Open Access

SCHOLARENA

Journal of Forensic and Crime Studies

RESEARCH ARTICLE

Cannabis Use, Binge-Drinking, Nightlife and Violence among Juveniles with and without Immigration Background in Switzerland and Ex-Yugoslavian Countries. Results of the ISRD-3 Study

Lukash A[1*] and Killias M[2]

[1]*Postdoctoral researcher, University of St. Gallen, Switzerland*
[2]*Permanent Visiting Professor for Criminal Law, Law School, University of St. Gallen, Switzerland*

[*]**Corresponding author:** Lukash A, Postdoctoral researcher, University of St. Gallen, Switzerland, Tel: +4178974--9650, E-mail: anastasiia.lukash@krc.ch, a.lukash1@gmail.com

Citation: Lukash A, Killias M (2018) Cannabis Use, Binge-Drinking, Nightlife and Violence among Juveniles with and without Immigration Background in Switzerland and Ex-Yugoslavian Countries. Results of the ISRD-3 Study. J Forensic Crime 2: 201

Abstract

The purpose of this paper is to define whether the associations between substance use and going out in the evening (independent variables) and violent offences (dependent variable) are similarly strong among juveniles with and without immigration background in Switzerland and among their peers from ex-Yugoslavia. We cannot investigate the relationship between substance use and violent offences during the night life directly[1], but we can compare it indirectly within selected groups of respondents. In this paper, we do not consider such other aspects of juveniles' life as spending leisure time, social environment, school parental control, etc.

It was found that

-Swiss juveniles with immigration background reported violent offences and active nightlife more frequent than their peers with both parents born in Switzerland. At the same time, their peers from ex-Yugoslavian countries (one of the main sources of immigrants to Switzerland) have much lower prevalence of violent offences. It means that perpetration of robbery and/or assault cannot be explained by a foreign origin.
-Youths with ex-Yugoslavian origin in Switzerland reported a higher prevalence of cannabis use and active night life than their peers from ex-Yugoslavian countries. We suggest that it can be explained by using opportunities of Western civilization.
-Apparently, cannabis use is more spread in night life institutions in Switzerland than in ex-Yugoslavia. Cannabis use relates stronger to violent offences in Switzerland among youths with immigration background and among their ex-Yugoslavian peers. In contrast, juveniles with both parents born in Switzerland are more likely to commit violent offences if reported binge-drinking and active night life is regarded in the model.
-These findings are based on the results of the third International Self-Report Delinquency Study (ISRD-3) in Switzerland and in the four selected ex-Yugoslavian countries.

Keywords: Violent Offences; Cannabis Use; Binge-Drinking; Active Nightlife; Juvenile Delinquency; Immigration Background

Introduction and Background

In this article, we compare the strength of associations between perpetration of violent offences and going out, substance use among juveniles (1) with and without immigration background in Switzerland, (2) among their peers in ex-Yugoslavia, and among youths with ex-Yugoslavian origin in Switzerland. These groups of juveniles were selected due to:

- ex-Yugoslavian countries are among the main sources of immigrants to Switzerland. It allows comparison immigrants from these countries in Switzerland and in countries of their origin.
- Switzerland has one of the largest groups of immigrants in Europe that becomes one of the most controversial political issues [1]. We compare the association between substance use/going out and violent offences among immigrants in Switzerland and their home countries to test the statement concerning "imported violence" and committing violent offences while using opportunities

[1]Our questionnaire does not provide the question of substance use *while* going out.

of Western civilization [2]. We also want to figure out whether active night life and substance use relate similarly strong to different groups of juveniles.

These findings are based on the results of the Third International Self-Report Delinquency Study (ISRD-3) in Switzerland and the four ex-Yugoslavian countries (Bosnia-Herzegovina, Kosovo, Macedonia and Serbia). In this paper, we compare the strength of the mentioned associations descriptively in Switzerland, but do not investigate the issues of integration into the host society or any other related topics.

Immigration background and violent offences

The topic of immigration is especially relevant and important in the modern world and especially in Switzerland[2], as it is a country with one of the highest percentages of immigrants in Western Europe. In accordance with official statistics, foreigners account for 23.8% of the permanent resident population (Table 1). Almost one third of children born in Switzerland in 2013[3] had foreign citizenship (28%). In 2013, the number of immigrants increased by 10.8% compared with the previous year [3]. The increasing foreign population of Switzerland has led to considerable social tensions and immigration becoming one of the most controversial political issues [1]. Based on official national statistics, every second perpetrator of violent offences (including serious violent offences, regardless of age) has the status of foreigner [6-10]. Criminology studies support this data [9,10,2].

	N=	%
Total	8139631	100
Swiss	6202184	76,2
Foreigners	1937447	23,8 / 100
Among them:		
Bosnia-Herzegovina	33002	1,7
Kosovo	86976	4,5
Macedonia	62633	3,2
Serbia	90704	4,7

Table 1: Constant population. Switzerland [11]

Based on the official statistics, among the largest sources of immigrants are countries of Western Europe (Germany, Italy Austria, France, Spain, and Portugal) and ex-Yugoslavian countries [11]. In this paper, we focus on Switzerland (Western European country) and ex-Yugoslavian countries[4] that represent another cultural and historical background. Among selected ex-Yugoslavian countries are Bosnia-Herzegovina, Kosovo, Macedonia, and Serbia.

At the moment of the data collection, the distribution of the selected ex-Yugoslavian countries is the following is the Swiss population:

Based on our database, there are 441 respondents in Switzerland (out of 4158) who have at least one parent born in ex-Yugoslavia. It is almost half of all juveniles who are identified in this article as those who have immigration background (at least one parent born abroad). Demographic characteristic of the mentioned groups of juveniles in our database is in Table 3 (section "Methodology of the study").

Cannabis use, binge-drinking and going out in the evening

As a result of literature analysis, we have found that cannabis use is more common in developed countries than in developing countries, and together with binge-drinking, is associated with going out in the evening and violent behaviour [13-18]. Based on this fact, juveniles with immigration background use the opportunities of highly permissive Western societies [12,2].

Going out in the evening is associated, in turn, with violent offences and drug use [19,20]. We found that Swiss juveniles with immigration background show a higher prevalence of cannabis use and active nightlife than their peers with both parents born in Switzerland [21,22].

Based on the results of the Second Self-Report Delinquency Study in Switzerland in 2006, this difference was explained by having more opportunities in Switzerland than in countries of the juveniles' origin [12,2].

[2]Switzerland is one of the world's most developed countries in the middle of Western Europe with the boarders with Austria, Germany, Italy, Liechtenstein and France, with a surface area of approximately 41,284 square kilometers, and with a total population of 8,419,550 people (BFS, 2017) [12].

Based on results of our study, 90.9% of juveniles in Switzerland identify themselves as Europeans (N=3772/3817), 4.1% as Asians (N=172/145), and 1.7% as Africans (N=69/70). Percentage provided using the weighted data, number of valid cases is showed in the form of weighted/non-weighted data.

[3]In this paper, we provide mostly statistical data from the 2013 as a year of the data collection.

[4]Ex-Yugoslavia includes several countries that are situated on the Balkan Peninsula and has its interesting history. Population of these countries includes a broad range of origins (Croats, Slovenes, Serbs, Bosniaks, Montenegrins, Macedonians, Hungarians Albanians, Kosovars, etc.) and religions (Western Christianity, Eastern Orthodox Christianity, Islam, etc.). In this paper, we investigated only four of ex-Yugoslavian countries.

In the current article, we investigate the association between cannabis use, binge-drinking and violent offences, and the role of going out in the evening within this relationship. We compare these results among Swiss juveniles with and without immigration origin, as well as among their peers in the selected ex-Yugoslavian countries.

The correlation between cannabis use and violent offences has also been investigated in a number of studies, and its association with violent offences remains contradictive [23-25]. Moss and Tarter (1993) stated that a direct causal link between cannabis use and violent offences "is seriously undermined" by the fact that a significant proportion of juveniles (in the United States) use drugs but apparently do not engage in violent behavior [26]. Other studies concluded that cannabis smoking produces "calmness and passivity", and not aggression, and violent behavior either decreased or remained unaffected by cannabis use [27-29].

Recent findings indicate a strong association between cannabis and antisocial aggressive behaviour [13,30- 35]. It was found that while this substance may reduce the possibility of aggression during the period of intoxication, it could also increase violence during periods of abstinence, as well as violent behaviour in future, during the adulthood [32,36].

The association between binge-drinking and violent offences is less contradictive. It is well documented and witnessed all over the world [17,18,37,38].

Binge-drinking is sometimes called "heavy episodic drinking". It was considered in this paper to mean consumption of least five drinks on one occasion at least once during the last thirty days.

Active nightlife is one of the main risk factors for committing a violent offence [20]. This variable has been actively tested within the perspective of routine activity theory (for the meta-analysis of papers from 1995 to 2005 [39]. It was also found that Swiss juveniles with immigration background are more likely to have an active nightlife than their peers with both parents born abroad [2]. Active nightlife is significantly associated with cannabis use and binge-drinking [14-16,40,41].

We cannot investigate the relationship between substance use and violent offences during the night life directly[5]. Although we can do it indirectly while regarding the variable of going out in the evening in the multivariate analysis.

Purpose of this paper

The purpose of this article is to define whether
- The associations between cannabis use/binge-drinking and going out in the evening (independent variables) and violent offences (dependent variable) are similarly strong among selected groups of juveniles.
- Any substance relates to violent offences stronger if the variable of going out in the evening is regarded (results of the multivariate analysis).
- Immigration background plays an important role in these associations.

Methodology of the study

This Swiss survey is part of the Third International Self-Report Delinquency Study (ISRD-3), conducted in almost forty countries using the standardized questionnaire. The code questionnaire includes 11 modules covering delinquency, victimization, substance use, forms of spending leisure time, social environment, school, family, and many others. Thanks to the support of the Swiss National Science Foundation (project N 100015_138401/1), 4158 juveniles[6] from 132 secondary schools and 243[7] classes all over Switzerland in 2013 were surveyed (including the three oversampled cantons: Aargau, St. Gallen and Ticino) [42,43]. With the approval and support of the Conference of the Cantonal Ministers of Education, the sampling procedure developed by the Swiss Statistical Office in connection with the PISA studies was used. The sample included secondary school students from grades 7 to 9. Several schools and classes refused participation; some of them were replaced. The response rate of schools was 75% [44]. The obtained data was weighted by the school population of the cantons and school grades. The database "beta_0" was used in this paper for calculation of results.

As a result, the sample was made up of 51.3% females and 48.7% males. The age of respondents ranged mostly from 12 to 16.

In order to calculate the response rate at the level of students, the Teachers' Feedback Form has been used. We have received this form from 80.0% percent of the classes included in the national sample (i.e. leaving out cantons with oversamples). The student response rate was 92.1%.

Swiss students responded to an online questionnaire using school computers in the schools' computer rooms. The survey took place without external supervisors or research assistants: schoolteachers controlled the study at schools. Controlled experiments

[5]Out questionnaire does not provide the question of substance use *while* going out.

[6]For the present purposes, the version "beta_0"of the database has been used. The database from all countries is kept at the University of Hamburg. Due to progress of data collection, data cleaning, and data merging in several countries, different updates have taken place. Results are only minimally affected by these updates. The total number of respondents differs slightly from total numbers in other databases ("beta_1", "beta_2", "beta_3"- "beta_5", etc.).

[7]The number of schools and classes is based on the cleaned data (version "beta 0", 2015).

[8]RCT – randomized controlled trial.

have shown that outcomes do not differ significantly between online and paper-pencil questionnaires [45]. During interviews, students were supervised by their teachers – two RCTs[8] previously conducted in Finland and in Switzerland have shown that results do not differ across modes of supervision (by teachers or researchers) [46-48].

The data collection in the four ex-Yugoslavian countries (Bosnia-Herzegovina, Kosovo, Macedonia and Serbia) were collected during the time from 2013 to 2015 and included two main cities per country. The only exception is six regions in Bosnia-Herzegovina. More detailed information can be seen in the following Table 2.

	Regions	No. of schools	Grades	Schools' response rate, in%	Number of effective responses after data cleaning	Dates of data collection	Languages
Switzerland	National level Weighted data	132	7-9	74.8%	4158	21.02.2013-21.11.2013	German, French, Italian
Bosnia-Herzegovina	6 regions: Tuzla, Odžak, Bihać, Sarajevo, Zenica, Mostar	55	7-9	n/a	3'066	05.12.2014-05.08.2015	Serbo-Croatian (Latin & Cyrillic alphabets)
Kosovo	Pristina, Prizren + suburb	24	7-9	95.9%	1'078	09.01.2013-19.03.2013	Albanian
Macedonia	Skopje Kumanovo + suburb	24	7-9	95.8%	1'239	01.04.2014-18.12.2014	Macedonian Albanian
Serbia	Belgrade Novii Sad	23	7-12	75.0%	886[a]	01.04.2013-28.02.2014	Serbian
Total					10'427		

[a]In Serbia, the survey included grades 7 to 12. For the present purposes, only students aged 12-16 have been considered in order to match students' age in the other countries, N=886.

[b]Data includes respondents from the main sample. It was weighted by canton and school grade. The method of analytical weighting was used

Table 2: Main features of the surveys conducted in Bosnia-Herzegovina, Kosovo, Macedonia, Serbia, and Switzerland

The data collection in ex-Yugoslavian countries took place also in a computer based form in offline regime using the Fluid Surveys program.

	Switzerland[a]	Both parents were born in Switzerland[a]	At least one parent was born abroad[a]	At least one parent was born in Ex-Yugoslavia[a]	Ex-Yugoslavia[b]
	%	%	%	%	%
Gender					
female	51,3	53,9	48,3	45,1	50,1
Male	48,7	46,1	51,7	54,9	49,9
N=	4155/4156[c]	2124/2096[c]	1950/1977[c]	423/441[c]	6266[b]
Age					
11.00	0,1	0,0	0,1		0,4
12.00	6,0	6,1	6,0	4,8	13,3
13.00	26,1	28,4	23,5	18,0	31,1
14.00	31,2	31,1	31,1	29,0	32,3
15.00	25,6	25,0	26,4	30,0	17,5
16.00	9,6	8,5	11,0	15,9	5,3
17.00	1,2	0,9	1,6	2,0	0,1
18.00	0,1	0,0	0,3	0,1	0,0
19.00	0,0	0,0	0,1	0,3	0,0
N=	4145/4148[c]	2126/2096[c]	1941/1973[c]	419/439[c]	6262[b]

[a]% of weighted data

[b]% and N of non-weighted data

[c]N= weighted/non weighted data

Table 3: Demographic characteristics of juveniles in our database, in %

Boys and girls, as well as juveniles from schools grades (7-9) are similarly distributed in our databases. The main age group of our respondents is 12-16. A very small number of juveniles reported having a bit younger or a bit older age, but the number of these respondents is too small.

In this article, we use the following methods of data analysis:

(1) Descriptive statistics, using weighted data. For weighting data, the analytical weighting was used to control the number of respondents per canton and school grade, because (a) three cantons were oversampled; several cantons received fewer respondents as was planned; and (b) because of the slight imbalance in the distribution of general population among school grades due to

demographic changes within the age-brackets included in this study[9].
(2) Bivariate analysis of (a) violent offences by cannabis use, binge-drinking, and going out in the evening; (b) cannabis use and binge-drinking by going out in the evening among juveniles
- at the national level
- with at least one parent born abroad (Swiss youths with immigration background),
- with both parents born in Switzerland (Swiss juveniles without immigration background).
(3) Binary logistic regression model to define the association between violent offences and such variables as "cannabis use/binge-drinking" during last thirty days and "frequent going out", controlled for "gender" and "immigration background".

Plan of analysis

(1) Descriptive results of selected variables (active nightlife, cannabis use, binge-drinking, and violent offences).

This part of the analysis provides the relationship among the selected variables within the groups of Swiss juveniles with and without immigration origin (association between
- violent offences and cannabis use/binge-drinking/going out in the evening
- going out in the evening and cannabis use/binge-drinking).
Significance of comparison among groups is also provided.

(2) Binary logistic regression provides the association between perpetration of violent offences and such independent variables as cannabis use/binge-drinking and frequent going out in the evening, controlled for gender and immigration background.

Aim of the article

In this study, we examine whether the cannabis use and binge-drinking are significantly associated with perpetration of violent offences, considering active night life in different groups of juveniles. The aims of this article are the following:

1. To show:
- The prevalence of cannabis use, binge-drinking and going out in the evening among juveniles with and without immigration background in Switzerland, among youths with ex-Yugoslavian background, as well as in ex-Yugoslavia.
- The association between violent offences and going out in the evening and cannabis use/binge-drinking during the last thirty days among mentioned groups of respondents;
2. To answer the following questions:
- Which substance (heavy episodic drinking of alcohol or cannabis use) has a stronger association with perpetration of violent offences, concerning active night life and immigration background?
- Whether these associations are similarly strong among different groups of juveniles regarding their country of residence and immigration background.

Hypothesis

(1) Swiss juveniles without foreign origin have a lower prevalence of violent offences and substance use than their peers with a foreign origin in Switzerland and in ex-Yugoslavia.
(2) Cannabis use/binge-drinking is similarly presented in the night life of Switzerland and ex-Yugoslavian countries, and has almost no association with violent offences in all samples and subsamples.

Variables used for the data analysis

The questionnaire in Switzerland includes 13 modules and covers several areas (the core questionnaire includes 11 modules). Among them are questions about delinquency, victimization and substance use among juveniles. There are also a lot of questions on demographic and socioeconomic status, parental- and self-control, ways of spending leisure time, social environment, school attendance, playing computer games, attitudes towards police and many others. To test our hypotheses, the variables of going out in the evening (independent variable) and cannabis use/binge-drinking during last thirty days (independent variable) were selected. The main dependent variable is perpetration of violent offences (robbery and/or assault) during last twelve months.

Dependent variable

The dependent variable is the dichotomized index of violent offences, where 1 = perpetration of at least one violent offence out of two (robbery and/or assault), last year prevalence (lyp).

Independent variables

(1) Going out in the evening is the dichotomized independent variable, where 1 = active nightlife (going out at least three times per week); 0 = going out no more than twice a week or never).
(2) Cannabis use is a dummy variable, where 1 = consumption of this substance during the last thirty days.
(3) Binge-drinking was originally measured by using a categorical variable. Juveniles were asked: "Think back again over the last 30 days. How many times (if any) have you had five or more drinks on one occasion? (A "drink" is a can, glass or 0.33l bottle of beer,

[9]BFS (2015). Ständige Wohnbevölkerung nach Alter
http://www.bfs.admin.ch/bfs/portal/de/index/themen/01/02/blank/key/alter/gesamt.html

a glass of wine, or 2cl glass of spirits). Among answers were suggested the following: "never, "once", "twice, "3-4 times,"5-9 times, "10-19 times, "20 times or more. For the following analysis, this variable was dichotomized, where 1 = having at least one heavy episodic drinking session during last thirty days, 0 = no such occasion during last month.

Control variables

In the general logistic regression model, the control variables of gender and immigration background were used.

The variable of gender includes two values: 1 = male, 0 = female. The variable of immigration background includes two categories, where 1 = juveniles with immigration background (youths with at least one parent born abroad), 0= juveniles without immigration background (juveniles with both parents born in Switzerland).

Results

Descriptive results of going out in the evening, cannabis use, binge-drinking and violent offences; relationships among these variables

This section provides descriptive results and bivariate analysis of going out in the evening, cannabis use/binge-drinking during last thirty days and violent offences (last year prevalence). As the first step, the frequencies of violent offences among Swiss juveniles with and without foreign origin, as well as among their ex-Yugoslavian peers were compared. We found that students with immigration background are almost three times more likely to commit a violent offence in comparison with their peers with both parents born in Switzerland (2.0% vs. 5.5%, p ≤.000, N=3930)[10] [49]. This fact, together with the increasing foreign population in Switzerland, has become one of the most controversial political and the basis for the theory of "imported violence" [1,2]. This finding is in line with the results of ISRD-2 in Switzerland (2006). The main statement of this "theory" is considering youths with foreign origin as automatically delinquent.

But the theory of "important violence" is easily denied by the prevalence of violent offences reported by four ex-Yugoslavian countries. These youths committed robbery and/or assault less frequent than their Swiss peers regardless their immigration background (1.6% vs. 3.8%).

As a second step, the prevalence of other variables that are significantly associated with violent offences (in accordance with the previous research) is provided. It was found that Swiss juveniles with immigration background show a slightly higher prevalence of cannabis use (last month prevalence). This comparison is significant only for weighted data (p≤ .021). Juveniles in Switzerland with at least one parent born ex-Yugoslavia reported even higher prevalence of cannabis use during last thirty days (12.1%). This prevalence is four times higher than among their peers in countries if their origin (ex-Yugoslavian countries: 12.1% vs. 3.0%). Apparently, juveniles in Switzerland with foreign origin use the permissiveness of the Swiss society [2].

	Violent offences[e]			Cannabis[f]			Binge-drinking[f]			Going out in the evening		
	%	N=	p≤	%	N=	p≤				%	N=	p≤[b]
Switzerland[g]	3,8[a]	4048/4011[b]		10,3[a]	4062/4013[b]		26,0[a]	4048/4001[b]		16,7[a]	4115/4096 b	
Without immigration background[h]	2,0[a]	2077/2032 b	.000/.000[cb]	9,1[a]	2079/2030[b]	.021/.139[cb]	25,8[a]	2074/2026[b]	.922/.382[cb]	13,2[a]	2109/2068 b	.000/.000[cb]
With immigration background[i]	5,5[a]	1892/1898 b		11,4[a]	1902/1902[b]		25,7[a]	1894/1895[b]		20,0[a]	1925/1946 b	
With ex-Yugoslavian origin[j]	6,0[a]	406/420[b]		12,1[a]	407/422[b]		27,2[a]	407/421[b]		26,1[b]	420/436 b	
Ex-Yugoslavia[k]	1,6[d]	6051[d]		3,0[b]	6054[d]		14,7[d]	6048[d]		35,9[d]	6193 d	

[a]Weighted data

[b]Weighted/non-weighted data

[c]Significance of comparison of Swiss juveniles with and without immigration background

[d]Non-weighted data

[e]Last year prevalence

[f]Last month prevalence

[g]National level

[h]both parents are Swiss

[i]at least one parent born abroad

[j]at least one parent born in ex-Yugoslavia

[k]juveniles are residents of Bosnia-Herzegovina, Kosovo, Macedonia, and Serbia.

Table 4: Violent offences, going out in the evening, cannabis use and binge-drinking. Prevalence in %, weighted data

[10]The N is for non-weighted data

[11]p Value = Pearson Chi-Square Asymptotic Significance (2-sided)

Every fourth Swiss juvenile at the national level reported heavy episodic drinking. This prevalence does not vary much among Swiss juveniles with and without foreign origin. Respondents with immigration background report an active night life twice as frequently as their peers with both parents born in Switzerland ($p \leq .000$), (Table 4) [50]. In contrast to juveniles in Switzerland, their peers in ex-Yugoslavia report a much lower prevalence of heavy episodic drinking (26.0% vs. 14.7%).

As a result, similar to violent offences, juveniles from ex-Yugoslavia report a lower prevalence of cannabis use and binge-drinking than their Swiss peers with or without immigration background. The only exception is the prevalence of going out in the evening: ex-Yugoslavian youths have a more active night life than their Swiss peers without immigration background.

Violent offences by substance use and active night life (bivariate analysis)

The results of the bivariate analysis indicated that Swiss juveniles at the national level who consumed cannabis during the last month are seven times more likely to commit a violent offence (Table 5). This likelihood is very similar among juveniles in this country with and without immigration background. But this relationship is much stronger among ex-Yugoslavian respondents. If they consumed cannabis during last month, they are sixteen times as likely to commit robbery and/or assault.

		National level			Both parents were born in Switzerland			At least one parent born abroad			At least one parent born in ex-Yugoslavia			Ex-Yugoslavian countries		
		Viol. off.[a]	Cannab.[b]	Binge-drinking[b]	Viol. off.[a]	Cannab.[b]	Binge-drinking[b]	Viol. off.[a]	Cannab.[b]	Binge-drinking[b]	Viol. off.[a]	Cannab.[b]	Binge-drinking[b]	Viol. off.[a]	Cannab.[b]	Binge-drinking[b]
		%[h]	%[h]	%[h]	%[h]	%[h]	%[h]	%[h]	%[h]	%[h]	%[h]	%[h]	%[h]	%[i]	%[i]	%i
Cannabis	No[d]	2,5		20,3	1,5		20,5	3,8		19,9	3,9		23,2	1,1		13,4
	Yes[e]	14,7		74,8	7,3		78,4	19,2		70,6	20,4		57,1	18,1		54,2
	N=[c]	4037/ 3994		4046/ 3995	2074/ 2023		2072/ 2022	1886/ 1891		1893/ 1893	406/ 420		407/ 421	6029		6041
	p ≤[c]	.000/ .000		.000/ .000	.000/ .000		.000/ .000	.000/ .000		.000/ .000	.000/ .000		.000/ .000	.000		.000
Binge-drinking	No[d]	1,7	3,5		0,8	2,7		2,8	4,5		2,0	7,1		0,7	1,6	
	Yes[e]	9,6	29,7		5,6	27,9		13,4	31,1		17,1	25,2		6,7	11,0	
	N=[c]	4027/ 3986	4046/ 3995		2068/ 2020	2072/ 2022		1881/ 1887	1893/ 1893		407/ 420	407/421		6025	6041	
	p ≤[c]	.000/ .000	.000/ .000		.000/ .000	.000/ .000		.000/ .000	.000/ .000		.000 .000	.000/ .000		.000	.000	
Going out	Seldom[f]	2,1	7,5	21,3	1,2	7,4	21,5	3,1	7,7	20,7	2,3	6,7	20,3	0,7	2,0	8,5
	Often[g]	12,4	24,6	49,9	7,6	21,0	54,6	16,0	26,5	46,5	15,9	27,1	46,7	3,1	4,7	25,9
	N=[c]	4028/ 3996	4041/ 3997	4030/ 3988	2073/ 2026	2076/ 2024	2070/ 2021	1876/ 1889	1886/ 1892	1878/ 1887	406/ 420	407/ 422	407 /421	6050	6053	6047
	p ≤[c]	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000/ .000	.000	.000	.000

[a]Last year prevalence
[b]Last month prevalence
[c]Weighted/ non-weighted data
[d]Never or not during last 30 days
[e]At least once, during last 30 days
[f]Seldom = never or no more than twice a week
[g]Often = at least three times a week
[h]Percentage (Swiss data) = weighted data
[i]Percentage (ex-Yugoslavian countries) = non-ssweighted data

Table 5: Violent offences (dependent variable) by cannabis use and active nightlife (independent variable); and cannabis (dependent variable) by active nightlife (independent variable), in %

Binge-drinking is also significantly associated with violent offences. Those who report heavy episodic drinking are several times more likely to commit a violent offence.

Going out in the evening is also significantly correlated with violent offences. Swiss juveniles with and without immigration background are five to seven times more likely to commit robbery and/or assault if they have an active night life. This association

is slightly weaker among residents of ex-Yugoslavian countries. Those who go out often are only four times more likely to commit violent offences.

Cannabis use by active night life (bivariate analysis)

Our finding is in line with previous studies that show that active night life is strongly associated with cannabis use and binge-drinking [14-18]. Juveniles with and without immigration background, who go out frequently, are three to four times more likely to report cannabis use. This correlation is a bit weaker among ex-Yugoslavian juveniles: they are only twice as likely to consume cannabis if they go out often. Apparently, the night life in Balkan countries is less connected with substance use than in Switzerland. This finding is in line with previous results that showed that cannabis use is more common in developed countries than in developing countries [13], and together with binge-drinking, is associated with going out in the evening [14-18].

Multivariate analysis

The following multivariate analysis has the purpose of testing the association between going out in the evening and substance use on violent offences in two similar models within Swiss and ex-Yugoslavian samples. The only difference among them is the variable of substance use. The first model tests the association between violent offences (dependent variable) and cannabis use, active night life (independent variables); the second model tests the association between violent offences (dependent variable) and binge-drinking, active night life (independent variables). These models are controlled for gender in all samples and for immigration background in Switzerland.

As can be seen in Table 6, juveniles in Switzerland who consumed cannabis during the last thirty days are six times more likely to commit robbery and/or assault. Those who reported binge-drinking are five times more likely to perpetrate a violent offence. The associations of other variables with violent offence are very similar in both models. Youths with active night life are three times more likely to commit a violent offence. The likelihood of committing robbery and/or assault is three times higher among boys and twice as high among Swiss juveniles with immigration background. These findings are very similar to those provided in the models within youths with ex-Yugoslavian origin in Switzerland.

We also tested the same associations within youths with and without immigration background in Switzerland in single models. Swiss youths without immigration background are more likely to commit violent offenses if consume binge-drinking than cannabis use (if the variable of "active night life" is regarded). Cannabis use and active night life relates to violent offences similarly strong (OR = 4.473 and 4.607 correspondently); the association of robbery and/or assault with binge-drinking is stronger than with going out in the evening (OR = 6.556 and 3.659).

In contrast, the variables of substance use relate stronger to violent offences if active night life is included in the variable among youths with immigration background in Switzerland. The strongest association is among those who consume cannabis (OR = 6.303, CI = 4.087-10.670). It is more than twice stronger than the association between active night life and violent offences (OR = 2.495, CI = 1.552-4.010). These results are similar to those among juveniles with at least one parent born in ex-Yugoslavia.

Juveniles from Balkan countries are much more likely to commit violent offences if consume cannabis and the variable of "going out in the evening" is regarded. Apparently, it supports our previous finding from Table 5, where the association between cannabis use and active night life relates much stronger to violent offences in ex-Yugoslavian countries than in Switzerland. We suggest that cannabis use is less presented in night life institutions of ex-Yugoslavian countries.

We also found that the association between cannabis use/binge-drinking (independent variables) and violent offences (dependent variable) is stronger than the association between going out (independent variable) and violent offences (dependent variable). We suggest that it can be explained by the immanence of substances in Swiss night life, similar to other countries in Western Europe [15]. We hypothesize that the association between going out in the evening (independent variable) and violent offences (dependent variable) becomes weaker when taking into account cannabis use (OR = 5,738, CI = 3,907-8,428) or binge-drinking (OR = 4,756, CI = 3,228-7,006) (prospective mediators). This analysis will be provided in future publications.

	Cannabis use				**Binge-drinking**			
Switzerland controlled for immigration background								
	N=3899[a]		R^2 = 0.198[b]		N=3894[a]			R^2 = 0.194[b]
	Sig.	OR[c]	95% C.I.for OR		Sig.	OR[c]	95% C.I.for OR	
			Lower	**Upper**			**Lower**	**Upper**
Gender[d]	.000	3.213	2.083	4.955	.000	3.449	2.242	5.305
Immigration background[e]	.003	1.801	1.227	2.644	.000	1.975	1.350	2.889
Cannabis[f]	.000	5.738	3.907	8.428				

	Cannabis use				Binge-drinking			
Binge-drinking[f]					.000	4.756	3.228	7.006
Active night life[g]	.000	3.098	2.117	4.535	.000	3.171	2.188	4.597
Constant	.000	0.005			.000	0.004		
Juveniles without immigration background in Switzerland[h]								
	N=2017[a]		R^2 = 0.173[b]		N=2015[a]		R^2 = 0.202[b]	
	Sig.	OR[c]	95% C.I.for OR		Sig.	OR[c]	95% C.I.for OR	
			Lower	**Upper**			**Lower**	**Upper**
Gender[d]	.001	3.512	1.704	7.239	.000	3.673	1.784	5.699
Cannabis[f]	.000	4.473	2.336	8.567				
Binge-drinking[f]					.000	6.556	3.133	6.521
Active night life[g]	.000	4.607	2.446	8.676	.000	3.659	1.941	4.599
Constant	.000	0.005			.000	0.003		
Juveniles with immigration background in Switzerland[i]								
	N=1882[a]		R^2 = 0.198[b]		N=1879[a]		R^2 = 0.170[b]	
	Sig.	OR[c]	95% C.I.for OR		Sig.	OR[c]	95% C.I.for OR	
			Lower	**Upper**			**Lower**	**Upper**
Gender[d]	.000	3.177	1.844	5.471	.000	3.329	1.945	5.699
Cannabis[f]	.000	6.603	4.087	10.670				
Binge-drinking[f]					.000	4.107	2.586	6.521
Active night life[g]	.000	2.495	1.552	4.010	.000	2.915	1.847	4.599
Constant	000	0010			.000	0.008		
Juveniles in Switzerland with at least one parent born in ex-Yugoslavia								
	N=420[a]		R^2 = 0.284[b]		N=420[a]		R^2 = 0.253[b]	
	Sig.	OR[c]	95% C.I.for OR		Sig.	OR[c]	95% C.I.for OR	
			Lower	**Upper**			**Lower**	**Upper**
Gender[d]	.084	3.197	0.855	11.948	.065	3.445	0.928	12.790
Cannabis[f]	.000	7.666	2.834	20.735				
Binge-drinking[f]					.002	5.059	1.810	14.138
Active night life[g]	.008	4.235	1.462	12.268	.010	4.035	1.391	11.705
Constant	.000	0.007			.000	0.005		
ex-Yugoslavian countries								
	N=6026[a]		R^2 = 0.196[b]		N=6022[a]		R^2 = 0.182[b]	
	Sig.	OR[c]	95% C.I.for OR		Sig.	OR[c]	95% C.I.for OR	
			Lower	**Upper**			**Lower**	**Upper**
Gender[d]	.000	4.363	2.481	7.671	.000	4.442	2.536	7.778
Cannabis	.000	14.988	9.334	24.066				
Binge-drinking[f]					.000	7.337	4.722	11.399
Active night life[g]	.000	3.064	1.946	4.825	.001	2.190	1.377	3.485
Constant	.000	0.002			.000	0.002		

[a]Number of cases included in analysis.
[b]Nagelkerke R Square.
[c]OR = Exp(B).
[d]1 = male, 0 = female.
[e]1 = at least one parent born abroad (not in Switzerland), 0 = both parents born in Switzerland.
[f]1 = t least once during last thirty days.
[g]1 = going out in the evening at least three times per week, 0 = going out in the evening fewer than twice per week or never.
[h]Juveniles without immigration background in Switzerland = both parents were born in Switzerland.
[i]Juveniles with immigration background in Switzerland = at least one parent born abroad.

Table 6: Perpetration of violent offences if having active nightlife and cannabis use/binge-drinking, controlled for gender and immigration background. Binary logistic regression model

Conclusion

The purpose of this article is to define whether the associations between cannabis use/binge-drinking and going out in the evening (independent variables) and violent offences (dependent variable) are similarly strong among selected groups of juveniles. Among

them are youths with and without immigration background in Switzerland and their peers in ex-Yugoslavian countries. Due to this, we compared the prevalence of selected variables, results of bivariate and multivariate analysis.

We cannot investigate the relationship between substance use and violent offences during the night life in different countries directly[12]. Although we can do it indirectly while regarding the variable of going out in the evening in the multivariate analysis.

As a result, these are the main conclusion of *descriptive results* are the following:

(1) Swiss juveniles with immigration background have a higher prevalence of violent offences and active night life than their peers with both parents born in Switzerland. Juveniles with ex-Yugoslavian background in Switzerland report perpetration of violent offences three times more often than their Swiss peers without immigration background. At the same time, juveniles in ex-Yugoslavian countries commit much fewer violent offences than their peers in Switzerland that denies theory of "imported violence". The first hypothesis should be rejected.

We also found that Swiss youths report a similar prevalence of binge-drinking and cannabis use respectively, regardless of immigration background.

(2) Similar to violent offences, juveniles from ex-Yugoslavia report a lower prevalence of cannabis use and binge-drinking than their Swiss peers with or without immigration background. The only exception is the prevalence of going out in the evening: ex-Yugoslavian youths have a more active night life than their Swiss peers without immigration background.

(3) Active nightlife, cannabis use and binge-drinking are significantly associated with perpetration of violent offences in all samples and subsamples. Cannabis use relates stronger to perpetration of violent offences among juveniles in ex-Yugoslavian than in Switzerland. Apparently, it can be explained by having this substance as an attribute of the Swiss night life in contrast to Balkan countries. This finding rejects our second hypothesis.

Based on results of the multivariate analysis, we also found that cannabis use relates stronger to violent offences among youths with immigration background in Switzerland than among their peers with both parents born in this country.

(4) Active night life relates stronger to perpetration of robbery and/or assault in Switzerland than in ex-Yugoslavia.

As a result of the multivariate analysis, juveniles from Balkan countries are much more likely to commit violent offences if consume cannabis and the variable of "going out in the evening" is regarded. Apparently, cannabis use is less presented in night life institutions of ex-Yugoslavian countries than in Switzerland.

Future studies

In accordance with the results of the multivariate analysis, active night life is less associated with violent offences than cannabis use/binge-drinking. We suggest that his result can be explained by the correlation of nightlife with violent offences, including substance use. Thus, a mediation analysis should be conducted to assess this further.

Cannabis use, as a correlate of violent offences, is significantly associated not only with active nightlife, but also with family, friends, environment in school, forms of spending leisure time, and many other variables. Many studies indicate that juveniles who consume cannabis, have lower educational attainment, have more friends who have already consumed cannabis, exhibit deviant behaviour and spend their leisure time in unstructured ways. These associations will be tested in future publications [51,52].

As it was found, substance use and active night life cannot explain a higher prevalence of violent offences among juvenile with immigration background in Switzerland. This issue will be also investigated in further publications.

Limitations

Findings provided in this paper are based on the results of the third International Self-Report Delinquency Study (ISRD-3) in Switzerland and in the four selected ex-Yugoslavian countries (Bosnia-Herzegovina, Kosovo, Macedonia and Serbia). The reliability of the questionnaire and the database cannot be doubted, because was created and cleaned by the research team of Prof. Dr. Dirk Emzmann and other members of the Steering Committee. This data was collected by using a standardized questionnaire in forty countries.

But causal relationships inference in cross-sectional study is limited. In this paper, we were focused only on the associations and relationships among variables, but not on their causal interaction.

The database that was used for the analysis provided in this paper was collected in Switzerland and in the four ex-Yugoslavian countries. These results cannot be generalized on the mentioned countries.

[12]Our questionnaire does not provide the question of substance use *while* going out.

Acknowledgement

Many people helped, at some time or another over the last years, to realize this research project. In Switzerland, our first thank goes to Dr. Kathrin Weder (Swiss National Science Foundation, grants N 100015_138401/1 and 10001A_162816), Mr. S. Sommer (Jacobs Foundation, grant 2012-1026), Dr. M. Peek (Swiss Federal Office of Migration), Direction of the Conference of Education Departments, namely former cantonal Minister I. Chassot, Secretary General H. Ambühl and Dr. T. Mattmann-Arnold, and Cantonal Departments of education.

In Bosnia-Herzegovina, we thank Dr. Almir Maljevic (PhD, Associate Professor of Criminal Law. University of Sarajevo, Faculty of Criminal Justice Sciences).

In Kosovo, we thank Mensut Ademi (PhD, University of Pristina; Executive Director of Kosovo Association of Criminal justice/ Criminology).

In Macedonia, we thank Dr. Natasha Jovanova (PhD, Assistant professor), Prof. Dr. O. Bacanovich (Dean), J. Ivanovski (Assistant Prof.) and A. Nedev (Teaching Assistant), all from the Faculty of Security-Skopje, University "St. Kliment Ohridski"- Bitola.

In Serbia, we thank Prof. Dr. Vesna Nikolic-Ristanovic and Ljiljana Stevkovic (PhD candidate), both at the Faculty of Special Education and Rehabilitation, University of Belgrade.

We further acknowledge the kind and generous technical support that we received, all along this project, from other Members of the ISRD Steering Committee and in particular from *Prof. Dr. I. Haen Marshall, from Prof. Dr. D. Enzmann, Prof. Dr. M. Steketee and Prof. Dr. J. Kivivuori*.

References

1. Linder W (2011) Multicultural Switzerland and the challenge of immigration. Journal of Minority Studies, 5: 201-25.

2. Killias M, Maljevic A, Lucia S (2010) Imported violence? Juvenile delinquency among Balkan youths in Switzerland and in Bosnia-Herzegovina. European Journal on Criminal Policy and Research 16: 183-9.

3. FSO (Federal Statistical Office) (2015) Statistical Data in Switzerland, 025-1500.

4. Police Crime Statistics (PKS) (2011) Annual Report 2010. Section Crime and Criminal Law. Federal Statistical Office (FSO) (Polizeiliche Kriminalstatistik (PKS) (2011). Jahresbericht 2010. Sektion Kriminalität und Strafrecht. Herausgeber - Bundesamt für Statistik (BFS)). Neuchâtel.

5. Police Crime Statistics (PKS) (2012) Annual Report 2011. Section Crime and Criminal Law. Federal Statistical Office (FSO) (Polizeiliche Kriminalstatistik (PKS) (2012). Jahresbericht 2011. Sektion Kriminalität und Strafrecht. Herausgeber - Bundesamt für Statistik (BFS)). Neuchâtel.

6. Police Crime Statistics (PKS) (2013) Annual Report 2012. Section Crime and Criminal Law. Federal Statistical Office (FSO) (Polizeiliche Kriminalstatistik (PKS) (2013). Jahresbericht 2012. Sektion Kriminalität und Strafrecht. Herausgeber - Bundesamt für Statistik (BFS)). Neuchâtel.

7. Police Crime Statistics (PKS) (2014) Annual Report 2013. Crime and Criminal Justice Section. Federal Statistical Office (FSO) (Polizeiliche Kriminalstatistik (PKS) (2014). Jahresbericht 2013. Sektion Kriminalität und Strafrecht. Herausgeber - Bundesamt für Statistik (BFS)). Neuchâtel.

8. Police Crime Statistics (PKS) (2015) Annual Report 2014. Crime and Criminal Law Section. Federal Statistical Office (FSO) (Polizeiliche Kriminalstatistik (PKS) (2015) Jahresbericht 2014. Sektion Kriminalität und Strafrecht. Herausgeber - Bundesamt für Statistik (BFS)). Neuchâtel.

9. Killias M (1997) Immigrants, crime, and criminal justice in Switzerland. In M. Tonry (Ed.), Ethnicity, crime, and immigration: Comparative and cross-national perspectives. Chicago: University of Chicago Press: 375-406.

10. Vazsonyi AT, Killias M (2001) Immigration and crime among youths in Switzerland. Criminal Justice and Behavior 28: 329-66.

11. BFS. Federal Office for statistics (2014) The population of Switzerland 2013 (Bundesamt für Statistik (2013) Die Bevölkerung der Schweiz) FSO: 348-1300. Pg 20.

12. BFS. Federal Office for statistics (2017) The population of Switzerland 2016 (Bundesamt für Statistik (2017) Die Bevölkerung der Schweiz, 2016) FSO: 348-1300. Pg 20.

13. Hall W, Degenhardt L (2007) Prevalence and correlates of cannabis use in developed and developing countries. Curr Opin Psychiatry 20: 393-7.

14. Weir E (2000) Raves: a review of the culture, the drugs and the prevention of harm. CMAJ 162: 1843-8.

15. Van Havere T, Vanderplasschen W, Broekaert E, De Bourdeaudhui I (2009) The Influence of Age and Gender on Party Drug Use Among Young Adults Attending Dance Events, Clubs, and Rock Festivals in Belgium. Substance Use & Misuse 44: 1899-915.

16. Van Havere T, Vanderplasschen W, Lammertyn J, Broekaert E, Bellis M (2011) Drug use and nightlife: more than just dance music. Subst Abuse Treat Prev Policy 6: 18.

17. Donath C, Gräßel E, Baier D, Pfeiffer C, Karagülle D, et al. (2011) Alcohol consumption and binge-drinking in adolescents: comparison of different migration backgrounds and rural vs. urban residence-a representative study. Donath et al. BioMed Central (BMC) Public Health 11: 84

18. Fergusson DM, Lynskey MT, Horwood LJ (1996) Alcohol misuse and juvenile offending in adolescence. Addiction 91: 483-94.

19. Miller J (2013) Individual Offending, Routine Activities, and Activity Settings: Revisiting the Routine Activity Theory of General Deviance. Journal of Research in Crime and Delinquency 50: 390-416.

20. McCarthy P, Laing K, Walker J (2004) Offenders of the future? Assessubg the risk of children and young people becoming involved in criminal or antisocial behaviour. Newcastle centre of family studies, University of Newcastle upon Tyne, Research Report N 545.

21. Lukash A, Killias M (2017). Who are Swiss and ex-Yugoslavian juveniles who have been involved in group fights? Results of the International Self-Report Delinquency Study (ISRD-3). In: Europe in Crisis: Crime, Criminal Justice, and the Way Forward. Essays in Honour of Nestor Courakis. Volume II: Essays in English, German, French, and Italian. Editors: C.D. Spinellis, Nikolaos Theodorakis, Emmanouil Billis, George Papadimitrakopoulos: 1647-60.

22. Killias M, Lukash A (2015) The Third International Self-report Study of Delinquency among Juveniles in Switzerland and in Indonesia. Report to the Swiss National Science Foundation (Project 100015_138401/1) on the Survey conducted in Switzerland. 252 p.

23. Duke A A, Smith K M Z, Oberleitner L M S, Westphal A, McKee S A (2018) Alcohol, drugs, and violence: A meta-meta-analysis. Psychology of Violence 8: 238-49.

24. Marihuana: A Signal of Misunderstanding (1972) National Commission on Marihuana and Drug Abuse. Chapter III. Social Impact of Marihuana Use. Report. Commissioned by President Richard M. Nixon, March, 1972. Iova University.

25. Killias M, Kuhn A, Aebi MF (2011) Ground plan of criminology. A European perspective (Grundriss der Kriminologie. Eine Europeische Perspektive) 2nd edn. Bern: Stämpfli Verlag AG Bern.

26. Moss H B, Tarter R E (1993) Substance Abuse, I Aggression, and Violence. What Are the Connections? The American Journal on Addictions 2: 149-60.

27. Pliner P, Cappell H, Miles CG (1972) Observer judgments of intoxicated behavior during social interaction: a comparison of alcohol and marijuana, in Drug Addiction, edited by Singh JM, Miller LH, Lal H Mt. Kisco, NY: Futura Publishing, 1972, pp 59-67. Quoted by Moss HB, Tarter RE (1993) Substance Abuse, I Aggression, and Violence. What Are the Connections? The American J Addict 2:149-60.

28. Reiss A J, Roth J A (1993) Alcohol, other psychoactive drugs and violence. In A J Reiss, J A Roth (Eds.), Understanding and preventing violence.Washington, DC: National Academy Press: 182–220.

29. Boles SM, Miotto K (2003) Substance abuse and violence: A review of the literature. Aggression and violent behavior 8: 155-74.

30. Otero-Lopez JM, Luengo-Martin A, Miron-Redondo L, Carrillo-De-La-Peña M T, Romero-Trinanes E (1994) An Empirical Study of the Relations Between Drug Abuse and Delinquency Among Adolescents. Br J Criminol 34: 459-78.

31. Calafat A, Mantećon A, Juan M, Adrover-Roig D, Blay N, et al. (2011) Violent Behaviour, Drunkness, Drug use, and Social Capital in Nightlife Context. Psychosocial Intervention 20: 45-51.

32. Hoaken PN, Stewart SH (2003) Drugs of abuse and the elicitation of human aggressive behavior. Addictive behavior 28: 1533-54.

33. Roth J A (1994) Psychoactive Substances and Violence. Research in Brief, US Dept. of Justice.

34. Manzoni P, Lucia S, Schwarzenegger C (2011) Feasibility study on the dark field survey in the area of "youth and violence". Final Report. On behalf of the Federal Social Insurance Office (BSV). Criminological Institute University of Zurich (Machbarkeitsstudie zur Dunkelfeldbefragung im Bereich "Jugend und Gewalt". Schlussbericht. Im Auftrag des Bundesamts für Sozialversicherungen (BSV). Kriminologisches Institut Universität Zürich) 149.

35. Moore T M, Gregory L S (2005) Review of the literature on marijuana and interpersonal violence. Aggression and Violent Behavior 10: 171-92.

36. Friedman AS (1998) Substance Use/abuse as a Predictor to Illegal and Violent Behavior: a Review of the Relevant Literature. Aggression and Violent Behavior 3: 339-55.

37. Abderhalden I (2007) The globalization of alcohol abuse. Medicus Mundi Schweiz (MMS) Bulletin #106.

38. World Health Organization (2011) Global status report on alcohol and health. Pg: 286.

39. Heiple E (2010) Routine Activities Theory: An Empirical Test in a Rural Setting. Southern Illinois University Carbondale. Theses. Paper 181.

40. Handbook Healthy Nightlife Toolbox: HNT (2010) How to create a healthy & safe nightlife. The European Society for Prevention Research (EUSPR) Utrecht, The Netherlands pg: 47.

41. Maier LJ, Bachmann A, Bucheli A, Schaub MP (2014) Development of tools for the early detection and early intervention of problematic substance use in Swiss nightlife (Erarbeitung Instrumente zur Früherkennung und Frühintervention von problematischem Substanzkonsum im Schweizer Nachtleben (2011-2013)) Zürich: ISGF.

42. For the present purposes, the version "beta_0"of the database has been used. The database from all countries is kept at the University of Hamburg. Due to progress of data collection, data cleaning, and data merging in several countries, different updates have taken place. Results are only minimally affected by these updates. The total number of respondents differs slightly from total numbers in other databases ("beta_1", "beta_2", "beta_3"- "beta_5", etc.).

43. The number of schools and classes is based on the cleaned data (version "beta 0", 2015).

44. Enzmann D, Kivivuori J, Marshall IH, Steketee M, Hough M, et al. (2018) A Global Perspective on Young People as Offenders and Victims. First Results from the ISRD3 Study Springer, pg 85.

45. Lucia S, Herrmann L, Killias M (2007) How important are interview methods and questionnaire designs in research on self-reported juvenile delinquency? An experimental comparison of Internet vs. paper-and-pencil questionnaires and different definitions of the reference period. Journal of Experimental Criminology 3: 39-64.

46. RCT – randomized controlled trial.

47. Kivivuori J, Salmi V, Walser S (2013) Supervision mode effects in computerized delinquency surveys at school: Finnish replication of a Swiss experiment. Journal of Experimental Criminology 9: 91-107.

48. Walser S, Killias M (2012) Who should supervise students during self-report interviews? A controlled experiment on response behavior in online questionnaires. J Exp Criminol 8: 17-28.

49. The N is for non-weighted data.

50. *p* Value = Pearson Chi-Square Asymptotic Significance (2-sided)

51. Brook J S, Balka E B, Whiteman M (1999) The Risks for Late Adolescence of Early Adolescent Marijuana Use. American Journal of Public Health 89: 1549-54.

52. Lynskey M, Hall W (2000) The effect of adolescent cannabis use on educational attainment: a review. Addiction 95: 1621-30.