
The EU-Dap Project: a brief summary

In the early 2000s, I and my group started to work for a Cochrane Systematic review on School-based prevention of illicit drugs (Faggiano et al., 2005). Since the first draft of the review, we perceived that the situation of the science in this specific field of prevention was characterized by:

- the large majority of studies were from USA;
- in the European context, there was only one small study from UK;
- the number of RCTs (randomized controlled trials) was quite low;
- the proportion of prevention programs with results favouring controls (iatrogenics) was unexpectedly high.

These few considerations raised the concern about the possible effects of preventive interventions against drug use in Europe, and supported the decision to apply for a European collaborative study aimed at developing a new program and conducting a randomised evaluation of it.

With the support of EMCDDA (European Monitoring Centre for Drugs and Drug Addiction), a project was developed, involving 9 centres in 7 countries (Austria, Belgium, Germany, Greece, Italy, Spain, Sweden). The original group was composed by program developers and by epidemiologists and experts in program evaluation.

A few information on EU-Dap (EUropean Drug Abuse Prevention) conduction

The first step was to define the objectives of the program: they were the prevention or delay of the onset of tobacco and drug use (especially cannabis, given the age of the target group), and of alcohol abuse.

Once established the objectives of the prevention program to be developed, the work was organised in two parts, conducted by two different groups: the program development itself and the evaluation design. This was justified by the need to separate the interests on program and evaluation, in order to limit the possible conflict of interests.

The study design was a Cluster randomised study, in which the schools were the unit of randomisation and the students the statistic unit for the evaluation

(Faggiano et al., 2007). The information about the outcomes, and the mediating factors, were collected by means of a self-completed questionnaire, linked with the follow-up information by means of an original anonymous code (Galanti et al., 2007).

One hundred and 53 schools corresponding to 345 classes were originally enrolled in the study, and 7,079 students participated in the baseline survey in September–October 2004 (Faggiano et al., 2007).

There were 3 follow-ups, to evaluate short term effects (at the end of the first school year of intervention, at least 3 months after the end of the program), at 18 months and 30 months after the baseline. The data from the last survey were never published because of the high level of lost in the follow-up due to changes in scholar levels in some countries (and subsequent difficulties in following students), and to drop out of some centres.

The program *Unplugged*

The EU-Dap program, named *Unplugged*, is an original school-based program aimed at preventing or delaying the use of tobacco and drugs and the abuse of alcohol.

Theoretical model

Unplugged is the first program in Europe based on comprehensive social influence approach (CSI). It is mainly based on the Social learning theory (Bandura, 1977), and on Social norms theory (Perkins and Berkowitz, 1986). Moreover, from the problem behaviour theory, it caught the choice to teach Life skills to students to give them the tools to recognise and manage the factors affecting their substance use (Jessor and Jessor, 1977). From the Reasoned Action-Attitude and Planned Behaviour theory (Fishbein and Ajzen, 1975) came the choice to include in the program some units about knowledge of the risks of substance use.

Target population

The target population is the age group in the beginning of the epidemiological curve of increase of use of these substances, i.e. for Europe around 12-14 years.

Program structure

There are 12 units of approximately 1 hour each, to be conducted weekly in the class. The following table presents the details of the units (van der Kreeft et al., 2006) (table I)¹³⁵.

Program delivering and training course

The program is delivered by the class teacher, after a training of approximately 2.5 days. The teacher course consists in a replication of the program with the participants, and for this reason it is characterised by a high level of interactivity. The course is conducted by local or national professionals trained by the EU-Dap Faculty.

EU-Dap Faculty

The University of Ghent (BE) ensures the training of national trainers, as well as the assurance of the quality of the program dissemination at the country level. The aim of the centre is to standardise the delivery of the program and to promote fidelity implementation. It is also responsible for the adaptations of the program to other contexts.

Property and costs

Since program development and evaluation was done in the context of a publicly funded EU project, the EU-Dap original study group decided to leave the program as Public Property. The Copyrights are of the OED (Osservatorio Epidemiologico delle Dipendenze – ASL TO3 – Grugliasco - TO), in order to not allow for unapproved program manipulation. For these reasons, the program can be used for free. Since there is not any funding available for the dissemination of the program, it is needed to foresee resources for the training course, for printing materials and any other cost linked to the translation and adaptation of the manuals.

135. For more details, see the program materials on the website www.eudap.net.

Table 1: Details of the units of the program structure

Focus	Unit	Title	Activities	Goals
Knowledge and attitudes	1	Opening unplugged	Presentation, group work, contract management, homework	Introduction to the program, setting of rules for the lessons, reflecting on knowledge on drugs
	2	Choices: risk and perception	Group work, collage, game	Information on different factors influencing drug use
	3	Drugs: get informed	Group work, quiz	Information on positive and negative effects of drug use
	4	Smoking the cigarette drug: get informed	Quiz, plenary discussion, feedback, game	Information on the effects of smoking, differentiation of expected vs. real effects and short-term vs. long-term effects
Interpersonal skills	5	Your beliefs, norms and information: are they correct?	Presentation, plenary discussion, group work, game	Fostering critical evaluation of information, correction of norms
	6	To be or not to be in a group	Role-play, plenary discussion, game	Clarification of group influences group experiences
	7	Express yourself	Game, plenary discussion, group work	Adequate communication of emotions, distinguishing between verbal and non-verbal communication
	8	Party tiger	Role-play, game, plenary discussion	Recognition of positive qualities, positive feedback, practice of strategies to get in contact with others
Intrapersonal skills	9	Get up, stand up	Plenary discussion, group work, role-play	Fostering assertiveness and respect for others
	10	Coping competence	Game, presentation, plenary discussion, group work	How to express negative feeling, coping with weaknesses
	11	Problem solving and decision making	Presentation, plenary discussion, group work, homework	Structured problem solving, fostering creative thinking and self-control
	12	Goal setting and closure	Game, group work, plenary discussion	Distinguishing long-term and short-term objectives, feedback on the program

Targeted mediators

Unplugged targets several mediators of the causal relationship with the incidence of use of substances. A formal mediation analysis of the program functioning has been conducted recently and a paper is in preparation and will be published soon (Vigna-Taglianti will be the first author). The following figure summarises the complex actions of the 12 program units and the target mediators (figure 1).

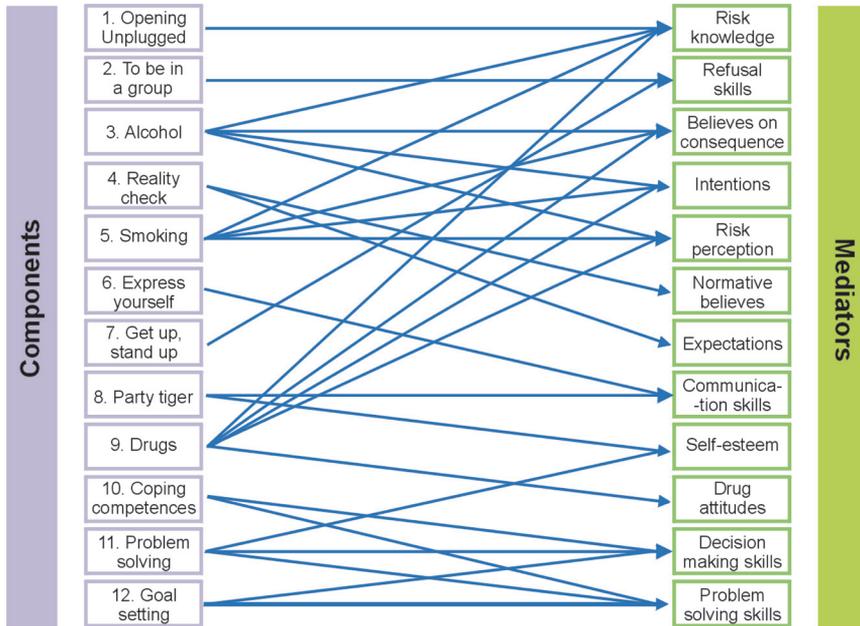


Figure 1: Complex actions of the 12 program units and the target mediators

Materials

The main materials available for the program conduction are the Teacher’s Manual, the Student’s workbook and a set of cards. This stuff is usually delivered to the teachers, once completed the training, in a cardboard box, containing a workbook for each class student. The materials are available in many languages, including French.

Main effects of Unplugged

The main evaluation of effectiveness of Unplugged provided a sound set of results. The following table provides a summary of the effect on the outcomes planned in the study protocol at the first and the second follow-up (Faggiano, 2008 and 2010) (table II).

Table II: Summary of the effect of Unplugged on the outcomes at the first and the second follow-up

	Post-test	18 months follow-up
	% reduction	% reduction
ALO smoking ^a	-12	-6
Regular smoking	-14	-11
Daily smoking	-30*	-8
ALO drunkenness ^a	-28*	-20*
Regular drunkenness	-31*	-38*
ALO cannabis ^a	-23*	-17
Regular cannabis	-24	-26

^a ALO smoking: at least one cigarette in the past month; ALO drunkenness: at least one episode of drunkenness in the past month; ALO cannabis: at least one episode of use of cannabis in the past month.

* - $p < 0.05$

Smoking

The short term effects show a statistically significant reduction of the daily smoking (at least 20 cigarettes in the last month), and the effect was also visible for at least one cigarette in the past month (ALO) and in the regular smoking (6 to 19 cigarettes in the last month); the effect on smoking faded in the 18 months follow-up (see table II). This has been explained by the authors by the high level of social pressure of smoking in the countries involved in the study, at the time of the evaluation. Students are affected by the program in the short run, but during the year following the end of the program, they continue to see teachers smoking outside the school, or in other schools premises, sometimes together with their classmates, the smoking of parents was not changed etc. These results are based on prevalence of smoking. Another important data is the incidence: among the non-smokers at the baseline survey, the reduction persists even at 18 months, stressing the preventive nature of the program (Faggiano et al., 2010).

Alcohol abuse

The risk of drunkenness, the indicator of alcohol abuse chosen for the study, showed a reduction both at short and long follow-up, by about 30% (see table II). Reduction of alcohol use was not an explicit objective of Unplugged, and the results are slightly in favour of intervention group, but without statistical significance (Caria et al., 2011a).

458 The program was also effective on indirect outcomes: the problems due to alcohol drinking (with parents, friends or public authorities) are significantly

reduced in the intervention group (see table III), compared with controls (Caria et al., 2011a).

Table III: Effects of Unplugged on indirect outcomes: adjusted Odds Ratios

	Crude estimates		Adjusted estimates	
	6 th mFU	18 th mFU	6 th mFU	18 th mFU
Problems due to alcohol drinking				
Overall	0.92	0.78*	0.93	0.77*
Boys	0.76	0.75	0.73	0.75
Girls	1.19	0.81	1.27	0.81
Problems due to drug use[§]				
Overall	0.75	0.69*	0.75	0.68*
Boys	0.63	0.56*	0.63	0.55*
Girls	0.91	0.96	0.85	0.94

6th mFU= follow up of the 6th month; 18th mFU= follow up of the 18th month

[§] self reported information

* p < 0.05%

Cannabis use

The program reduced by about 20% the use of cannabis in the past 30 days (see table II), both at the short term and at 18 months follow-up (in this case the upper limit of the confidence interval was 1.00). Stratifying the results by baseline use, the program resulted equally effective in every baseline condition (Faggiano et al., 2010). The table III shows that the program appears to reduce the problems due to drug use, as stated by the students.

Moderators of the association

The analysis revealed that gender is a relevant moderator of the intervention effect (see table IV): the short terms effects are clearly concentrated among boys, which showed a strong intervention effect. Following a new analysis stratified by age, the authors explained this effect by an age effect: among younger girls (12 years old) the effect exists, but it fades in the following age groups, whereas among boys the effect increases in the later age groups. This is probably the effect of an early psychological maturation of girls compared to boys and must be considered in the dissemination of intervention (Vigna-Taglianti et al., 2009).

Table IV: Short time effects of Unplugged according to gender

Outcome	Males		Females	
	Adjusted POR (95% CI)	Change (%)	Adjusted POR (95% CI)	Change (%)
ALO smoking ^a	0.88 (0.66-1.18)	-12	0.86 (0.65-1.15)	-14
Regular smoking	0.68 (0.50-0.93)	-32	1.07 (0.74-1.55)	+7
Daily smoking	0.49 (0.34-0.71)	-51	0.99 (0.64-1.52)	-1
ALO drunkenness ^a	0.64 (0.49-0.85)	-36	0.86 (0.63-1.18)	-14
Regular drunkenness	0.68 (0.45-1.04)	-32	0.66 (0.37-1.18)	-34
ALO cannabis ^a	0.62 (0.45-0.85)	-38	1.05 (0.70-1.58)	+5
Regular cannabis	0.60 (0.40-0.91)	-40	1.17 (0.59-2.33)	+17

^a ALO smoking: at least one cigarette in the past month; ALO drunkenness: at least one episode of drunkenness in the past month; ALO cannabis: at least one episode of use of cannabis in the past month.

POR: Prevalence Odds Ratio; CI: Confidence Interval

Other covariates

The program appeared to improve the class climate, through the increase of perception of school importance and teacher respect (see table V), mainly among boys. This is also testified by the free comments of many teachers that declared that the implementation of Unplugged changed the class climate, improving the relationship teacher-students.

Table V: Effects on unplugged on other covariates

	Crude estimates		Adjusted estimates	
	6 th mFU	18 th mFU	6 th mFU	18 th mFU
School importance				
Overall	1.10	1.20*	1.12	1.22*
Boys	1.37*	1.27*	1.43*	1.27
Girls	0.86	1.18	0.89	1.22
Teacher respect				
Overall	1.12	1.01	1.19*	1.03
Boys	1.23*	1.16	1.37*	1.25*
Girls	1.01	0.86	1.01	0.85

6th mFU= follow up of the 6th month; 18th mFU= follow up of the 18th month

* p< 0.05%

Replication studies

There were two replication studies conducted so far. One in 5 East European Countries, conducted under the supervision of OED, the coordinator of EU-Dap, and one in Czech Republic, conducted by independent researchers. The results of the first trial are under elaboration, whereas the results of the second trial have been recently published (Gabrhelik et al., 2012). At the 3rd year follow-up, a reduction in all the variables included in the original protocol has been reported.

In conclusion, the Unplugged program showed long-lasting positive effects over 18 months for alcohol abuse and for cannabis use, but not for cigarette smoking. The short term effects are mainly concentrated among boys. Moreover, the program appeared to improve the class climate, especially among boys.

The adoption of an evidence-based prevention program developed and evaluated in Europe can give at least two advantages: the positive expectation on results and impact in the new context of application, and the assurance that materials and the dissemination process will be well accepted given that they have been replicated many times over many countries in Europe. On the other hand, the adoption of Unplugged has to be done with a bit of caution: it is a program of a relatively high resources need, requiring motivated teachers, and the application of the 12 units during the school time, that is not always easily accepted by the school authorities.

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