Prevención ambiental de drogas en la Unión Europea. ¿Por qué es tan impopular este tipo de prevención?

Environmental drug prevention in the EU. Why is it so unpopular?

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RESUMEN

Los adolescentes pasan por transformaciones en su funcionamiento neuro-comportamental y psicosocial que resultan en la predominancia de estar conforme con las normas de sus pares en detrimento del control cognitivo de sus impulsos. Esto puede explicar que en la presencia de sus pares los comportamientos de los adolescentes no son influenciados por lo que saben sobre los riesgos y las consecuencias. Esta observación tiene implicaciones para la prevención porque destaca la importancia de estrategias que activamente influencian los medios ambientes donde se da el consumo de substancias y donde las normas de los jóvenes se forman y mantienen. No obstante, a pesar de la falta de pruebas, las estrategias meramente informativas siguen siendo practicadas a larga escala en Europa. Las razones de esta situación se discuten en este editorial. Se propone también una definición de prevención ambiental: estrategias que alteran las normas y los ambientes físicos, sociales y económicos sin basarse en persuasión. Se discuten las delimitaciones de este definición con la de la promoción de la salud y las pruebas de eficacia disponibles así como la información sobre la puesta en marcha de la prevención ambiental. Estos datos no apoyan las afirmaciones de varios estados miembros que sus políticas preventivas englobarían todas las substancias y comportamientos adictivos. En general, mientras que las medidas ambientales estén ganando importancia en Europa, se encuentran más en el Norte de Europa y se notan sobretodo en tres áreas: a nivel macro en forma de políticas de control de alcohol y tabaco, en estrategias de mejorar el clima y ethos en centros educativos y en políticas locales para ambientes de diversión.

Palabras claves: ambiental, prevención, normas sociales, adolescentes, neurociencias.

ABSTRACT

Adolescents go through changes in their neurobehavioural and psychosocial functioning that can result in their desire to conform to peer norms taking predominance over cognitive impulse control mechanisms. This can help explain why, when peers are present, adolescent behaviour may not be significantly modified by what they know about risks and consequences. This finding has implications for prevention as it points to the importance of responses that actively target the environment in which substance use takes place, and where social norms are formed and supported. In practice however, across Europe information-only prevention approaches - despite a weak evidence for their effectiveness - continue to be most commonly used. Why this is the case is the question addressed by this editorial. A definition for environmental prevention is also provided: as strategies that aim to alter physical, social and economic environment without relying on persuasion. Boundaries of the definition with health promotion are discussed and the available evidence for the efficacy of this perspective reviewed, as is the information on the availability of environmental prevention within Europe. These data do not support the contention made by some member states that their prevention strategies are comprehensive and cover all addictive substances. Overall, although environmental approaches are becoming more common, they are disproportionately found in the North of Europe, and are most noticeable in three areas: at the macro-level in tobacco bans and alcohol policies, in strategies to improve the school environment and ethos, and in local level policies to regulate recreational settings.

Key words: environmental, prevention, social norms, adolescents, neuroscience.

Policy makers and practitioners working in the prevention area are increasing aware of the need to understand better what type of approaches can be shown to deliver beneficial results. The evidence base in this area has been growing and is accessible through reviews on prevention that can be found on the EMCDDA Best practice portal (www.emcdda.europa.eu) and other easily accessible sources, such as NICE (www.nice.org.uk) and the Cochrane collaboration (www.cochrane.org).

Despite this growing body of evidence, the EMCDDA's data collection during the last five years concerning the provision of different types of interventions in the EU does not indicate that there has been a major shift of prevention in Europe towards more evidence-based interventions, with the exception of some Member States and for specific interventions.

In schools, universal prevention continues to be dominated by information approaches, including drugs information days, external lecturers and visits by police agents, even if life skills trainings are now widely spread and reported as the most frequent objective of prevention in school. But manualised[1] programmes with evidence-based contents still play a minor role. As noted elsewhere (EMCDDA, 2008), selective prevention has gained attention in the EU, but the provision of interventions to vulnerable groups has not increased in the past seven years. Moreover the contents of programmes in this area are to a large extent unknown, but there are indications that much of it consists in information provision as well. Indicated prevention also remains underdeveloped within Europe despite the fact that programmes that do exist in this area have received positive evaluations (EMCDDA, 2009c).

In a global overview it is therefore striking that many prevention strategies in the EU continue to be based upon simple informative measures that consist mostly in producing and disseminating flyers, posters, seminars for parents, conferences, drugs days in schools or unspecific training of professionals or peers (i.e. teaching peers how to provide information about drugs to their friends). Additionally, mass media campaigns warning from illicit drugs, despite the high costs, lack of evidence for effectiveness, and possible iatrogenic effects (Hornik, Jacobsohn, Orwin, Piesse & Kalton, 2008; Phillips & Kinver, 2007; Scheier & Grenard, 2010) continue to be popular, even during the present budget crisis.

What is the problem with information approaches?

The absence of empirical evidence for beneficial effects of solely information provision on behaviour change in non- or recreational adolescent substance users, is well known. Importantly, even the conceptual basis for this approach fails to recognise the determinants of adolescent behaviour in assuming that information about risks alone would override the contextual and emotional constituents of substance use behaviour. Therefore, a strong argument exists that this approach is neither based on evidence of effectiveness nor a plausible underlying theoretical model.

A review paper by Steinberg (2008a) provides an overview on recent findings in social neuroscience that corroborate insights from developmental and social psychology that adolescent involvement in risk behaviour is not due to lack of information, irrationality or faulty calculations, but to the mere presence of peers in a group context (see also Brown, McGue, Maggs, Schulenberg, Hingson, Swartzwelder, ... Murphy, 2008).

The increase of oxytocin[2] receptors in the limbic system during adolescence explains why adolescents —compared with children and adults— show especially enhanced activation of limbic and related areas in response to emotional and social stimuli. This makes early adolescence a period of increased awareness of others' opinions.

In adolescents, there is additionally an important overlap between neural circuits responsible for social information processing and those for reward (Galvan, Hare, Davidson, Spicer, Glover & Glover, 2005) so that a stimulation of the brain's socio-emotional system (i.e. the presence of peers) leads to increased reward-seeking. This helps to explain why so much adolescent risk-taking (especially substance use and reckless driving) occurs only in the context of the peer group. Socio-emotional networks in the brain abruptly become more predominant at puberty while cognitive control networks gain strength only gradually, over a longer period of time, i.e. until individuals reach their mid-20s. However, when adolescents are alone or not emotionally excited, the cognitive control network is still strong enough to impose regulatory control over impulsive and risky behaviour and, in this case, adolescents perform the same or even more careful risk assessment of situations and behaviours than adults. It is only in the presence of peers or under conditions of emotional arousal that the regulatory effectiveness of the prefrontal cognitive control network isn't sufficient to modulate risk-taking behaviour and in such situations with high emotional salience, the more mature limbic regions can override prefrontal regions, resulting in poor decision making. The developmental imbalance is unique to adolescents, as children have equally immature limbic and prefrontal regions, while adults benefit from fully developed systems (Bava & Tapert, 2010). Unfortunately, at the same time when ability to steer behaviour through cognitive control is restricted, substance use can become more frequent.

Resistance to peer influence must therefore be formulated as cognitive control over the impulsive reward-seeking behaviour that is stimulated by the presence of peers through activation of the socio-emotional brain network.

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[1] A standardised programme curriculum with a defined content for each session.

[2] Known for its role in social bonding, especially in new parents.

As increased risk-taking during adolescence is likely to be normative, biologically driven and to a certain degree inevitable, it seems naive to attempt to make adolescents wiser, less impulsive, or less short-sighted, as mature judgment needs time to develop (Steinberg, Albert, Cauffman, Banich, Graham & Woolard, 2008b). While some prevention approaches do decidedly aim to accelerate the maturation of self-regulatory competence as, for example, the 'risflecting' (www.risflecting.at) approach in Austria, no research has examined yet whether this can effectively be achieved.

If we thus must assume that adolescents' dependence on parents is not replaced by independence but by dependence on peers (Steinberg & Monahan, 2007), it does not make sense to provide more information to young people as they already have, or attempt to change how they view risky activities, but rather to focus on limiting opportunities for immature judgment to have harmful consequences (Steinberg, 2008a) and to influence the environmental conditions of how entire populations of young people behave in groups. This implies focusing on norms, parental monitoring and context (Chen, Grube, Nygaard & Miller, 2008).

Or, as Paul Stern argues: effective laws and regulations, strong financial incentives and penalties, social pressure, and the like leave little room for personal values to influence behaviour. The best way to change behaviour is to change behaviour's context. Such interventions are more effective than targeting individuals directly with verbal appeals, information, or other efforts to change attitudes or beliefs (Stern, 2005).

Therefore, the widespread assumption that information provision on risks and dangers of drugs and harmful behaviour would allow adolescents to take 'informed choices' (Advisory Committee on Drug Misuse, 2006) boldly ignores what is known about adolescent functioning. In contrast, in a review for the National Institute on Alcohol Abuse and Alcoholism's (NIAAA) Rapid Response to College Drinking Initiative (DeJong, Larimer, Wood & Hartman, 2009) orientation sessions, awareness weeks or provision of alcohol-related facts were classified as 'evidence of ineffectiveness', while environmental approaches, all of a normative nature, were rated with 'evidence of success with general populations'.

What is environmental prevention?

Environmental prevention strategies aim at altering the immediate cultural, social, physical and economic environments in which people make their choices about drug use. This perspective does take into account the evidence that individuals do not become involved with substances solely on the basis of personal characteristics or cognitive functioning. Rather, as argued above, they are influenced by a complex set of factors in the environment, such as what is considered normal, expected or accepted in the communities in which they live, the rules or regulations and taxes of their

states, the publicity messages to which they are exposed, and the availability of alcohol, tobacco, and illicit drugs.

Accordingly, environmental prevention comprises approaches that operate on the level of social, formal, peer and cultural norms about alcohol, tobacco and also illicit drugs. Because substance use is viewed as a product of the overall system, the rationale of environmental prevention strategies is to target the community or society at large rather than attempting to persuade people individually to change their behaviour.

Some distinction can be made with regard to the scale of the strategy, similar to Bronfenbrenner's (1979) ecological systems theory: 'macro' environmental strategies typically comprise legislation at the supranational or government level. Examples include taxation, restrictions on sales, labelling, purchasing age controls, advertising bans and advertising controls. 'Meso' environmental strategies are focused on both restricting availability and reducing harm in the use setting. Examples include municipal strategies to reduce public nuisance, drug 'policies' in schools, targeted policing, conditional venue and event licensing, fines and venue design guidelines, together with community action strategies such as neighbourhood watch schemes. Micro strategies would target family environments, like family norms and education styles.

An important field for the application of environmental drug prevention at meso level are recreational settings. Into this field has been transferred what was known to be effective for alcohol prevention and also research on environmental determinants of violence such as unclean conditions, poor ventilation, high levels of noise and music, low comfort, high density of patrons, predominant patronage by males, high numbers of intoxicated patrons, and high boredom (Miller, Holder & Voas, 2009). A recent European review of environmental factors (Hughes, Quigg, Eckley, Bellis, Jones, Calafat, ... van Hasselt, 2011) found that important contributions to alcohol-related problems include a permissive environment, discounted drinks promotions, poor cleanliness, crowding, loud music and poor staff practice. However, study findings were not always consistent.

Furthermore, environmental approaches focus on changing the social, economic and physical environment, and offer club owners and managers an approach that can be less disruptive to their business. They may therefore be more motivated to use environmental approaches to reduce drug use and other risky behaviours on the premises because such occurrences are not profitable, increase the risk of city and police interference, and create problems within their own neighbourhood context (Miller et al., 2009).

Over several years, these strategies have been developed in Europe, for example in the UK's Safe Clubbing Guidelines. Concrete elements of which include: a clear policy for, and monitoring of, interior space for risky sexual or aggressive behaviour, and training of staff for: medical emergencies related to intoxicated patrons, serving alcohol, and handling drug-related problems and emergencies. Similar strategies applied in Sweden and the US (Miller et al., 2009) include

more repressive elements, like the monitoring of interior space for drug use and drug-related problems, the training of staff to detect drug-impaired patrons and for excluding 'problem patrons' (drug sales, drug users, weapons).

Beyond its features of coercion and restriction at the macro level, environmental prevention may also contain promotion elements in the sense of providing opportunities, stimuli and encouragement for changes in smaller environments. A specific application of a less restrictive and rather promotional approach is intervening on the school climate and school ethos.

There is evidence that the school climate (Aveyard, Markham, Lancashire, Bullock, Macarthur & Cheng, 2004) and the nature of school environments influence substance use (Desousa, Murphy, Roberts & Anderson, 2008; Fletcher, Bonell, Sorhaindo & Strange, 2009) and violence in schools (Reid, Andrew, Hughey & Garcia-Reid, 2006). Therefore, interventions that increase student participation, improve relationships and promote a positive school ethos might reduce drug use (Bonell, Sorhaindo, Allen, Strange, Wiggins, Fletcher, ...Rhodes, 2010; Fletcher, Bonell & Hargreaves, 2008).

For environmental prevention at community level, a good example is the *Communities That Care* (CTC) programme from Oregon, which is now being implemented in the Netherlands, Austria and Germany. It is guided theoretically by the Social Development Model, which posits that bonding to prosocial groups and individuals and clear standards for healthy behaviour are protective factors that inhibit the development of problem behaviours (Hawkins, Kosterman, Catalano & Hil, 2005): bonding is created when people are provided with opportunities to be involved in a social group like a coalition, family, or classroom, when they have the skills to participate in the social group, and when they are recognised for their contributions to the group. This programme is a toolbox of several interventions that can be implemented in different levels and settings of communities, according to specific needs.

Another example which has been defined as an environmental approach are the Spanish *ocio alternativo* (alternative leisure) programmes, where youth clubs and spaces stay open until very late at night in order to offer environments to youth where substance use norms are not promoted. Evaluations however of this approach have not reported any positive effects. This may be due to the fact that these programmes covered only a small share of the overall partying environment in the participating cities.

The boundaries of environmental prevention

This example raises the question of what do we define as the 'environment' necessary for change. Or, to be considered an environmental strategy, how many spheres of the life environment and what share of the population should be covered? In fact, none of the strategies and interventions above are new and neither is the idea of targeting environment instead of individual people which can be found in the WHO Ottawa Charter for Health Promotion, which is now 25 years old.

In fact, the boundaries between health promotion and environmental prevention are blurred. Some critics may even argue the whole idea of environmental prevention is nothing other than a re-working of the health promotion concept. It is true that the Ottawa Charter for Health Promotion introduced new environmental thinking when arguing that health is influenced by where people 'learn, work, play and love'. However, the applied concept of health promotion almost completely omits the importance of influencing formal and informal, social and peers norms, whose importance in shaping adolescent behaviour is crucial (Burkhart, 2009). For example, despite the now long existence of the European Network of Health Promoting Schools, it was only in 2010 that almost all (25) Member States report that they have full smoking bans in schools and therefore addressing normative concerns. Similarly, in the same year only 19 Member States reported the extensive existence of policies in schools concerning substance use (e.g. rules and how to proceed when they are violated). Three years earlier, in 2007, full smoking bans in schools and school policies where both only available in 17 countries. This lack of attention to the importance of addressing norms might contribute to the reported absence of effects of health promotion in schools, specifically on substance use (Stewart-Brown, 2006). Essential characteristics of environmental prevention are therefore: (a) a focus on norms or rules; and (b) a focus on dominant life environments. Environmental strategies do not need to include a persuasion component, i.e. cognitive behaviour interventions to engender individual behavioural change. They do however, need to be sufficient in covering, with minimal selection effects, a whole population in its most relevant environment(s). Environmental prevention therefore includes physical, economic and legislative modifications at macro level, but also norms and rules at community and school (meso) level. Also, non-coercive strategies like promoting positive norms or behaviours and the school climate are a part of it. A debatable question is whether those norm setting mass media campaigns can be included under this heading if they explain the rationale of laws and regulations without having a primary focus on 'warning' or 'persuading' individuals.

'Environmental' sounds positive, and this often leads to the label being used for all kind of approaches. Secondary schools certainly are — due to the presence of peers — the decisive environment where formal and informal norms and behaviours are shaped during adolescence. However, community-based interventions, for example, cannot be considered by default as 'environmental': in Europe, many can be better defined as community information strategies or the provision of alternative leisure-time opportunities. Such elective programmes do not cover either the full population or the decisive environment, and may even be most attractive to the less vulnerable.

At micro-level, it becomes debatable whether, for example, interventions that focus on parenting styles should be considered environmental. While for young children,

family is de facto the dominant environment for socialisation and if there is a major focus on setting clear general rules while being empathic, then this attribute would certainly correctly apply. There is evidence that such generic family norms and rules in the form of authoritative parenting (Stephenson & Helme, 2006), even without mentioning drugs or discussing specific behaviours, have effects on substance use and problem behaviour (Ashton, 2004; Koutakis, 2008).

It can thus be observed that environmental strategies are included in the classical prevention settings like school-based prevention, family-based prevention and community-located prevention. But for most its essence (non-persuasion, focus on context) it can be considered a fourth pillar of prevention strategies[3], complementing the other three that focus on people and persuading these into behavioural change: indicated (targets vulnerable individuals), selective (targets vulnerable groups) and universal prevention (targets an entire population). The feature which distinguishes environmental prevention from health promotion (that also focuses on context rather than persuasion) is the focus on norms, both positively sanctioned (what behaviour is expected) and negatively sanctioned (what behaviour is discouraged).

While it operates mostly through a normative approach, environmental prevention shouldn't be confused with normative education which, either as a component of programmes or as standalone approach, focuses on correcting normative misperceptions about prevalence and acceptance of a given behaviour in the peer population and is fortunately now gaining some attention in the prevention field (McAlaney, Bewick & Hughes, 2011). Similar to environmental prevention, normative education takes adolescents' need for conformity and the importance of norm perception into account, but belongs to persuasion approaches that directly aim to change behaviour.

Even if many aspects of environmental prevention may not be genuinely new, it is important to be aware of environmental prevention's potentials, because it corresponds far better with young people's development and functioning than simple warning or informative approaches. Such awareness might also enhance the effectiveness of prevention planning, as discussed in the following section.

Does it work?

Environmental strategies — despite targeting predominantly legal drugs or antisocial behaviour — are important for the whole prevention field because in many countries, early and frequent use of alcohol and tobacco as well as problem behaviour are related to poly- or illicit drug use. In the general and the adolescent population, the importance of alcohol for the initiation in illicit drug use is essential: data analysed by the EMCDDA from general population surveys in nine European countries reveal that, among frequent or heavy alcohol users, the prevalence of amphetamines or ecstasy use is much higher than average.

And analysis of ESPAD school survey data for 22 countries shows that 85.5 % of the 15- to 16-year-old students who had used ecstasy during the last month had also drunk five or more alcoholic drinks on one occasion (EMCDDA, 2009a).

The effectiveness of environmental prevention regarding alcohol has been well established (Room, Babor & Rehm, 2005), as it has in university settings (DeJong et al., 2009). As for the spin-off effects between regulation of tobacco and use of cannabis, there is some evidence that tobacco smoking is associated with cannabis use (Vega, 2005; Wetzels, Kremers & Vitoria, 2003) and a recent French study (Mayet, Legleye, Chau & Falissard, 2010) found that tobacco smoking can mediate the initiation into cannabis use. The effectiveness of environmental prevention strategies in reducing tobacco smoking (ASPECT Consortium 2004; Farrelly, Pechacek & Thomas, 2008; World Bank 1999)) now seems to be widely acknowledged.

Now that Spain has also introduced a total tobacco ban, such bans are implemented in a majority of Member States and appear to have reduced smoking (Spinney, 2007). An interesting question is to what extent the reduction observable in Cannabis smoking among European adolescents (EMCDDA 2009b) in the last few years is associated with these tobacco policies.

Tobacco and alcohol use are also a function of cultural values, descriptive norms, the social acceptance of use and the availability of these substances. Such normative environments seem to influence the initiation into problem behaviour and into the use of illicit drugs as well. Several longitudinal studies have confirmed that descriptive norms and the misperception of normality are important predictors of tobacco smoking (Cunningham, 2007), of the frequency of alcohol consumption (Neighbors, Dillard, Lewis & Bergstrom, 2006; Neighbors, Lee, Lewis, Fossos & Larimer, 2007) of high risk intentions of the use of cannabis, alcohol and tobacco, even when adjusting for socio-demographic variables (Olds & Thombs, 2005). Therefore, normative beliefs are important factors that can contribute to the failure or success of prevention interventions (Burkhart, 2009) and addressing them is becoming increasingly important in prevention (McAlaney et al., 2011).

The strength of environmental prevention is certainly that it can address all substances including alcohol and tobacco and — most importantly — alters the related social norms and their perceptions. They operate therefore on the essential channel that has the biggest influence on adolescent behaviour: social rules and norm perception. Studies do strongly support the view that behavioural change is mediated by descriptive norms. For example, a study on environmental alcohol prevention (Lipperman-Kreda, Grube & Paschall, 2010) concludes that the enforcement of underage drinking laws appears to partially mediate the relationship between perceived community disapproval and personal beliefs related to alcohol use. It suggests that environmental prevention efforts to reduce underage drinking should target adults' attitudes and community norms about underage drinking, as well as the beliefs of youth themselves. Altering norms also has longer lasting effects: Brown et al.

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[3] See http://www.emcdda.europa.eu/prevention-profiles.

(2008) suggest that developmental factors related to initial actions in support of reduction/cessation of alcohol/drug use (for example, motivation, decisional balance, immediate contingencies, and coping skills) are different from those required to sustain behavioural changes (for example, self-monitoring skills and available alternative reinforcers). Therefore, motivated youth may make efforts to reduce or to stop substance use but, without appropriate environmental 'scaffolding', there may be limited likelihood of permanent change. Environmental strategies can provide this, as they change the conditions in which substance use can occur and have therefore a long term influence on adolescent behaviour and norm perception.

This continuity of exposure might contribute to effectiveness. For example, from a conceptual point of view, prevention programmes based on the social influence model (combining normative education with interpersonal and personal skills) operate as well on social functioning and norm perception of young people and can be effective (Bühler & Kröger, 2006; Faggiano, Vigna-Taglianti, Versino, Zambon, Borraccino & Lemma, 2008). But the fact — interpreted often as a lack of effectiveness — that their preventive effects fade out might well be due to discontinued exposure: the number of programme sessions is limited and booster sessions are rarely done. Environmental prevention is less exposed to this dilemma, due to its long-lasting nature.

In an evolutionary gender context, risk taking and reckless behaviour of adolescents brings along advantages in sexual selection in most societies (Wilson & Daly, 1993) and this underlines the special relevance of targeting adolescent behaviour in party and other recreational settings, which to a large extent are about mating and sexual selection. Recent and growing research has indeed been dedicated to environmental prevention in recreational settings.

As alcohol is a key substance here (i.e. the most consumed substance and associated with most of the occurring problems), the most effective interventions identified in a recent review for party settings (Calafat, Juan & Duch, 2009) are also of an environmental nature: a combination of training and mandatory cooperation of the leisure industry with authorities and enforcement (licensing, age verification) and also general control measures on alcohol at society level such as taxation, restriction of hours or days of sale, outlet density restrictions, sobriety checkpoints, reduced blood alcohol concentration (BAC) limits, minimum legal purchasing age, and administrative licence suspension are effective in reducing substance use. However, outcomes specifically on illicit drug use are rarely assessed.

According to this review, providing information on harm reduction or promoting moderation to young people attending nightlife venues, responsible beverage services with training of door staff and designated driver programmes are not strongly evidence-based. These approaches are also often supported by the nightlife and alcohol industries and may not be well enforced. Despite these failings, a recent review (Akbar, Baldacchino, Cecil, Riglietta, Sommer & Humphris, 2011) found that these kinds of interventions were the most common available.

In contrast, 'STAD' in Stockholm is an environmental approach to promote community mobilisation, the training of bar staff in responsible beverage service (RBS) programmes and stricter enforcement of existing alcohol licensing and drug laws. Its evaluations found a decrease in alcohol-related problems, increased refusal to serve minors and a 29 % reduction in assaults (Gripenberg, Wallin & Andréasson, 2007).

In community settings, there is little European research evidence on prevention efficacy. The situation is better in the US, for example *Communities That Care* (CTC) interventions have been shown to have had positive spin-off effects beyond substance abuse, on aggressive behaviour and on mental health (Hawkins et al., 2005; Hawkins, Catalano, Arthur, Egan, Brown, Abbott & Murray, 2008).

As for the school setting, there is a known and consistent relationship between 'alienation' at secondary school and substance use (Nutbeam, Smith, Moore & Bauman, 1993). Also, students' perceptions of being treated fairly, school safety and teacher support are related to substance use. Accordingly, for environmental prevention in schools, there is evidence from a systematic review (Fletcher et al., 2008) that changes to the school social environment that increase student participation, improve teacher–student relationships and promote a positive school ethos, reduce substance use.

In a similar modus operandi, the 'Smokefree Class Competition' (Hoeflmayr & Hanewinkel, 2008) is an evaluated and effective programme, which works predominantly by setting alternative peer norms about smoking and stimulates their reinforcement by the peers themselves, but without mentioning the dangers or risks of smoking.

So there is evidence at macro level (state) for environmental prevention to be beneficial and likely to be beneficial at meso level (recreational settings and schools), and there are several beneficial effects beyond substance use alone. It would therefore make sense to use more elements of environmental prevention in complement and support of persuasive prevention strategies.

Does it happen?

At macro level, partial or full smoking bans are now implemented in almost all European countries, and a 2003 EU directive (2003/33/EC) has banned tobacco advertisements.

Proposals of minimum pricing for alcohol and clampdowns on alcohol promotion are also being debated in several European countries, but in an overall view effective environmental strategies for alcohol remain a challenge, and evidence-based policy measures like tax increases (Wagenaar, Salois & Komro, 2009; Wagenaar, Tobler & Komro, 2010) are poorly implemented and not always strongly supported.

Judging from the different alcohol policy scores proposed by Österberg & Karlsson (2007) — (see also the 'prevention profiles' on www.emcdda.europa.eu) — a gradient within Europe can be observed: with countries in the east and especially in the north of Europe having stricter alcohol

policies. Given the cultural convergence of drinking patterns, Kuntsche et al. (2011) demand for Eastern European Countries more evidence-based measures to mitigate the frequency of adolescent drunkenness, such as tax increases and restricting alcohol access and advertisement.

At meso level — for example, schools and communities — most recent EMCDDA data show that policies about drugs in schools and total smoking bans in them are now almost universally implemented in Europe (see above).

Efforts to develop positive and protected school climates were reported in 2009 by 10 EU Member States and there appears to be some awareness in prevention policies about the environment's importance, given the fact that seven Member States reported in 2010 that their objective in school-based prevention is to create protective school environments, which may cover both norms and good climate. Finland, for example, claims that its entire prevention strategy, not only in schools, focuses on protective environments and to increase bonding and feelings of belonging (see Fletcher et al., 2009) rather than isolated prevention programmes.

Countries in the north of Europe have also developed the concept of positive protected environments at community level and the CTC programme is being implemented in the Netherlands, Austria and Germany.

A rather poor area of intervention is recreational settings: less than half of the EU Member States report at all on interventions in recreational nightlife settings. Also, content-wise, recreational settings appear to be quite 'conservative': EMCDDA data collection from 2008 showed that information provision and harm-reduction materials were the main activities reported, but few informative strategies addressed the normative beliefs underlying the recreational youth culture (EMCDDA, 2009b).

Guidelines, such as the 'safer dancing' guidelines developed in the United Kingdom could be a simple but important tool in this field. However, while 12 countries reported in 2009 having developed such guidelines for nightlife venues, only the Netherlands, Slovenia, Sweden and the United Kingdom report that they are monitored and enforced. Safe-clubbing guidelines aim to reduce opportunities for drug-related problems to occur and include the accessibility of free cold water, immediate availability of first aid, and outreach prevention work, but in practice, for example, free cold water was available in the majority of relevant nightclubs in only 11 countries of the EU in 2009 (EMCDDA, 2009b).

Targeting alcohol in recreational settings is being reported by countries such as Denmark, Luxembourg, Sweden and the United Kingdom and cooperation between players involved in the nightlife field —municipalities, police and restaurant or club owners— apparently happens now, not only in Nordic countries, but also in Italy and some areas of Spain. A recent systematic review of harm reduction strategies implemented in recreational settings (Akbar et al., 2011) finds that they are rarely properly evaluated. Interventions targeted at training service staff are the most

common type of programme, and focus on topics such as how to recognise signs of intoxication and when and how to refuse service to patrons. Multi-component models are frequent, but mostly non-European or from the northern half of the EU and Norway.

Some interventions also claim that their peer projects would be environmental prevention. It is true that there are many of them in Europe, but they are not really modelled to the insights about the social primacy of adolescent behaviour: in these interventions, peer leaders are mostly trained in providing information to other peers, so that peers are the information carrier instead of teachers or professionals. These interventions are quite popular in recreational settings, but they still focus on information provision instead of altering peer norms.

It appears that environmental prevention in recreational settings is rare in the south of Europe, which contrasts with international nightlife resorts being usually located there. These are major sources of recruitment, relapse and escalation in drug use and contribute to the international spread of drug cultures, according to findings of a recent study (Bellis, Hughes, Calafat, Juan & Schnitzer, 2009). The often mentioned reasoning that related problems would be less calamitous within the 'culturally protected and moderated' Mediterranean drinking traditions is almost entirely a myth (Calafat et al., 2010).

It appears evident now that environmental prevention has only recently become firmly established and only for tobacco control policies at all levels, while it is weakly implemented in recreational and community settings, as well as for alcohol at all levels. At school level, the approach recently has gained momentum, but the actual level and quality of implementation is unknown and evaluations are very rare in Europe.

This is not to say that nothing is moving in this field. There is certainly an increased importance placed on environmental prevention in EU Member States and currently, strong and improving tobacco policies in many countries. Also, there are well-conceived and well-evaluated interventions in Europe, but almost only in northern Europe (see also the EDDRA database, which can be found at http://www.emcdda.europa.eu/themes/best-practice/examples) and the highest rated (for quality of design) interventions in the Healthy Nightlife toolbox (www.hnt-info.eu) are from United States, Australia or Sweden.

It appears that in most prevention strategies in Europe, there is a discrepancy between the available information on effectiveness and the content of prevention interventions strategies that are actually delivered. This is especially obvious with regard to environmental strategies.Why is environmental prevention not widely implemented?

In a broad context, European social policies have only recently paid attention to the relation of environment, health behaviour and environmental inequality, while this has been a part of US policy for almost 20 years (Eloi, 2010). Only recently, a WHO (CSDH, 2008) report and the Marmot

Review[4] relate health outcomes to social environment and inequality. This late attention paid to environment might explain part of the scenario, but there are some specific aspects that appear to be specific to Europe which are outlined below.

Complexity

Multi-level interventions at meso level (communities, recreational settings) are sophisticated and complex and need the involvement of several kinds of actors, such as community agencies, club and bar owners, youth organisations, etc. Furthermore, large-scale community-based interventions are also likely to be expensive and need political commitment.

With public budget cuts due to the financial crisis in Europe, the expansion of these more sophisticated but promising prevention strategies is now likely to move slowly or even be reduced, as some Member States have explained in their recent reporting to the EMCDDA.

A similar resistance to complex interventions can also be observed with regard to manualised prevention programmes, as their development and implementation requires specific know-how, technical procedures, quality control, proof of effectiveness and of absence of harm. This might be one of the reasons that most countries in Europe continue to support simple informative measures (seminars, flyers, posters, untargeted training) that are easy to produce and to disseminate.

Difficult roll-out

A potentially related additional reason for the continuing adherence to interventions without any indication of effectiveness, is that these are 'easy-to-be-widely-spread': they neither require sophisticated methodologies nor strict adherence to any protocols and no negotiations with multiple stakeholders. Mass media campaigns, events and information material are easy to disseminate and to multiply, whereas the roll-out of both evidence-based programmes and of multi-level interventions is much harder. For example, CTC is only being implemented in the Netherlands and is starting in Austria and Germany.

Even at macro level, roll-out into other countries appears difficult: in several of the large EU countries that gradually started to debate the instalment of smoking bans (Germany, Spain and the UK), the same apocalyptic visions were repeated in the press and in public debates: of restaurants and bars losing clients and having to close, of workplaces in the restaurant industry being lost, of millions of working hours lost due to smoking breaks. This is despite the fact that there is little evidence to support these contentions from any of the countries in Europe that had previously implemented smoking bans. So, Member States have rarely used positive examples on environmental prevention from other Member States to support the introduction of similar measures underlining the fact that an important opportunity is being lost in Europe to make use of the experiences made in neighbouring countries to provide policy examples of good practice.

Industry influence and interest

Much of the resistance to environmental prevention, both at macro (tobacco and alcohol policies) and meso level (party settings), may also be influenced by industry concerns. Perhaps one of the most cited recent example of this are reports about how the German tobacco industry, with political support, managed to impede tobacco control at both EU and national level (Gruning, Gilmore & McKee, 2006; Neuman & Bitton, 2002).

Another example, cited by Die ZEIT (Nr. 21 from 14/05/2009) is that in 2009 the German Drug Coordinator lost political support when she began to focus on more restrictive policies of alcohol sales and advertising. Here, industrial and political opponents argued that there was no evidence for a link between teenage drinking and advertising, a conclusion that is in conflict with most of the available research evidence in this area (Hastings, 2005; Anderson, de Bruijn, Angus, Gordon & Hastings, 2009; Hastings, Anderson, Cooke & Gordon, 2005; Smith & Foxcroft, 2009). It should be noted that quite often the alcohol industry supports prevention or harm reduction measures, for example DIAGEO in the UK[5] and the Dutch alcohol industry (EUCAM, 2009) promote persuasive approaches, such as 'drinking in moderation' (Casswell, 1993). This raises the question if this kind of support is influenced by the desire to avoid the implementation of what, from a public health perspective, might constitute more effective measures, such as tax increases or minimum prices (Wagenaar et al., 2009; Wagenaar et al., 2010).

With regard to recreational settings, a 'Hegemonic recreational nightlife model' has been proposed to understand how recreational drug use and the settings where this takes place now govern many young people's weekend entertainment and social networks, and can give 'meaning' to their lives through intensive participation (Calafat, Fernández, Juan, Anttila, Arias, Bellis, ... Wijngaart, 2003). The key observation here is that the recreation industry not only supplies services but also contributes to defining entertainment and creating the conditions in which recreational drug use takes place. Therefore, building relationships with this sector is not straightforward and is likely to be undermined in the absence of 'codes of practice', which are present in Nordic countries and which have the potential to be enforced.

This is one possible explanation of why, in southern Europe, and especially in Spain, which has the biggest tourism and entertainment industry in Europe (estimated

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[4] www.marmotreview.org

[5] http://www.corporatewatch.org.uk

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Prevención ambiental de drogas en la Unión Europea. ¿Por qué es tan impopular este tipo de prevención?

at 11 % of GDP[6], environmental prevention in recreational is currently poorly developed. While effective collaboration between health promoters, nightlife settings and the alcohol industry is likely to be crucial in reducing the harms associated with young people's recreational drug use, in the south of Europe, with the exception of Catalonia and northern Italy, these collaborations are rarely taking place (EMCDDA, 2010) and the key actors are not under any formal obligation to take part in such collaborative exercises.

Ideology

Environmental prevention at macro level includes unpopular components, like the control of markets or coercive measures: alcohol and tobacco sales age limits and controls, tobacco smoking bans, alcohol pricing and taxation, licensing of premises.

Policy interventions at legislative level and in recreational settings have therefore considerable potential for heated social debate as they challenge culture-bound understanding of society, basic freedoms and public health. For example, in the eyes of many people, behavioural epidemics like obesity, tobacco and alcohol use are only a matter of private freedom and of personal choices, where the State should not intervene. From the public health perspective, however, some would regard them as 'industrial epidemics', in the sense that industry interests are either entangled with, form part of the problem, or obstruct its solution.

Particularly in countries with a traumatic dictatorial past, such as Germany and Spain, there are important ideological concerns about normative policies, and even some health promotion advocates oppose the coercive aspects of environmental strategies as paternalistic and unethical.

When facing imminent restrictions of tobacco and alcohol and entertainment markets, defenders of civil liberties evoke scenarios of the all-controlling nanny state interfering in citizens' private life choices, as did the totalitarian regimes of the 20th century. Accordingly, the Spanish *botellón* (organised outdoor binge drinking) is sometimes romanticised as archidemocratic action, and in Germany, Proctor in his article 'On *playing the Nazi card'* (Proctor, 2008) has argued that since the end of the Second World War, the tobacco industries have resisted attempts to control tobacco smoking and marketing, using the fact that Hitler had a rigorous personal stance against smoking (Smith & Ströbele, 1994).

In countries with a more stable democratic past, there appears to be less aversion to normative aspects of environmental prevention, but also in those countries, prevention strategy relies mostly on reinforcing individual control mechanisms, whose shortcomings during adolescence we have pointed out above. For example, according to one ethnographic study (Elmeland & Villumsen, 2007), the Danish health and alcohol policy is dominated by the liberalism ideology, where the responsibility for alcohol consumption is placed primarily in the control mechanisms of the single individual, without considering consumption in a larger collective and socio-cultural context. This ideology at the macro-level mirrors the micro-level: alcohol is seen as an ordinary commodity (Babor, Caetano, Casswell, Edwards, Giesbrecht, Graham, … Rossow, 2010) and people have the right to consume where and when they want to.

Also, juvenile participants in recreational nightlife like to see themselves as individualistic dissidents from mainstream societal norms. However, some ethnographic studies (e.g. Winlow & Hall, 2005) point out that such juvenile cultures are surprisingly apolitical and conformist within the consumer society.

It is true that environmental strategies at all levels can interfere with personal freedom. However, along our history, the key feature of European civilisations (Elias, 1939) and other, also tribal societies (Duerr, 1993) is the instalment of norms and rules as societies grow socially and technologically more complex, dense and sophisticated, with an increasing need to control and to sanction individual behaviour. For example, not many people would nowadays oppose social or formal norms against inner-city speeding, spitting on the floor in public transport, harassing unaccompanied women or would consider mandatory schooling and respecting traffic lights to be a limitation of personal freedom, to name a few.

Social Norms Theory (Perkins, 2002) has explained how the perception of the prevalence of a given behaviour strongly predicts the adoption of such a behaviour by an individual. These behaviourally important descriptive social norms (i.e. what most people do and accept, regardless of whether it is legal) are likely to be influenced by formal norms and rules (Smith, 2008). The successful adoption of new legislation and social rules relies on this mechanism: a formal norm modifies or responds to a descriptive norm, which in turn modulates individual behaviour. According to the neurobehavioural findings above, the supremacy of social conformity is especially pronounced in adolescents. As adolescent behaviour is so influenced by descriptive norms, they do not have, therefore, in the presence of their peers, free choices.

An additional factor is that in those countries of Europe without traditions of self-government (roughly, the non-Protestant), the concept of 'community' and the sense of responsibility for it are not as strong or relevant as in Nordic countries or in the USA. This often overseen difference might be a relevant obstacle to environmental prevention in southern Europe. Not only there, it is sometimes argued that environmental prevention is just a scientific masking of Nordic puritan abstinence ideology, aiming at controlling everyone's behaviour and interfering in free market mechanisms. However, the experiences in tobacco control might have made it clearer that concerning substance use (and probably also obesity), the classical market mechanisms are failing. And while certainly the search for ecstatic states and refined pleasure through substance use are essentially human, not even an Epicurean would agree that cheap, low quality alcohol and substance consumption only for the sake

of intoxication would be necessary criteria for a hedonist's personal freedom. Brazil, for example, whose culture probably no one would call puritanical or 'anti-pleasure', has more rigorous tobacco and alcohol policies than many EU Member States. Finally, to denounce environmental prevention as 'prohibition' is obvious demagogy: no environmental prevention strategy necessarily implies the ban on possession, use, production, transport or sale of substances.

Ethics

In view of the insights on adolescent functioning, we must assume that they are more sensitive to social (marketing) influence and because of this specific vulnerability, public-health policies are justified for the protection of the vulnerable. It seems legitimate to curb social marketing, publicity and, for example, flat-rate alcohol promotion.

If, furthermore, we know that substance use and problem behaviour in adolescence are both functions of social conformity, worsened by lack of social opportunities, then the promotion both of informed choices (Advisory Committee on Drug Misuse, 2006) and of moderation are ethically highly problematic if not to say cynical: the burden of responsibility for an individual's behaviour is placed on adolescents as individuals. As only a privileged minority of highly behaviourally controlled and socially well-positioned adolescents might benefit from such —often informative— approaches, the inequality gap in prevention outcomes is likely to be widening even more, as it seems to happen, for example, with information campaigns against smoking (Federico, Costa & Kunst, 2007). It rather becomes an ethical problem if the well-bred and well-off elites manage to blockade environmental strategies that would reduce a population's exposure to health threats like fat, alcohol, sugar, tobacco etc. that are difficult to control (i.e. to achieve moderation) for the less educated, more impulsive or more socially excluded.

In the same line, established knowledge on universal prevention used to be that it is effective for the less vulnerable (White & Pitts, 1998) while data from recent (non- or less information-based) programmes show higher benefits for the more vulnerable within the target population: males (Kellam et al., 2008; Vigna-Taglianti, Vadrucci, Faggiano, Burkhart, Siliquini & Galanti, 2009) and the more aggressive at baseline (Petras, Kellam, Brown, Muthén & Ialongo, 2008) thus reducing disparity effects and having fairer outcomes overall.

Also, in environmental prevention at macro level, it appears that existing social disparities in tobacco (Marmot, 1997) and alcohol (Meier, 2010; UK Home Office, 2011) use are reduced by economic measures.

It would be simplistic to say that environmental prevention, due to its normative approach, would be ethically more problematic than, for example, health promotion. In health promotion, the opportunities and chances for participation provided might be absorbed more by those with better skills and resources to take advantage of these opportunities. If we admit that lack of cognitive, educational, social and economic resources largely reduce the options for personal choice and make people prey to influences of social marketing and virtual realities created by industries (see the Super-Peer Theory by Strasburger (2009), then environmental prevention limits the freedom of some industries, rather than that of citizens. Prevention ethics relying solely on individuals' responsibility for their health behaviour appears rather elitist in this context.

Project proposals and descriptions in prevention (see, for example, www.hnt-info.euor www.emcdda.europa.eu/themes/best-practice/examples) often contain terms like 'holistic' or claiming to have an ecological approach, but this means in most cases just that the intervention has multiple strategies directed at multiple levels, e.g., adolescents plus family plus school, or adolescents plus peer, while still relying on interaction with individuals and not considering environment or norms at all. Hawe, Shiell & Riley argue in their analysis of interventions in systems (2009) that weak prevention might be an inevitable consequence of programmes that rely too heavily on individual-level theorising, in which whole community or system-level change is conceived simply as a matter of aggregating up. Overall social functioning of adolescents in normative systems and environments relevant for them, as outlined in the beginning of this paper, is rarely the guiding principle of prevention in Europe.

In this situation, environmental prevention is a necessary and helpful element within prevention strategies: it adds the importance of norms and normative beliefs to the already environmental approach of health promotion and is therefore a complement to it. Environmental prevention furthermore complements persuasive prevention approaches with a contextual framing that can modify young people's collective behaviours and normalisation of them. Without this complement, universal and selective prevention programmes that directly aim at individuals to change their behaviour are rather like isolated remedy patches over fragile surfaces, with little perspective of achieving lasting effects and with no normative culture that would support them.

What to conclude from that?

Environmental prevention as a population-based approach is unlikely to impact on the behaviour of those most vulnerable. So, for example, binge drinking might not be affected by raising the minimum price of alcohol (Meier, 2010). This suggests selective and indicated prevention approaches as complements. Nevertheless, according to the prevention paradox (Rose, Kaw & Marmot, 2008), environmental prevention reduces the harm to the majority of the population and — as argued throughout this paper — it is likely to positively affect the normalisation of adolescents' behaviour and their norm perception.

Many drug strategies cover all substances (legal and illegal) or refer to the prevention of addictive

behaviours instead of to drug prevention (e.g. in German, 'Suchtprävention' — 'addiction prevention'). However in practice; efforts are remarkably rare that aim to counteract industry and marketing influences, to oblige the entertainment industries into community coalitions, to set positive behavioural norms and climates in schools, and to deconstruct seemingly liberal discourses that allege to defend informed choices and individual freedoms from the 'nanny state'.

The positive experiences in tobacco control in recent years do indicate however, that Europe can set the pace for, and have a more decisional role in environmental prevention at macro level than Member States (such as signing the UN tobacco convention), in part because it might be less sensitive to industry influences and lobbying. At the same time, more information and experience exchange between Member States about how to negotiate environmental prevention with communities, and the sharing of positive experiences might reduce some of the barriers that exist to the expansion of this kind of approach. This might help to bridge the astonishing gap between the lip service paid to 'comprehensive prevention' in some strategy papers and the actual state of implementation of environmentally preventive legislation at the macro level and activities in important environments like recreational settings. In doing so we might move away from the current position where adults send to young people the implicit message 'do what I say, but don't do what I do'.

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