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# Adolescent Alcohol Consumption in Romania: A Blueprint for Measuring Alcohol (mis)Use

Joris J. van HOOFF<sup>1</sup>, Marit MOLL<sup>2</sup>

## Abstract

In order to address the issues of adolescent alcohol (mis)use in Romanian cities and to develop local alcohol prevention policies comprised of interventions aimed at reducing alcohol consumption and alcohol related problems, information on the prevalence of alcohol use and relevant related topics is needed. This approach was pre-tested in the city of Pitești, (within the first Romanian local alcohol policy project; DRAIN), but can be used in other Romanian cities or research projects as well. For this study we have constructed a compact questionnaire and easy to execute data collection method, that can be used and analysed by (for example) local universities in collaboration with their local council. We selected relevant questions from the international, and validated, ESPAD questionnaire 2003 and added specific Romanian and local topics. A stratified sample of 1,500 students was drawn, 50 classes in total and 3 classes per school (assuming that each class contains about 30 students), using type of school, grade and path as stratifiers. A total of 1,026 questionnaires were used for data analysis. Pitești's youth generally starts drinking at a young age and many of them are currently regular drinkers. This pattern is worrisome, since early onset of drinking and regular drinking as a teenager increases the chances of developing health risks and an addiction to alcohol later in life. This study supports the theory that peers influence teen drinking and also shows that the norms of parents are (too) liberal. Compared to Romanian youth, Pitești's youth tends to drink a bit more. Parents should set the norm of 'no alcohol until the (legal) age of 18' for their children. Also no alcohol should be sold to or bought for adolescents under the age of 18 and no alcohol outlets should exist within 200 metres of high schools, as Romanian alcohol legislation stipulates. Within the alcohol prevention project DRAIN, the results of this questionnaire were used to develop 'tailor-made' alcohol legislation.

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*Keywords:* alcohol; Romania; adolescents; prevalence; attitudes; availability; consequences.

## **Introduction**

Alcohol use is broadly embedded in today's social system and culture, and has a long tradition in human history. But, consuming alcohol is not without risks, alcohol use is undoubtedly related to and cause of a broad range of diseases, especially in the whole digestive tract (from mouth to rectal area), liver, and heart (e.g., Baber et al., 2003 and Anderson et al., 2009). Alcohol use is also related to for example higher body weights (BMI increase), traffic accidents, injuries, and deaths in general, unemployment and poisoning. Unfortunately its impact on people with low socio-economic status and/or living in low-income countries is even greater (Rehm et al., 2009). Despite the possible short-term joyful effects of alcohol use, these (avoidable) risks should not be overlooked. Especially since alcohol use in adolescents has even more devastating health drawbacks, mainly because adolescents' brains are still under construction. Using alcohol while the brain is still developing (until about the age of 24 years-old) causes suboptimal brain development (Tapert, et al., 2003). Also, school performances decrease when using alcohol, violence may occur, accidents may happen, and adolescents might suffer from alcohol intoxication (Macdonald, et al., 2005).

## **Alcohol in Romanian culture**

Statistics show that the recorded sale of alcohol in Romania increased from about 6 liters of pure alcohol per capita in 1960 to a peak of almost 13 liters per capita in 1981 (age 15+) (Eurocare Romania profile, 2007). Since then a steadily declining trend is recorded until 2003 (approximately 9.7 liters) (WHO Core Health Indicators database, 2008). The practice of home brewing of *țuică* (plum brandy with an alcohol percentage of about 40% up to even 80%), makes it very difficult to measure the exact level of alcohol consumption in Romania. Unrecorded alcohol consumption is estimated to reach an additional 4 liters of pure alcohol per capita, which is much higher than in other parts of the world (Popova et al., 2006; Anderson & Baumberg, 2006). The consequences of this high amount of alcohol intake are visible in the standardized mortality rates (per 100,000 inhabitants) due to alcohol related illnesses in Romania: 175.06 for Ischaemic heart disease, 37.09 for liver cirrhosis, 5.72 for mouth and oropharynx cancer, 5.10 for accidental poisonings and 3.38 for alcohol use disorders (WHO global status report on alcohol, 2004). The hepatotoxic compounds in illegally-produced spirits may be partly responsible for the high mortality rate of, for one, liver cirrhosis

(Szücs et al., 2005). General practitioners and the local clergy report that about 60% of the inhabitants in rural communities have alcohol related problems or related medical conditions (WHO global status report on alcohol, 2004).

### **Adolescent alcohol consumption in Romania**

Alcohol is the most prevalent substance used among early and late adolescent youth, also in Romania (Hibell et al., 2004; Johnston et al., 2006). Alcohol consumption by young people may cause a variety of disorders, diseases, and other drawbacks. Drinking, especially at an early age, leads to a variety of social and health problems, including problem behaviours, crime, accidents, fights, neurological deficiencies, intoxication, poor school performance and an increased likelihood of later alcohol dependence (Brown et al., 2000; Ellickson et al., 2003; Warner & White, 2003; Tapert et al., 2003; Sindelar et al., 2004; Macdonald et al., 2005; Van Hoof et al., 2010).

In the ESPAD 2007 survey (Hibell et al., 2009), one of the few international surveys on youth alcohol consumption Romania participates in, 74 percent of Romanian students aged 15 and 16 indicated to have drunk alcohol in the past 12 months (average 82% in Europe). In Romania, as in many other countries, boys turn out to be more severe drinkers compared to girls. An average of 25% of all students (37% of the boys and 14% of the girls) reported to have been drinking alcohol on three or more occasions in the past month, a much smaller percentage reported to have become drunk because of this (17% boys, 5% girls and 10% on average). The proportion of students reporting to being drunk in the past 12 months is lower than the European average (26% versus 39% in Europe). 12% of adolescents have been drunk before the age of 13, also here boys are represented more; 20% of boys and 6% of girls. This makes Romanian youth moderate drinkers compared to youth in, for example, Western Europe. However, Romanian students are rather prone to giving social desirable answers, which means that the level of (initiation of) alcohol use is probably higher than what is reported (Hibell et al., 2009).

### **The influence of parents and peers**

Parents should not underestimate the influence they have on their child when it comes to alcohol use. A high-quality parent-child relationship (when the child is securely attached, feels close to their parents and can talk easily about personal worries) has a significant influence on alcohol use patterns at young ages (Rose et al., 2001). This good relationship between parents and their child will trigger a sequence of healthy developments related to alcohol (mis)use, such as postponed

alcohol onset ages, lower alcohol consumption in general and perhaps even fewer alcohol-related problems later in life (McNally et al., 2003). Recent studies indicate that a later onset of alcohol consumption in childhood or adolescence is a very important premise if parents want to prevent further alcohol related problems for their child later in life. If the parents–child relation is of low quality, the influence of the parents on the child’s drinking behaviour diminishes and peers become more influential also because youth will spend more time hanging out with peers (Kuntsche et al., 2009). In general, young people tend to associate with like-minded individuals as friends; like will to like. It’s known that also related to alcohol (mis)use, peers have or evolve the same patterns (Baumann & Ennett, 1996; Fowler et al., 2007). The peer selection mechanism gets even stronger over the years (Parra et al., 2007), therefore it is evident that parental bounding should last as long as possible, in order to prevent that peers remain as the single only reference. Especially since adolescents tend to overestimate the alcohol consumption of their friends (Komro & Toomey, 2002). This causes them to start drinking according to this perceived excessive pattern to ‘fit in’ (Fowler et al., 2007).

### **Measuring adolescent alcohol consumption**

In order to address these issues of adolescent alcohol use in Romanian cities and to develop interventions aimed at reducing alcohol (mis)use, information on the prevalence of alcohol use and relevant related topics is, of course, needed. For this study we have constructed a compact questionnaire and easy to execute data collection method, that can be used and analysed by (for example) local universities in collaboration with their local council. In the following chapters we report on the development and results of this student survey that was pre-tested in the city of Pitești, (within the first Romanian local alcohol policy project; DRAIN), but it can easily be altered to be used in other Romanian cities or research projects as well.

## **Method**

### ***Questionnaire***

First, in order to explore alcohol (mis)use, we used the international, and validated, ESPAD approach (questionnaire 2003). Both Romanian and Dutch researchers have selected relevant topics from this (elaborated) questionnaire which could be used to measure prevalence of alcohol (mis)use, age of onset, perceived availability of alcohol, attitudes towards alcohol use, (perceived) consequences of alcohol use, social influence (both peers and parents) and background

characteristics. Second, a set of specific Romanian and local questions was added to the original questionnaire, such as the consumption of home brewed alcohol and the local hotspots for young people to hang out (and consume alcohol). The final questionnaire consisted of four sections: *alcohol consumption* (8 main and 37 sub questions), *attitudes on alcohol* (5 main and 53 sub questions), *alcohol availability & social influence* (7 main and 47 sub questions) and *background characteristics* (8 questions).

**Respondents**

Pre-research from the local School Inspectorat showed that the city holds about 15.000 high school students, spread through 17 high schools (590 classes), see Table 1. Students aged 15 to 18 years-old (target population) attend these schools in grade IX till XII (there is one additional year for some, grade XIII). There is a large diversity in the type of schools and the type of tracks pupils take within these schools (Eurydice, 2008). Therefore we drew a stratified sample of 1.500 students, 50 classes total and 3 classes per school (assuming that each class contains about 30 students), using type of school, grade and path as stratifiers.

*Table 1: Population of classes in Pitești high schools, stratified on school path and grade*

School path / Class	IX		X		XI		XII		XIII		Total	
		%		%		%		%		%		%
Technological lyceum	44	32.4	43	31.2	41	30.4	53	35.3	0	-	181	30.7
Theoretic lyceum	47	34.6	52	37.7	57	42.2	61	40.7	0	-	217	36.8
Progressive route	0	-	0	-	0	-	27	18.0	26	83.9	53	9.0
School of art and profession	40	29.4	41	29.7	32	23.7	0	-	0	-	113	19.2
Evening or after job studies/reduced frequency lyceum/without frequency lyceum/post-lyceum	5	3.7	2	1.4	5	3.7	9	6.0	5	16.1	26	4.4
Total	136	23.1	138	23.4	135	22.5	150	25.0	31	5.3	590	10.0

Source: Pitești’s School Inspectorate, 2008

**Data collection procedure**

After the sampling of classes, all local school directors were personally contacted by the data collection manager of the University of Pitești (UPIT) to inform them of the desired sample and to emphasize the approval of the School Inspectorat for the study. The director of each school was asked to select the three classes which met the selection criteria for his / her school. The anonymous paper

and pen questionnaire was administered in selected class rooms during a regular school hour in May 2008, no written consent of parents was required. Students that were absent during the data collection were not revisited. All high schools and classes approached, participated in the study. The selected classes comprised a total of about 1.300 students. During the data collection, 247 students were absent (41 students were absent because they are excellent students and they were following classes elsewhere, 100 students were absent with a legitimate reason (such as sickness), 1 student was expelled from school and 105 students were truant), 4 students refused to participate and 2 students did not complete the questionnaire correctly. The total number of questionnaires that were entered into SPSS software was 1,048 (response rate 80.6%). After data cleaning 1,026 questionnaires were useable for data analysis, 22 questionnaires were excluded because students had indicated on their questionnaire that they had not answered all questions honestly (see Table 2).

Table 2: Respondents: stratified on school path and grade (after data cleaning)

	IX		X		XI		XII		XIII		Total	
		%		%		%		%		%		%
Technological lyceum	111	48.3	64	22.4	90	36.4	55	25.2	0	-	320	31.2
Theoretic lyceum	67	29.1	114	39.9	122	49.4	102	46.8	0	-	405	39.5
Progressive route	0	-	30	10.5	0	-	22	10.1	45	100.0	97	9.5
School of art and profession	52	22.6	78	27.3	35	14.2	20	9.2	0	-	185	18.0
Evening or after job studies/reduced frequency lyceum/without frequency lyceum/post-lyceum	0	-	0	-	0	-	19	8.7	0	-	19	1.9
Total	230	22.4	286	27.9	247	24.1	218	21.2	45	4.4	1,026	100

Fewer boys than girls participated in the survey (58% girls versus 42%boys), 5% of students were 15 years old or younger, 22% were 16 years old, 31% were 17 years old, 27% were 18 years old and 15% were 19 or older.

### Data analysis

All data was entered in SPSS statistic software program for Windows. We also used SPSS for data analysis.

## Results

### *Alcohol consumption*

Only 11% of boys and 26% of girls indicate to abstain from alcohol in their lifetime. Our respondents indicated that they started drinking alcohol at a relative young age. Before the age of 13, 37% of the students drank their first glass of beer, 33% their first glass of wine and 24% their first glass of homebrewed alcohol. This resulted in 15% of the students who state to have been drunk (at least once) before the age of 13. Beer and wine are the most preferred drinks, spirits, liquors, mixed-drinks and homebrewed alcohol are consumed less frequent. In the past 12 months, 35% of the respondents consumed beer on more than 10 occasions and 21% drank wine on more than 10 occasions. Most youngsters drink about once a month or every two months on average, 57% drank wine on 1 - 9 occasions, 49% beer, 38% spirits or homebrewed alcohol and 33% mixed-drinks. About 30% of the young students drank excessively on more than one occasion in the 30 days leading up to the survey. They consumed five or more alcoholic drinks on one drinking occasion (so called bingeing or binge drinking). About 5% of the students indicated to do this on regular a basis, in great numbers leading to drunkenness or even intoxications.

### *Availability of alcoholic beverages*

The students participating in this study stated that it is very easy to buy alcoholic beverages in the city, both off-premise (take-away; supermarket, alimentare) and on-premise (consumption; bars, restaurants). Of all students, who are mainly underage; 83% believed that it is easy to get alcohol in discotheques and bars (77%), but also at kiosks (75%), liquor stores (73%) and supermarkets (69%). The most popular bars and discotheques where youth hangs out are all considered to be places where you can easily get alcohol (also for youth which hasn't reached the legal age limit of 18 years yet). Mystery shopping research regarding the compliance of age restrictions for selling alcohol in Pite<sup>o</sup>ti around the same time of the survey, showed that alcohol is sold to under age youth in 100% of their purchase attempts (van Hoof et al., 2009).

### *Social norms regarding alcohol*

Students believe that it would be responsible to take a first sip of alcohol at the age of 14 (8% believes that you should never take a sip of alcohol), a first glass of alcohol at the age of 16 (10% believes that you should never drink a glass of alcohol), regular drinking is considered to be responsible at the age of 18 years-old (44% believes that you should never drink alcohol regularly) and you should



not get drunk before the age of 20 (68% believes that you should never get drunk). A third (33%) of students believe that drinking 1 or 2 drinks a day poses a serious health risk, 55% believes that having 3 or 4 drinks a day is serious and most students (86%) believe that 5 drinks or more a day poses a serious risk to the health of the drinker. More than half of the students (54%) sometimes drink in the presence of one or two of their parents. However, only about 6% of the students believe that their parents approve of their drinking. According to the respondents, most parents forbid consuming alcohol (26%), while others advise against it (20%) or ask for moderation (13%). About 34% of the students indicate that their parents do not know that they drink, or they have at least never discussed it with them. According to students their parents find it more serious when they are misbehaving in public (69% of parents forbids it) or skipping school (67% forbids), than when they are drinking beer (23% forbids) or wine (28% forbids). While parents tend to underestimate the alcohol consumption of their children, youth tends to overestimate the alcohol consumption of their friends (Komro & Toomey, 2002). Comparing the self-reported drinking patterns of students (drinking on three or more occasions in the past 30 days) with the perceived drinking patterns of friends, shows that the perceived drinking pattern of friends is always 5% (spirits) to 21% (beer) higher. Additionally 12% of the students indicate that they drink more when going out with friends. However, not only 'bad' behaviour of friends can influence the behaviour of students. 72% of the students believe that they would drink less (sometimes of permanently) if their friends would not drink for a month or if they would observe negative consequences of drinking in their friends (76%).

### ***Consequences of alcohol use***

Students believe that heavy drinking has serious influences on society and the individual: 89% conceives that heavy drinking is a risk for traffic accidents or other accidents (80%), 76% sees a risk for health problems, 73% for family problems, 72% for violent crime, 66% for relationship problems and 64% for financial problems. The perceived influence of heavy drinking on the students own behaviour, is lower than the perceived impact on society. 70% of students expects to misbehave in public when drinking heavily, 68% expects to get into fights, 59% to be truant, 58% to engage in unsafe sex and 57% to get bad school grades. Of all students, 11% has been involved in a physical fight while under the influence of alcohol, 10% has been in trouble with the police and 3% has been victimized by robbery or theft. Although topics involving sexual content are usually not openly discussed in Romania, our respondents were apparently quite open in this anonymous questionnaire, since 15% of the students indicated to have been involved in sexual activities while under the influence of alcohol. Of all students, 10% participated in unprotected sex because of alcohol use, and about half of them who did so are regretting this. 73% of the students would

expect to drink less, after experiencing negative consequences of alcohol (such as hang overs). Also, when taking part in traffic or having to do a lot of work the next day, alcohol consumption is reported to be reduced. Also bars closing earlier (58%) and alcohol being less easily available for minors in for example supermarkets, is seen as reason to drink less for 67% of the students. In addition to factors which might decrease alcohol consumption, we have also asked what might increase alcohol consumption. Over a quarter of the questioned students (28%) drinks more if they are having a lot of fun, 19% if there are price promotions in bars or discotheques (such as Happy Hours) and 16% would drink more if alcohol would be cheaper. Less influential are drinking when not feeling happy in one's own skin (13%), going out late at night (11%), feeling tensed (8%) and seeing funny alcohol commercials on television or the internet (3%).

## Conclusions

The conclusions of this study are threefold; conclusions related to findings of the survey in Pitești, conclusions on the need for the development of local alcohol youth policy in Romania and conclusions regarding the survey as a blueprint for measuring alcohol use in Romania.

### *Survey findings: the basis for local alcohol policy*

This study revealed that, compared to Romanian youth in general, the respondents participating in our study were drinking more. Within the ESPAD survey (Hibell et al., 2009), 8% of Romanian youth has indicated to have drunk *alcohol* in the past 30 days on 10 or more occasions. In our population 11% of the students drank *beer* on 10 or more occasions in the 30 days leading up to the survey, and also 7% drank *wine*, 5% drank *spirits*, 5% drank *mixed-drinks*, and 5% drank *home brewed alcohol*. Within these groups there might be an overlap, but it's for sure that the local youth has higher consumption statistics than the national average. Not only the recent drinking patterns differ between local and national youth, also the percentage of students that has been drunk before the age of 13, an indication of early onset of alcohol use, is higher. In Romanian youth 12% has been drunk before the age of 13, while this happened to 15% within our respondent population. The gathered data greatly supported the need for the local alcohol prevention project (DRAIN) in Pitești. After presenting the survey results to the local politicians and media the project got a lot of support for its policy action. "*We need this project, because our children are drinking too much, at least, even more than average*".

Parents play a key role in changing the patterns of drinking of their children (Kuntsche et al. 2009). Our respondents indicated to often drink together with

their parents and that their parents generally have a permissive attitude towards youth drinking. By allowing, and sometimes even stimulating, early initiation of alcohol, the foundation for alcohol problems is basically laid out and approved. Parents should set the norm of 'no alcohol until the age of 18' for their children. Based on the findings that parents were not setting healthy norms in Pitești, they were actively involved in the local alcohol prevention project to educate them about the healthy norms to set for their children, parents then aided to the peer-to-peer information campaign of the project, educating other parents about these norms.

Along with the social norms and attitudes towards alcohol use, also the availability of alcohol needs to be addressed. Limiting the availability of alcohol is one of the most effective preventive measures to reduce the use of alcohol, as well as the harm that derives from alcohol use. Alcohol use can most effectively be reduced by controlling the price of alcohol, the assortment of alcohol, the number of alcohol outlets, the compliance and enforcement with alcohol legislations and the intensity of the marketing of alcohol (Anderson & Baumberg, 2006).

Based on the findings that alcohol is widely available for under aged youth, the local alcohol prevention project aimed to set the norm that no alcohol should be sold to or bought for youth under the age of 18 and that no alcohol outlets should exist within 200 metres of high schools, just as the Romanian alcohol legislation stipulates. In cooperation with the police organisations shop owners were informed and trained to uphold this legislation. Additionally the police increased the capacity for the monitoring and enforcement of the legislation.

### ***The need for alcohol policy in Romania***

Although alcohol use by teens and adolescents, alcohol misuse, and alcohol related problems in general are considered to be major health concerns in modern society, very few, -if any- alcohol related prevention programs exist in Romania. National alcohol legislation has been designed, specifying for example that no alcohol can be sold to youth under the age of 18 (Anderson & Baumberg, 2006), but this survey and other local studies in Pitești revealed that compliance with alcohol legislations is very low (Van Hoof, Moll, & Constantinescu, 2009). On the community level the need for local alcohol policies is high, since the project participants and local stakeholders found national alcohol legislation often unclear, difficult to apply or enforce. Already other Romanian communities have shown interest in adopting the strategies from the local alcohol prevention project in Pitești.

### *The questionnaire as a blueprint*

In our opinion, the most important conclusions are those of the benefits and limitations of the survey as a data gathering tool in the context of a local or regional alcohol project. We have successfully developed a questionnaire specifically tuned for Romania, which would be more detailed than the original ESPAD questionnaire. Therefore, we added specific types of beverages, youth hot spots and background questions. This has given us a good insight in what is popular among youth, but the comparison with the ESPAD data is more complex, since the answering categories and patterns are not completely similar anymore.

The data collection method and the data analyses procedure require an experienced researcher to manage it. Someone who is precise and skilled in quantitative research. Preferably this person has ties with the local community, being able to exchange information and work closely together with local schools, the School Inspectorat and policy makers. Also the main researcher should have access to a pool of students, willing to participate in the data collection in classes. The costs for the execution of the study are low, if all people involved volunteer their time. In our survey only envelopes, the copies of the questionnaire and the students that collected the data were paid for. Please note that a detailed scenario for data collection and data analysis is available through the corresponding author Assistant Professor Joris van Hoof.

## **Discussion**

In order for an alcohol prevention policy to be successful contextual factors need to be taken into account. A successful prevention strategy needs to use proven effective methods and approaches. Reducing the availability of alcohol is the most effective strategy. When it comes to availability we can distinguish between economic, physical, legal and social alcohol availability. When designing alcohol policies all these aspects (in combination) might be used. Alcohol prices effects alcohol consumption, high prices reduce consumption (e.g., Babor et al., 2003), but when alcohol discounts are executed, young people drink more alcohol (e.g., Van Hoof, Van Noordenburg, De Jong, 2008). Another tool can be legislation focussing on the number of alcohol outlets, opening hours of bars and restaurants and even on ingredients and tools for home alcohol production. The fewer these items are physically available, and the harder it becomes to get alcohol, the lower the consumption. Third, the government might carry some legal tools; such as age limits on alcohol sales, possession and/or consumption. This is only effective if alcohol sellers comply with this legislation, which is currently not the routine

(Van Hoof, Moll, Constantinescu, 2009). Finally, social availability might to be taken into account. In some parts of Europe, a relative new trend is occurring; young people gathering in private drinking places. Here, lots of alcohol is consumed, and other risk taking activities (such as illicit drug use and dangerous sexual behaviours) take place. People who visit these places turn out to consume more alcohol than those who do not (Korte, Pieterse, Postel, Van Hoof, 2012). In summary, when reducing alcohol availability, different aspects, or in combination, might be focussed at.

In addition to availability, creating awareness of alcohol related issues in the community and support for the policy measures through continuous and intensive media attention is important. The media can have an important role in communicating alcohol and other health related issues in society. A strategic cooperation with the media is therefore necessary.

Identifying the prevalence of alcohol (mis)use and alcohol related problems, especially in adolescents, are a vital element of the local strategy. Doing so, the severity of the alcohol related problems and needs for local alcohol policy can be communicated to local politicians and the public (Holder, 1997; Holder, 1999; Babor et al., 2003; Reynolds, 2003). Early onset of alcohol use is a strong predictor for alcohol related health problems and addiction later in life (Dawson et al., 2006; Grant et al., 2001). Youth that starts drinking before the age of 15 has four times more chance to develop alcohol dependence later in life than youth that postpones the initiation of alcohol until the age of 21 (Grant & Dawson, 1997). The initiation of alcohol use should therefore be postponed as long as possible.

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