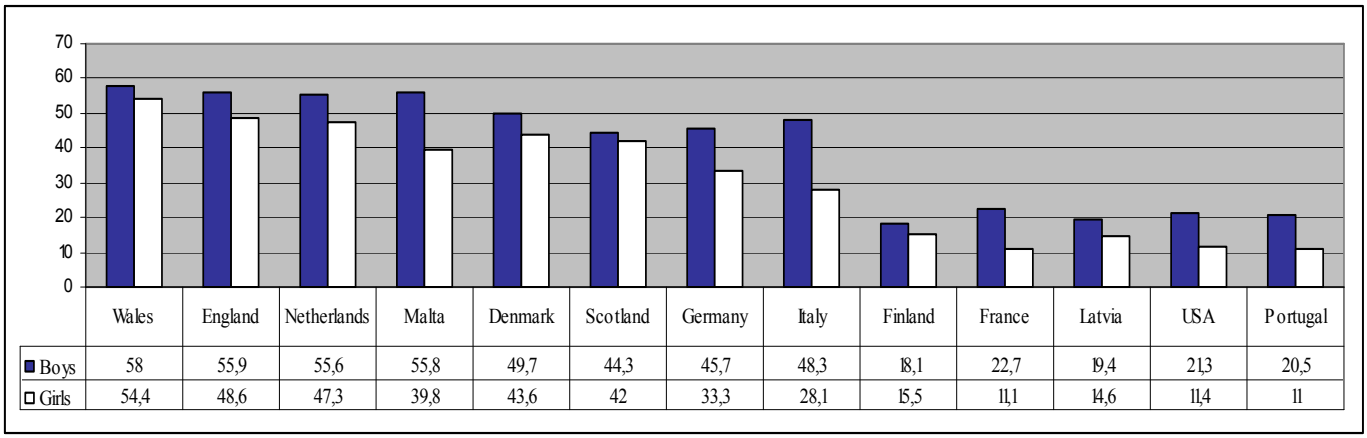
Table 1.1.- Alcohol consumption variables among 15-year- olds.

	Age at onset of drinking	Age at onset drunkenness	Drinking weekly (%)	Drinking beer weekly (%)	Drinking spirits weekly (%)	Drinking wine weekly (%)	drunkenness 2 or more times (%)
Boys	12.3	13.6	34.3	26.0	12.4	8.3	39.8
Girls	12.9	13.9	23.9	11.2	9.7	6.2	31.4
All	12.6	13.7	29.1	18.6	11.0	7.25	35.6

Adapted from HBSC 2001/2002 survey

Figure 1.2..- Percentage of 15- year-old adolescents who drink alcohol weekly in several European countries and the United States

Average of all HBSC countries: Boys: 34..3%, Girls: 23.9%



	Wales	England	Netherlands	Malta	Denmark	Scotland	Germany	Italy	Finland	France	Latvia	USA	Portugal
Boys	58	55,9	55,6	55,8	49,7	44,3	45,7	48,3	18,1	22,7	19,4	21,3	20,5
Girls	54,4	48,6	47,3	39,8	43,6	42	33,3	28,1	15,5	11,1	14,6	11,4	11

Adapted from HBSC 2001/2002 survey

Table 2.1.- The use of cannabis by 15-year-olds (lifetime, regular, and heavy) (%).

	Canada	Switzerland	Greenland	USA	England-Scotland	Spain	France	Belgium (French)	Italy	Germany	Netherlands	Denmark
Litetime	40,4	37,8	33,6	31,3	32,6	30,4	27,5	24,1	20,5	18,5	21,6	21,3
Regular	19,2	17,4	10,8	13,3	13,6	15	13,3	10,7	8,5	8	10,5	9,7
Heavy	8,1	9,4	2,8	7,9	6,3	5,1	4,5	4,8	3,3	2,3	2,8	1,4

	Russian	Latvia	Lithuania	TFYR Macedonia	HBSC average
Lifetime	8,7	8	5,9	3,05	18,8
Regular	2,3	2,1	1,3	0,6	7,9
Heavy	0,4	0,4	0,3	0,1	2,8

Adapted from HBSC 2001/2002 survey

Figure 2.1.- Percentage of ecstasy consumers who combine this drug with other substances