



ICARUS Project
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ICARUS Project

Inter - Cultural Approaches for Road Users Safety

Research report

Results

IRELAND

CAR DRIVERS (QUESTIONNAIRE SECTION 1)

Sample description

A total of 237 people answered the Section 1 of the questionnaire. Males were 132 (55.7% of the total sample) and females were 105 (44.3% of the total sample). Their mean age was 21.48 years (standard error .79), ranging between 18 and 39 years. Only 19 respondents were older than 24 years old, though. Age was no significantly different between males and females. Not all the respondents answered all the items of the questionnaire, thus each analysis was run on the largest sample available for that analysis (missing values were not estimated).

Driving habits

Tables 1 to 9 show the distribution as a function of gender of the answers to items concerning the driving habits and experiences. About half of the respondents both males and females, owns a car, and refer to use a car on a very regular basis (most of them drive everyday, without a prevalence of one gender), for relatively short trips. However, both male and female drivers refer to drive after midnight quite rarely (only about 35% of them drive after midnight more than 2 times a week), and about 38% of them do not drive after midnight at all. Quite a few drivers refer to have received a traffic fine, independently of the gender, mostly for speeding. Driving after having had a drink is a very rare behaviour, about 84% the sample refers that they never drive after drinking.

Summarizing, Irish young drivers seem to be characterized by being frequent drivers, not very experienced of driving during night hours, and very aware of the dangers associated with driving under the effects of alcohol, as almost all of them do not drive after having had alcoholic drinks. Interestingly, the very same pattern of driving habits holds for both male and female drivers.

Table 1. Frequency distribution of respondents for item H4 as a function of gender. * refers to significant differences ($p < .001$) between males and females.

H_4 Do you own a car?		
	Yes	No
Males	61 (46.21%)	71 (53.79%)
Females	48 (45.71%)	57 (54.29%)
Total	109 (45.99%)	128 (54.01%)

Table 2. Frequency distribution of respondents for item H5 as a function of gender. * refers to significant differences ($p < .001$) between males and females.

H_5 How many times a week do you use the car?						
	Never	1-2 times	3-4 times	5-6 times	Everyday	Only in the weekend
Males	1 (1.41%)	6 (8.45%)	6 (8.45%)	9 (12.68%)	47 (66.2%)	2 (2.82%)
Females	1 (1.75%)	5 (8.77%)	6 (10.53%)	6 (10.53%)	35 (61.4%)	4 (7.02%)
Total	2 (1.56%)	11 (8.59%)	12 (9.38%)	15 (11.72%)	82 (64.06%)	6 (4.69%)

Table 3. Frequency distribution of respondents for item H6 as a function of gender. * refers to significant differences ($p < .001$) between males and females.

H_6 How many kilometers do you drive in a week?					
	1-10 Km	11-30 Km	31-50 Km	51-100 Km	More than 100 Km
Males	6 (8.45%)	13 (18.31%)	15 (21.13%)	14 (19.72%)	23 (32.39%)
Females	3 (5.26%)	14 (24.56%)	9 (15.79%)	11 (19.3%)	20 (35.09%)
Total	9 (7.03%)	27 (21.09%)	24 (18.75%)	25 (19.53%)	43 (33.59%)

Table 4. Frequency distribution of respondents for item H7 as a function of gender. * refers to significant differences ($p < .001$) between males and females.

H_7 In the last three months, how often have you driven for more that 2 hours uninterruptedly?				
	Never	1-2 times	2-4 times	More than 4 times
Males	23 (32.39%)	23 (32.39%)	10 (14.08%)	15 (21.13%)
Females	17 (29.82%)	22 (38.6%)	6 (10.53%)	12 (21.05%)
Total	40 (31.25%)	45 (35.16%)	16 (12.5%)	27 (21.09%)

Table 5. Frequency distribution of respondents for item H8 as a function of gender. * refers to significant differences ($p < .001$) between males and females.

H_8 In the last three months, how often have you happened to drive between midnight and 5:00 in the morning?				
	Never	1-2 times	2-4 times	More than 4 times
Males	25 (35.21%)	21 (29.58%)	7 (9.86%)	18 (25.35%)
Females	24 (42.11%)	13 (22.81%)	11 (19.3%)	9 (15.79%)
Total	49 (38.28%)	34 (26.56%)	18 (14.06%)	27 (21.09%)

Table 6. Frequency distribution of respondents for item H9 as a function of gender. * refers to significant differences ($p < .001$) between males and females.

H_9 Have you ever got a traffic fine?		
	No	Yes
Males	59 (83.1%)	12 (16.9%)
Females	44 (77.19%)	13 (22.81%)
Total	103 (80.47%)	25 (19.53%)

Table 7. Frequency distribution of respondents for kinds of violations as a function of gender. * refers to significant differences ($p < .001$) between males and females.

	Males	Females	Total
No parking	2 (1.52%)	4 (3.81%)	6 (2.53%)
Running a red light	2 (1.52%)	1 (.95%)	3 (1.27%)
Running a stop sign	1 (.76%)	1 (.95%)	2 (.84%)
Speeding	9 (6.82%)	8 (7.62%)	17 (7.17%)
Drunk driving	1 (.76%)	0 (.%)	1 (.42%)
Lack of seatbelts use	2 (1.52%)	0 (.%)	2 (.84%)

Table 8. Frequency distribution of respondents for item H18 as a function of gender. * refers to significant differences ($p < .001$) between males and females.

H_18 Have you ever driven after drinking alcoholic drink?						
	Never					Often
Males	57 (80.28%)	8 (11.27%)	1 (1.41%)	2 (2.82%)	2 (2.82%)	1 (1.41%)
Females	50 (87.72%)	4 (7.02%)	1 (1.75%)	2 (3.51%)	0 (.%)	0 (.%)
Total	107 (83.59%)	12 (9.38%)	2 (1.56%)	4 (3.13%)	2 (1.56%)	1 (.78%)

Table 9. Frequency distribution of respondents for alcohol effects as a function of gender. * refers to significant differences ($p < .001$) between males and females.

	Males	Females	Total
You could hardly follow the trajectory	2 (1.52%)	0	2 (.84%)
You could hardly keep your head on straight	2 (1.52%)	0	2 (.84%)
You had muscle cramps	0	1 (.95%)	1 (.42%)
You could hardly keep your eyes open	2 (1.52%)	0	2 (.84%)
You got stomach cramps	0	0	0
You could not focus on the road	5 (3.79%)	1 (.95%)	6 (2.53%)
Someone who was with you made you notice it	0	0	0

Specific dimensions of the questionnaire scales

Scale A. Attitude toward road safety issues.

Data from the Scale A of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.78, and factorability of the correlation matrix. Bartlett's test of sphericity $\chi^2(153)=1409.406, p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a three-factor solution that accounted for the 48.19% of the total variance. Table A.1 shows the eigenvalues and the variance accounted for by each factor. Table A.2 shows the item loadings after Oblimin rotation.

The first factor (labelled "Tolerance toward violations", accounting for by the 17.07% of the common variance) refers to a negative attitude toward traffic rules. Items such as *"To keep traffic smooth-flowing you should ignore many of the road traffic rules"* load on this factor.

The second factor (labelled "Negative attitude towards drugs and alcohol", accounting for by the 18.69% of the common variance) refer to the negative attitude toward driving under the effects of substances. Items such as *"I would never drive after drinking alcoholic drinks"* and *"I would never drive under the influence of narcotic drugs"* load on these factors.

The third factor (labelled "Negative attitude toward speeding", accounting for by the 11.97% of the common variance) refers to a negative attitude toward going by car with a fast driver. Items such as *"It is ok to go by car with a fast driver if it is the only way to go back home at night"* load on this factor. This factor is negatively correlated to the first one (Table A.3).

Table A.1. Eigenvalues and variance accounted for by each factor (Scale A)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	4.531	25.175	25.175	3.072
2	2.655	14.748	39.922	3.364
3	1.488	8.266	48.188	2.154
4	1.220	6.780	54.968	
5	1.040	5.779	60.747	
6	.995	5.527	66.274	
7	.906	5.036	71.310	
8	.750	4.168	75.478	
9	.710	3.947	79.425	
10	.680	3.775	83.200	
11	.604	3.353	86.553	
12	.583	3.237	89.790	
13	.488	2.714	92.504	

14	.422	2.346	94.850
15	.318	1.769	96.619
16	.262	1.453	98.072
17	.206	1.144	99.216
18	.141	.784	100.000

Table A.2. Factor loadings (Scale A).

	Factors		
	Tolerance to violations to traffic rules	Negative attitude toward drugs and alcohol	Negative attitude toward speeding
A_1	0.613		
A_2	0.523		
A_3			
A_4	0.619		
A_5	0.307		
A_6	0.410		
A_7	0.425		
A_8	0.549		
A_9	0.531		-0.314
A_10	0.444		-0.366
A_11			
A_12			-0.872
A_13			-0.656
A_14		0.426	
A_15		0.849	
A_16		0.830	
A_17		0.873	
A_18		0.843	

Table A.3. Factor correlation matrix (Scale A)

Factor	1	2	3
1	1.000	-.295	-.385
2	-.295	1.000	.137
3	-.385	.137	1.000

Scale B. Locus of Control.

Data from the Scale B of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.73, and factorability of the correlation matrix, Bartlett’s test of sphericity $\chi^2(435)=1775.06, p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a three-factor solution that accounted for the 34.21% of the total variance. Table B.1 shows the eigenvalues and the variance accounted for by each factor. Table B.2 shows the item loadings after Oblimin rotation.

The first factor (labelled “Internal Locus of Control”, accounting for by the 10.16% of the common variance) refers to an internal Locus of Control, as respondents attribute responsibility of road accidents mostly to drivers. Items such as *“When a driver is involved in an accidents are only lucky persons and are not more careful than others”* load on this factor.

The second factor (labelled “External Locus of Control. reversed”, accounting for by the 10.18% of the common variance) refers to an external Locus of Control. as respondents attribute responsibility of road accidents mostly to external causes, independent of drivers behaviour. Items such as *“It is really difficult to prevent accidents involving elderly people since they may not hear and see well”* load on this factor.

The third factor (labelled “Attention related LOC”, accounting for by the 8.82% of the common variance) refers to an internal attention-related Locus of Control. As respondents attribute responsibility of road accidents mostly to drivers’ failure to be careful or to pay attention to driving. Items such as *“Driving without accidents depends on driver’s ability to pay attention to what happens on the road and pavement”* load on this factor.

The three factors are not correlated (Table B.3).

Table B.1. Eigenvalues and variance accounted for by each factor (Scale B)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	4.398	14.660	14.660	3.049
2	3.798	12.660	27.319	3.054
3	2.066	6.888	34.207	2.645
4	1.577	5.255	39.463	
5	1.426	4.753	44.215	
6	1.332	4.440	48.655	
7	1.257	4.190	52.846	
8	1.108	3.695	56.540	
9	1.055	3.517	60.057	
10	.932	3.108	63.165	
11	.895	2.982	66.147	
12	.886	2.953	69.100	
13	.826	2.754	71.854	

14	.818	2.725	74.579
15	.758	2.528	77.107
16	.704	2.346	79.454
17	.693	2.309	81.763
18	.634	2.115	83.878
19	.571	1.905	85.783
20	.544	1.814	87.597
21	.532	1.773	89.370
22	.500	1.668	91.037
23	.451	1.504	92.542
24	.416	1.387	93.928
25	.414	1.379	95.307
26	.381	1.269	96.576
27	.337	1.124	97.700
28	.278	.927	98.627
29	.243	.810	99.437
30	.169	.563	100.000

Table B.2. Factor loadings (Scale B).

	Factor		
	Internal LOC	External LOC (reversed)	Attention- related Internal LOC
B_1		0.560	
B_2		0.392	
B_3			
B_4		0.273	
B_5		0.554	
B_6	0.349		
B_7	0.689		
B_8	0.644		
B_9	0.522		
B_10	0.512		
B_11		0.439	
B_12		0.354	
B_13		0.542	
B_14		0.683	
B_15		0.706	

B_16	0.326		0.477
B_17	0.532		
B_18			0.670
B_19			0.637
B_20		0.330	
B_21			0.540
B_22			0.315
B_23	-0.280	0.394	
B_24	0.299	0.325	
B_25		0.257	
B_26			0.465
B_27			0.502
B_28	0.522		
B_29			0.265
B_30	0.414		

Table B.3. Factor correlation matrix (Scale B)

Factor	1	2	3
1	1.000	.058	.156
2	.058	1.000	-.142
3	.156	-.142	1.000

Scale D. Rage during driving.

Data from the Scale D of the questionnaire were submitted to exploratory factor analysis (Principal Axis method, Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.85, and factorability of the correlation matrix. Bartlett's test of sphericity $\chi^2(91)=1055.62$, $p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a two-factor solution that accounted for the 48.42% of the total variance. Table D.1 shows the eigenvalues and the variance accounted for by each factor. Table D.2 shows the item loadings after Oblimin rotation.

The first factor (labelled "Obstacle-related rage", accounting for by the 28.69% of the common variance) refers to the rage reactions due to obstacles preventing drivers to drive the way they want. Items such as "*You are trapped in a traffic jam*" load on this factor.

The second factor (labelled "Violation-related rage", accounting for by the 17.36% of the common variance) refers to the rage reactions due to other drivers violating the traffic code. Items such as "*Somebody does not stop at a red traffic light or a stop sign*" load on this factor.

The two factors are however moderately correlated (Table D.3).

Table D.1. Eigenvalues and variance accounted for by each factor (Scale D)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	4.925	35.175	35.175	4.017
2	1.854	13.245	48.420	2.430
3	.976	6.974	55.394	
4	.927	6.620	62.015	
5	.897	6.405	68.420	
6	.780	5.569	73.989	
7	.646	4.614	78.603	
8	.546	3.897	82.500	
9	.504	3.597	86.097	
10	.439	3.134	89.231	
11	.430	3.069	92.299	
12	.413	2.948	95.247	
13	.373	2.662	97.909	
14	.293	2.091	100.000	

Table D.2. Factor loadings (Scale D).

	Factor	
	Obstacle-related raga	Violation-related raga
D_1		0.727
D_2	0.578	
D_3		0.583
D_4		0.641
D_5	0.636	
D_6	0.322	0.27
D_7	0.612	
D_8	0.695	
D_9	0.37	0.379
D_10	0.489	0.277
D_11	0.627	
D_12	0.716	
D_13	0.448	0.292
D_14	0.587	

Table D3. Factor Correlation Matrix (Scale D).

Factor	1	2
1	1.000	.327
2	.327	1.000

Scale F. Personality.

Data from the Scale F of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.72, and factorability of the correlation matrix. Bartlett’s test of sphericity $\chi^2(666)=2048.9$, $p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a five-factor solution that accounted for the 40.26% of the total variance. Table F.1 shows the eigenvalues and the variance accounted for by each factor. Table F.2 shows the item loadings after Oblimin rotation.

The first factor (labelled “Altruism”, accounting for by the 9.11% of the common variance) refers to altruism, generosity. Items such as *“If I can I do my utmost to help the others”* load on this factor.

The second factor (labelled “Anxiety”, accounting for by the 8.93% of the common variance) refers to anxiety, worries. Items such as *“I am seldom frightened and anxious”* (reversed) load on this factor.

The third factor (labelled “Egocentrism”, accounting for by the 4.564% of the common variance) refers to anger, hostility, egocentrism. Items such as *“I often get angry about the way people treat me”* load on this factor. The fourth factor (labelled “Sensation seeking (reversed)”, accounting for by the 5.70% of the common variance) refers to being calm and reflexive. Items such as *“Sometimes I did things only for excitement and thrill”* load on this factor. Also this factor (reversed) is positive correlated with second factor.

The fifth factor (labelled “Stability”, accounting for by the 4.57% of the common variance) refers to the tendency to be secure, serene, not nervous.. Items such as *“I am not considered susceptible or irritable”* load on this factor.

The five factors are not correlated (Table F.3).

Table F.1. Eigenvalues and variance accounted for by each factor (Scale F)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	4.330	11.702	11.702	3.372
2	3.908	10.561	22.263	3.304
3	3.028	8.183	30.446	1.720
4	1.898	5.130	35.576	2.110
5	1.735	4.688	40.264	1.690
6	1.336	3.610	43.874	
7	1.298	3.508	47.382	
8	1.284	3.471	50.853	
9	1.182	3.194	54.047	
10	1.126	3.044	57.091	
11	1.059	2.863	59.954	
12	.997	2.694	62.647	

13	.978	2.643	65.291	
14	.951	2.570	67.861	
15	.911	2.463	70.324	
16	.769	2.079	72.403	
17	.759	2.051	74.454	
18	.733	1.980	76.434	
19	.702	1.897	78.331	
20	.673	1.819	80.149	
21	.666	1.801	81.950	
22	.620	1.677	83.627	
23	.581	1.569	85.196	
24	.558	1.507	86.704	
25	.537	1.453	88.156	
26	.479	1.293	89.450	
27	.477	1.288	90.738	
28	.446	1.204	91.942	
29	.422	1.141	93.083	
30	.394	1.064	94.146	
31	.380	1.026	95.173	
32	.356	.963	96.136	
33	.332	.898	97.034	
34	.310	.839	97.872	
35	.297	.802	98.675	
36	.267	.722	99.396	
37	.223	.604	100.000	

Table F.2. Factor loadings (Scale F).

	Factor				
	Altruism	Anxiety	Egocentrism	Sensation Seeking (reversed)	Stability
F_1		-0.564			
F_2			0.419		
F_3			0.527		
F_4			0.285	-0.301	0.347
F_5		0.624			
F_6					0.469

F_7	0.511				
F_8				0.300	
F_9		-0.402			0.318
F_10				-0.486	
F_11		-0.254			
F_12		-0.274	0.312	-0.427	
F_13		0.675			
F_14					0.489
F_15	0.554				
F_16				0.460	
F_17		-0.494			
F_18			0.457		
F_19	-0.316				
F_20	0.484				
F_21	0.250	0.731			
F_22				0.265	
F_23	0.511				
F_24				-0.588	
F_25		-0.551			
F_26		0.288	0.332		
F_27	0.425				
F_28					0.296
F_29		0.533	0.264		
F_30			0.360		
F_31	0.619				
F_32					
F_33	0.649				
F_34	-0.330			-0.425	
F_35	0.504				
F_36	0.506				
F_37				-0.346	

Table F.3. Factor Correlation Matrix

Factor	1	2	3	4	5
1	1.000	-.040	-.026	.037	.197
2	-.040	1.000	.052	.058	-.104
3	-.026	.052	1.000	-.148	.019
4	.037	.058	-.148	1.000	-.033
5	.197	-.104	.019	-.033	1.000

Scale I. Driving Behaviour Questionnaire.

Data from the Scale I of the questionnaire were submitted to exploratory factor analysis (Principal Axis method, Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, .935, and factorability of the correlation matrix. Bartlett's test of sphericity $\chi^2(561)=4444.811$, $p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a three-factor solution that accounted for the 62.23% of the total variance. Table I.1 shows the eigenvalues and the variance accounted for by each factor. Table I.2 shows the item loadings after Oblimin rotation.

The first factor (labelled "Slips", accounting for by the 32.06% of the common variance) refers to errors due to slips. Items such as *"While overtaking another car you realised that you miscalculated the speed of the on-coming car"* load on this factor.

The second factor (labelled "Anger", accounting for by the 11,51% of the common variance) refers to behaviour anger. Items such as *"Got angry at the behaviour of another driver and given him/her a piece of your mind"* load on this factor.

The third factor (labelled "Violations", accounting for by the 28.09% of the common variance) refers to violations of the traffic code. Items such as *"Exceeded speed limits on the motorway"* load on this factor. This factor has a fairly high correlation with the first factor (Table I.3).

The fourth factor (Labelled "Lapses", accounting for by the 22.27% of the common variance) refer to errors due to lapses. Items such as *"Turned on a device while you actually wanted to turn on another device, for instance, turned on the headlights instead of the wind wipers"* Load on this factor. This factor has a fairly high correlation with the first factor (Table I.3).

The fifth factor (labelled "Correct Driving Behaviour", accounting for by the 22.05% of the common variance) refers to complying with the traffic code. Items such as *"Driven a long distance without wearing the seatbelts"* (reversed) load on this factor. This factor correlates negatively with all the previous factors (Table I.3)

Table I.1. Eigenvalues and variance accounted for by each factor (Scale I)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	14.821	43.590	43.590	10.901
2	2.134	6.278	49.868	3.915
3	1.808	5.317	55.185	9.550
4	1.360	4.000	59.186	7.572
5	1.034	3.040	62.226	7.496
6	.962	2.829	65.054	
7	.930	2.734	67.789	
8	.831	2.446	70.234	
9	.753	2.216	72.450	
10	.730	2.146	74.596	

11	.643	1.892	76.489
12	.635	1.868	78.357
13	.600	1.766	80.123
14	.553	1.626	81.749
15	.513	1.508	83.256
16	.483	1.420	84.676
17	.469	1.381	86.057
18	.460	1.353	87.410
19	.431	1.268	88.677
20	.378	1.113	89.790
21	.364	1.071	90.861
22	.342	1.007	91.868
23	.335	.985	92.854
24	.329	.968	93.822
25	.300	.883	94.705
26	.286	.841	95.546
27	.254	.747	96.293
28	.241	.710	97.003
29	.223	.656	97.659
30	.197	.579	98.239
31	.169	.496	98.735
32	.166	.489	99.224
33	.143	.421	99.645
34	.121	.355	100.000

Table I.2. Factor loadings (Scale I).

	Factor				Correct Driving Behavior
	Slips	Anger	Violations	Lapses	
I_1		0.341	0.393		
I_2			0.441		-0.333
I_3		0.509	0.265		
I_4			0.74		
I_5			0.692		
I_6					-0.554
I_7		0.454			
I_8			0.672		

I_9			0.423		-0.254
I_10			0.588		
I_11			0.586		
I_12		0.26	0.31		
I_13		0.327			-0.603
I_14					-0.783
I_15		0.359			
I_16					-0.544
I_17				0.294	-0.43
I_18				0.692	
I_19				0.649	
I_20				0.692	
I_21	0.359			0.489	
I_22	0.469			0.362	
I_23	0.529				-0.286
I_24	0.514				
I_25	0.562				
I_26	0.454			0.284	
I_27	0.536				-0.316
I_28	0.556				-0.262
I_29	0.531				-0.307
I_30	0.624				
I_31	0.609				
I_32	0.619				
I_33	0.714				
I_34	0.462				

Table I.3. Factor Correlation Matrix

Fattore	1	2	3	4	5
1	1.000	.226	.544	.524	-.451
2	.226	1.000	.404	.175	-.304
3	.544	.404	1.000	.473	-.388
4	.524	.175	.473	1.000	-.336
5	-.451	-.304	-.388	-.336	1.000

Scale J. Imagined driving behaviour.

Data from the Scale J of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.86 and factorability of the correlation matrix. Bartlett’s test of sphericity $\chi^2(231)=3044.08, p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a five-factor solution that accounted for the 66.45% of the total variance. Table J.1 shows the eigenvalues and the variance accounted for by each factor. Table J.2 shows the item loadings after Oblimin rotation.

The first factor (labelled “Speeding”, accounting for by the 24.37% of the common variance) refers to speeding. Items such as *“You exceed the speed limits by 10 Km/h”* load on this factor.

The second factor (labelled “Slowing”, accounting for by the 17.21% of the common variance) refers to the slowing the speed when required by the traffic conditions. Items such as *“You slow down when approaching a danger sign”* load on this factor.

The third factor (labelled “Alcohol/Drugs”, accounting for by the 21.57% of the common variance) refers to alcohol and drugs related behaviours. Items such as *“You drive after having had a glass of beer/wine”* load on this factor.

The fourth factor (labelled “Correct Driving Behaviour” (no slip/lapses), accounting for by the 25.10% of the common variance) refers to omitting of slowing down in proximity of children playing areas. Items such as *“You create dangerous situations because you are not attentive enough”* negatively load on this factor.

The “Correct behaviour” factor has a strong negative correlation with the “Speed” and “Alcohol/Drugs” factors (Table J.3).

Table J.1. Eigenvalues and variance accounted for by each factor (Scale J)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	7.668	34.854	34.854	5.362
2	3.663	16.648	51.502	3.786
3	2.321	10.551	62.053	4.746
4	.968	4.398	66.451	5.523
5	.932	4.235	70.685	
6	.820	3.725	74.410	
7	.665	3.025	77.435	
8	.644	2.929	80.365	
9	.549	2.497	82.861	
10	.498	2.262	85.123	
11	.480	2.182	87.306	
12	.407	1.850	89.155	
13	.379	1.723	90.878	
14	.363	1.649	92.528	

15	.309	1.404	93.932
16	.258	1.175	95.107
17	.249	1.134	96.240
18	.226	1.029	97.269
19	.180	.819	98.088
20	.164	.747	98.834
21	.145	.660	99.494
22	.111	.506	100.000

Table J.2. Factor loadings (Scale J).

	Factor			
	Speeding	Slowing	Alcohol/ Drugs	Correct Driving Behavior
J_1	0.773			
J_2	0.790			
J_3	0.705			
J_4	0.730			
J_5	0.730			
J_6				-0.534
J_7				-0.804
J_8				-0.896
J_9	0.252			-0.447
J_10	0.523			
J_11			0.584	
J_12			0.769	
J_13		0.433		
J_14		0.776		
J_15		0.789		
J_16		0.710		
J_17			0.684	
J_18			0.896	
J_19		0.760		
J_20		0.759		
J_21	-0.336	0.602		
J_22			0.752	

Table J.3. Factor Correlation Matrix

Factor	1	2	3	4
1	1,000	-,079	,307	-,604
2	-,079	1,000	-,143	,156
3	,307	-,143	1,000	-,561
4	-,604	,156	-,561	1,000

Scale K. Driving under the effect of alcohol.

Data from the Scale K of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.75, and factorability of the correlation matrix. Bartlett's test of sphericity $\chi^2(36)=653.25$, $p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a two-factor solution that accounted for the 57.68% of the total variance. Table K.1 shows the eigenvalues and the variance accounted for by each factor. Table K.2 shows the item loadings after Oblimin rotation.

The first factor (labelled "Permissive Attitude Toward Alcohol", accounting for by the 29.92% of the common variance) refers to driving under the effect of alcohol. Items such as "*You drove less than two hours after having drunk alcohol*" load on this factor.

The second factor (labelled "Preventing Behaviours", accounting for by the 23.25% of the common variance) refers to the behaviours aimed at preventing someone from driving under the effects of alcohol. Items such as "*You were the designated driver*" load on this factor. The two factors are moderately correlated (Table K.3.)

Table K.1. Eigenvalues and variance accounted for by each factor (Scale K)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	3.518	39.091	33.969	2.693
2	1.673	18.592	50.015	2.093
3	.874	9.710	61.786	
4	.760	8.447	72.160	
5	.640	7.116	80.154	
6	.503	5.590	86.306	
7	.397	4.407	91.727	
8	.359	3.989	96.244	
9	3.518	39.091	100.000	

Table K.2. Factor loadings (Scale K).

	Factor	
	Permissive Attitude	Preventing Behaviours
K_1	0.788	
K_2	0.772	
K_3		0.551
K_4		0.633
K_5	0.575	
K_6		0.589
K_7		0.763
K_8	0.584	
K_9	0.663	

Table K.3. Factor Correlation Matrix (Scale K).

Factor	1	2
1	1.000	.381
2	.381	1.000

Scale L. Effects of alcohol.

Data from the Scale L of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.8, and factorability of the correlation matrix. Bartlett's test of sphericity $\chi^2(190)=1229.61, p<.000.$ were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a three-factor solution that accounted for the 45.76% of the total variance. Table L.1 shows the eigenvalues and the variance accounted for by each factor. Table L.2 shows the item loadings after Oblimin rotation.

The first factor (labelled "Positive Effects", accounting for by the 12.71% of the common variance) refers to the supposed positive effects of alcohol assumption. Items such as "Alcohol increases concentration capacity" load on this factor.

The second factor (labelled "Negative Effects", accounting for by the 15.84% of the common variance) refers to the supposed negative effects of alcohol assumption. Items such as "Alcohol decreases the level of attention" load on this factor.

The third factor (labelled "Underestimation of Negative Effects", accounting for by the 15.45% of the common variance) refers to the underestimation of the negative effects of alcohol assumption. Items such as "Alcohol has little effects on you" load on this factor. This factor correlates mederately with the "Positive effects" factor (Table L.3).

Table L.1. Eigenvalues and variance accounted for by each factor (Scale L)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	5.110	25.548	25.548	3.050
2	2.718	13.589	39.137	3.161
3	1.324	6.621	45.758	2.916
4	1.086	5.431	51.190	
5	1.026	5.130	56.320	
6	.939	4.696	61.016	
7	.894	4.469	65.485	
8	.789	3.944	69.430	
9	.734	3.672	73.102	
10	.665	3.323	76.425	
11	.661	3.303	79.728	
12	.620	3.100	82.828	
13	.551	2.754	85.582	
14	.513	2.563	88.146	
15	.475	2.375	90.520	
16	.424	2.118	92.639	

17	.420	2.098	94.737
18	.386	1.928	96.665
19	.360	1.799	98.464
20	.307	1.536	100.000

Table L.2. Factor loadings (Scale L).

	Factor		
	Positive effects	Negative effects	Underestimation of negative effects
L_1	.324		
L_2		.553	
L_3		.428	
L_4	.423	-.340	.258
L_5	.435		
L_6	.468		
L_7		.449	
L_8	.645		
L_9	.652	.300	
L_10	.550		
L_11		.579	
L_12	.338		.340
L_13		.674	
L_14		.633	
L_15		.735	
L_16			.331
L_17			.611
L_18			.716
L_19			.487
L_20			.786

Table L.3. Factor Correlation Matrix (Scale L).

Factor	1	2	3
1	1.000	-.054	.317
2	-.054	1.000	-.243
3	.317	-.243	1.000

Cluster analysis

Factor scores on the identified subscales for scales A, B, D, F, I, K, and L were computed through regression analysis, and then submitted to cluster analysis in order to identify groups of respondents. Also the scores on the scale H (Moral disengagement) were included into the analysis. A hierarchical method of cluster analysis was used to identify the number of clusters, then a k-means method was used to identify the groups of respondents.

Results showed three separate groups of respondents. A multivariate analysis of variance yielded a significant difference among the three groups (Wilks' Lambda=0.07, $F_{48,246}=13.52$, $p<.0001$). A further factorial analysis of variance on the subscales scores yielded a significant difference among the three groups ($F_{2,146}=30.16$, $p<.001$) and a significant interaction between group and subscale ($F_{46,33580}=23.26$, $p<.001$), meaning that each group of respondents shows a specific profile.

1. **RISKY DRIVERS.** One group can be identified as composed of risky drivers. They have a permissive attitude toward driving under the effect of alcohol and recreational drugs, and are not that much aware of the negative effects of alcohol upon driving. They also refer not to have a correct behaviour during driving, and indeed they are quite tolerant toward violations of the traffic code and speeding. Furthermore, risky drivers have high scores on driving related rage, especially due to obstacles, and high scores on moral disengagement. Compared to safe drivers, risky drivers have higher scores on sensation seeking and impulsivity, and have more direct experiences of driving under the effect of alcohol.
2. **ANGRY DRIVERS.** People in this group are characterized by having rather high scores on the rage-related subscales, both violations and obstacles-related. They are also high on the anxiety subscale, though not as high as the risky drivers. However, they are tolerant toward violations of the traffic rules. Interestingly enough, similarly to risky drivers, people in this group do consider violations of the traffic code as useful for keeping traffic flowing. Similarly to the safe drivers, however, they show low scores on moral disengagement.
3. **SAFE DRIVERS.** Safe drivers are instead characterized by being not tolerant toward driving under the effects of alcohol and drugs, toward violations of traffic rules and speeding. Safe drivers have a rather high score on internal Locus of Control, and show intermediate levels of anxiety. They are also aware of the alcohol negative effects upon driving, and do not feel rage during driving. People in the safe drivers group show low scores on moral disengagement.

Interestingly, the three groups do not differ in terms of age or gender, though a prevalence of males can be observed among the risky and angry drivers.

The average score per subscale (and standard error) for each group is shown in Table 1. Tables 2, 3, and 4 report the results of the post-hoc comparisons among the three groups. Table 5 shows the respondents' mean age as a function of gender and group. Figure 1 shows the profiles of the three groups of drivers on selected subscales. The three groups do not differ in terms of their perception of risk of being involved in an accident (Figure 2). However, respondents in the risky driver group believe their parents would not punish them for their reckless driving behaviour compared to the other two groups (Figure 4). Finally, respondents in the three groups differ in terms of how supportive and encouraging their friends are perceived, with the risky drivers rating their friends as more supportive and encouraging (Figure 3).

Table 1. Average scores and standard errors for each group on the subscales of the questionnaire.

	SAFE drivers			ANGRY drivers			RISKY drivers		
	Mean	Std.Err.	N	Mean	Std.Err.	N	Mean	Std.Err.	N
Tolerance to violations	-0.56	0.09	64	0.14	0.09	59	1.14	0.14	26
Negative attitude toward alcohol/drugs	0.33	0.11	64	-0.03	0.11	59	-0.91	0.17	26
Negative attitude toward speeding	0.42	0.10	64	-0.18	0.10	59	-0.77	0.15	26
Internal LOC	-0.23	0.11	64	0.13	0.12	59	0.03	0.18	26
External LOC (rev)	-0.44	0.11	64	0.11	0.11	59	0.58	0.17	26
Attention-related LOC	0.17	0.11	64	0.08	0.11	59	-0.48	0.17	26
Obstacle-related rage	-0.78	0.09	64	0.50	0.09	59	0.75	0.14	26
Violation-related rage	-0.06	0.10	64	0.33	0.10	59	-0.15	0.15	26
Moral disengagement	-0.56	0.09	64	0.04	0.10	59	1.02	0.15	26
Altruism	0.34	0.11	64	-0.03	0.11	59	-0.88	0.17	26
Anxiety	0.04	0.11	64	0.20	0.12	59	-0.49	0.17	26
Egocentrism	-0.42	0.10	64	0.41	0.10	59	0.13	0.15	26
Sensation Seeking (rev)	0.32	0.11	64	-0.18	0.11	59	-0.06	0.17	26
Stability	0.16	0.10	64	-0.09	0.10	59	-0.30	0.16	26
Slips	-0.59	0.09	64	0.03	0.09	59	1.13	0.14	26
Anger	-0.48	0.10	64	0.35	0.10	59	0.67	0.15	26
Violations	-0.57	0.09	64	0.15	0.10	59	1.08	0.15	26
Lapses	-0.49	0.09	64	0.01	0.10	59	1.09	0.15	26
Correct driving behavior	0.43	0.08	64	0.13	0.09	59	-1.25	0.13	26
Alcohol positive effects	-0.24	0.10	64	-0.07	0.11	59	0.76	0.16	26
Alcohol negative effects	0.53	0.09	64	0.02	0.10	59	-1.25	0.14	26
Underestimation of alcohol effects	-0.37	0.10	64	0.06	0.10	59	0.74	0.16	26
Permissive attitude	-0.43	0.09	64	-0.08	0.10	59	0.97	0.15	26
Prevention behaviors	-0.22	0.11	64	0.14	0.11	59	0.08	0.17	26

Table 2. Comparison between Safe and Angry drivers on each subscale.

	SAFE drivers	ANGRY drivers	Significance
	N=64	N=59	
Tolerance to violations	-0.56	0.14	p<.001
Negative attitude toward alcohol/drugs	0.33	-0.03	ns
Negative attitude toward speeding	0.42	-0.18	p<.001
Internal LOC	-0.23	0.13	ns
External LOC (rev)	-0.44	0.11	p<.001
Attention-related LOC	0.17	0.08	ns
Obstacle-related rage	-0.78	0.50	p<.001
Violation-related rage	-0.06	0.33	ns

Moral disengagement	-0.56	0.04	p<.001
Altruism	0.34	-0.03	ns
Anxiety	0.04	0.20	ns
Egocentrism	-0.42	0.41	p<.001
Sensation Seeking (rev)	0.32	-0.18	ns
Stability	0.16	-0.09	ns
Slips	-0.59	0.03	p<.001
Anger	-0.48	0.35	p<.001
Violations	-0.57	0.15	p<.001
Lapses	-0.49	0.01	p<.001
Correct driving behavior	0.43	0.13	ns
Alcohol positive effects	-0.24	-0.07	ns
Alcohol negative effects	0.53	0.02	p<.001
Underestimation of alcohol effects	-0.37	0.06	ns
Permissive attitude	-0.43	-0.08	ns
Prevention behaviors	-0.22	0.14	ns

Table 3. Comparison between Safe and Risky drivers on each subscale.

	SAFE drivers	RISKY drivers	Significance
	N=64	N=26	
Tolerance to violations	-0.56	1.14	p<.001
Negative attitude toward alcohol/drugs	0.33	-0.91	p<.001
Negative attitude toward speeding	0.42	-0.77	p<.001
Internal LOC	-0.23	0.03	ns
External LOC (rev)	-0.44	0.58	p<.001
Attention-related LOC	0.17	-0.48	ns
Obstacle-related rage	-0.78	0.75	p<.001
Violation-related rage	-0.06	-0.15	ns
Moral disengagement	-0.56	1.02	p<.001
Altruism	0.34	-0.88	p<.001
Anxiety	0.04	-0.49	ns
Egocentrism	-0.42	0.13	ns
Sensation Seeking (rev)	0.32	-0.06	ns
Stability	0.16	-0.30	ns
Slips	-0.59	1.13	p<.001
Anger	-0.48	0.67	p<.001
Violations	-0.57	1.08	p<.001
Lapses	-0.49	1.09	p<.001
Correct driving behavior	0.43	-1.25	p<.001
Alcohol positive effects	-0.24	0.76	p<.001
Alcohol negative effects	0.53	-1.25	p<.001
Underestimation of alcohol effects	-0.37	0.74	p<.001
Permissive attitude	-0.43	0.97	ns
Prevention behaviors	-0.22	0.08	ns

Table 4. Comparison between Overconfident and Risky drivers on each subscale.

	ANGRY drivers	RISKY drivers	Significance
	N=59	N=26	
Tolerance to violations	0.14	1.14	p<.001
Negative attitude toward alcohol/drugs	-0.03	-0.91	ns
Negative attitude toward speeding	-0.18	-0.77	ns
Internal LOC	0.13	0.03	ns
External LOC (rev)	0.11	0.58	ns
Attention-related LOC	0.08	-0.48	ns
Obstacle-related rage	0.50	0.75	ns
Violation-related rage	0.33	-0.15	ns
Moral disengagement	0.04	1.02	p<.001
Altruism	-0.03	-0.88	p<.001
Anxiety	0.20	-0.49	ns
Egocentrism	0.41	0.13	ns
Sensation Seeking (rev)	-0.18	-0.06	ns
Stability	-0.09	-0.30	ns
Slips	0.03	1.13	p<.001
Anger	0.35	0.67	ns
Violations	0.15	1.08	p<.001
Lapses	0.01	1.09	p<.001
Correct driving behavior	0.13	-1.25	p<.001
Alcohol positive effects	-0.07	0.76	p<.001
Alcohol negative effects	0.02	-1.25	p<.001
Underestimation of alcohol effects	0.06	0.74	ns
Permissive attitude	-0.08	0.97	ns
Prevention behaviors	0.14	0.08	ns

Table 5. Mean age (years) and standard errors as a function of gender and group.

		Mean age	Standard error	N
Males	Safe drivers	25.32	2.35	31
	Angry drivers	21.56	2.24	34
	Risky drivers	19.25	3.27	16
Females	Safe drivers	19.58	2.27	33
	Angry drivers	20.68	2.61	25
	Risky drivers	18.50	4.13	10

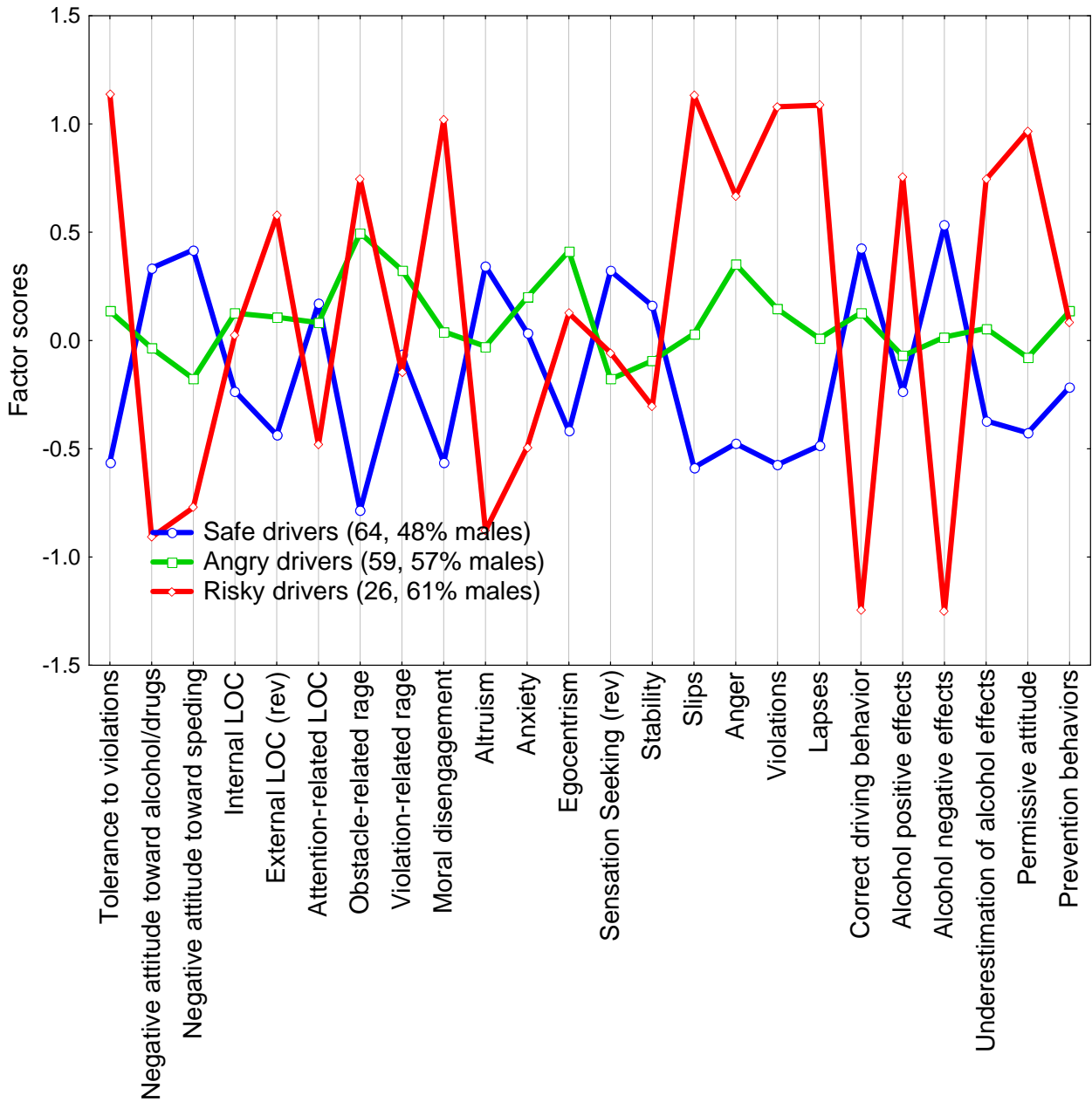
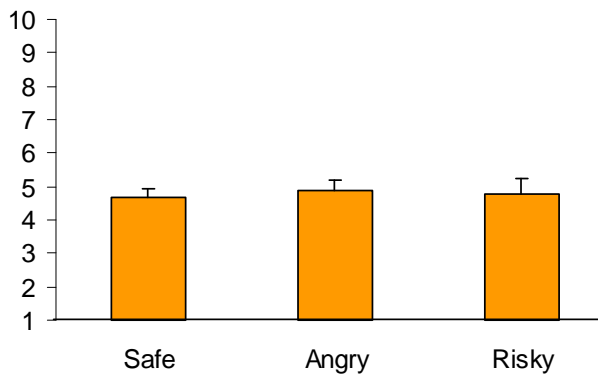


Figure 1. Average scores for each group on the subscales of the questionnaire.

C.1 How would you assess your risk of having a road accident as against the people of your age (10=very high)?



C.2 How much are you worried about this possibility (10=very worried)?

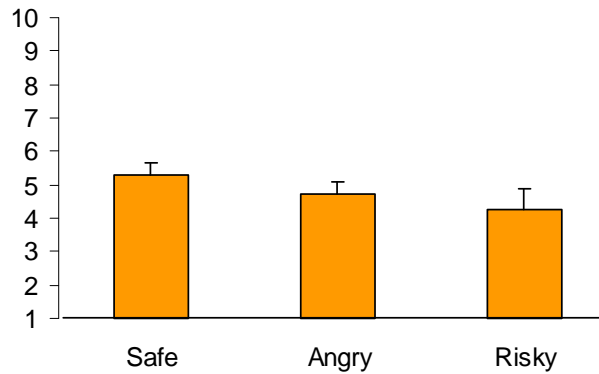
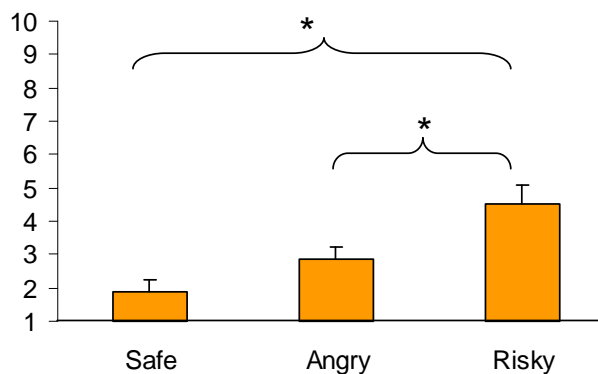


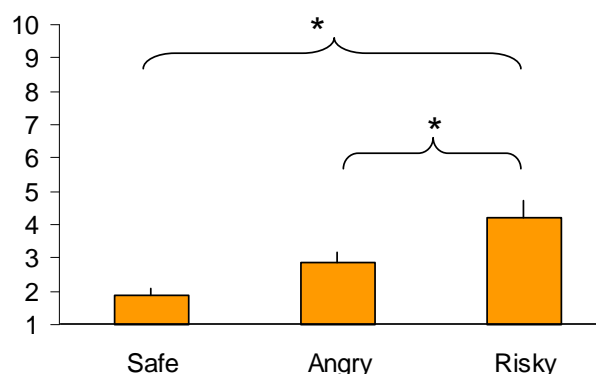
Figure 2. Average scores for each group on items concerning risk perception.

C.3 How much your friends would approve your reckless driving (10=totally approve)?



$F_{2,145}=16.935, p<.001$

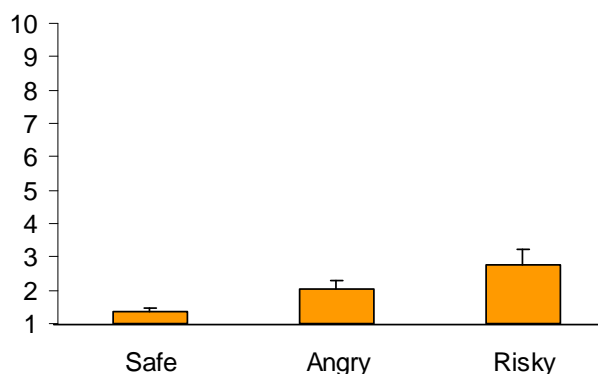
C.4 How much your friends would encourage your reckless driving (10=totally approve)?



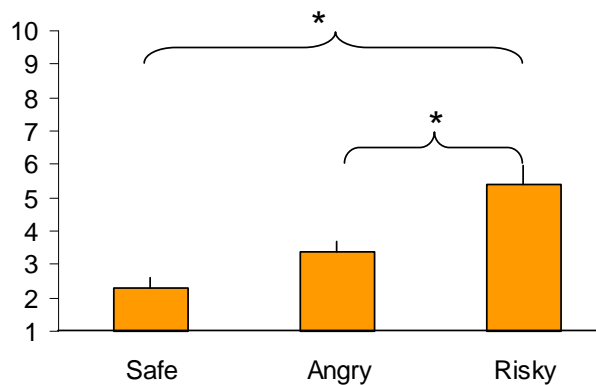
$F_{2,145}=9.968, p<.001$

Figure 3. Average scores for each group on items concerning friends' attitude.

C.5 How angry would your parents get for your reckless driving (10=not at all)?



C.6 Would your parents punish you for your reckless driving (10=not at all)?



$F_{2,145}=13.6514, p<.001$

Figure 4. Average scores for each group on items concerning parents' attitude.

NON DRIVERS (QUESTIONNAIRE SECTION 3)

Sample description

A total of 350 people answered the Section 3 of the questionnaire. Males were 211 (60.3% of the total sample) and females were 139 (39.7% of the total sample). Their mean age was 19.0 years (standard deviation 1.63), ranging between 17 and 21 years. Age was no significantly different between males and females. Not all the respondents answered all the items of the questionnaire, thus each analysis was run on the largest sample available for that analysis (missing values were not estimated).

Specific dimensions of the questionnaire scales

Scale M, Attitude toward road safety issues.

Data from the Scale M of the questionnaire were submitted to exploratory factor analysis (Principal Axis method, Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.85, and factorability of the correlation matrix, Bartlett's test of sphericity $\chi^2(153) = 2025.027, p < .000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a four-factor solution that accounted for the 49.09% of the total variance. Table M.1 shows the eigenvalues and the variance accounted for by each factor. Table M.2 shows the item loadings after Oblimin rotation.

The first factor (labelled "Tolerance toward violations", accounting for by the 23% of the common variance) refers to a negative attitude toward traffic rules. Items such as "*It is reasonable to exceed speed limits to overtake slow or inexperienced drivers*" load on this factor.

The second factor (labelled "Negative attitude toward drugs and alcohol", accounting for by the 20,05% of the common variance) refers to a negative attitude toward driving under the effects of substances. Items such as "*I would never drive after drinking alcoholic drinks*" load on this factor. This factor is negatively correlated to the first factor (Table M.3).

The third factor (labelled "Positive attitude toward speeding", accounting for by the 16.44% of the common variance) refers to a negative attitude toward going by car with a fast driver. Items such as "*It is ok to go by car with a fast driver if it is the only way to go back home at night*" load on this factor. This factor is negatively correlated to the first factor (Table M.3).

Table M.1. Eigenvalues and variance accounted for by each factor (Scale M)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total
1	5.500	30.558	30.558	4.141
2	2.061	11.448	42.006	3.610
3	1.274	7.079	49.085	2.959
4	1.053	5.850	54.935	
5	1.023	5.683	60.618	

6	.949	5.273	65.892
7	.773	4.297	70.188
8	.766	4.253	74.442
9	.716	3.980	78.422
10	.632	3.513	81.935
11	.587	3.259	85.194
12	.533	2.964	88.158
13	.498	2.764	90.922
14	.463	2.571	93.493
15	.399	2.218	95.711
16	.315	1.749	97.459
17	.307	1.707	99.167
18	.150	.833	100.000

Table M.2. Factor loadings (Scale M).

	Factors		
	Tolerance to violations	Negative attitude toward drugs and alcohol	Positive Attitude Toward Speeding
M_1	0.462		
M_2	0.521		
M_3			
M_4	0.500		
M_5	0.254		
M_6	0.475		
M_7	0.511		
M_8	0.452		
M_9	0.697		
M_10	0.572		
M_11			
M_12			0.636
M_13			0.580
M_14		0.521	
M_15		0.668	
M_16		0.833	
M_17		0.884	
M_18		0.885	

Table M.3. Factor Correlation Matrix

Fattore	1	2	3
1	1.000	-.454	-.551
2	-.454	1.000	.339
3	-.551	.339	1.000

Scale N, Locus of Control.

Data from the Scale N of the questionnaire were submitted to exploratory factor analysis (Principal Axis method, Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.78, and factorability of the correlation matrix, Bartlett’s test of sphericity $\chi^2(435)=2226.83, p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a three-factor solution that accounted for the 34.33% of the total variance. Table N.1 shows the eigenvalues and the variance accounted for by each factor. Table N.2 shows the item loadings after Oblimin rotation.

The first factor (labelled “Attention related LOC”, accounting for by the 10.01% of the common variance) refers to an internal, attention-related Locus of Control, as respondents attribute responsibility of road accidents mostly to drivers’ failure to be careful or to pay attention to driving. Items such as *“When a driver is involved in an accident it is because he does not drive the way he should”* load on this factor.

The second factor (labelled “External Locus of Control, reversed”, accounting for by the 10.32% of the common variance) refers to an external Locus of Control, as respondents attribute responsibility of road accidents mostly to external causes, independent of drivers behaviour. Items such as *“It is difficult to prevent accidents when you drive in such as darkness, rain, narrow roads, bends, etc”* load on this factor.

The third factor (labelled “Internal Locus of Control”, accounting for by the 8.34% of the common variance) refers to an internal Locus of Control, as respondents attribute responsibility of road accidents mostly to drivers. Items such as *“Accidents occur when a driver is not careful enough of all possible causes of danger”* load on this factor.

The three factors are not correlated (Table N3).

Table N.1. Eigenvalues and variance accounted for by each factor (Scale B)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	4.623	15.409	15.409	3.003
2	3.297	10.988	26.397	3.096
3	2.380	7.933	34.330	2.503
4	1.674	5.579	39.909	
5	1.355	4.518	44.427	
6	1.300	4.335	48.762	
7	1.085	3.617	52.378	
8	1.022	3.407	55.786	
9	.971	3.236	59.022	
10	.938	3.126	62.148	

11	.881	2.936	65.084
12	.870	2.900	67.984
13	.760	2.534	70.517
14	.752	2.508	73.025
15	.726	2.422	75.447
16	.703	2.344	77.790
17	.663	2.210	80.001
18	.630	2.100	82.101
19	.606	2.021	84.122
20	.593	1.976	86.098
21	.560	1.867	87.965
22	.524	1.747	89.712
23	.469	1.564	91.276
24	.454	1.513	92.789
25	.444	1.479	94.268
26	.408	1.361	95.629
27	.399	1.330	96.959
28	.348	1.160	98.120
29	.301	1.003	99.123
30	.263	.877	100.000

Table N.2. Factor loadings (Scale B).

	Factor		
	Attention-related Internal LOC	External LOC	Internal LOC
N_1		0.418	
N_2		0.473	
N_3			
N_4		0.441	
N_5		0.363	
N_6	0.358		
N_7	0.601		
N_8	0.609		
N_9	0.539		
N_10	0.519		
N_11		0.533	
N_12		0.509	
N_13		0.530	
N_14		0.644	
N_15		0.537	

Table N.2. Factor loadings (Scale B).

	Factor		
	Attention-related Internal LOC	External LOC	Internal LOC
N_1		0.418	
N_2		0.473	
N_16	0.379		0.494
N_17	0.474		
N_18			0.593
N_19			0.629
N_20		0.370	-0.329
N_21			0.461
N_22	-0.291		0.298
N_23		0.349	
N_24	0.265	0.301	
N_25		0.347	
N_26			0.494
N_27			0.591
N_28	0.516		
N_29			0.374
N_30	0.455		

Table N.3. Factor correlation matrix (Scale N)

Factor	1	2	3
1	1.000	.153	.097
2	.153	1.000	.015
3	.097	.015	1.000

Scale P, rage.

Data from the Scale P of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.83, and factorability of the correlation matrix. Bartlett's test of sphericity $\chi^2(91)=1554.34$, $p<.000$. were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a three-factor solution that accounted for the 54.93% of the total variance. Table P.1 shows the eigenvalues and the variance accounted for by each factor. Table P.2 shows the item loadings after Oblimin rotation.

The first factor (labelled "Obstacle-related rage", accounting for by the 27.59% of the common variance) refers to the rage reactions due to obstacles preventing drivers to drive the way they want. Items such as "*Sand or gravel falls down from a lorry in front of your car*" load on this factor.

The second factor (labelled "Violation-related rage", accounting for by the 14.54% of the common variance) refers to the rage reactions due to other drivers violating the traffic code. Items such as "*Somebody does not stop at a red traffic light or a stop sign*" load on this factor. This factor is moderately correlated with first factor (Table P.3).

The third factor (labelled "Insult-related rage", reversed, Accounting for by the 16.94% of the common variance) refers to the rage reactions due insults from other drivers. Items such as "*Somebody sounds the horn for your way of driving*" load on this factor. This factor correlates negatively with both the previous factors (Table P.3).

Table P.1. Eigenvalues and variance accounted for by each factor (Scale P)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance		Total
1	4.915	35.107	35.107	3.862
2	1.580	11.287	46.394	2.035
3	1.196	8.539	54.933	2.372
4	.993	7.092	62.025	
5	.860	6.140	68.165	
6	.718	5.127	73.292	
7	.660	4.715	78.007	
8	.618	4.411	82.419	
9	.533	3.804	86.223	
10	.498	3.557	89.779	
11	.452	3.230	93.010	
12	.377	2.695	95.704	
13	.339	2.425	98.129	
14	.262	1.871	100.000	

Table P.2. Factor loadings (Scale P)

	Factor		
	Obstacle-related rage	Violation-related rage	Insult-related rage (reversed)
P_1		0.586	
P_2	0.484		
P_3		0.714	
P_4		0.460	
P_5	0.691		
P_6	0.331		
P_7	0.609		
P_8	0.604		
P_9			-0.739
P_10			-0.740
P_11	0.494		
P_12	0.645		
P_13	0.555		
P_14	0.665		

Table P.3. Factor Correlation Matrix

Factor	1	2	3
1	1,000	,303	-,411
2	,303	1,000	-,348
3	-,411	-,348	1,000

Scale R, Personality.

Data from the Scale R of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy, 0.75, and factorability of the correlation matrix. Bartlett’s test of sphericity $\chi^2(666)=2555.22$. $p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a five-factor solution that accounted for the 38.76% of the total variance. Table R.1 shows the eigenvalues and the variance accounted for by each factor. Table R.2 shows the item loadings after Oblimin rotation.

The first factor (labelled “Anger/Egoism”, accounting for by the 8.06% of the common variance) refers to anger and egoism. Items such as “Some people think I am egoist and egocentric” load on this factor.

The second factor (labelled “Altruism”, accounting for by the 7.15% of the common variance) refers to altruism. Items such as “I try to be kind with all the persons I meet” load on this factor.

The third factor (labelled “Sensation seeking”, accounting for by the 5.19% of the common variance) refers to the Sensation-seeking personality trait. Items such as “I often wish exciting things” load on this factor.

The fourth factor (labelled “conscientiousness”. Accounting for by the 7.06% of the common variance) refers to responsibility, commitment, attention. Items such as “I am a reliable worker” load on this factor.

The fifth factor (labelled “Calmness”, accounting for by the 4.54% of the common variance) refers to being calm and reflexive. Items such as “I am not a person who worries” load on this factor.

The five factors are not slightly correlated (Table R.3).

Table R.1. Eigenvalues and variance accounted for by each factor
(Scale R)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	4.213	11.387	11.387	2.983
2	3.477	9.397	20.784	2.646
3	2.976	8.042	28.826	1.921
4	1.886	5.099	33.925	2.611
5	1.787	4.831	38.756	1.678
6	1.287	3.479	42.234	
7	1.204	3.253	45.487	
8	1.174	3.173	48.660	
9	1.116	3.017	51.677	
10	1.060	2.864	54.541	

11	.996	2.693	57.233
12	.987	2.667	59.900
13	.934	2.525	62.426
14	.916	2.477	64.903
15	.861	2.328	67.231
16	.792	2.141	69.372
17	.780	2.107	71.479
18	.764	2.065	73.544
19	.733	1.980	75.524
20	.696	1.880	77.404
21	.684	1.848	79.252
22	.647	1.749	81.001
23	.638	1.725	82.727
24	.599	1.618	84.344
25	.583	1.577	85.921
26	.565	1.528	87.449
27	.547	1.479	88.928
28	.522	1.411	90.339
29	.479	1.295	91.635
30	.466	1.260	92.895
31	.437	1.181	94.076
32	.416	1.123	95.199
33	.400	1.081	96.280
34	.371	1.002	97.282
35	.343	.926	98.208
36	.337	.912	99.120
37	.325	.880	100.000

Table R.2. Factor loadings (Scale R).

	Factor				
	Egocentris m	Altruism	Sensation seeking	Conscientious ness	Stability
R_1		-0.347			0.371
R_2	0.506				
R_3	0.286				
R_4	0.253		0.331		
R_5	0.381	0.447			
R_6					0.379
R_7		0.605			
R_8			-0.406		

R_9					0.375
R_10	0.518				
R_11		0.295			0.269
R_12			0.498	-0.348	
R_13	0.462	0.357	-0.261		
R_14					0.26
R_15		0.569			
R_16			-0.353		
R_17					0.335
R_18	0.444				0.308
R_19	0.252				
R_20			0.362		
R_21	0.333	0.513			
R_22	-0.32	0.345	-0.251		0.523
R_23		0.308			
R_24			0.564		
R_25		-0.267	0.266		0.36
R_26	0.437				
R_27		0.302			
R_28			0.328	-0.283	
R_29	0.351	0.329			
R_30	0.687				
R_31		0.388		0.273	
R_32				0.302	
R_33				0.471	
R_34				-0.552	
R_35		-0.347			0.371
R_36	0.506				
R_37	0.286				

Table R.3. Factor Correlation Matrix (Scale R)

Factor	1	2	3	4	5
1	1.000	.073	.034	-.234	-.003
2	.073	1.000	.020	.151	.022
3	.034	.020	1.000	.028	.176
4	-.234	.151	.028	1.000	.046
5	-.003	.022	.176	.046	1.000
6	1.000	.073	.034	-.234	-.003

Scale S, Imagined driving behaviour.

Data from the Scale S of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy. 0.9 and factorability of the correlation matrix. Bartlett's test of sphericity $\chi^2(231)=3459.07$, $p<.000$, were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a five-factor solution that accounted for the 59.49 % of the total variance. Table S.1 shows the eigenvalues and the variance accounted for by each factor. Table S.2 shows the item loadings after Oblimin rotation.

The first factor (labelled "Risky driving", accounting for by the 8.18% of the common variance) refers to risky driving behaviour. Items such as "You drive without keeping a safe distance" load on this factor.

The second factor (labelled "Speed", accounting for by the 8.78% of the common variance) refers to speeding. Items such as "You violate traffic rules in order to go faster" load on this factor. This factor correlates positively with the first factor (table S.3).

The third factor (labelled "Slowing", accounting for by the 9,33% of the common variance) refers to the slowing the speed when required by the traffic conditions. Items such as "You slow down in case of bad conditions (road, weather, etc.) even if you are driving within the speed limit" load on this factor. This factor has a modest negative correlation with the first factor "Risky driving" (Table S.3).

The fourth factor (labelled "Alcohol/Drugs", accounting for by the 10.75% of the common variance) refers to alcohol and drugs related behaviours. Items such as "You drive under the effect of drugs" load on this factor. This factor correlates positively with the first factor (table S.3).

Table S.1. Eigenvalues and variance accounted for by each factor (Scale S)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	6.480	29.453	29.453	3.028
2	2.165	9.842	39.295	3.249
3	1.478	6.717	46.012	3.455
4	1.253	5.694	51.707	3.976
5	1.033	4.695	56.402	
6	.966	4.391	60.793	
7	.915	4.160	64.953	
8	.783	3.561	68.514	
9	.725	3.293	71.807	
10	.699	3.178	74.985	

11	.668	3.038	78.023
12	.606	2.755	80.778
13	.563	2.559	83.337
14	.551	2.503	85.839
15	.515	2.339	88.179
16	.456	2.072	90.251
17	.449	2.040	92.290
18	.402	1.827	94.118
19	.377	1.715	95.833
20	.339	1.542	97.375
21	.325	1.478	98.853
22	.252	1.147	100.000

Table S.2. Factor loadings (Scale S).

	Factor			
	Risky driving	Speeding	Slowing	Alcohol/Drugs
S_1		0.795		
S_2		0.689		
S_3		0.661		
S_4		0.738		
S_5		0.783		
S_6	0.663			
S_7	0.552			
S_8	0.657			
S_9	0.613	0.251		
S_10		0.338		
S_11	0.428			
S_12	0.366			0.287
S_13			0.377	
S_14			0.643	
S_15			0.750	
S_16			0.737	
S_17				0.769
S_18				0.650
S_19			0.551	
S_20			0.524	
S_21			0.523	
S_22				0.655

Table S.3. Factor Correlation Matrix

Fattore	1	2	3	4
1	1.000	.404	-.308	.449
2	.404	1.000	-.392	.354
3	-.308	-.392	1.000	-.367
4	.449	.354	-.367	1.000

Scale T, effects of alcohol.

Data from the Scale T of the questionnaire were submitted to exploratory factor analysis (Principal Axis method. Oblimin rotation). The Kaiser-Meyer-Olkin measure of sampling adequacy. 0.82, and factorability of the correlation matrix. Bartlett’s test of sphericity $\chi^2(190)=1741.14, p<.000.$ were both adequate. The criteria used to identify acceptable factors were (a) Scree test, (b) eigenvalues greater than 1, and (c) the percentage of the total variance accounted for by the factor solution. This yielded a three-factor solution that accounted for the 50.58% of the total variance. Table T.1 shows the eigenvalues and the variance accounted for by each factor. Table T.2 shows the item loadings after Oblimin rotation.

The first factor (labelled “Positive effects”, accounting for by the 17.82% of the common variance) refers to the supposed positive general effects of alcohol assumption. Items such as “*Alcohol reduces sensory capacity*” (inverse) load on this factor.

The second factor (labelled “Positive effects on mood”, accounting for by the 8.06% of the common variance) refers to the supposed positive effects on mood of alcohol assumption. Items such as “*Alcohol makes you feel euphoric*” load on this factor.

The third (labelled “Underestimation of negative effects”, accounting for by the 14.9% of the common variance) refers to the underestimation of the negative effects of alcohol assumption. Items such as “*Alcohol has little effects on you*” load on this factor.

The Table T.3 shows the factors correlation.

Table T1. Eigenvalues and variance accounted for by each factor (Scale T)

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total
1	4.995	24.975	24.975	3.563
2	2.251	11.253	36.228	1.613
3	1.639	8.197	44.425	2.98
4	1.231	6.157	50.581	
5	1.043	5.214	55.796	
6	.947	4.734	60.530	
7	.857	4.284	64.813	
8	.825	4.126	68.940	
9	.792	3.959	72.898	
10	.722	3.611	76.509	
11	.700	3.500	80.009	
12	.629	3.144	83.153	
13	.574	2.871	86.024	
14	.486	2.428	88.452	
15	.474	2.372	90.824	
16	.427	2.136	92.961	

17	.416	2.081	95.041
18	.367	1.833	96.874
19	.330	1.650	98.524
20	.295	1.476	100.000

Table T.2. Factor loadings (Scale T).

	Factor		
	Positive effects	Positive effects on mood	Underestimation of negative effects
T_1			0.376
T_2	-0.543	-0.250	
T_3	-0.633		
T_4	0.279		0.522
T_5			0.545
T_6			0.547
T_7	-0.392		-0.253
T_8		0.714	
T_9		0.736	
T_10		0.406	
T_11	-0.582		
T_12	0.410		0.350
T_13	-0.686		
T_14	-0.694		
T_15	-0.585		
T_16			0.370
T_17			0.477
T_18			0.488
T_19			0.370
T_20			0.401

Table T.3. Factor Correlation Matrix (Scale T)

Factor	1	2	3
1	1,000	,035	,293
2	,035	1,000	,205
3	,293	,205	1,000

Cluster analysis

Factor scores on the identified subscales for scales M, N, P, R, and T were computed through regression analysis, and then submitted to cluster analysis in order to identify groups of respondents. Also the scores on the scale Q (Moral disengagement) were included into the analysis. A hierarchical method of cluster analysis was used to identify the number of clusters, then a k-means method was used to identify the groups of respondents.

Results showed three separate groups of respondents. A multivariate analysis of variance yielded a significant difference among the three groups (Wilks' Lambda=0.13, $F_{36,456}=21.91$, $p<.0001$). A further factorial analysis of variance on the subscales scores yielded a significant difference among the three groups ($F_{2,245}=30.07$, $p<.001$) and a significant interaction between group and subscale ($F_{34,4165}= 36.25$, $p<.001$), meaning that each group of respondents shows a specific profile.

4. **RISKY DRIVERS.** One group can be identified as composed of risky drivers. They have a permissive attitude toward driving under the effect of alcohol and recreational drugs, and are not aware of the negative effects of alcohol upon driving. They also refer not to have a correct behaviour during driving, and indeed they are quite tolerant toward violations of the traffic code and speeding. Furthermore, risky drivers have high scores on driving related rage, especially due to obstacles, and high scores on moral disengagement. Compared to safe drivers, risky drivers have higher scores on sensation seeking and aggressive driving, and have more direct experiences of driving under the effect of alcohol.
5. **ANGRY DRIVERS.** People in the second group are especially characterized by having higher scores on the rage-related subscales being. Interestingly, compared to people in the other two groups they are characterized by an external Locus of Control rather than internal, meaning that they consider accidents as essentially due to external causes and factors. Similarly to the risky drivers, however, they show high scores on moral disengagement.
6. **SAFE DRIVERS.** Safe drivers are instead characterized by being not tolerant toward driving under the effects of alcohol and drugs, toward violations of traffic rules and speeding. Safe drivers have a rather high score on attention-related Locus of Control. They are also aware of the alcohol negative effects upon driving, and do not feel rage during driving. People in the safe drivers group show low scores on moral disengagement.

Interestingly, the three groups do not differ in terms of age or gender, though a prevalence of males can be observed among the risky drivers.

The average score per subscale (and standard error) for each group is shown in Table 1. Tables 2, 3, and 4 report the results of the post-hoc comparisons among the three groups. Table 5 shows the respondents' mean age as a function of gender and group. Figure 1 shows the profiles of the three groups of drivers on subscales. The three groups do not differ in terms of their perception of risk of being involved in an accident, but risky drivers are less worried about this possibility than respondents in the other two groups (Figure 2). Also, respondents in the risky drivers group feel to be supported and encouraged by their friends more than respondents in the other two groups (Figure 3). The same respondents consider their parents would not be angry at their driving behaviour more than the other respondents (Figure 4).

Table 1. Average scores and standard errors for each group on the subscales of the questionnaire.

	ANGRY drivers			SAFE drivers			RISKY drivers		
	Mean	Std.Err.	N	Mean	Std.Err.	N	Mean	Std.Err.	N
Tolerance to violations	0.12	0.06	130	-0.64	0.08	84	1.17	0.12	34
Negative attitude toward alcohol/drugs	0.15	0.06	130	0.33	0.08	84	-1.47	0.13	34
Positive attitude toward speeding	-0.10	0.07	130	0.43	0.09	84	-0.86	0.14	34
Attention-related LOC	0.06	0.08	130	-0.07	0.10	84	0.18	0.15	34
External LOC	0.28	0.07	130	-0.55	0.09	84	0.10	0.14	34
Internal LOC	-0.08	0.08	130	0.34	0.09	84	-0.46	0.15	34
Obstacle-related rage	0.42	0.06	130	-0.89	0.07	84	0.41	0.12	34
Violation-related rage	0.28	0.07	130	-0.42	0.09	84	-0.30	0.14	34
Insult-related rage	-0.33	0.07	130	0.67	0.08	84	-0.15	0.13	34
Moral disengagement	0.08	0.06	130	-0.58	0.08	84	1.28	0.12	34
Egocentrism	0.34	0.06	130	-0.77	0.08	84	0.55	0.12	34
Altruism	0.14	0.07	130	0.01	0.09	84	-0.58	0.15	34
Sensation Seeking	0.04	0.08	130	-0.16	0.09	84	0.08	0.15	34
Conscientiousness	-0.19	0.07	130	0.63	0.08	84	-0.74	0.13	34
Stability	-0.17	0.07	130	0.06	0.09	84	0.53	0.14	34
Alcohol positive effects	0.04	0.07	130	-0.32	0.09	84	0.90	0.15	34
Alcohol positive effects on mood	-0.04	0.07	130	-0.27	0.09	84	0.57	0.14	34
Underestimation of alcohol effects	-0.06	0.06	130	-0.42	0.08	84	1.25	0.12	34

Table 2. Comparison between Angry and Safe drivers on each subscale.

	ANGRY drivers	SAFE drivers	Significance
	N=130	N=84	
Tolerance to violations	0.12	-0.64	p<.001
Negative attitude toward alcohol/drugs	0.15	0.33	ns
Positive attitude toward speeding	-0.10	0.43	p<.001
Attention-related LOC	0.06	-0.07	ns
External LOC	0.28	-0.55	p<.001
Internal LOC	-0.08	0.34	p<.001
Obstacle-related rage	0.42	-0.88	p<.001
Violation-related rage	0.28	-0.42	p<.001
Insult-related rage	-0.33	0.67	p<.001
Moral disengagement	0.08	-0.58	p<.001
Egocentrism	0.34	-0.77	p<.001
Altruism	0.14	0.01	ns
Sensation Seeking	0.04	-0.16	ns

Conscientiousness	-0.19	0.63	p<.001
Stability	-0.17	0.06	ns
Alcohol positive effects	0.04	-0.32	ns
Alcohol positive effects on mood	-0.04	-0.27	ns
Underestimation of alcohol effects	-0.06	-0.42	p<.001

Table 3. Comparison between Alcohol tolerant and Risky drivers on each subscale.

	ANGRY drivers	RISKY drivers	Significance
	N=130	N=34	
Tolerance to violations	0.12	1.17	p<.001
Negative attitude toward alcohol/drugs	0.15	-1.47	p<.001
Positive attitude toward speeding	-0.10	-0.86	p<.001
Attention-related LOC	0.06	0.18	ns
External LOC	0.28	0.10	ns
Internal LOC	-0.08	-0.46	ns
Obstacle-related rage	0.42	0.41	ns
Violation-related rage	0.28	-0.30	p<.001
Insult-related rage	-0.33	-0.15	ns
Moral disengagement	0.08	1.28	p<.001
Egocentrism	0.34	0.55	ns
Altruism	0.14	-0.58	p<.001
Sensation Seeking	0.04	0.08	ns
Conscientiousness	-0.19	-0.74	p<.001
Stability	-0.17	0.53	p<.001
Alcohol positive effects	0.04	0.90	p<.001
Alcohol positive effects on mood	-0.04	0.57	p<.001
Underestimation of alcohol effects	-0.06	1.25	p<.001

Table 4. Comparison between Safe and Risky drivers on each subscale.

	SAFE drivers	RISKY drivers	Significance
	N=84	N=34	
Tolerance to violations	-0.64	1.17	p<.001
Negative attitude toward alcohol/drugs	0.33	-1.47	p<.001
Positive attitude toward speeding	0.43	-0.86	p<.001
Attention-related LOC	-0.07	0.18	ns
External LOC	-0.55	0.10	p<.001
Internal LOC	0.34	-0.46	p<.001
Obstacle-related rage	-0.88	0.41	p<.001
Violation-related rage	-0.42	-0.30	ns
Insult-related rage	0.67	-0.15	p<.001
Moral disengagement	-0.58	1.28	p<.001

Egocentrism	-0.77	0.55	p<.001
Altruism	0.01	-0.58	ns
Sensation Seeking	-0.16	0.08	ns
Conscientiousness	0.63	-0.74	p<.001
Stability	0.06	0.53	ns
Alcohol positive effects	-0.32	0.90	p<.001
Alcohol positive effects on mood	-0.27	0.57	p<.001
Underestimation of alcohol effects	-0.42	1.25	p<.001

Table 5. Mean age (years) and standard errors as a function of gender and group.

		Mean age	Standard error	N
Males	Angry drivers	19.73	1.28	64
	Safe drivers	20.09	1.35	57
	Risky drivers	21.84	2.04	25
Females	Angry drivers	18.18	1.26	66
	Safe drivers	18.44	1.96	27
	Risky drivers	17.67	3.40	9

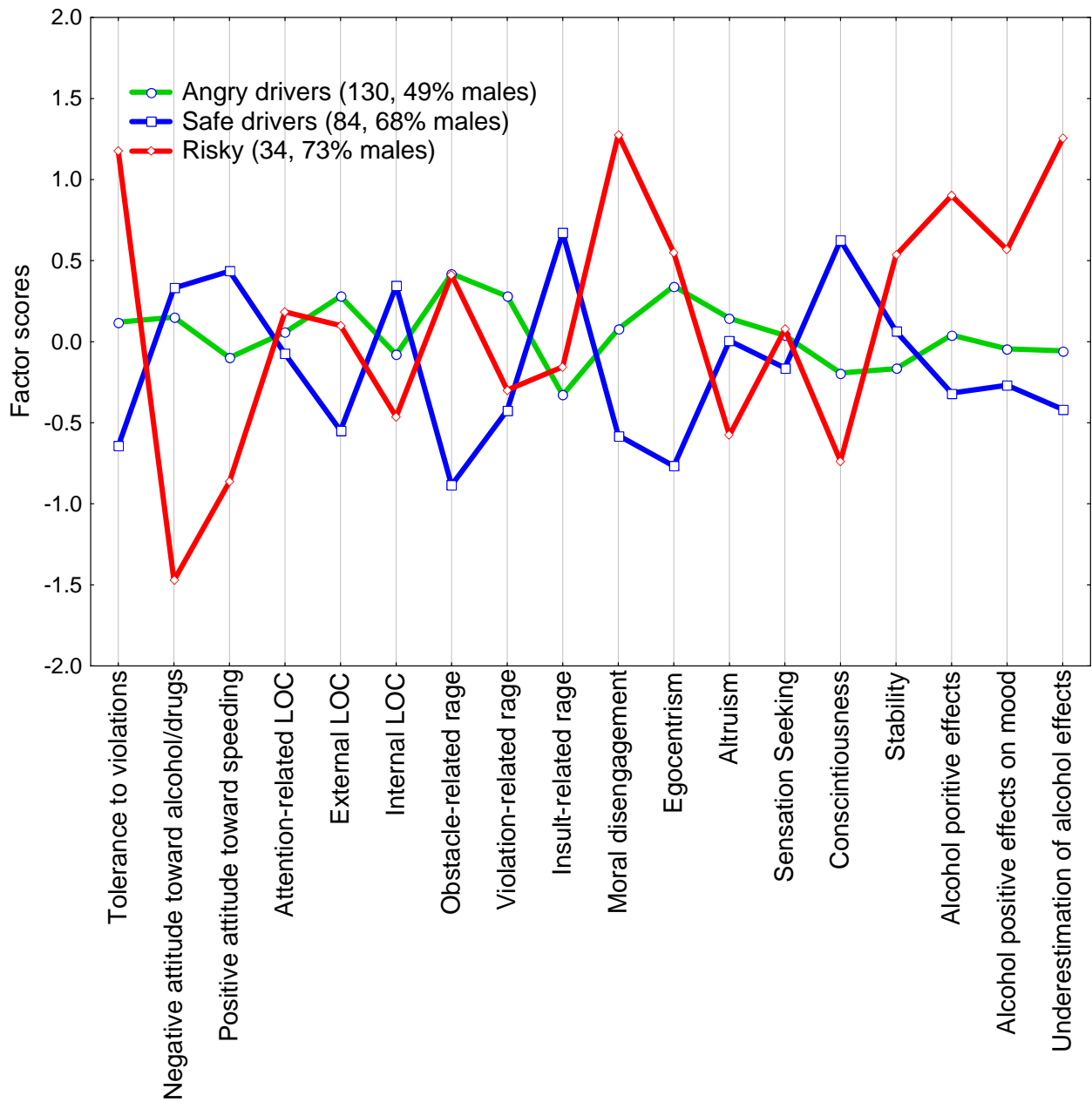


Figure 1. Average scores for each group on the subscales of the questionnaire.



Figure 2. Average scores for each group on items concerning risk perception.

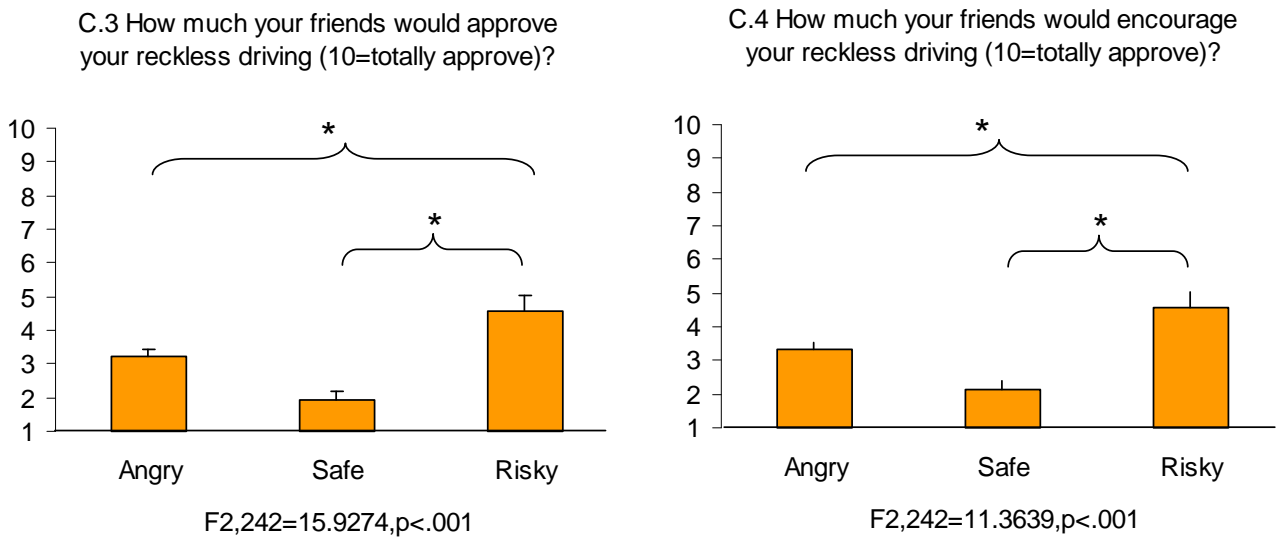


Figure 3. Average scores for each group on items concerning friends' attitude.

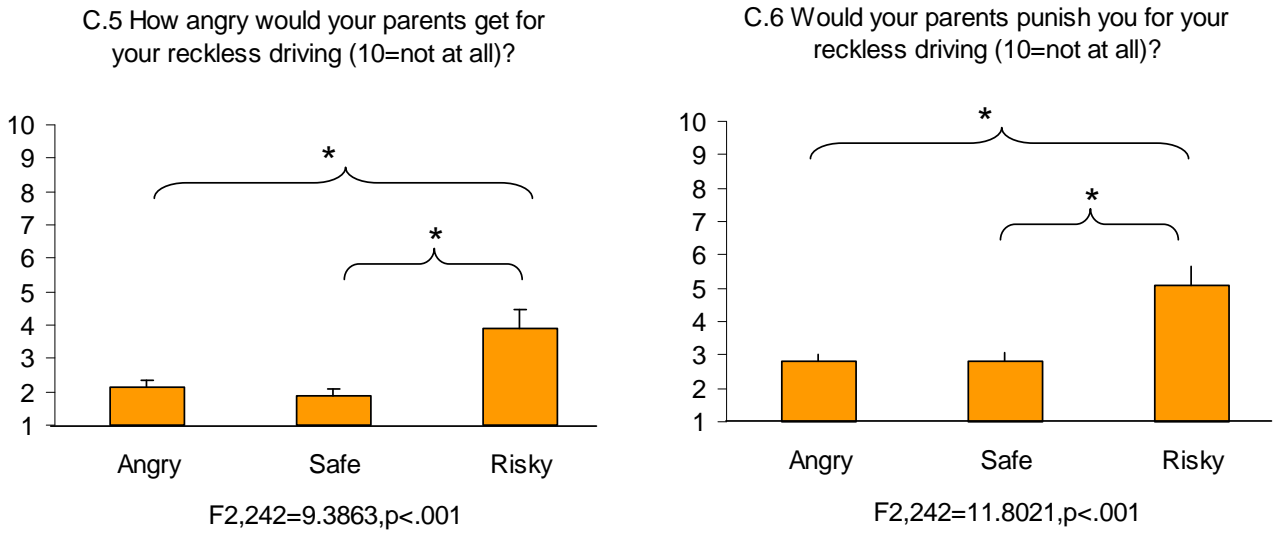


Figure 4. Average scores for each group on items concerning parents' attitude.