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Drugs: Education, Prevention and Policy
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/idep20

School's in! Predicting teen cannabis use by conventionality, cultural disposition and social context

Pekka Hakkarainen[a], Karoliina Karjalainen[a], Kirsimarja Raitasalo[a] & Veli-Matti Sorvala[a]
[a] National Institute for Health and Welfare (THL), Alcohol and Drugs Unit, Helsinki, Finland
Published online: 25 Jul 2015.

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To cite this article: Pekka Hakkarainen, Karoliina Karjalainen, Kirsimarja Raitasalo & Veli-Matti Sorvala (2015): School's in! Predicting teen cannabis use by conventionality, cultural disposition and social context, Drugs: Education, Prevention and Policy

To link to this article: http://dx.doi.org/10.3109/09687637.2015.1024611

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Drugs
education, prevention and policy

http://informahealthcare.com/dep
ISSN: 0968-7637 (print), 1465-3370 (electronic)

Drugs Educ Prev Pol, Early Online: 1–8
© 2015 Informa UK Ltd. DOI: 10.3109/09687637.2015.1024611

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Pekka Hakkarainen, Karoliina Karjalainen, Kirsimarja Raitasalo, and Veli-Matti Sorvala

National Institute for Health and Welfare (THL), Alcohol and Drugs Unit, Helsinki, Finland

Abstract

Aims: We aimed to study a latent social structure behind the variables associated with teenagers' cannabis use at the individual level and, in a social context, formed by school class. *Methods*: The data used come from the European School Survey Project on Alcohol and Other Drugs (ESPAD), conducted in Finland in 2011 ($N = 3744$, response rate 89.6%). Methods used were Latent Class Analysis (LCA) and Multilevel Logistic Regression. The differences observed between pupil groups were interpreted through the concepts of social norms (conventionality of behaviour) and cultural dispositions. *Findings*: Four different latent classes of pupils were found: the *Conventionalists*, the *Alco-rebels*, the *Sub-cultural conventionalists* and the *Sub-cultural rebels*. Although *Sub-cultural conventionalists* were aware of the cannabis culture, only a small proportion of them had ever tried cannabis. The risk for cannabis use was pronounced in all pupil groups compared to *Conventionalists*, the risk being the highest among *Sub-cultural rebels*. There was statistically significant variation in the cannabis use between schools, when the individual-level variables were taken into account. *Conclusions*: The findings stress the cultural and normative heterogeneity of school children and the importance of the school environment. The cultural competence of *Sub-cultural conventionalists* could be utilized in the preventive work.

Keywords

Adolescents, cannabis, conventionality, cultural disposition, Finland, school

History

Received 17 August 2014
Revised 13 February 2015
Accepted 26 February 2015
Published online 25 March 2015

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Introduction

Perceived availability, risk of physical or other harms and peer use have been found to be strongly associated with teenagers' cannabis use in studies conducted among school children (Andersson, Miller, Beck, & Chomynova, 2009; Gervilla, Cajal, & Palmer, 2011; Gillespie, Neale, & Kendler, 2009; Piontek, Kraus, Bjarnason, Demetrovics, & Ramstedt, 2013). However, the question of how and why these variables are related to each other is still largely open. In order to find answers we need more general and sensible concepts which can bind empirical observations together. Unfortunately, in studies on teen drug use too little emphasis has been put on a critical strive for theoretical or conceptual development of the research field.

In addition, we need to put our empirical findings in a social context. Some multilevel studies report how school as a social context moderates the effect of those factors on cannabis use at the individual level (Bjarnason, Steriu, & Kokkevi, 2010; Kuntsche, 2010). Furthermore, Piontek et al. (2013), who addressed country-level factors, came to the conclusion that proximal influences related to the immediate social situation, in which substance use occurs, seem to be more strongly associated with cannabis use than distal influences related to broader social context. Hence, along with school it is justified to focus on other proximal influences embedded in the immediate social situation. No doubt, friends and peer groups as well as family and parents are among the most influential proximal influences for teenagers.

In this article, based on the data from the European School Survey Project on Alcohol and Other Drugs (ESPAD) we are, first, interested in studying a latent structure behind the variables associated with cannabis use at the individual level and in a social context formed by school class. More concretely, we try to establish what kinds of latent classes lie behind these associations that would differentiate teens into different groups. Second, we study how these subgroups differ in their experience of cannabis use. Finally, we are interested in studying the effect of social context (represented by the school class) on pupils' cannabis use. In Finland, a significant number of pupils have friends who use or have used cannabis (Raitasalo, Huhtanen, Miekkala, & Ahlström, 2012). We do not know exactly who those friends are, but we can suppose that a notable number of them are classmates from school. Having cannabis-using friends is associated with lenient cannabis attitudes and risk conceptions, and those friends may also dispense advice or contacts to obtain cannabis for use (Hakkarainen, 1996).

The most notable difference between our approach and the above-mentioned studies on teen cannabis use is that we do not employ separate items in the questionnaire as single

Correspondence: Dr. Pekka Hakkarainen, National Institute for Health and Welfare (THL), Alcohol and Drugs Unit, P.O. Box 30, Helsinki FI-00271, Finland. E-mail: pekka.hakkarainen@thl.fi

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variables but as indicators of distinctive clusters of pupils. The differences that arise from the data between the subgroups will be interpreted through the concepts of social norms (conventionality of behaviour) and cultural dispositions. Hence, the conceptual model provided for our empirical findings combines elements from classical sociological theory and cultural studies.

The cannabis culture

In modern society a lot of effort has been put on preventing drinking, smoking and drug use among teenagers. For example, international agreements and strategy papers strongly emphasise the importance of protecting young people against harms of alcohol (WHO, 2010), tobacco (WHO, 2003) and illicit drugs (EU, 2012). Furthermore, illicit drugs regulated by international conventions and the criminal law are under tight control. Then, teenager's cannabis use manifestly breaks the rules, which are globally imperative. To get a wider perspective to rule breaking we define conventional behaviour according to the students' commitment to social norms regulating not only cannabis use but also minors' alcohol and tobacco use. Another aspect of conventionality is that since the subjects of the study are under-aged (15–16 years old) their parents are still responsible for monitoring their behaviour and well-being, especially against potential risk situations.

In order to understand teens' cannabis use we also need a concept of sub-culture. Indeed, cannabis use is culturally shaped by a sub-culture which can be defined as ''a collection of rituals, stories and symbols'' around cannabis and its use (Sandberg, 2013). Well-established sub-cultural symbols and narratives outfit cannabis use with a variety of affirmative meanings and beliefs of positive effects of its use (see also Holm, Sandberg, Kolind, & Hesse, 2014). Rituals, on the other hand, create social bonds and shared understanding between participants. In circumstances created by the prohibitionist drug policy and widespread moral condemnation cannabis subculture, in a way, creates a passage through a symbolic barrier to the other side of the ''straight'' society and majority norms (Willis, 1976). In practice, as Zinberg (1984) describes, sharing of illicit experiences and common topics of conversation make the user feel like a member of a club which gives a sense of being on the inside of something special and naughty that is not shared by the straight world. The point of relevance here is that the cannabis sub-culture outlines a repertoire of values and meanings to be used for neutralising the stigma of drug user (Sykes & Matza, 1957) and for providing a moral justification (Boltanski & Thevenot, 2006) to the behaviour against dominant codes of conduct. Cannabis use as ''harmless fun'' and other culturally delivered beliefs about positive effects of cannabis play an important role in the initiation of cannabis use (Holm et al., 2014). In addition, a common consent inside the cannabis sub-culture that persons possessing cannabis are expected to share it creates an easy access of cannabis not only to insiders but also to newcomers of a user group (Zimmerman & Wieder, 1977). In practice, a person who knows cannabis users or cannabis growers may face a lot of options – or even feel a pressure – to try it by himself or herself, too.

To sum up, this kind of sub-cultural ''tool kit'' (Swidler, 1986) together with collective support from participants is available also for teenagers depending on their cultural dispositions. With the concept of cultural disposition (Bourdieu, 1984) we refer to the stand and awareness that a group of pupils have towards the cannabis sub-culture. We can assume that teens having contacts and relationships to the cannabis sub-culture are more likely to experiment with cannabis than those who are lacking these contacts.

In Finland, cannabis use has increased significantly in recent years and attitudes towards the risks and harms of cannabis have relaxed remarkably, which indicates a more general shift in the cultural position of cannabis among young people (Hakkarainen, Metso, & Salasuo, 2011). Furthermore, the international trend of domestic cannabis cultivation (Decorte, Potter, & Bouchard, 2011) has gained a strong foothold (Hakkarainen, Frank, Perälä, & Dahl, 2011), and it seems evident that it has had a rather intense impact also on the availability as well as the prevalence of cannabis use in Finland (Hakkarainen, Metso, et al., 2011). The changing cultural position of cannabis can also be seen among school children (Raitasalo, Huhtanen, & Ahlström, 2012; Salmi, 2012). Therefore, a demand to improve our understanding of teenage cannabis use – and hence, to find more effective strategies for prevention – is a highly topical issue in Finland.

Data and methods

The European School Survey Project on Alcohol and Other Drugs (ESPAD), conducted every fourth year since 1995, has proved to be a suitable database for analyzing factors associated with cannabis use among school children in Europe (Hibell et al., 2012). The data used in this study were gathered in spring 2011. The target population was defined as (1) regular students who (2) turned sixteen in the calendar year of the survey and (3) were present in class on the day of the survey administration. This definition includes students who are enrolled in regular, vocational or general studies, but excludes both special schools and special classes for students with learning disorders or severe physical handicaps. It also excludes students who are absent from class on the day of the survey.

The data were collected using stratified cluster sampling. The country was divided into strata according to the NUTS2-regions (Eurostat, 2013). The capital region was one stratum. From these strata, schools were randomly selected and after that one class in each school was selected, again randomly. Hence, a class is used as a sample of the school and as an indicator of the social context in which the pupil lives.

The circumstances for completing the questionnaire followed the same procedure as for a written test. This means that the students filled in the questionnaires quietly in their places, not discussing with each other or the survey leader and not walking around. The questionnaires were answered anonymously. After completion each student put the questionnaire in an envelope and sealed it before returning it to the survey leader. Individual identification was not possible.

In 2011, there were 251 schools in the Finnish sample and the final number of participating schools in the survey was 235. The manager of the ESPAD international data bank

Table 1. Distributions of the used variables, proportions of ''yes'' – answers by gender ($N = 3744$).

	Boys % (*n*)	Girls % (*n*)	Total % (*n*)
Variables reflecting relationship to social norms			
Do your parents know where you spend Friday nights? (always/quite often = parents know about Friday nights)	81 (1458)	81 (1561)	81 (3019)
How many times have you had six or more drinks during the past 30 days? (>0 = has been drunk during the past 30 days)	34 (621)	35 (669)	35 (1290)
How frequently have you smoked cigarettes during the past 30 days? (>=1–5 cigarettes per day = smokes daily)	20 (367)	18 (354)	19 (721)
Variables reflecting awareness of cannabis subculture			
Do you know someone who grows cannabis? (yes = knows someone)	12 (207)	9 (179)	10 (386)
How many of your friends would you estimate smoke marijuana or hashish? (>0 = has cannabis-using friends)	35 (640)	37 (705)	36 (1345)
How difficult would it be for you to get cannabis, if you wanted? (fairly/very easy = easy to get cannabis)	17 (307)	17 (318)	17 (625)
How much do you think people risk harming themselves (physically or in other ways), by trying marijuana or hashish (cannabis) once or twice? (no/slight risk = no risk related to cannabis experiments)	39 (710)	33 (643)	36 (1353)
Dependent variable			
On how many occasions have you used marijuana or hashish in your lifetime? (>0 = has used cannabis)	12 (213)	10 (185)	11 (398)

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checked and corrected the data. Those not belonging to the target group (those who were not born in 1995) were excluded from the data. Also those who had responded inconsistently, had clearly exaggerated or had not answered over half of the questions were excluded. The number of respondents was 3744 (response rate 89.6%). There were slightly more girls in the sample than boys (1929 versus 1815).

Measurements

The ESPAD questionnaire includes a large number of questions on adolescents' substance use and related attitudes and behaviours. In regard to the latest development in cannabis markets, two questions about home-grown cannabis were for the first time included in the Finnish ESPAD questionnaire in 2011.

Based on previous research (Gervilla et al., 2011; Ledoux, Miller, Choquet, & Plant, 2002; Piontek et al., 2013) seven questions were chosen in order to create a latent variable describing the profiles of respondents. Three of them (''Do your parents know where you spend Friday nights?'', ''How many times have you had six or more drinks during the past 30 days?'' and ''How frequently have you smoked cigarettes during the past 30 days?'') can be seen as reflecting a commitment to social norms[1] and parental monitoring. The other four questions (''Do you know someone who grows cannabis?'', ''How many of your friends would you estimate smoke marijuana or hashish?'', ''How difficult would it be for you to get cannabis, if you wanted?'' and ''How much do you think people risk harming themselves by trying marijuana or hashish once or twice?'') were used describing respondents' contacts and relationships to the cannabis sub-culture. Lifetime cannabis use was chosen to be used as the dependent variable, since lifetime prevalence (11%) did not differ much of the last year prevalence (9%). This indicates that the majority of those who have used cannabis in their lifetime have done it during the past 12 months. Also, last month prevalence was only 3% indicating that the prevalence of more regular cannabis use is low in this age group. All the variables were used dichotomously (yes/no). The questions utilized in this study and the distributions of responses are presented in Table 1.

Statistical analysis

Simple frequency tabulations were generated in order to describe the study population according to eight distinct indicator variables. The variables used were the pupil's own cannabis use, binge drinking, daily smoking, perceptions of risk and availability of cannabis and whether they knew someone who grows cannabis, had cannabis using friends and whether their parents know where they spend Friday nights.

First, instead of using these variables with supposed predictive value as predictors of cannabis use, we used these characteristics to construct a typology of pupils employing latent class analysis, LCA (Collins & Lanza, 2010) using Latent Gold 4.5 software (Belmont, MA). LCA is a model-based clustering approach where it is assumed that the data are generated by a mixture of underlying probability distributions (Vermunt & Magidson, 2002). It is concerned with the structures of cases, i.e. the latent taxonomic structure. We did not employ separate items in the questionnaire as single variables but as indicators of distinctive clusters of pupils.

Latent class models that differ from each other only with respect to the number of classes were estimated using full information maximum likelihood estimation. A series of latent class models were compared to determine the optimal model in terms of model fit and parsimony. Bayesian information criteria (BIC) were used to choose the number of latent classes. Using posterior probabilities for each pupil to belong to each latent class, the most probable class (referred as group later in the text) was determined for each individual pupil. This new group variable is used in

[1]In Finland, legislation includes bans on sale of alcohol and tobacco for those under 18 years of age. Alcohol and tobacco prevention is also a well-established part of the curriculum in schools and there are several NGOs working in this area.

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subsequent analyses and it takes account of classification error. The differences that arise from the data between the groups were interpreted through the concepts of social norms (conventionality of behaviour) and cultural dispositions.

Second, due to the hierarchical structure of the data, multilevel logistic regression analyses were performed to compare the log-odds of cannabis use between different pupil groups. A random intercept model was estimated, using school as a random intercept, and the effect of school on the log-odds of cannabis use was estimated after controlling for the fixed effects (pupil group and gender). Parameters in the fixed part and the random part of the model must be interpreted differently. For the fixed part, the parameters can be interpreted as in a single level regression model, but for the random part, the parameters are interpreted just as for the variance components model.

Results

Four pupil groups

Using BIC values and considering the interpretability of the results, it was determined that at the individual level, the four-latent-classes model provided the most optimal solution compared to other models (Model 4 in Table 2).

The four latent classes identified by the analysis are described in Figures 1 and 2. Figure 1 shows the latent probabilities of observed responses. The differences between these four latent classes could be condensed into two dimensions, namely ''Relationship to social norms'' and ''Awareness of cannabis subculture'', as shown in Figure 2. By cross-tabulating these dimensions we named the four latent classes as follows: the *Conventionalists*, the *Alco-rebels*, the *Sub-cultural conventionalists* and the *Sub-cultural rebels*.

The classes of pupils can be described as follows (prevalence in the data):

(1) *Conventionalists* (52%) – Members of this class have a low probability of daily smoking or getting drunk and a high probability that their parents know where they spend their Friday nights. They have a low probability of knowing cannabis growers or of having friends who use cannabis. They typically find it difficult to acquire cannabis and perceive cannabis experiments as risky.
(2) *Alco-rebels* (19%) – In this class, adolescents have an especially high probability of getting drunk and daily smoking. They do not know cannabis growers nor have friends who use cannabis. They also find it difficult to acquire cannabis and perceive cannabis experiments as risky. Compared to the group of *Conventionalists*, their parents are less likely to be aware of where they spend their Friday nights.

Table 2. Model comparisons.

Model	LL	BIC (LL)	Npar	df
Model 1: 1 class	−13955.0698	27967.7351	7	577
Model 2: 2 classes	−12422.4188	24968.2562	15	569
Model 3: 3 classes	−12274.0364	24737.3147	23	561
Model 4: 4 classes	−12206.7478	24668.5607	31	553
Model 5: 5 classes	−12195.5651	24712.0187	39	545

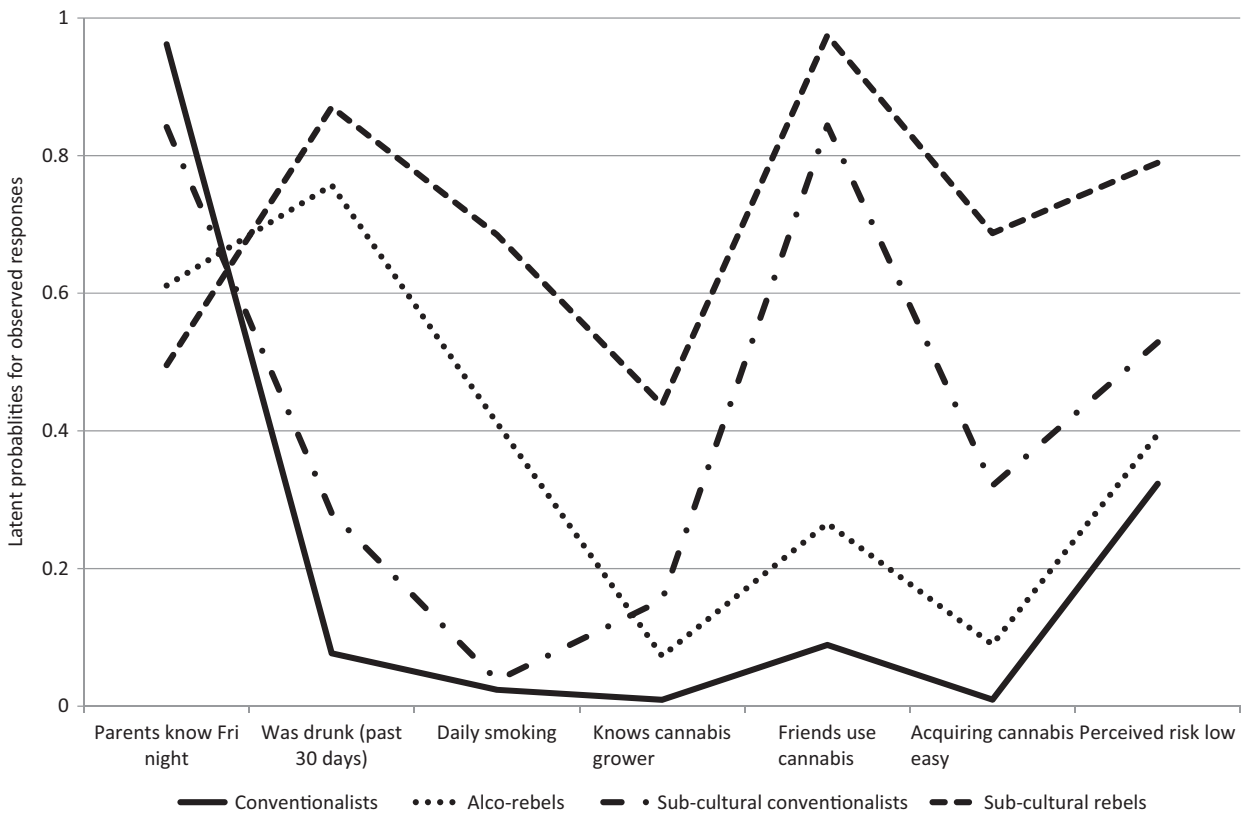

Figure 1. Latent probabilities for observed responses in variables related to adolescents cannabis use in four latent classes.

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(3) *Sub-cultural conventionalists* (15%) – like *Conventionalists* – have a low probability of daily smoking or getting drunk, and their parents are likely to know where they spend their Friday nights. But, they have a high probability of knowing some cannabis growers and they are likely to have friends who use cannabis. Typically they find it easy to acquire cannabis and they perceive cannabis experiments as non-risky.
(4) *Sub-cultural rebels* (15%) – have a high probability of both getting drunk and daily smoking. Parents of *Sub-cultural rebels* are not likely to know where their children spend their Friday nights. They have a high probability of knowing cannabis growers and they are very likely to have friends who use cannabis. Characteristically they find it easy to acquire cannabis and perceive cannabis experiments as non-risky.

Pupil groups and cannabis use

As Table 3 shows, cannabis use was most prevalent among *Sub-cultural rebels*, since over half (53%) of the pupils of this group reported cannabis use. Approximately one-tenth of *Sub-cultural conventionalist* and 7% of *Alco-rebels* reported cannabis use. Cannabis use was very rare among *Conventionalists*. The risk for cannabis use among different pupil groups was estimated by using a multilevel logistic regression model with school, pupil group and gender as explanatory variables (Table 3, Model 2). Cannabis use was very pronounced among all pupil groups compared to *Conventionalists*, especially among *Sub-cultural rebels* (OR 154, CI 95–249). Boys were more likely to use cannabis compared to girls.

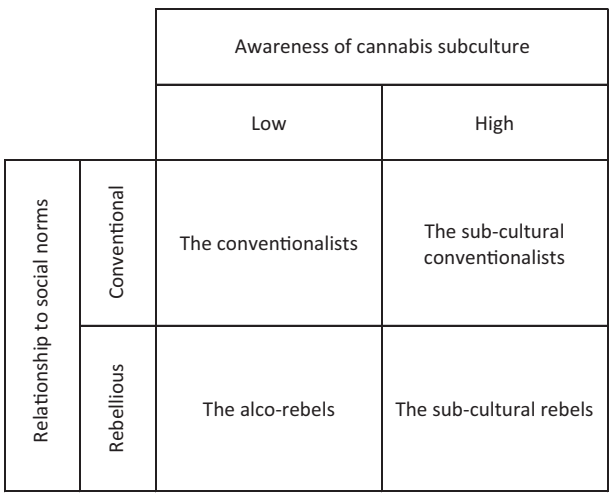

Figure 2. Typology of the four latent classes.

School classes and cannabis use

In most of the school classes the use of cannabis was nearly non-existent or at a very low level, while at the other end of the continuum there were school classes where the prevalence of experimenting with cannabis reached as high as some 60%. As the results in Table 3 show, the variation in the cannabis use between school classes was statistically significant (Model 1). After controlling the model for fixed effects, the variation between school classes decreased, but still remained significant (Table 3, Model 2). In other words, also school class appeared to have an effect on pupils' cannabis use, since the variation between school classes was not fully explained by the individual-level variables (pupil group and gender) included in the model.

Discussion

In the analysis, we found four different sub-groups of adolescents who have diverse profiles in regard to home, drinking, smoking and cannabis culture. We named those groups by cross-tabulating two dimensions; first, whether they were committed to behavioural norms and conventions regarding minors' alcohol use and tobacco smoking (conventionalists versus rebels) and second, whether or not they knew or had contacts with the cannabis sub-culture. The four groups had distinctive likelihoods of cannabis use.

The prevalence of cannabis use was lowest among *Conventionalists.* As more than half of all pupils belonged to this group, they can be said to constitute the mainstream cultural disposition today towards drugs and other substances among Finnish school children aged 15–16 years.

Table 3. Prevalence and odds ratios (with 95% confidence intervals) of multilevel logistic regression for cannabis use.

		Model 1				Model 2	
	%	Coeff.	SE	Coeff.	SE	OR	(95% CI)
Random effect							
School		0.86***	0.09	0.51***	0.12		
Fixed effects							
Latent pupil groups							
Conventionalists	1					1	
Alco-rebels	7			2.34***	0.26	10.4	(6.3–17.1)
Sub-cultural conventionalists	11			3.24***	0.26	25.6	(15.3–42.7)
Sub-cultural rebels	53			5.03***	0.25	153.5	(94.8–248.6)
Gender							
Boys	12					1	
Girls	10			−0.34*	0.14	0.7	(0.5–0.9)

Coeff. = coefficient, SE = standard error, OR = odds ratio, CI = confidence interval.
*$p \leq 0.05$.
***$p < 0.001$.

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The cultural disposition of the second biggest group containing one-fifth of all pupils, *Alco-rebels*, is interesting. They had already begun to conform to the local drinking habits (Mäkelä, Tigerstedt, & Mustonen, 2012) even if the legal age limit for alcohol sale and possession is 18 years in Finland. Hence, in a way they were just early starters in the dominant alcohol culture, and their rebelliousness was directed simply against the age-limits governing alcohol availability. They may have some cannabis-using friends but, in general, the cannabis culture was more unfamiliar to them than the alcohol culture, and they may not have that much interest in trying cannabis on their own initiative.

The pupil group which had evidently the most predictive cultural disposition for cannabis use was *Sub-cultural rebels*. They not only drank and smoked, but many of them had also experimented with cannabis. They shared the values and views of the cannabis culture about the low risks and harms of cannabis, hence being strongly opposed to mainstream Finnish society and culture. As Holm et al. (2014) have recently shown this may play an important role in the initiation of cannabis use. It can be supposed that their parents were not very well informed about their close relationship with the cannabis sub-culture.

The fourth group, *Sub-cultural conventionalists* were also well informed about the cannabis culture, but what gives them a distinctive character is that at the same time they experienced parental monitoring in terms of having parents who almost always know where their children spend their Friday nights. Despite being aware of the cannabis culture, only a very small proportion of them had ever tried cannabis. In the light of criminological theories emphasizing either peer influence (Sutherland & Cressey, 1978) or opportunity available to commit crime (Cloward & Ohlin, 1960) as causes of delinquency, it is interesting to note that even though this group accompanied their peer cannabis users and had easy access to cannabis, they may have had a social and cultural competence to refuse to use cannabis. This, on the other hand, has a good fit with the social control theory of crime (Hirschi, 1969), and it may be seen to underline the importance of the commitment to home and parents as a protective factor against cannabis use. Of course, they were still very young and they can start experimenting with cannabis later, especially when they move away from home and the family boundaries change. Actually, the average age of starting cannabis use is around 20 years of age in Finland (Metso, Winter, & Hakkarainen, 2012). Nevertheless, at the moment this group behaved against all the expectations based on variables associated with cannabis use.

The study revealed that a majority (67%) of the students were committed to conventional norms in their substance use behaviour. On the other hand, most of the rebels were interested in breaking the rules only in drinking habits. Around two-thirds of all pupils belonged to the groups who did not know the cannabis sub-culture very well. Hence, those two groups who had contacts and insight into the cannabis culture were a minority. However, a large difference in the prevalence of cannabis use between *Sub-cultural conventionalists* and *Sub-cultural rebels* stresses that even though we need to know rituals, stories and symbols of cannabis culture in order to understand cannabis use it does not alone provide a sufficient explanation for the use.

Extensive variation in cannabis experience between school classes was observed. On the one hand, there were classes where awareness of the cannabis sub-culture was nearly absent, and on the other hand, there were classes where the majority of the pupils were very well informed about the cannabis culture. This emphasizes the meaning of social dynamics in a school class. For example, even a small group of persuasive individuals with social authority and peer influence may be able to distribute their cannabis enthusiasm widely among the classmates. Testimonies in favor of cannabis given by friends can easily downplay the risks. According to the results of this study, the school class had a particular influence on cannabis use at the individual level. Hence, the school class environment constitutes a social context that has a significant proximal influence on teens' cannabis use (Piontek et al., 2013).

Limitations

The fact that our approach does not pay attention to the outcomes of single variables can be seen as a limitation. For example, within this analytical design we were not able to analyse the meaning of domestic cannabis cultivation (variable: knowing a grower) in cannabis use prevalence. However, as said previously, the objective of our methodological choice was to explain the evident associations between the predictive variables and discover and develop explanations based on wider conceptions than single variables. In the analysis, we employed an explorative approach without prior knowledge of the latent structure behind the associations between these variables.

Another limitation is that when comparing schools we were not allowed to use more proximal units of analysis than NUTS2-regions. It would have been interesting to study, e.g. local variation inside the capital region. Third, it may be that there is variation in cannabis use between different classes *inside* one school, but due to the sampling procedure (each school was represented by one class only) we were not able to investigate these possible internal differences. In addition, some of the school variation observed in this study might be explained by some other individual- or even community-level variables that were not possible to take into consideration in this study.

Fourth, as always with this kind of self-reporting data, we have to admit that even after the control checks there was still some uncertainty as to how honestly pupils have answered sensitive questions related to cannabis and other substance use. The reliability of the question concerning cannabis use was tested by comparing different questions related to this. The proportion of controversial answers was 0%. It was also asked whether the respondent would admit to drug use if he/she had used a drug. The proportion of those who would probably not or definitively not admit to such use was 7%. It can thus be assumed that the question on cannabis use is reliable.

The fifth limitation centers on how the ESPAD questionnaire was constructed. It would have been interesting to study pupils' relationship with home in more detail, for example, in regard to social class of the family, but this was not possible

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because of the lack of suitable questions and the available questions being based only on subjective or relative evaluations made by adolescents themselves.

Conclusion

Do the results of the study have any implications for the prevention of cannabis use among teenagers? In the research literature there is a lot of suspicion over the effectiveness of drug prevention, especially regarding the effects of big campaigns. However, there is some evidence about the effectiveness of specific classroom management programs in preventing drug use (Babor et al., 2010). Our results showing an independent effect of school class support this view. Indeed, classroom as a meeting place for different cultural values and different behavioural choices can be seen as a more suitable forum for drug prevention than large campaigns targeted at the individual level (see also Soikkeli, Salasuo, Puuronen, Puuronen, & Piispa, 2011). Our study also suggests a joint approach to alcohol, tobacco and cannabis. Furthermore, it would be important to take sub-cultural conceptions and different cultural dispositions into the discussion. In this respect, a group of special interest may be the sub-cultural conventionalists. In a way they seem to have a cultural competence which, by definition (Martin & Vaughn, 2007), refers to (a) awareness of their own worldview, (b) disposition towards cultural differences, (c) knowledge of different cultural practices and (d) cross-cultural skills and trust. Their value for preventive work in schools lies in their ability to communicate over cultural and sub-cultural boundaries. However, applying the results of the study most effectively would demand more qualitative research and better understanding of those four different pupil groups and their social dynamics in classroom settings.

Acknowledgements

This article includes data from a database produced within the European School Survey Project on Alcohol and Other Drugs (ESPAD), a collaborative European project owned by the ESPAD researchers, and is written in line with the rules for using ESPAD databases.

Declaration of interest

The authors report no conflicts of interest.

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