



HAL
open science

**The recent dramatic decline in road mortality in France:
how drivers' attitudes towards road traffic safety
changed between 2001 and 2004 in the GAZEL cohort.**

Aymery Constant, Louis Rachid Salmi, Sylviane Lafont, Mireille Chiron,
Emmanuel Lagarde

► **To cite this version:**

Aymery Constant, Louis Rachid Salmi, Sylviane Lafont, Mireille Chiron, Emmanuel Lagarde. The recent dramatic decline in road mortality in France: how drivers' attitudes towards road traffic safety changed between 2001 and 2004 in the GAZEL cohort.. Health Education Research, 2008, 23 (5), pp.848-58. 10.1093/her/cym072 . inserm-00182651

HAL Id: inserm-00182651

<https://inserm.hal.science/inserm-00182651v1>

Submitted on 2 Dec 2008

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Table 1: Percentages of respondent's agreement/disagreement with road traffic safety topics in 2001 and 2004 and percentages of opinions changes between 2001 and 2004 (N=9216).

(Item#):	Agreement in 2001 % (n)	Changed to disagreement in 2004 % (n)	Disagreement in 2001 % (n)	Changed to agreement in 2004 % (n)	Agreement in 2004 % (n)
relaxing existing regulations					
1: Legal alcohol limit at the wheel should depend on the driver's capacity to take alcohol	11.6 (1066)	55.0 (586)	88.4 (8150)	5.9 (478)	10.4 (958)
2: Driving licence endorsement (penalty points) is useless	43.7 (4024)	53.4 (2149)	56.3 (5192)	12.6 (656)	27.5 (2531)
3: Speed limitation should depend on the vehicle's performance	39.2 (3617)	46.9 (1697)	60.8 (5599)	13.1 (731)	28.8 (2651)
4: Speed limitations should be abolished on highways	22.5 (2075)	46.7 (970)	77.5 (7141)	10.0 (714)	19.7 (1819)
5: The use of the seat belt should be a free choice	8.4 (771)	46.8 (361)	91.6 (8445)	4.4 (373)	8.4 (783)
6: Speed limitation should depend on the driver's skill	24.0 (2211)	57.3. (1267)	76.0 (7005)	10.4 (732)	18.2 (1676)
Increased enforcement/stricter regulations					
7: Testing for blood alcohol content on the road should be increased	85.1 (7844)	12.2 (959)	14.9 (1372)	38.3 (526)	80.4 (7411)
8: To improve traffic safety, traffic laws should be enforced	55.4 (5109)	29.3 (1499)	44.6 (4107)	28.6 (1176)	51.9(4786)
9: A speed recorder should be installed in all vehicles	40.1 (3695)	33.9 (1252)	59.9 (5521)	22.3 (1229)	39.8 (3672)
10: Maximum blood alcohol content while driving should be reduced to zero	47.6 (4391)	32.5 (1429)	52.4 (4825)	17.1 (826)	41.1 (3788)
11: Speed controls on the road should be increased	64.2 (5914)	22.3 (1321)	35.8 (3302)	30.7 (1013)	60.8 (5606)
12: Vehicles' speed capacity should be reduced	55.5 (5117)	17.9 (916)	44.5 (4099)	33.4 (1371)	60.5 (5572)

Table 2: Sociodemographic, psychological and behavioural variables assessed in 2001 associated with mean change in score reflecting attitudes toward road safety related topics between 2001 and 2004

Variables assessed in 2001	% (n) in 2001	Agreements with relaxing existing regulations		Agreements with increased enforcement/stricter regulations	
		Change in score	p-value	Change in score	p-value
All respondents	100 (9216)	-0.36		-0.14	
Year of birth N=9216			0.069		0.550
1939-43	39.1 (3604)	-0.37		-0.14	
1944-48	52.7 (4865)	-0.37		-0.12	
1949-53	8.2 (756)	-0.27		-0.18	
Gender (M/F) N=9216			0.765		0.457
Male	78.6 (7244)	-0.36		-0.13	
Female	21.4 (1972)	-0.36		-0.15	
Marital status N=8842			0.093		0.239
Single/divorced/widow	11.4 (1008)	-0.42		-0.17	
Living with a partner	88.6 (7834)	-0.36		-0.18	
Professional status N=9174			0.441		0.001
Unskilled workers	15.3 (1403)	-0.35		-0.17	
skilled workers	57.6 (5289)	-0.35		-0.17	
Managers	27.1 (2482)	-0.40		-0.04	
Educational status N= 9072			0.089		0.002
High school	81.7 (7413)	-0.38		-0.15	
College/University	18.3 (1659)	-0.32		-0.04	
Alcohol intake N=9033			0.508		0.220
None	16.1 (1450)	-0.34		-0.16	
Low quantity regular	17.3 (1562)	-0.35		-0.07	
Low quantity episodic	28.3 (2562)	-0.38		-0.12	
High quantity regular	37.7 (3402)	-0.36		-0.15	
High quantity episodic	0.6 (57)	-0.60		-0.30	
Type of vehicle N=8751			0.004		0.136
Compact/economy	53.8 (4711)	-0.32		-0.16	
Family	35.7 (3126)	-0.40		-0.13	
Sport/ Sedan	10.5 (914)	-0.41		-0.06	
Annual mileage (in km per year) N=9064			0.033		0.581
<10000	21.0 (1904)	-0.32		-0.15	
10000-20000	40.9 (3704)	-0.35		-0.13	
>20000	38.1 (3456)	-0.40		-0.11	
History of road traffic accidents N=9216			0.402		0.461
No	50.8 (4686)	-0.37		-0.12	
Yes	49.2 (4530)	-0.35		-0.14	
Close relation's/friend's death in road traffic accident N=9102			0.627		0.259
No	77.0 (7007)	-0.37		-0.14	
Yes	23.0 (2095)	-0.35		-0.10	

Table 2 (continued): Sociodemographic, psychological and behavioural variables assessed in 2001 associated with mean change in score reflecting attitudes toward road safety between 2001 and 2004

Variables assessed in 2001	% (n) in 2001	Agreements with relaxing existing regulations		Agreements with increased enforcement/stricter regulations	
		Change in score	p-value	Change in score	p-value
All respondents	100 (9216)	-0.36		-0.14	
Fear while driving N=9181			0.505		0.003
Never	24.3 (2235)	-0.38		-0.06	
Sometimes to always	75.7 (6946)	-0.36		-0.16	
Reported cautious driving N=9182			0.941		0.675
Poor to Medium (1-4)	27.3 (2508)	-0.36		-0.12	
High (5-6)	72.7 (6674)	-0.36		-0.14	
Perceived driving skills N=9183			0.006		0.345
Poor to Medium (1-4)	48.0 (4405)	-0.33		-0.15	
High (5-6)	52.0 (4778)	-0.40		-0.12	
Perceived likelihood of being involved in an accident N=9081			0.915		0.368
More at risk	3.6 (334)	-0.36		-0.20	
Less or similar risk	96.4 (8747)	-0.36		-0.13	
<u>Drunk</u> driving in the last 12 months (2001) N=9146			0.464		0.935
Never	76.4 (6993)	-0.37		-0.13	
Few times a year	23.6 (2153)	-0.35		-0.13	
Reported maximum speed in the last 12 months (2001)					
in Built-up areas: N=9165			0.011		<0.001
Below the speed limit (SL)	28.5 (2612)	-0.31		-0.21	
Above the SL by 1 to 19 km/h	47.6 (4364)	-0.38		-0.13	
Above the SL by 20 km/h or more	23.9 (2189)	-0.40		-0.05	
On rural roads: N=9150			<0.001		<0.001
Below the speed limit (SL)	22.2 (2033)	-0.24		-0.23	
Above the SL by 1 to 19 km/h	43.5 (3981)	-0.39		-0.15	
Above the SL by 20 km/h or more	34.3 (3136)	-0.41		-0.04	
On Highways: N=9128			<0.001		<0.001
Below the speed limit (SL)	36.3 (3311)	-0.24		-0.23	
Above the SL by 1 to 19 km/h	39.5 (3609)	-0.38		-0.14	
Above the SL by 20 km/h or more	24.2 (2208)	-0.51		-0.02	
Answering phone when driving N=9216			<0.001		0.357
Never	68.2 (6279)	-0.33		-0.14	
Depend on circumstances	26.7 (2464)	-0.41		-0.13	
Always	5.1 (473)	-0.56		-0.05	
Number of agreements with relaxing existing regulations in 2001 N=9216			<0.001		<0.001
Low (0-2)	(7174)	-0.11		-0.18	
Medium (3-4)	(1775)	-1.19		0.05	
High (5-6)	(267)	-1.58		-0.04	
Number of agreements with increased enforcement/stricter regulations in 2001 N=9216					
Low (0-2)	(2596)	-0.45	<0.001	0.56	<0.001
Medium (3-4)	(3918)	-0.37		-0.13	
High (5-6)	(2702)	-0.27		-0.81	

Table 3: Mean change in score reflecting agreement with relaxing existing regulations between 2001 and 2004: association with factors, assessed in 2001, multivariate analysis

Variables assessed in 2001	B	Standard error	95% CI		t	p-value
Score value in 2001	-0.434	0.009	-0.451	-0.417	-49.974	<0.001
Higher education level	-0.079	0.030	-0.137	-0.021	-2.659	0.008
Type of vehicle †	-0.043	0.024	-0.089	0.004	-1.789	0.074
Reporting a maximum speed over the speed limit on highways ‡	0.026	0.018	-0.009	0.060	1.562	NS
Higher perceived driving ability ‡‡	0.032	0.023	-0.014	0.077	1.371	NS
Higher annual mileage (3 groups)	-0.018	0.016	-0.014	0.050	-1.111	NS
Living with a partner	0.039	0.037	-0.033	0.111	1.070	NS
Reporting a maximum speed over the speed limit in built-up areas †	-0.028	0.029	-0.084	0.029	-0.956	NS
Year of birth (3 groups) ¶	0.013	0.019	-0.023	0.050	0.716	NS
Always answering phone while driving	0.007	0.020	-0.033	0.048	0.366	NS
Reporting a maximum speed over the speed limit on rural roads †	-0.051	0.033	-0.115	0.013	-0.156	NS

Model: R= 0.496, R²= 0.246, adjusted R²= 0.245; F= 238.6, degrees of freedom = 11, 8053; p<0.001

Note: NS= not significant, CI= confidence interval

†: Coded as compact/economy=1, sedan./family/sport= 2

‡: Coded as reported maximum speed below the speed limit=0, reported maximum speed above the speed limit=1

‡‡: coded as “poor to medium”= 0, “high to very high”=1

¶: coded as 1939-43=1, 1944-48= 2, 1949-53= 3

Table 4: Mean change in score reflecting agreement with increased enforcement/stricter regulations between 2001 and 2004: association with factors, assessed in 2001, multivariate analysis

Variables assessed in 2001	B	Standard error	95% CI		t	P-value
Score value in 2001	-0.359	0.009	-0.375	-0.342	-41.759	<0.001
Reporting a maximum speed below the speed limit on highways †	0.126	0.032	0.064	0.188	4.001	<0.001
Higher education level	0.105	0.040	0.027	0.182	2.653	0.008
Higher occupational category ‡	0.064	0.035	-0.004	0.131	1.849	0.064
Reporting a maximum speed below the speed limit on rural roads †	0.052	0.038	-0.126	0.022	1.369	NS
Reporting a maximum speed below the speed limit in built-up areas †	0.029	0.033	-0.043	0.087	0.671	NS
Experiencing fear while driving ‡‡	-0.001	0.031	-0.061	0.059	-0.027	NS

Model: R= 0.411, R²= 0.169, adjusted R²= 0.168; F=256.9, df = 7, 8865; p<0.001

Note: NS= not significant, CI= confidence interval

†: Coded as reported maximum speed above the speed limit =0, reported maximum speed below the speed limit =1,

‡: coded as unskilled/skilled worker = 1, /manager=2

‡‡: coded as never= 0, sometimes to always= 1