THE PROBE INTO THE UNIVERSITY DRUG SCENE IN SLOVENIA AND ITS COMPARISON WITH THE SITUATION IN THE CZECH REPUBLIC

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Abstract: *An anonymous questionnaire survey was carried out to assess the drug scene at the University of Ljubljana, the data were statistically analyzed and compared with the results of a similar study carried out in 2006 among students of Masaryk University Brno. The comparison of the drug scene at the two universities indicated, among others, that opiates were more easily available to Slovenian university students, who also use hemp drugs, stimulant drugs and volatile substances more frequently. University students in Brno, on the other hand, more often consume hallucinogens, particularly hallucinogenic mushrooms. Hemp drugs, particularly marijuana, have become the most popular illegal drugs for students at both universities. Taking addictive substances is currently present in the university population to the extent that is not negligible. Bearing in mind that many university students after graduation in their professions operate on youth and that they are authority figures for the public, then these findings are particularly alarming.*

Keywords: *Czech Republic, questionnaire, drug scene, addictive substances, Slovenia, comparison, student, university*

Introduction

Drugs are an integral part of today's society. In the 21st century they represent a major challenge of global nature, which affects virtually every country in the world. In the past year, 208 million people, or 4.9 % of the world's population had used any illegal drugs, and according to recent estimates, the costs associated with drug problems in Europe alone amounted to 40 billion Euro (*Kalina, 2003; EMCDDA, 2008; UNODC, 2008*).

The Czech Republic unfortunately plays an important role in these statistics. According to research conducted both in the general population and among youth, it belongs among the countries with the highest prevalence of alcohol and certain illicit drugs, mainly cannabis, ecstasy and methamphetamine *(Hibell et al., 2004; EMCDDA, 2008*).

Enormous acceleration of life pace, the societal pressure demanding high performance, large-scale urbanization, anonymity, and not least the current global economic crisis, all these pose as stress factors and considerable stress which people must cope with in some way. The desire to eliminate stress as soon as possible and bring about pleasant feelings leads in many cases to a situation where people will use a variety of addictive substances (*Kachlík, 2003*).

A number of negative phenomena appear in connection with drug abuse, which may affect both the users themselves, and their circle of loved ones, and thus the society as a whole. Normal social relationships loosen, persons change their behaviour, the value chain. Drug abuse leads to increased crime, traffic accidents, deteriorating mental and physical health of the population, the reproductive and development abilities (*Nožina, 1997; Kachlík, 2003; Radimecký et al., 2003*).

It is therefore necessary to adopt measures that would alter the ways of acting, thinking and behaviour of humans so that they opt for a healthy, drug-free lifestyle, and thus avoid all the above-mentioned negative phenomena associated with drug abuse. Such action is the responsibility of primary drug prevention, which focuses on youth in primary and secondary schools as the most vulnerable population group (*Heller, Pecinovská, 1996; Kachlík, Havelková, 2007*).

University students, however, are under less focus because they are regarded as sufficiently mature persons with such knowledge and attitudes to effectively resist the offers of various drugs and thus become victims of pathological addiction. On the other hand, they are exposed to stressful moments connected with adaptation to a new lifestyle, which places high demands on autonomy, accountability, effective planning and use of time (*Kachlík, Havelková, 2007*).

Drug use in the segment of university population in the domestic environment has been systematically researched since 1993 by Kachlík and Šimůnek, who mapped the drug scene of the Masaryk University in Brno. In 2005-2007, a three-year project entitled "Description of the drug scene at MU and proposals for preventive measures" was carried out, involving research of a representative sample of almost 10 000 respondents of Masaryk University in Brno. The results of these studies clearly showed that drug use is currently present in the university population, to an extent that it is not negligible (*Kachlík, Havelková, 2007*). Results of other surveys carried out among university students were published by *Csémy el al. (2004)*.

Although partial monitoring of drug abuse at universities the Czech Republic is taking place, according to the information available, there are still no comparative studies like in the case of the ESPAD school survey, which would undertake the same at the European level (*NMSDDZ, [online] 2003, 2008*). This contribution in the Czech environment is an attempt to compare the extent of drug use among university students in two different states of the European Union.

The basis for this work is found in a study carried out in 2006 under a three-year project entitled "Description of the drug scene at MU, and proposals for preventive measures' by authors *Kachlík and Havelková* (2007). These were compared with the research results carried out by *Klech* (2009) at the University of Ljubljana during his European Socrates / Erasmus study programme there.

Material and methodology

The objectives of this work included mapping the drug scene at the University of Ljubljana and its analysis focused on statistically significant differences between the sexes. The main aim was the subsequent comparison of the results of this analysis with a similar study that was conducted in 2006 among students at Masaryk University in Brno in the project "Description of the drug scene at MU and proposals for preventive measures" (Kachlík, Havelková, 2007). Comparisons were made on the basis of quantitative analysis to determine statistical significance between phenomena sets studied at the University of Ljubljana, and Masaryk University in Brno.

Based on all the above-mentioned findings and previous studies, the following assumptions were tested:

- higher frequency of cannabis in the last six months is found among students of Masaryk University in Brno than among students at the University of Ljubljana,
- there is greater frequency of experience with methamphetamine in all examined periods between students of Masaryk University in Brno than among students at the University of Ljubljana,
- a lower frequency of use of ecstasy in the last six months occurs among students at the University of Ljubljana than among students of Masaryk University in Brno,
- heroin is more accessible drug for the students at the University of Ljubljana than for students of Masaryk University in Brno.

Quantitative analysis was selected for the purpose of this study - an empirical research allowing to obtain data in the form of numbers which then can be relatively easily, quickly and precisely analyzed using various statistical methods (*Denscombe, 1998; Blaxter et al., 2006*).

A questionnaire was chosen for primary data collection, as the most frequent way of obtaining a mass of data in a relatively short time (*Denscombe, 1998, Gavora, 2000*). An important factor for the selection of a questionnaire survey was the fact that the data obtained using this technique at the University of Ljubljana had to be subsequently compared with the results of a survey conducted at Masaryk University in Brno.

To acquire information for the survey, a standardized questionnaire by Kachlík and Havelková was selected, the same which was used in 2006 to collect data during the three-year project entitled "Description of the drug scene at MU, and proposals for preventive measures" (*Kachlík, Havelková, 2007*). The initial questionnaire was modified so that its completion was less time-consuming and the subsequent processing easier. Some items were omitted, such as detecting the use of black coffee, playing slot machines, open response questions, some items focused on respondents' attitudes towards drugs and basic socio-economic indicators. All other items have been retained so that the data was later comparable without a problem, between the sets of Masaryk University and the University of Ljubljana.

The resulting questionnaire consisted of an input section with a short motivational and explanatory text with contacts of the interviewers, the basic identifiers (respondents' age, course studied, class) and 11 closed questions with answers. This modified

questionnaire was translated into Slovenian by a Bohemistics student at the University of Ljubljana.

The basic research population was set to include all the students at Ljubljana University. The sample set then comprised the 262 students who completed the questionnaire (for detailed characterization see Tables 1 and 2). They were approached based on a "snowball method" (*snowball sampling*), which consists of selecting a few people who address their friends with a request to contact their friends, thus creating a "snowball process" (*Denscombe, 1998, Kalina et al., 2001*). In our case these were authors' acquaintances, students at the University of Ljubljana, who were asked to send out a questionnaire via e-mail to other students and colleagues from the University with the request to fill it out and forward to other students. *Denscombe (1998)* considers this method of purposive sampling an efficient and fast way to create a group of acceptable size.

Prior to the distribution of the questionnaires, respondents were required to carry out pilot research, or the so-called pre-study (*Gavora, 2000*). The aim is to determine whether each questionnaire item is clear and there is no incorrect interpretation. The Slovenian version of the questionnaire was discussed with the author of the translation and with a few students at the University of Ljubljana.

Acquisition of primary data was carried out through an anonymous questionnaire. The questionnaire was converted into electronic form and then distributed via e-mail to students at the University of Ljubljana, from whom the authors had an earlier promise of further cooperation. They then sent the questionnaire via e-mail to students and colleagues from the University with the request to fill it out and send to other students. Completed questionnaires were sent back via a specially created e-mail box called anketa.droge@gmail.com in order to preserve the absolute anonymity of respondents. The data were collected from 5 February 2008 to 18 March 2008. After completion, the data from the questionnaire (doc, docx) was converted to xls and dbf, thus prepared for subsequent analysis.

Statistical processing of primary data collected in the survey was carried out using the statistical packages of EpiInfo 6.04 En and Statistica for Windows 7 Cz (*Dean et al. 2004; Statsoft Inc.., 2004, Punch 2008*). To assess the statistical significance of differences between the characters in the set division into groups the following statistical tests were used: chi-square and its Mantel-Haenszel Yates modification. At a lower frequency of characters the Fisher exact test was used and the ANOVA method for examining the data of continuous nature of (*Dean et al. 2004; Statsoft Inc.., 2004*).

Results

The results of the comparative study are presented in the form of tables, graphs and text commentary. The abbreviation "UNIVLJ" at the top of the tables and text comments stands for the University of Ljubljana, while the abbreviation "MU" means the Masaryk University in Brno. The term "n" in the header of the tables means the absolute frequency of the character, all the other details are given in percentages. Title of the table serves as an indication of a the researched phenomenon. The star symbol "*" indicates the level of statistical significance as follows:

* p<0,05, significance level less than 5 %
** p<0,01, significance level less than 1 %
*** p<0,001, significance level less than 1 ‰

The basic characteristics of individual sets

Table 1: Gender representation on both sets

Gender	**UNIVLJ** (n=262)	**MU** (n=9993)
Men	24,4	40,4
Women	75,6	59,6

Table 2: Study year representation on both sets

Study year	**UNIVLJ** (n=262)	**MU** (n=9993)
First	3,8	28,8
Second	12,6	23,8
Third	22,9	20,6
Fourth	30,2	13,5
Fifth	29,0	10,0
Sixth	1,5	3,4

The comparative study subjects were the students of the University of Ljubljana and Masaryk University in Brno. The set at the University of Ljubljana represents 262 respondents (24 % men and 76 % women) and two Academies of the University of Ljubljana. The average age of the respondents in the whole sample is 22.64 years, SD 2.01 (for males 23.13 years, SD 2.21 and for women 22.49 years, SD 1.92). The youngest respondent is 18 years old and the oldest 33 years old.

Masaryk University Brno sample represents 9993 respondents (40 % men and 60% women) who are students from all nine faculties. The average age of the respondents in the whole sample is 24.32 years, SD 5.04 (for males 24.44 years, SD 5.12 and for women 24.25 years, SD 4.98). The youngest respondent is 17 years old and the oldest 36 years old.

Comparative study results

Tobacco

Table 3a: Smoking tobacco during one's life

Group	**UNIVLJ** (n=262)	**MU** (n=9953)
Answer	%	%
No	26,7	21,4
Yes	73,3	78,6
Total	100,0	100,0

Table 3b: Age of first tobacco consumption (only for those who did ever smoke tobacco)

Group	**UNIVLJ** (n=192)	**MU** (n=7861)
Answer	%	%
Less than 10 years	2,6	5,5
10-14 years	30,2	37,4*
15-18 years	55,2	45,5**
More than 18 years	12,0	11,6
Total	100,0	100,0

Table 3c: Last period of tobacco consumption (only for those who did ever smoke tobacco)

Group	**UNIVLJ** (n=192)			**MU** (n=7861)		
Answer	Everyone	Men	Women	Everyone	Men	Women
Today	33,6	26,9	36,4	19,5*	22,1	17,7***
In the last week	8,6	5,8	10,0	16,7**	16,6	16,8*
In the last month	10,9	5,8	12,9	12,1	12,1	12,1
In the last 6 months	12,5	21,2	9,3	15,1	14,6	15,4*
Earlier	33,6	40,4	31,4	36,6	34,6	38,0
Total	100,0	100,0	100,0	100,0	100,0	100,0

Tab. 3a shows that smoking tobacco during one's life is comparable in both groups (over 70%). Statistically significant differences can be found at the age of first tobacco consumption, the respondents of MU have earlier experience in tobacco from the age of 10-14 years (37 %), while for most UNIVLJ students first smoking attempts (55 %) took place between 15 - 18 years (see Table. 3b). Other significant differences were found in the analysis of the latest tobacco consumption. Compared to a fifth of MU respondents, a third of UNIVLJ respondents smoked at the time of interview, with a statistically significant difference between women (36 % of UNIVLJ women, 18 % of women at MU, $P < 0.001$, x2), see Table 3c.

Alcohol

Table 4a: Drinking alcoholic beverages during one's life

Group	**UNIVLJ** (n=262)	**MU** (n=9953)
Answer	%	%
No	1,2	0,9
Yes, exceptionally	14,1	13,7
Yes	84,7	85,4
Total	100,0	100,0

Table 4b: Age of first alcohol consumption (only for those who did ever drink alcohol)

Group	**UNIVLJ** (n=259)	**MU** (n=9860)
Answer	%	%
Less than 10 years	10,8	11,9

10-14 years	38,2	42,8
15-18 years	46,7	42,5
More than 18 years	4,3	2,8
Total	100,0	100,0

Tab. 4a shows that 99 % respondents from both samples tried drinking alcohol during their lives. The frequency of first contact with alcohol was the same for both universities' respondents, most often seen at the age of 15 to 18 years (over 40 %), see Table 4b. A statistically significant difference was found in alcohol consumption in the last week preceding the interview (more respondents at MU, P <0.001, x^2), then in the last month and 6 months, where UNIVLJ students dominated (p <0.001, x^2), see Table 4c.

Table 4c: Last period of alcohol consumption (only for those who did ever drink alcohol)

Group	**UNIVLJ** (n=259)	**MU** (n=9880)
Answer	%	%
Today	7,3	10,5
In the last week	44,4	61,0***
In the last month	34,0	20,4***
In the last 6 months	11,2	5,6***
Earlier	3,1	2,5
Total	100,0	100,0

Cocaine and crack

Three times more UNIVLJ respondents than MU came into contact with cocaine during their life (9,2 % UNIVLJ vs. 2,6 % MU, p<0,001, x^2). The same applies to the use of cocaine in the last six months (3,1 % UNIVLJ vs. 0,8 % MU, p<0,001, x^2). More UNIVLJ cocaine users had experience with this substance during their 15-18 years of age (41,7 % UNIVLJ vs. 15,5 % MU, p<0,01, x^2), while more MU users have tried it in early adulthood (58,3 % UNIVLJ vs. 81,8 % MU, p<0,01, x^2). The frequency of cocaine use did not show any statistically significant differences between users of individual universities (Table 5).

Table 5: Frequency of cocaine use in life (only for those who ever used cocaine in their life)

Group	**UNIVLJ** (n=24)	**MU** (n=256)
Answer	%	%
1 - 3 x	50,0	68,8
4 - 10 x	37,5	20,7
More than 10 x	12,5	10,5
Total	100,0	100,0

Marihuana

Table 6a: Use of marihuana in life

Group	**UNIVLJ** (n=262)	**MU** (n=9993)
Answer	%	%
No	41,6	40,5
Yes	58,4	59,5
Total	100,0	100,0

Table 6b: Use of marihuana in the last 6 months

Group	**UNIVLJ** (n=262)	**MU** (n=9993)
Answer	%	%
No	69,8	71,6
Yes	30,2	28,4
Total	100,0	100,0

Table 6c: Use of marihuana in the last 30 days

Group	**UNIVLJ** (n=262)	**MU** (n=9993)
Answer	%	%
No	80,9	83,8
Yes	19,1	16,2
Total	100,0	100,0

Table 6d: Age of first use of marihuana (only for those who ever used marihuana in their life)

Group	**UNIVLJ** (n=153)	**MU** (n=5852)
Answer	%	%
Less than 10 years	0,0	0,1
10-14 years	10,6	8,4
15-18 years	69,3	63,7
More than 18 years	20,1	27,8
Total	100,0	100,0

Regarding the use of marihuana, 60 % respondents from both universities have tried it at least once in their lives, about 30 % in the last six months (Tables 6a, 6b). A statistically significant difference was found in the frequency of marihuana use during life, when 60 % of UNIVLJ consumers and 45 % at MU consumers have used it more than 10 times ($p<0,001$, x^2), see Table. 6e.

Table 6e: Frequency of marihuana use in life (only for those who ever used marihuana in their life)

Group	**UNIVLJ** (n=153)	**MU** (n=5868)
Answer	%	%
1 - 3 x	22,2	28,7
4 - 10 x	18,3	26,2*
More than 10 x	59,5	45,1***
Total	100,0	100,0

Hashish or hashish oil

Unlike for marihuana, statistically significant differences were found for all examined phenomena in connection with the use of hashish or hashish oil. More UNIVLJ than MU respondents had used hashish or hashish oil at least once during their lives (29,4 % vs. 23,7 %, $p<0,05$, x^2) and in the last six months (11,5 % vs. 7,7 %, $p<0,05$, x^2). The biggest difference was however observed in the use of these substances in the last month (7.3 % vs. 3.5% - more UNIVLJ respondents, $p <0.01$, x^2). Users of these substances at UNIVLJ started to consume it earlier, aged 15-18 years (75.3 % vs. 61.0 %, $p <0.05$, x^2). For MU hashish or hashish oil consumers, there were rather 1-3 experiments (43 % vs. 20.8 %, $p <0.001$, x^2), while more than half of all UNIVLJ users (53.2 %) tried it more than 10 times compared to 31.7 % of respondents at MU ($p <0.001$, x^2).

Hallucinogens

Compared to UNIVLJ respondents, almost twice more MU respondents used hallucinogens at least once during their lives (3,8 % UNIVLJ vs. 7,1 % MU, $p<0,05$, x^2). The same applies to the use of hallucinogens in the last six months, already without statistical significance (0,8 % UNIVLJ vs. 1,5 % MU).

Hallucinogenic mushrooms are more popular among MU respondents, as evidenced by 5 % higher lifetime prevalence of their use in comparison with the UNIVLJ set (8,4 % UNIVLJ vs. 12,9 % MU, $p<0,05$, x^2). In about 60 % of the respondents from both universities there were rather 1-3 experiments, see Table 7.

Table 7: Frequency of hallucinogenic mushrooms during life (only for those who ever used hallucinogenic mushrooms)

Group	**UNIVLJ** (n=22)	**MU** (n=1243)
Answer	%	%
1 - 3 x	63,6	62,5
4 - 10 x	27,3	26,1
More than 10 x	9,1	11,4
Total	100,0	100,0

Methamphetamine and other Energising resources of the ephedrine and amphetamine series

At least one experience with methamphetamine during their life was stated by 2.3 % of the surveyed set at UNIVLJ and 4.4% at MU. Some 0.8 % of the UNIVLJ group and 1.0 % of the MU group admitted using it in the last six months preceding the interview. methamphetamine file and. Most experiments with methamphetamine were reported in early adulthood (66.6 % respondents at UNIVLJ, 49.0 % respondents from MU). In most cases at both universities, these were 1-3 experiments (see Table 8.). All characters examined for methamphetamine experiences showed statistically significant differences between respondents at the universities.

Table 8: Frequency of methamphetamine use during life (only for those who ever used methamphetamine)

Group	**UNIVLJ** (n=6)	**MU** (n=427)
Answer	%	%
1 - 3 x	66,6	47,3
4 - 10 x	16,7	20,8
More than 10 x	16,7	31,9
Total	100,0	100,0

While the prevalence of meth use did not show any statistically significant differences between the sets of UNIVLJ and MU, the analysis of prevalence of other amphetamine-type stimulants (Energising amines) portrays a very different situation. Nearly three times more respondents of UNIVLJ (5.7 %) than respondents from MU (2.1 %) had at least one experience with Energising amines during their life ($p < 0.001$, x^2). A comparable difference between the sets of UNIVLJ and MU (again, more respondents from UNIVLJ - 1.9 % versus 0.5 % at MU, $p < 0.05$, Fisher exact test) is visible in the use of Energising amines in the last half year. Statistically significant differences were also observed at the frequency of Energising amines consumption (see Table 9.). While 55.6 % of MU users have tried Energising amines no more than 3 times in their lifetime, 60.0 % of UNIVLJ users had used these substances more than 10 times.

Table 9: Frequency of ephedrine, amphetamine and similar Energising substances use without a prescription during their lives (only for those who have ever used such substances)

Group	**UNIVLJ** (n=15)	**MU** (n=178)
Answer	%	%
1 - 3 x	13,3	55,6**
4 - 10 x	26,7	23,0
More than 10 x	60,0	21,4**
Total	100,0	100,0

Volatile substances for deliberate inhalation

In the case of volatile substances, most statistically significant differences in their use were found among UNIVLJ and MU respondents. Vastly more UNIVLJ respondents (5.7 %), compared to MU respondents (1.5 %) have had at least one experience in life with these substances ($p < 0.001$, x^2). As shown in Tables 10a - 10b, the same applies to their use in the last month and six months (again, more respondents from UNIVLJ, $p < 0.01$, Fisher exact test).

Table 10a: Use of volatile substances in the last 6 months

Group	**UNIVLJ** (n=262)	**MU** (n=9993)
Answer	%	%
No	98,5	99,8
Yes	1,5	0,2**
Total	100,0	100,0

Table 10b: Use of volatile substances in the last 30 days

Group	**UNIVLJ** (n=262)	**MU** (n=9993)
Answer	%	%
No	98,9	99,9
Yes	1,1	0,1**
Total	100,0	100,0

Table 10c: Frequency of using volatile substances for deliberate inhalation during life (only for those who ever used these substances)

Group	**UNIVLJ** (n=15)	**MU** (n=135)
Answer	%	%
1 - 3 x	60,0	66,7*
4 - 10 x	33,3	18,5
More than 10 x	6,7	14,8
Total	100,0	100,0

Heroin and other opiates (morphine, codeine, drugs containing opiates without a prescription)

In terms of relative frequency, UNIVLJ and MU respondents differ in the use of heroin (UNIVLJ 1.1 % during life vs. MU 0.4 %; in the last six months: UNIVLJ 0.4 % vs. MU 0.1 %) and other opiates (during life, UNIVLJ 1.1 %.vs. MU 2.0 %). However, there was no statistically significant difference, thus it cannot be claimed that respondents from one university have significantly more or less experience with heroin and similar substances than respondents from the other university.

Means of inducing sleep and calmness, without a prescription

Medication with a calming effect (to induce sleep, calm, relieve pain, fear) without a prescription was tried at least once in their lifetime by 9.9 % UNIVLJ respondents and 7.6 % MU respondents. In the last six months these means have been used by 3.8 % of the UNIVLJ set and 2.6 % of the MU group. The respondents of both universities stated these were mostly 1-3 experiments (50.0 % UNIVLJ, 44.0 % MU). In all these cases, there were no statistically significant differences between the universities.

Ecstasy

More UNIVLJ respondents (13.0 %) than MU (9.0 %, $p < 0.05$, x^2) tried ecstasy at least once during their lives. The difference in use of ecstasy in the last six months was not statistically significant between the sets (1.1 % UNIVLJ vs. 2.1 % MU). For users from both universities these were mostly 1-3 experiments (50.0 % UNIVLJ vs. 58.8 % MU), see Tab. 11.

Table 11: Frequency of using ecstasy during life (only for those who ever used ecstasy)

Group	**UNIVLJ** (n=34)	**MU** (n=875)
Answer	%	%
1 - 3 x	50,0	58,8
4 - 10 x	29,4	23,4
More than 10 x	20,6	17,8
Total	100,0	100,0

Other studied phenomena

One or two meetings with falsified or diluted drugs was mentioned by about one tenth of respondents from each university. Three or more meetings with the "poor quality" drugs was reported by 1.1 % of those surveyed at UNIVLJ and 3.1 % of respondents at MU. If students encountered drug dealers, 16.0 % UNIVLJ respondents vs. 4.1 % MU respondents said that dealers included the university students ($p < 0.001$, x^2). 5.3 % of UNIVLJ respondents, compared to 2.1 % of MU respondents then admitted meeting with a dealer - a student of the faculty same as the interviewee ($p < 0.001$, x^2).

Table 12: Very easy availability of selected drugs

Group	**UNIVLJ**	**MU**
Answer	%	%
Marihuana	72,6	58,1***
Energising amines	4,4	4,3
Cocaine, crack	4,5	1,6**
Hallucinogens	5,9	9,0
Ecstasy	28,2	10,3***
Heroin	11,5	1,1***

Table 12 makes it clear that marihuana as a readily available drug was identified by more than 70 % of those surveyed at UNIVLJ and almost 60 % of respondents at

MU ($p < 0.001$, x^2). Likewise, cocaine and crack are more available to the UNIVLJ respondents than to MU respondents ($p < 0.01$, x^2). Compared with the tenth among MU respondents, ecstasy is readily available for almost a third of UNIVLJ respondents ($p < 0.001$, x^2). The largest difference was found in the availability of heroin, which was identified as a readily available drug at UNIVLJ by 11.5 % respondents compared to 1 % of respondents from MU ($p < 0.001$, x^2).

Table 13: Attitudes towards risky activities (only positive responses listed)

Group	UNIVLJ	MU
Studied characteristic	%	%
Regular smoking of 20 and more cigarettes daily	5,0	6,3
Regular marihuana smoking	9,5	10,1
Experiments with „hard“ drugs	3,4	5,4
Experiments with hashish, hallucinogens, ecstasy	10,3	24,2***

It is clear from Table 13 that the respondents from both universities are most benevolent to the experimental use of substances with an acceptable risk (the so-called «soft» or «light» drugs such as hashish, hallucinogens, ecstasy). It is also here however, where they also mostly diverge. While the experiment with so-called «light» drugs gained approval by over 10 % of UNIVLJ respondents, there are many more of them at MU, specifically 24 % ($p < 0.001$, x^2). As regards the attitudes towards other risky activities, respondents from both universities 'prefer' regular marihuana smoking before regular smoking of 20 or more cigarettes a day. The least favourable opinion of both universities' respondents was to experiment with so-called 'heavy' drugs.

Summary of research results

Based on the results of drug scene comparison at the University of Ljubljana and Masaryk University in Brno, we can state that:

- For students of both universities, the same incidence was found for alcohol consumption during life (99 %). More students at Masaryk University in Brno have used alcohol in the last week preceding the interview.
- The most popular illegal drug of the students from both universities are cannabis-based drugs, with marihuana as the most commonly used, used at least once in their life by almost 60 % of respondents from both universities and in the last six months 30 % of respondents from both universities. Students of the University of Ljubljana then dominated in all time horizons of hashish or hashish oil use.
- Students of the University of Ljubljana exceed the Masaryk University of Brno students in the use of stimulants (cocaine, energising amines) except for methamphetamine.
- Hallucinogenic mushrooms and other hallucinogens are used by more students at Masaryk University in Brno.
- Sniffing inhalants is more widespread among students at the University of Ljubljana.
- Lifetime prevalence of Ecstasy use is higher among students at the University of Ljubljana.

- Lifetime prevalence of Ecstasy use is higher among students at the University of Ljubljana.
- Four times more students of the University of Ljubljana than students of Masaryk University Brno admitted meeting with a dealer - a student of their university.
- More respondents at the University of Ljubljana identified marihuana, cocaine, ecstasy and heroin as a readily available drug.
- Students of Masaryk University in Brno have considerably more benevolent attitude to experimenting with "light" drugs (hashish, hallucinogens, ecstasy).

Analysis of hypotheses

Hypothesis 1: A higher prevalence of cannabis in the last six months is found among the students at Masaryk University in Brno than among students at the University of Ljubljana.

Slightly more respondents at the University of Ljubljana (30 %) than respondents of Masaryk University (28 %) had used marijuana within the last six months preceding the interview. The use of hashish or hashish oil during the last six months was admitted by more respondents from the University of Ljubljana (12 %) than respondents from Masaryk University (8 %). A statistically significant difference between groups was observed only for the use of hashish or hashish oil ($p < 0.05$, x^2). Moreover, University of Ljubljana respondents prevailed in the use of these substances over the respondents from Masaryk University, thus we conclude that this hypothesis **has not been verified**.

Hypothesis 2: The prevalence of experiences with methamphetamine is greater among the students at Masaryk University in Brno than among students at the University of Ljubljana, in all examined periods.

2.3 % of those surveyed at the University of Ljubljana have tried methamphetamine at least once during their lives, 0.8 % of the respondents admitted using it consistently in the last six months and one month. The Masaryk University respondents have used methamphetamine at least once during the life in 4.4 %, 1 % in the last six months and 0.5 % of respondents in the last month. The results show that a difference among respondents of the universities is especially obvious in lifetime prevalence of methamphetamine use (higher among Masaryk University respondents). Since no statistically significant difference between the sets was found among all studied phenomena, the hypothesis **has not been verified**.

Hypothesis 3: A lower prevalence of ecstasy use in the last six months is found among students at the University of Ljubljana than among students of Masaryk University in Brno.

The prevalence of ecstasy use among those surveyed at Masaryk University is two times higher (2.1 %) than among those surveyed at the University of Ljubljana (1.1 %), yet without a statistically significant difference, the hypothesis was therefore **not verified**.

Hypothesis 4: Heroin is a more accessible drug for students of the University of Ljubljana than for students of Masaryk University in Brno.

Heroin is easily available for 11.5 % of respondents at the University of Ljubljana compared to 1.1 % of the respondents from Masaryk University in Brno. Since this considerable variety in the answers of respondents from both universities produced a statistically significant difference ($p < 0.001$ %, x2), we can conclude that the hypothesis **was verified**.

Discussion

Although a questionnaire was chosen as the most suitable method for quantitative research, there are some drawbacks and limitations that should be taken into account. The main disadvantage of the questionnaire is, that it is virtually impossible to ascertain the veracity of responses. Another disadvantage may be in incorrectly or incompletely answered questions of the questionnaire, resulting in a narrowing down of the research sample (*Denscombe, 1998*). The last-mentioned drawbacks, however, occurred only minimally in the actual research.

Certain limitations of research may be instituted by small sample size, which included 262 respondents. Although they almost all the faculties of the University of Ljubljana (with the exception of the Faculty of Theology) were represented in the research set, some faculties were only represented by one or two students, making it impossible to compare with the same faculties in the set of the Masaryk University in Brno. Other limitations of this study can be seen in the chosen method of "snowball sampling". It is a purposive sampling method, which has a limited degree of general validity (*Pelikán, 2004*). For this reason, we see a possible recommendation for future research in obtaining data from a larger number of respondents who would be chosen by random selection. Acquisition of data would also be easier through an online questionnaire based on a specific web address. The data acquired this way would be then stored and processed through a collecting database.

Drug Epidemiology Research carried out among young people in Europe (ESPAD), the general population (various national surveys), and university students (e.g. the "Description of the drug scene at MU, and proposals for preventive measures), point out the differences between genders in the extent of drug use. Although these differences have recently began to diminish, especially in the school population, it still holds that drug use is more widespread among men than among women. The only exceptions are antidepressants (sedatives, hypnotics), where women exceed men (*NMSDDZ [online], 2007; Kachlík, Havelková*, 2007).

The reason for such results may be the current trend, where according to recent reports about a gradual levelling out of differences between genders, especially in terms of lifetime experience with the use of drugs among youth, that is, the school population (*NMSDDZ [online], 2007*). This trend is also being felt in the university population. In the future, a gradual levelling out of differences between men and women (in the sense of increasing drug use prevalence among women) could lead to a significant increase in the overall prevalence of drug use.

The reason for difference equalisation between genders may be in the general characteristic of today's society, which changes considerably the status of women, traditional for centuries. Today's emancipated woman is no longer just a housewife as pre-

viously, but occupies a position in modern society, which becomes increasingly approximated to men. This may be even more pronounced in the more developed countries, which undoubtedly include Slovenia. This presumption can be affirmed by the research conducted at the University of Ljubljana and Masaryk University in Brno.

While in most cases, significant differences in drug use between genders were not detected among the students at the University of Ljubljana, the students of the Masaryk University in Brno have shown the exact opposite. Men are according to these studies more frequent users of marihuana, while women are more casual users of the drug. This may be primarily due to the fact that women are more cautious in the use of addictive substances and also because they are more aware of the risks and negative impacts associated primarily with more frequent or regular drug use. (*Kachlík, Havelková, 2007*)

Since there is no research on drug use among the university population in Slovenia, which would be comparable to the studies conducted at the Masaryk University in Brno in 2006, the formulation of hypotheses was based primarily on the results of the ESPAD national research in the general population as well as information available from the 2008Annual Report issued by the EMCDDA, mapping the drugs issues in Europe. Based on these findings, four hypotheses were suggested, of which only one (fourth) has been verified. Let us analyze the conclusions drawn from those hypotheses that have not been verified.

A very surprising finding was revealed for the first hypothesis, in which it failed to prove that the students of Masaryk University in Brno have a higher prevalence of cannabis in the last six months than students at the University of Ljubljana. This hypothesis was mainly based on data from the EMCDDA's Annual Report for 2008, according to which the Czechs aged 15-34 years (university students best fit within this age group) are among the nations with the highest prevalence of cannabis use in Europe (*EMCDDA [online] , 2008*).

Czech university population differs in its drug use from the general population, but in reverse than we expected. While the prevalence of marihuana use over a time horizon of 30 days is 16 % for Masaryk University students, the general population aged 15-34 years has 10 % (*EMCDDA, [online], 2008*). This unflattering finding should have meant an even more pronounced difference in cannabis use among students of different universities. The reason why this was not so may be in the fact that the extent of cannabis use (mainly hashish) among students at the University of Ljubljana is also significantly higher than in the general population.

Another quite unexpected finding came from the analysis of the second hypothesis, since it has not been verified that Masaryk University students have more frequent experience with methamphetamine than students at the University of Ljubljana. This hypothesis was examined in three time periods of methamphetamine use, and only the first one of them (lifetime prevalence) showed a greater difference in relative in response rates between students of different universities. Although respondents of Masaryk University nearly doubled over the respondents from the University of Ljubljana, there was no statistically significant difference, which is influenced primarily by the methodological aspect of this research, namely a small sample of students at the University of Ljubljana.

For other examined time periods, methamphetamine use (during the last six months and one month) only minimal frequency of positive responses has been repor-

ted (which can be considered negligible), moreover without major differences between respondents from various faculties. This may mean that university students are aware of all methamphetamine risks, and that is why most of them avoid it.

The last hypothesis that was actually verified, did not as the only one concern drug use, but their availability, in this case, the availability of heroin. Confirmation of this hypothesis clearly showed that Slovenia as a country of the former Yugoslavia, which formed an integral part of the so-called "Balkan route" and today lies rather on its sideline, is still severely affected by this heroin transit route from Afghanistan.

Conclusion

The aim of this study was to analyze the extent of use of addictive substances in a sample of university population. The main objective was the comparison of results of the drug scene analysis at the University of Ljubljana, with the results of similar studies that were conducted among students at Masaryk University in Brno in 2006 in the project "Description of the drug scene at MU, and proposals for preventive measures' by authors *Kachlík and Havelková (2007)*.

Comparison of the drug scene at the University of Ljubljana and Masaryk University in Brno was carried out through four hypotheses. Of these only one has been verified - one which presumed greater availability of drugs among students at the University of Ljubljana. It was established that heroin is a readily available drug for students at the University of Ljubljana rather than for students at Masaryk University. Since the remaining hypotheses were not verified, we can state that Masaryk University students do not exceed students at the University of Ljubljana in the use of cannabis during the last six months preceding the interview. Furthermore, there was no evidence that the students at Masaryk University in Brno have a higher prevalence of methamphetamine use in all reporting periods than students at the University of Ljubljana. Another unverified hypothesis assumed that compared to students at Masaryk University in Brno, students at the University of Ljubljana showed lower prevalence of ecstasy in the last six months preceding the interview.

Although most of the hypotheses were not verified, statistically significant differences were found in the extent of drug use among students of the two universities, and on this basis the following conclusions were reached:

- Compared to students of Masaryk University, students from the University of Ljubljana clearly dominate in all studied time periods of using hashish or hashish oil.
- Students of the University of Ljubljana also exceed students of Masaryk University in the extent of use of all stimulants (cocaine, energising amines) except methamphetamine.
- Another difference was found in the range of use of volatile substances whose use is again more widespread among students at the University of Ljubljana.
- Conversely, hallucinogenic mushrooms and other hallucinogens are used by more students at Masaryk University in Brno.
- In the overall perspective on the drug scene of both universities one can say that almost all students have ever drank alcohol.

- The most popular illegal drugs of the students from both universities contain cannabis, where marihuana was the most commonly used, consumed at least once in their life by consistently almost two-thirds of both universities' respondents and roughly one-third of from both universities in the last six months.

The results of the surveys that were conducted at both universities clearly showed that drug use is currently present in the university population, to the extent that it is not negligible. In many cases, an even higher prevalence of substance abuse was found among university students than in the general population or among young people. If we realize that many university students work with young people or patients after graduation in their professions and they are perceived as authorities by the public, then these findings are particularly alarming.

This paper is one of the first attempts in the Czech environment to compare the extent of drug use among university students in two different states of the European Union. For this reason, we recommend pursuing further studies of the same nature carried out regularly at European level, as is the case with the ESPAD study.

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SONDA DO VYSOKOŠKOLSKÉ DROGOVÉ SCÉNY VE SLOVINSKU A JEJÍ SROVNÁNÍ SE SITUACÍ V ČESKÉ REPUBLICE

Abstrakt: Pomocí anonymního dotazníkového šetření byla provedena sonda do drogové scény Univerzity v Lublani, data byla statisticky analyzována a porovnána s výsledky obdobné studie realizované v roce 2006 mezi studenty Masarykovy univerzity Brno. Ze srovnání drogové scény na obou univerzitách vyplynula mimo jiné snadnější dostupnost opiátů pro slovinské vysokoškoláky, vyšší frekvence jejich konzumace konopných a stimulačních drog a těkavých látek. Brněnští vysokoškoláci zase častěji konzumují halucinogeny, zejména halucinogenní houby. Nejoblíbenějšími ilegálními drogami studentů obou univerzit se staly konopné drogy, zejména marihuana. Užívání návykových látek je aktuálně přítomné ve vysokoškolské populaci, a to v rozsahu, který není zanedbatelný. Pokud si uvědomíme, že mnozí vysokoškolští studenti po absolutoriu ve svých profesích působí na mládež a že pro veřejnost představují autority, pak jsou tato zjištění obzvláště alarmující.

Klíčová slova: Česká republika, dotazník, drogová scéna, návykové látky, Slovinsko, srovnání, student, univerzita