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## BRIEF COMMUNICATIONS AND RESEARCH NOTES

WHAT DO ISRAELI JEWISH AND ARAB  
ADOLESCENTS KNOW ABOUT DRINKING AND  
DRIVING?

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**Abstract**—This article describes a study, which is the first in Israel to investigate knowledge concerning drinking and driving among a large group of 2408 adolescents of four religions in the north of Israel, in the winter of 1995. The article analyses the results by referring to general scores and to five areas in the “drinking and driving” domain: legal blood alcohol concentration (BAC) limit, minimal number of drinks prohibited by the law before driving, common myths, main effects of alcohol on driving ability and youth vulnerability. The article emphasizes differences between the Jewish group and the non-Jewish (Arab) group. The average score of the sample was 2.06 (out of 5). Jews received the highest score (2.30) and Moslems got the lowest score (1.45). No differences were found among those who had a driving license and those who had not, and between the group of respondents from the north of Israel and a sample of participants from the center of the country. Lack of knowledge was revealed especially concerning knowledge about the BAC limit and youth vulnerability. Arabs tended to exaggerate the amount of drinks allowed to be consumed before driving according to the law, to hold common myths more than Jews and to get lower scores concerning alcohol main effects on driving skills. However, they tended to be more aware than Jews to youth vulnerability. Copyright © 1996 Elsevier Science Ltd

**Keywords**—Israel, Jews, Arabs, Adolescents, Alcohol, Driving

## INTRODUCTION

While there have been four studies in the “alcohol and driving” domain in Israel (Richter et al. 1986; Meltzer et al. 1988; Zemach 1993; Ezrachi et al. 1993; Shinar 1995), as well as some studies of alcohol drinking cultural differences (e.g. Weiss and Moore 1991; Moore and Weiss 1995), the present study is the first in Israel to investigate knowledge concerning drinking and driving among a large group of Jewish and Arab teenagers in the north of the country. Researchers in the US (DHHS 1991) have argued that providing information about alcohol is an important intervention to prevent alcohol problems. Before one studies the impact of providing information, it is important to determine the extent of baseline knowledge concerning the issue. An American national study among junior and senior high (7th through 12th grade) students revealed in 1991 that students lack essential knowledge about alcohol and its effects. For example, more than one-third of students believed that drinking coffee, getting some fresh air or taking

a cold shower “sober you up”. The present study was carried out because knowledge deficiencies about legal and behavioral aspects concerning alcohol and driving, and the physical effects of alcohol on driving ability can have a manifestation in risky behavior. Adolescents’ decision to drive or not to drive after drinking rests to some extent upon information about this behavior. The purpose of the present study is to specify the extent of knowledge in five areas in the “drinking and driving” domain, in order to point to certain areas which need attention and correction.

## METHOD

*Participants*

The study was conducted among 2552 students. However, 144 questionnaires have been omitted due to missing data concerning gender or religion. Therefore, the sample consisted of 2408 adolescents, 1583 Jews and 825 Arabs, living in the northern region of Israel, where most of the Israeli Arabs

Table 1. Background characteristics of the participants, in numbers

	Jews (N=1583)		Moslems (N=556)		Christians (N=210)		Druze (N=59)		Total (N=2408)
	Males	Females	Males	Females	Males	Females	Males	Females	
<b>North of Israel</b>									
Males	732		303		104		40		1,179
Females		851		253		106		19	1,229
<i>Location of Schools</i>									
1 large city	312	389	100	0	47	1	2	0	851
3 medium-sized Jewish towns	176	254	—	—	—	—	—	—	430
1 small Jewish town (religious school)	62	72	—	—	—	—	—	—	134
1 developing Jewish town	94	42	—	—	—	—	—	—	136
1 Jewish youth village	88	94	—	—	—	—	—	—	182
1 mixed Arab-Jewish town	—	—	64	83	2	—	—	—	149
1 Arab town	—	—	52	74	43	82	38	19	308
2 Arab villages	—	—	87	96	12	23	—	—	218
<i>Grades</i>									
Tenth grade	420	442	89	37	43	11	6	0	1,048
Eleventh grade	227	328	94	116	35	52	23	15	890
Twelfth grade	85	81	120	100	26	43	11	4	470
<i>Driving license</i>									
Tractor	45	5	15	0	6	0	6	0	77
Motorcycle	16	11	12	0	3	0	0	0	42
Car	6	27	19	0	6	0	9	0	67
<b>Center of Israel—2 medium-sized towns</b>									
Males	62								62
Females		67							67
Tenth grade	28	26							54
Eleventh grade	34	41							75
<i>Driving license</i>									
Tractor	2	0							2
Motorcycle	5	1							6
Car	0	0							0

are located. Table 1 shows some background characteristics of the participants who were 16–18 years old.

No rigorous sampling method was utilized, because of difficulties in entering Arab schools, especially Moslem and Druze schools, using an alcohol-related questionnaire. Arab students came from 7 Arab schools which had agreed to cooperate, and Jewish students came from 13 schools, all of which represented a wide range of types of places of living and schools: comprehensive, private and public academically-oriented, religious, vocational, specific-education-oriented, boarding and agricultural. In addition, 134 students from two schools in two medium-sized towns in the center of Israel were also engaged in the study. However, 6 questionnaires have been omitted because of missing data concerning gender. Therefore, 129 students were included for comparison.

#### *Questionnaire and procedure*

Following a pilot-test among 38 students, the final anonymous questionnaire included 7 socio-demographic variables: gender, grade, name of school and its location, religion, the possession of a driving

license and its type (tractor, motorcycle, car), and 5 questions with 5 listed response options, which related to the following topics:

1. The legal limit of blood alcohol concentration (BAC) in Israel.
2. The minimal number of drinks a driver need to consume in order to be legally drunk (i.e. translation of the law into the amount of drinking).
3. Common myths about sobering up, related to actions a driver has to take after drinking and before driving home.
4. The main effect of alcohol on driving skills, when in low levels in the blood.
5. The reasons why alcohol is especially dangerous for young drivers.

An additional question was related to the source of information of the participant (8 response options, including an open option to add a different source).

The questionnaire was distributed during December 1994–January 1995. Special attention was paid to measures which increased the validity of the answers. It was anonymously completed, and it was further emphasized to the students that their responses

would remain confidential and be used only for research purposes.

## RESULTS

### General score

The majority of respondents did not answer the 5 questions correctly. The average score for the sample was 2.06 (out of 5), 2.07 for boys and 2.05 for girls. The average score for Jewish students was 2.30 and for Arab students 1.59 ( $F=211.95$ ;  $df=1$  and 2406;  $p<0.001$ ). As far as religion is concerned, the scores for Druze, Christians and Moslems were 2.27, 1.78 and 1.45, respectively ( $F=21.95$ ;  $df=2$  and 822;  $p<0.001$ ). Only 1.69% of Druze, no Christians, 0.17% of Moslems and 2.59% of Jews responded correctly to all 5 multiple-choice knowledge questions, whereas 6.77% of Druze, 9.04% of Christians, 18.52% of Moslems and 6.12% of Jews did not give any correct answer. Male respondents that have a driving license ( $N=143$ ) received a similar score (1.99) as those who have not a license (2.08,  $N=1036$ ). The scores of Jewish respondents studying in the tenth and eleventh grades in three medium-sized towns in the north of Israel ( $N=430$ ) were compared to the scores of Jewish respondents studying in the tenth and eleventh grades in two medium-sized towns in the center of the country ( $N=129$ ). Their average scores were similar—2.30 and 2.31 respectively.

### Sources of information

The primary source of information among Jews and Arabs was "all kinds of sources together": 49.54% of participants chose this option. Mass communication (television, newspapers) was of secondary importance, and was chosen by 19.51% of respondents. Students who reported school as their source of information ( $N=258$ ) received the highest average score—2.39. Those who reported friends as their

source of information ( $N=127$ ) received the lowest score —1.64.

### Legal limit

Only 21.09% of the sample knew the value of the Israeli legal BAC limit. There were differences between the Jewish group and the Arab group concerning knowledge of the law, as can be seen in Table 2.

### Numbers of drinks

About 41.40% of the respondents knew that drinking 2 or 3 drinks during the hour before driving is the minimal amount needed to be consumed in order to break the law. There were differences between the Jewish group and the non-Jewish group. More Jews than Arabs knew the correct answer, and more Arabs (24.23%) than Jews (12.05%) wrote exaggerated amounts (4–7 drinks). The differences are shown in Table 3.

### Common myths

Most participants (71.71%) knew that drinking black coffee, taking a cold shower or breathing pure oxygen cannot speed the process of sobering up, and that only time can sober up the driver. However, more Arabs than Jews hold these myths. Table 4 presents the results concerning this subject.

### Main effect on driving ability

About 46.34% of students knew the correct answer—alcohol impairs vision skills when at a low level in the blood. The other response options included marginal effects of low levels of alcohol in the blood, such as long-range memory and time perception. Here too, there were differences between the Jewish group and the Arab group. About 57.29% of Jews knew the right answer in comparison to 25.33% of Arabs ( $t=16.40$ ;  $p<0.01$ ).

Table 2. Legal BAC limit—proportions of answers of Jews and Arabs

	Legal BAC limit					
	0.1%	0.08%	0.05%*	0.02%	Do not know	Missing
<i>Arabs (N=825)</i>						
N	69	60	145	205	346	0
%	8.36	7.27	17.57	28.84	41.93	0
<i>Jews (N=1583)</i>						
N	132	111	363	334	630	13
%	8.33	7.01	22.93	21.09	39.79	0.82

$X^2=11.38$ ;  $df=4$ ;  $p<0.05$

\*The correct answer.

Percentages may not add to 100 because of rounding errors.

Table 3. Minimal number of drinks needed to break the law—proportions of answers of Jews and Arabs

	No. of drinks					
	1	2-3*	4-5	6-7	Do not know	Missing
<i>Arabs (N=825)</i>						
N	167	238	105	95	219	1
%	20.24	28.84	12.72	11.51	26.54	0.12
<i>Jews (N=1583)</i>						
N	392	759	138	53	235	6
%	24.76	47.94	8.71	3.34	14.84	0.37

$X^2=159.30$ ;  $df=4$ ;  $p<0.001$

\*The correct answer.

Percentages may not add to 100 because of rounding errors.

Table 4. Common myths—proportions of answers of Jews and Arabs

	Common myths					
	Black coffee	Cold shower	Time* (wait several hours)	Breathing fresh air	Do not know	Missing
<i>Arabs (N=825)</i>						
<i>N</i>	92	135	455	42	101	0
<i>%</i>	11.15	16.36	55.15	5.09	12.24	0
<i>Jews (N=1583)</i>						
<i>N</i>	96	73	1272	23	117	2
<i>%</i>	6.06	4.61	80.35	1.45	7.39	0.12

$\chi^2 = 193.34$ ;  $df = 4$ ;  $p < 0.001$

\*The correct answer.

Percentages may not add to 100 because of rounding errors.

### Youth vulnerability

Only 26.66% of teenagers knew that young drinkers are at higher risk of being involved in road accidents than older drinkers because of the combination of the following three reasons, which had to be marked as response options: they have limited experience in driving, they are usually thinner than adults (adults usually have a higher proportion of water in their bodies, which serves to dilute the alcohol, while young people, who are thinner than adults, have a lower proportion of water in their bodies and actually attain higher BACs than fat people) and they tend to be engaged in more risky behavior which may end in disaster. However, more Arabs ( $N=254$ , 30.78%) than Jews ( $N=388$ , 24.51%) answered correctly ( $t = 3.25$ ;  $p < 0.01$ ).

## DISCUSSION

A knowledge-based program is usually a basis for a behavior-change program, in which people are encouraged to take the knowledge they already possess and integrate information into their own repertoire of behaviors. Israeli adolescents need a knowledge-based program concerning drinking and driving, because their baseline knowledge concerning this issue is poor. The results indicate lack of knowledge, particularly among non-Jewish teenagers. They need to receive information and to apply the knowledge about alcohol to their own driving situations in the future. They need to know the facts so they may avoid the fatal consequences. They need to know the special risks of young people, the legal BAC limit, how many drinks does it take to break the law, and what drinking does to driving skills. Indeed, the low average scores of the respondents may suggest that it is important to teach alcohol and driving issues in the framework of alcohol education programs in junior high schools (Moore and Weiss 1985), and to include these issues in driving lessons.

The very low scores in the Arab sector were

expected because Moslem and Druze schools and families usually do not deal with alcohol issues and ignore the reality that Moslem and Druze adolescents do drink, in spite of the fact that their religions prohibit the use of alcohol even in minute quantities (Moore and Weiss 1991; Weiss and Moore 1995a). Based on the results of the study it is safe to conclude that mass communication may be considered as a viable source of information concerning alcohol and driving aspects, similarly to the findings of a previous study (Weiss and Moore 1995) which revealed that television and newspapers are the primary source of information concerning alcohol issues, and that it is important to utilize this route of information. Students from the north of the country got the same average score as did students from a similar type of place of living in the center of the country. However, a shortcoming of the present study is the fact that no rigorous sampling method was utilized and sampling bias might have existed. Further replication in other communities is recommended, as well as among the adult population in order to examine whether their level of comprehension is any different from that of the younger population.

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