

## Alcohol outlets near schools in a midsize Romanian city. Prevalence and characteristics

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**Abstract: Objective:** alcohol availability is one of the strongest predictors of adolescent alcohol use, and subsequent harm. Alcohol outlets near schools are an important indicator of three types of availability related to adolescent alcohol use; physical (number), economic (price), and legal (compliance with age limits). **Method:** two teams with trained students (16 and 17 years old) visited all 37 schools in a 200,000 inhabitant Romanian city (Pitesti). On the spot all alcohol outlets were visited and data was collected on outlet characteristics and visitors. Also, by conducting mystery shopping purchase attempts by the researchers, compliance on the age limits for alcohol sales was tested.

**Results:** a total of 40 outlets were found within a 250 meter distance around 23 schools. Alcohol turns out to be cheap, and commercial alcohol brand signs are dominantly visible. With respect to compliance with the 18-year-old Romanian age limit for alcohol sales, only eight (20%) outlets refused to sell alcohol to under aged decoy customers.

**Conclusion:** adolescent alcohol availability is high on the physical, economic and legal aspect. Pitesti is the first city in Romania where an international alcohol prevention project has started to reduce alcohol related consequences. This project involves all relevant stakeholders, and the first new legislation on this subject had been implemented.

**Key words:** alcohol, availability, adolescents, outlets, school area, mystery shopping, Romania

The Eurobarometer [1] indicates that Europe is the region with the highest per capita alcohol consumption in the world. This high level of alcohol consumption causes also a high level of harm. Harmful drinking is the third largest risk factor of ill health.

For young people the consequences of alcohol use are relatively high. Teenagers don't think about long term consequences; generally spoken they want to distance from their parents and turn to their peers. Also the young body and brain is developing which makes it extra sensitive to the toxic effects of alcohol [2-3]. A study performed by the Romanian Anti Drug Agency [4] shows that no less than 81.8% of respondents aged between 15 and 24 have consumed alcohol at least once in life.

Anderson and Baumberg [5] indicate that over 10% of youth female mortality and around 25% of youth male mortality in Europe is due to alcohol. Also the risk on brain damage for youth is considerable; the young brain is very vulnerable because it is still developing. Alcohol consumption at young age can lead to permanent damage to brain functions and structure. This can lead to learning, concentration and memory problems [6-8]. Binge drinking (drinking high quantities of alcohol in a short amount of time) increases the risk on brain damage [8]. Romania rates second highest country in Europe; 39 % of the people consume over 5 glasses of alcohol at one occasion once or several times a week (binge drinking). This drinking pattern is occurring most frequent among adolescents (15-24

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year olds) in Europe [1]. Considering the high amount of adolescents that drink alcohol in Romania, this is a troubling fact.

Another drawback of starting drinking at a young age is the risk of alcohol addiction in later life; the earlier the onset of drinking alcohol, the bigger the chance on problem drinking or addiction. Grant and Dawson [9] indicated that youngsters that start drinking alcohol before the age of 15 years are four times more likely to develop alcohol addiction than youngsters that start drinking at 21 years old. Further risks of consuming alcohol that account especially for youngsters are: unintentional injuries (such as motor vehicle injuries or falls), violence, black out, unwanted sex or alcohol poisoning [10-14].

The wellbeing of young people is of special concern in all societies and efforts are made to reduce dangerous behaviour like alcohol consumption [15]. The age of onset of drinking alcoholic beverages is, as described before, an important factor on short term as well as long term effects on health. Postponing the onset of drinking alcohol can therefore prevent a lot of alcohol related harm among adolescents [5,16-18]. Almost every country in Europe has designed national legislation to limit the availability of alcohol for adolescents. There is strong empirical support for limiting the availability of alcohol to reduce alcohol related harm for adolescents successfully [16].

Availability, as a predictor of alcohol use, can be differentiate in four different kinds; economic, physical, legal and social availability [17]. Economic availability is determined by the price of alcohol, this factor is very important in determining alcohol consumption [18]. The physical availability can be calculated by the number of alcohol outlets and the opening hours [19]. The legal availability is determined by the official legislation and laws related to alcohol use, this includes legislation and compliance to age limits [20]. The social availability is connected with the presence of alcohol in the social network and the norms and values of the social environment towards alcohol (e.g parents or peers) [21].

The legal availability of alcohol for adolescents in Romania is restricted by the national legislation on alcohol. The legal age limit for buying alcohol in Romania is 18 years of age, which means that it should not be possible for minors to buy alcohol in Romania. The legal availability is increased however by bad compliance to this law. A study performed in Pitesti, Romania, shows that all out of 58 purchase attempts by minors at different alcohol sales points were successful [22]. Also Romania knows a lot of small outlets, of which almost all sell alcohol and you can find many of these shops near schools. This factor increases the physical availability of alcohol.

Availability is an important indicator of alcohol related harm. To be able to prevent more harm it is important to get more insight in the availability of alcohol for adolescents. To investigate this, a study is performed in Pitesti, a Romanian city with almost 200.000 inhabitants. Students visited alcohol outlets in the areas where many adolescents are present; school areas. Three out of four different aspects of availability are investigated in this study; physical, economic and legal availability.

## **Method**

### ***Procedure***

Data were collected using observation research. Two research teams (each consisting of two local students, a boy and a girl, 16 and 17-years of age) collected the data. In a kick-off meeting the researchers were trained for the job. The purpose of the study, the procedure and the instrument were explained. Each team visited two alcohol outlets in the training session. Afterwards, experiences were shared, the instrument was practiced, and a general discussion about the harmful effects of alcohol was conducted.

All schools available in the city were listed by a municipality office employee. The researchers divided all schools over the two teams.

On a school site, the team walked to the school fence. From there they looked around and investigated all alcohol outlets visible (first wave). From the school fence to the alcohol outlet entrance the distance was estimated by "one meter steps". In front of the alcohol outlet a part of the

checklist was filled in, and the checklist was completed into the alcohol outlet (pretending being busy with some school work). In each outlet, the researchers bought a (non alcoholic) drink or a snack. When finished in one outlet, the next outlet was visited, and so on. If new alcohol outlets were spotted when leaving the 'first wave' outlets, these outlets were also incorporated (second wave). When leaving 'second wave' outlets, new visible outlets were not included. If schools have more than one fence, the whole procedure also was conducted at that second fence. Each visit lasted about 15 minutes. The local student researchers received a certificate for their volunteer participation.

### Checklist

The checklist aimed at investigating aspects of economic, physical and legal availability aspects of alcohol and consisted of three parts; (1) characteristics about the alcohol outlets, (2) circumstances with respect to the visit, and (3) some information about the research team. In this section the checklist is presented.

#### (1) Alcohol outlet characteristics involve:

##### - school site nearby specifications

name of the school nearby [open]

distance from school fence to alcohol outlet entrance [open]

##### - outside specifications

youth attractiveness [5 point Likert scale] + motivation [open]

number of alcohol brand signs [ordinal]

price promotions signs [description]

age limit sign present [dichotomous; yes /no]

opening hours sign present [dichotomous; yes /no]

opening hours [7 times open]

##### - inside specifications

number of visitors [ordinal]

type of visitors [students / working people / elderly / other...]

age of visitors [youngest ... / oldest ... / average ...]

gender of the visitors [male % and female %]

alcohol consumption behavior [alcohol drinking %]

number of alcohol brand signs [ordinal] + description [open]

age limit sign present [dichotomous; yes /no]

alcohol policy sign present [dichotomous; yes /no]

facilities [5 times dichotomous + 3 open]

products prices and description [open questions for beer, wine, cocktail, strong liquor, home brewed, soda, sweet snack, salt snack, meal]

possibility to purchase alcohol while under aged + other remarks [open]

#### (2) Visit characteristics involve:

- day of visit [ordinal]

- timeframe of visit [ordinal]

#### (3) Research team background variables are the names, ages, gender and High School of the researchers

### Data analysis

The student research teams collected the data on checklist handouts, and entered the data in Microsoft Excel. From there, the data files were combined and exported to SPSS 16.0 for Windows and analyzed.

### Results

Out of the 37 schools in this city, 23 schools turned out to have alcohol outlets very near the school area. The number of outlets goes from 0 up to 8 for a single school (see also Table I) up to a total of 40 alcohol outlets. All these 40 outlets are within a 250 meter distance from school fence to alcohol outlet door, varying from 10 meters up to 250 meters (average is 79 meters).

The 40 outlets are judged to be rather attractive to young people by the researchers. For none of the outlets the attractiveness was labelled "not at all" by the visiting students. Over a third of the outlets was labelled "highly" or "very highly" attractive for young people. Also, most outlets (n=36) have commercial alcohol brand signs on the outside, and three outlets have advertising for price promotions (Table II). Four outlets have an age limit sign on the outside, but the under aged mystery shoppers were allowed to go inside without any problem or questions from the personnel.

**Table I: school names and number of outlets near school area**

<b>School name</b>	<b># of outlets</b>
<b>(N = 37)</b>	<b>(N = 40)</b>
C.N.I.C. Bratianu	12
C.N.L. Zinca Golescu	6
C.N.L. Ion Barbu	1
Colegiul National Maria Teiuleanu	1
Colegiul Tehnic "COSTIN D. NENITESCU"	1
Dinu Lipatti	1
Grup Scolar Astra	1
Grup Scolar Ion Cantacuzino	1
Grup Scolar Mihai Viteazul (CFR)	1
Liceul "Dacia"	1
LICEUL CU PROGRAM SPORTIV	1
SC NR 11 "Mihai Eminescu"	1
SC NR 15"Adrian Paunescu"	1
SC NR 3 "Ion Minulescu"	2
SC NR 4 "Mircea cel Batran"	1
SC NR 19	1
SCOALA CU CLASELE I-VIII NR. 18	1
SCOALA CU CLASELE I-VIII NR. 6	1
SCOALA CU CLASELE I-VIII NR. 8	1
SCOALA CU CLASELE I-VIII NR.3 ION PILAT	1
SCOALA CU CLASELE I-VIII NR.5 NICOLAE IORGA	1
SC NR 10	1
SC NR 1 "Nicolae Simonide"	0
SC NR 2 "Ion Minulescu"	0
SC NR 9	0
SC NR 12	0
SC NR 13 "Mircea cel Batran"	0
SC NR 14 "Alexandru Davila"	0
SC NR 16	0
SC NR 17	0
SC NR 20	1
Colegiul Tehnic Dimitrie Dima	0
Grup scolar Industrial Constructii nr. 2	0
Grup Scolar de Industrie Usoara ARMAND CALINESCU	0
CNL "Al Odobescu"	0
Liceul penticostal "Elim"	0
SC NR 7	0

**Table II.** Outside specifications of the outlets

<b>Alcohol outlet characteristics (N = 40)</b>	
<b>Youth attractiveness</b>	<b># (%) motivation</b>
Not at all	0 (0)
A little	9 (23)
Normal	17 (43)
High	9 (23)
Very high	5 (13)
<b>Number of alcohol brand signs</b>	<b># (%)</b>
0	6 (15)
1	10 (25)
2	5 (13)
3	5 (13)
4	1 (3)
5	2 (5)
6	2 (5)
7	1 (3)
8	2 (5)
9	0 (0)
10	0 (0)
>10	6 (15)
<b>Price promotion signs: 37 times 'no' / 3 times 'yes'</b>	
- happy hour: every drink half the price	
- Jack Daniels + energy drink for 10 LEI	
- Pizza + two beers for 10 LEI	
<b>Age limit sign present: 36 times 'no' / 4 times 'yes' (10%)</b>	
<b>Opening hours sign present: 5 times 'no' / 35 times 'yes' (88%)</b>	

In 35 outlets the youngest visitor is estimated under 18 years old. About half (53%) of the visitors in the 40 outlets are male (Table III). In 34 outlets students were spotted inside (Table III). Inside, also in 34 outlets commercial alcohol brand signs are visible. Only in five outlets an age limit sign is visible, but twelve outlets have some information on alcohol policy displayed. In general, drinks and food is rather cheap. Sometimes a beer can be bought under 2 LEI (which is under € 0.5 or under \$ 0.65), and a wine starts at 4 LEI (which is under € 1.0 or under \$ 1.30). About 20% of the people are consuming alcohol while we visited the outlets.

The young (16 and 17 years-of-age) researchers asked for a beer before they bought a soda.

Only eight times (20%) they were refused because of their age. In the other 80% they were allowed to buy (and consume) alcohol despite their young ages.

## Discussions

It seems that the economic, physical and legal availability of alcohol around school sites for adolescents in Pitesti is a point of concern. This study shows that alcohol is easily available and widely present in the school environment of children. It seems to be the case on different aspects of availability.

In Pitesti alcohol outlets close to school sites are not an exception. There is often a high density of alcohol outlets near schools which are often (judged by student researchers) attractive for young people. In addition to the rather high number of alcohol outlets which represents physical availability, this study also shows that economic availability of alcohol is high. Alcoholic beverages are fairly cheap, which makes it economical available. Maybe of most concern is the legal availability of alcohol in Pitesti. A legal law is present in Romania which forbids selling to adolescents under 18. Consequently, the legal availability for minors seems low; unfortunately the

compliance to this law often fails. Most of the alcohol outlets (n = 32) in this study sell alcohol to minors, which represents a compliance rate of only 20%. In 2009, however a mystery shop study was conducted in Pitesti which shows 0% of compliance to the age limit law [22].

**Table III Inside specifications of the outlets**

<b>Alcohol outlet characteristics (N = 40)</b>	
Number of visitors	# (%)
1- 5	4 (10)
6 - 10	7 (18)
11 - 15	13 (33)
16 - 20	7 (18)
21 -25	3 (8)
26 - 30	3 (8)
> 31	3 (8)
Type of visitors	# (%)
Students only	23 (58)
Working people only	5 (13)
Elderly only	0 (0)
Mixed, including students	11 (28)
Mixed, without students	1 (3)
Age of visitors	
	Youngest: 8 - 25, average: 15.9, 35 times younger than 18 years of age
	Oldest: 18 - 60, average: 30.2
	Average: 17 - 38, average: 22.4
Gender of the visitors	
	Male 53%
	Female 47%
Alcohol consumption behavior	
	Alcohol drinking 20%
	No alcohol drinking 80%
Number of alcohol brand signs	# (%)
0	6 (15)
1	5 (13)
2	5 (13)
3	10 (25)
4	3 (8)
5	2 (5)
6	1 (3)
7	2 (5)
8	2 (5)
9	0 (0)
10	0 (0)
> 10	4 (10)
Age limit sign present:	35 times 'no' / 5 times 'yes' (12.5%)
Alcohol policy sign present:	28 times 'no' / 12 times 'yes' (30%)
Facilities	
	Tables: 35 outlets (87.5%)
	Chairs: 35 outlets (87.5%)
	Bar: 33 outlets (82.5%)
	Television: 25 outlets (62.5%)
	Music: 30 outlets (75%)
	Billiard: 6 outlets (15%)
	Darts: 4 outlets (10%)
Products prices	
	Beer: available in 38 outlets, price: 1.7 - 11.0 LEI (bottle)
	Wine: available in 37 outlets, price: 4 - 45 LEI (glass) and 9 - 299 (bottle)
	Cocktail: available in 19 outlets, price: 5 - 26 LEI
	Strong liquor: available in 32 outlets, price: 3.5 - 45 LEI
	Home brewed drink: available in 2 outlets, price: 6 - 14 LEI
	Soda: available in all outlets, price: 1.5 - 6.5 LEI
	Sweet snack: available in 13 outlets, price: 1 - 21 LEI
	Salt snack: available in 23 outlets, price: 1.5 - 8 LEI
	Meal: available in 18 outlets, price: 2 - 20 LEI
Possible to purchase alcohol while under aged: 8 times 'no' / 32 times 'yes' (compliance: 20%)	

In that respect, a small improvement in compliance might be accomplished. The general availability of alcohol to adolescents is rather high which increases the risk on alcohol consumption on a young age and alcohol related problems or harm. It is especially troubling because it concerns a school area; factually all students are exposed to this risk. The data of this study is only gathered in one Romanian city; Pitesti, however it might be possible that Pitesti is no exception; in other cities the situation might be the same. Reducing alcohol consumption at a young age can prevent a lot of problems later on. Local governments should take their responsibility in reducing the availability of alcohol for adolescents. Pitesti has shown her willingness to act by participating in an international alcohol prevention project; DRAIN (Dutch Romanian Alcohol policy Implementation Network). Just after this study was conducted a new local law was implemented. This law forbids selling of alcohol within 200 meters from schools during school time. Also no new alcohol outlets are allowed to settle

in this area. This intervention might be a cause for improvement on this matter in the future. By participation in the DRAIN project Pitesti is the first Romanian city with a local alcohol policy.

To find out whether or not the small incensement of compliance to age limits (mentioned before in this section) is a result of the DRAIN project, another comparable mystery shop study should be done. The current focuses only a limited number of alcohol outlets near schools. In November 2010 a replication of the 2009 mystery shop study will take place in Pitesti. In this new study the same alcohol outlets will be visited as in 2009, using exactly the same research protocol, in order to evaluate the effectiveness of the DRAIN project on legal availability (compliance to the age limit). This study focuses solely on the availability of alcohol for adolescents in the neighbourhood of school sites. Other interesting focus points might also be, the legal availability of alcohol for younger children (aged 14-16), the availability of alcohol for adolescents in other surroundings, like at home or at youth associations, and the availability of alcohol for adolescents in rural areas (focussing also on home made alcohol).

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