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This paper is adapted from 'Cannabis use, beliefs about 'hard drugs' and 'soft drugs', and the ineffectiveness of anti-drug interventions in French high-schools' Health Ed. Jnl, 64(2), 2005, 142-153.

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Cannabis-related beliefs and behaviour among French adolescents: school-based prevention may boomerang

Cannabis users may modify their beliefs about drugs and drug users by drawing a line between 'hard drugs' (e.g. heroin) and 'soft drugs' (e.g. cannabis) and by claiming that only 'hard drugs' are dangerous.

The prevalence of cannabis use among French adolescents and young adults is quite high, especially when compared to other European countries[1]. National surveys carried out by the French Monitoring Centre for Drug and Drug Addiction (OFDT) showed that cannabis use among youth has steadily increased during the nineties. In 2003, at age 17, 47 percent of girls and 53 percent of boys have used cannabis at least once in their lifetime, and respectively 7 percent and 15 percent reported regular use (at least 10 uses in the last month)[2].

According to previous studies, both qualitative and quantitative, cannabis users are prone to distinguish "soft drugs" (such as cannabis) from "hard drugs" (heroin, crack) in order to claim that their consumption was relatively safe[3,4,5]. The present study investigated some factors associated with cannabis use and beliefs about so-called "hard drugs" and "soft drugs" among French adolescents, with a focus on exposure to preventive information at school. Indeed, such information is explicitly designed to fuel 'anti-drugs' attitudes among pupils and then to prevent them from using drugs.

Such information could be spread through different means: during a course by a teacher, during a specific lecture on drug prevention performed by an outside expert, or through posters and booklets. This information may be quite different from one school to another, but a recent official report based on in-depth interviews of representatives from the main organizations in the field of drug prevention in schools helps to match two of these channels to a specific content[6]. First, since 1998, preventive information campaigns launched by official organizations depending on the French Ministry of Health have been endorsing the harm reduction principle, instead of promoting a drug-free society. These campaigns highlighted the difference between use, abuse and addiction; they ranked drugs on the basis of health-related risks, with a special emphasis on cigarette and alcohol, which are the most commonly consumed. The national-level organizations in charge of these campaigns produce a lot of posters and booklets which are available in most high schools, but they do not organise lectures on drugs. Secondly, each year thousands of lectures are delivered in French high schools by the police and by non governmental organizations, and police officers specialized in drug preventive lectures are trained by representatives from those non governmental organizations. These organizations usually make a strong difference between licit and illicit drugs, they argue that cannabis is a "hard drug", nearly as dangerous as heroin. According to them, cannabis is a gateway drug that leads to heroin use; it is also supposed to provoke addiction very easily, violence and car crashes; and they claim that cannabis kills yearly thousands of kids and induce the "social death" of several hundred thousand. This message is very similar to the discourse endorsed by the Federal Bureau of Narcotics when marijuana was prohibited by the United States federal government in 1937[7].

The aim of the present article was twofold. The first goal was to investigate the propensity to distinguish "soft drugs" from "hard drugs" as well as associated factors among French high-school pupils, including exposure to different kinds of preventive information at school. The second objective was to study the relationship between such propensity, exposure to preventive information and cannabis use.

Research method

From January to May 2000, the Centre for Sociological Analysis and Intervention (CADIS) conducted a French national survey among high-school pupils[8]. Overall, 39 high-schools were solicited and 33 agreed to participate, among which 200 classes were randomly selected. In each selected class, all pupils were asked to fill an anonymous self-administered questionnaire within the classroom. Among pupils registered in these classes, 7 per cent were absent the day of the survey and 1 per cent did not fill the questionnaire. Overall, 6,232 completed questionnaires were collected, resulting in a sample of 5,812 pupils aged 16-20 years old with valid answers for the key variables of interest.

Four levels of cannabis use were distinguished: no use during the whole lifetime; experimentation (at least 1 use during the lifetime, less than 3 during the last year); occasional use (at least 3 uses during the lifetime, less than 10 during the last month); regular use (at least 10 uses during the last month).

Six questions assessed the propensity of respondents to distinguish "soft drugs" from "hard drugs". A score ranging from 0 to 12 was computed with a numeric encoding of respondents' opinions toward the following statements:

Questions	Score
There are "soft drugs" and "hard drugs"	Yes=2, Don't know=1, No=0
"Soft drugs" are a gateway to "hard drugs"	No=2, For some people only=1, Yes=0
Drug use is unhealthy, it diminishes mental abilities, it causes addiction, it causes accidents and thefts	For these four statements: Yes but for hard drugs only=2, Don't know=1, Yes whatever the drug=0

Availability of cannabis was assessed with two questions: respondents were asked whether they consider that they could very easily get cannabis if they want to, and how many cannabis users they know. Of course, peer users also provide the individual with rationalisations sustaining the distinction between "soft" and "hard" drugs.

Three kinds of exposure to preventive information at school were distinguished: information spread during a course by a teacher, information on posters or booklets, and having followed a specific lecture on drug prevention. As stipulated above, information spread through posters and booklets is more likely to refer to risk reduction principle and differentiation of uses and substances, while information spread through lectures is more likely to be based on basic messages that present cannabis as a very dangerous gateway drug. Respondents were also asked whether they feel well-informed on drugs or whether they would like to have more information on this issue.

Lastly, background characteristics were recorded: gender, age, geographic area (rural versus urban area) and having already repeated a grade (in France, pupils can repeat a level if their marks are too bad, so having repeated a grade is a good indicator of educational achievement).

Method of analysis

As drug use varies greatly with gender, especially in adolescence, separate analyses were performed for boys and girls. Their responses were compared using Pearson's χ^2 and Student's T-test.

Then, we used a linear regression for modelling the score corresponding to the propensity to distinguish "soft" from "hard' drugs, with background characteristics, peer use, exposure to preventive information at school and perceived need of information as explanatory variables.

Finally, in order to grasp the global scheme of relationships between cannabis use, propensity to distinguish "soft drugs" from "hard drugs" and their main determinants (exposure to lectures on drugs, peer use, perceived ability to get cannabis very easily), we computed a hierarchical log-linear model.

Results

Sample Characteristics

About one half of boys and one third of girls have already experimented with cannabis, and boys were almost three times more prone to report regular use (Table 1).

A majority of boys made a difference between "soft drugs" and "hard drugs", and considered that the former are a gateway to the other for some people only.

Between 18.1 and 29.4 per cent of them restricted drug-related damages to "hard drugs" only. Corresponding percentages were lower among girls.

Feeling well-informed on drugs, cannabis availability and peer use were also more prevalent among boys. On the contrary, exposure to preventive information at school was similar for both genders.

Figure 1 shows that the propensity to distinguish "soft drugs" from "hard drugs" was strongly correlated to the level of cannabis use.

The corresponding score was twice higher among regular users than among those who have never experiment cannabis.

Moreover, at any level of use, this score was also slightly higher for boys.

Table 1. Descriptive statistics of the sample, for boys and girls (CADIS-OFDT 2000, N=5,812)

	Boys N=2,912	Girls N=2,900
	Column %	
Geographic area: Rural area (*versus* urban area)	23.8	24.7
Educational attainment: - has already repeated a grade	54.2	42.2
Age in years: mean	17.8	17.6
Level of cannabis use:		
- no use during the whole lifetime	53.4	64.2
- experimentation	17.1	18.3
- occasional use	15.5	12.1
- regular use	13.9	5.4
Propensity to distinguish soft drugs from hard drugs:		
-there are "soft drugs" and "hard drugs": yes	73.2	69.3
-"soft drugs" are a gateway to "hard drugs": - for some people only	60.9	63.2
- no	18.5	9.0
- drug use ...is unhealthy: yes, but for hard drugs only	29.4	22.0
- ...it diminishes mental abilities: yes, but for hard drugs only	21.9	16.8
- ...it causes addiction: yes, but for hard drugs only	18.1	11.4
- ...it causes accidents and thefts: yes but for hard drugs only	20.6	15.9
Score [0-12]: mean	5.2	4.3
Perceived need of information on drugs: - feel well-informed	59.3	50.4
Cannabis availability: - could get cannabis very easily	51.5	37.9
Peer use: - knowing at least 10 cannabis users	57.4	43.0
Exposure to preventive information at school:		
- during a course	12.7	12.5
- through posters or booklets	32.0	33.9
- through a specific lecture	15.2	14.4

Underlined figures are significantly different across gender (at the 5-percent level)

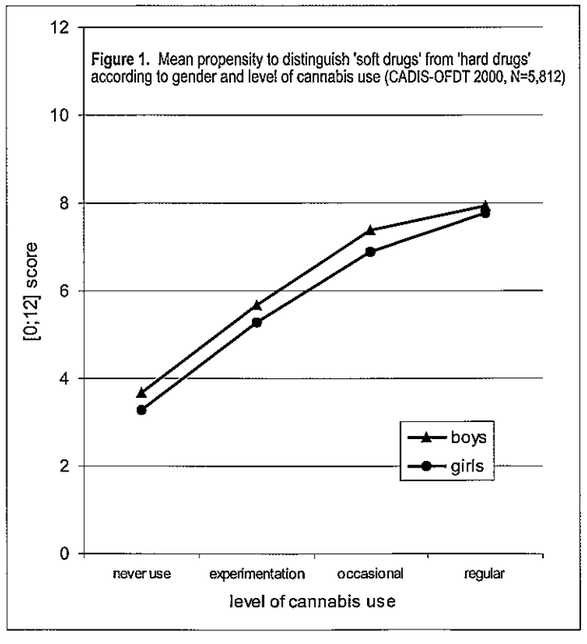

Figure 1. Mean propensity to distinguish 'soft drugs' from 'hard drugs' according to gender and level of cannabis use (CADIS-OFDT 2000, N=5,812)

Determinants of the propensity to distinguish "soft" and "hard" drugs

Table 2. Factors associated with propensity to distinguish "soft drugs" from "hard drugs", linear regression (CADIS-OFDT 2000, N=5,812)

	Boys N=2,912	Girls N=2,900
	Coefficients (p values)	
Perceived need of information on drugs:		
- feel well-informed (ref.: want more information, don't know)	+0.8	+0.7
Exposure to preventive information at school:		
- during a course: yes (ref.: no)	-0.3	-0.2
- through posters or booklets: yes (ref.: no)	0.1	-0.1
- through a specific lecture: yes (ref.: no)	+0.5	0.2
Peer use:		
- knowing at least 10 cannabis users (ref.: <10)	+1.9	+2.1
Geographic area:		
Rural area (ref.: urban area)	0.1	0.2
Educational attainment:		
- has already repeated a grade : yes (ref.: no)	-0.3	-0.3
Age (in years)	+0.2	0.0

Underlined figures are statistically significant (at the 5-percent level). Reading example: among boys, once controlled for the effects of other determinants, exposure to preventive information through a specific lecture increases by 0.5 point the score measuring the propensity to distinguish "soft" and "hard" drugs.

The modelling of the propensity to distinguish "soft drugs" from "hard drugs" led to similar results for boys and girls: those who considered they were sufficiently informed on drugs and those who knew at least 10 cannabis users obtained a higher score, while pupils who have already repeated a grade obtained a lower score (Table 2). For both genders, exposure to preventive information during a course or through posters or booklets had no significant effect on the propensity to distinguish "soft drugs" from "hard drugs", and attending a conference on drugs even had a positive impact on this propensity among boys (who were also more prone to distinguish these drugs as they get older).

Distinction between "hard" and "soft" drugs and their main determinants

A hierarchical log-linear model was used for investigating the pattern of factors associated with the propensity to distinguish "soft drugs" from "hard drugs" and cannabis use. For statistical convenience, we only introduced in the model peer use, perceived availability of cannabis and exposure to preventive information through a specific lecture. Peer use and attending a lecture on drugs (for boys only) were associated with the distinction between "soft" and "hard" drugs and with cannabis use, and peer use was also correlated with cannabis availability.

Discussion

Several limitations of the present study must be acknowledged before discussing its results. Some are common biases in school-based surveys: some headmasters may have refused to implicate their school in the survey because they were facing drug problems, and absenteeism may be more frequent among cannabis users. More specifically, this study gave some insight into the poor impact of anti-drug interventions on adolescents' beliefs and behaviours, but a rigorous evaluation of the relative efficiency of different preventive actions would have needed an in-depth description of the content of preventive messages, and a different design.

Risk denial cannot be considered as the consequence of lack of knowledge, as pupils who felt well-informed on drugs were more prone to distinguish "soft drugs" from "hard drugs". Such denial is probably based on personal and peer experience, instead of preventive messages. We found indeed that the distinction between "soft" and "hard" drugs was positively correlated to peer use. Qualitative studies published about fifty years ago already found that peer users provide opportunities for the individual to use cannabis but also equip him/her with rationalizations that call norms condemning cannabis use into question[9].

The propensity to distinguish "soft drugs" from "hard drugs" was also positively correlated to educational attainment. This result may seem quite counterintuitive, if one considers that better education should induce better endorsement of "anti-cannabis" beliefs and attitudes brought by the dominant social order. But education could also develop a cognitive ability to build sophisticated rationalizations for justifying one's behaviours, including drug use[10,11].

Perhaps more surprisingly, according to our results exposure to preventive information has no significant negative impact on the propensity to distinguish "soft drugs" from "hard drugs", and even a positive one for lectures (for boys only). A recent study already concluded that school-based drug prevention were quite unsuccessful in reducing cannabis use[12], and another one found that anti-cannabis messages endorsing explicitly the belief that cannabis is a gateway to stronger drugs (which is probably the message conveyed by most lectures in French high schools) are inefficient, and may even boomerang[13]. More generally, information campaigns that promote an unbalanced and ideological message on drugs, equating any drug with heroin and any drug user with the 'dope fiend' stereotype, may fuel risk denial among people who consume "safer" illicit drugs or licit ones. We also found a positive relationship between attending lectures on drugs and cannabis use, but this result may be due to a selection bias: users could be more prone to attend such lectures to obtain information on cannabis.

The strong and positive link between cannabis use and the propensity to distinguish "soft drugs" from "hard drugs" was more expected. Nevertheless, one should not overestimate the impact of beliefs on behaviours, because behaviours also determine beliefs. Classic works from the sociology of deviance suggest they both result from a process during which beliefs sway behaviours and reciprocally behaviours affect beliefs[14]. From such perspective, cannabis users must neutralize the dissonance between their consumption and traditional views that define any drug use as a violation of basic moral imperatives. To do so, they modify their beliefs about drugs and drug users, for example by drawing a line between so-called "hard drugs" and "soft drugs" and by claiming that only the first ones are dangerous: this rationalization can be a prerequisite for use, but it is also acquired 'in the course of experience' and can justify a current use *a posteriori* for maintaining it. Recent studies found indeed that cannabis and ecstasy users were prone to demonize heroin[15,16].

Conclusion

The effectiveness of anti-drug interventions conducted in French high schools during the late 1990s is highly questionable, and this result emphasizes the necessity to develop theory-driven and evidence-based preventive actions, with professionals of prevention instead of policemen and non governmental organizations which are prone to endorse an unbalanced 'anti-drug' discourse that may boomerang. The new French prevention campaign launched in 2005, which avoids a moralising tone and does not endorse the gateway theory, is certainly a step in the right direction. More generally, as cannabis use and related beliefs are built together and reinforce each other, one should neither overestimate the impact of beliefs on behaviours, nor underestimate users' adherence to such beliefs.

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