

Risk factors associated with unintentional injury. Results from the European Health Examination and Interview Surveys in Luxembourg

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- Injury is a major cause of mortality and morbidity
- The analysis of risk factors is important for successful prevention (Haddon matrix)

Reported risks include:

1) Socio-demographic factors

- Gender, age, immigration status, area of residence
- Income, education level

2) Risk behaviors

- Alcohol consumption, smoking, drug use

3) Disease/conditions

- Medication, physical limitations, depression, sleep deprivation, BMI

Objective: Identify risk factors associated with unintentional injury in Luxembourg.

European Health Examination/Interview Survey

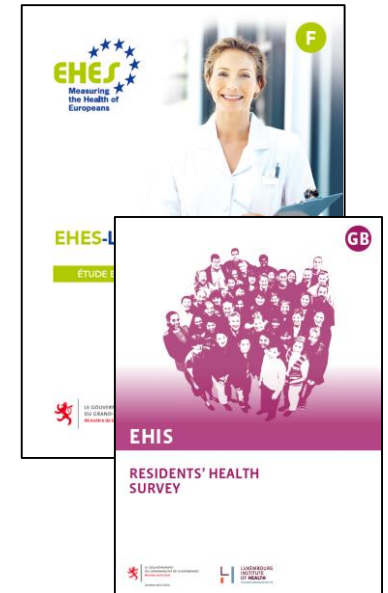
General population survey on health status, health determinants and healthcare

EHES-LUX

- Period: 2013-2015
- 1529 residents aged 25-64 (examination + face to face questionnaire)

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- Period: 2014
- 4004 residents aged 15+ (self completed)



Outcome: At least one Home, Leisure Accident (HLA) or Road Traffic Accident (RTA) resulting in injury last 12 months

Risk behaviors: *smoking, excessive alcohol consumption, cannabis/illicit drug use*

Socio-demographic and health conditions: *age, sex, country of birth, education, residence area, physical limitation*

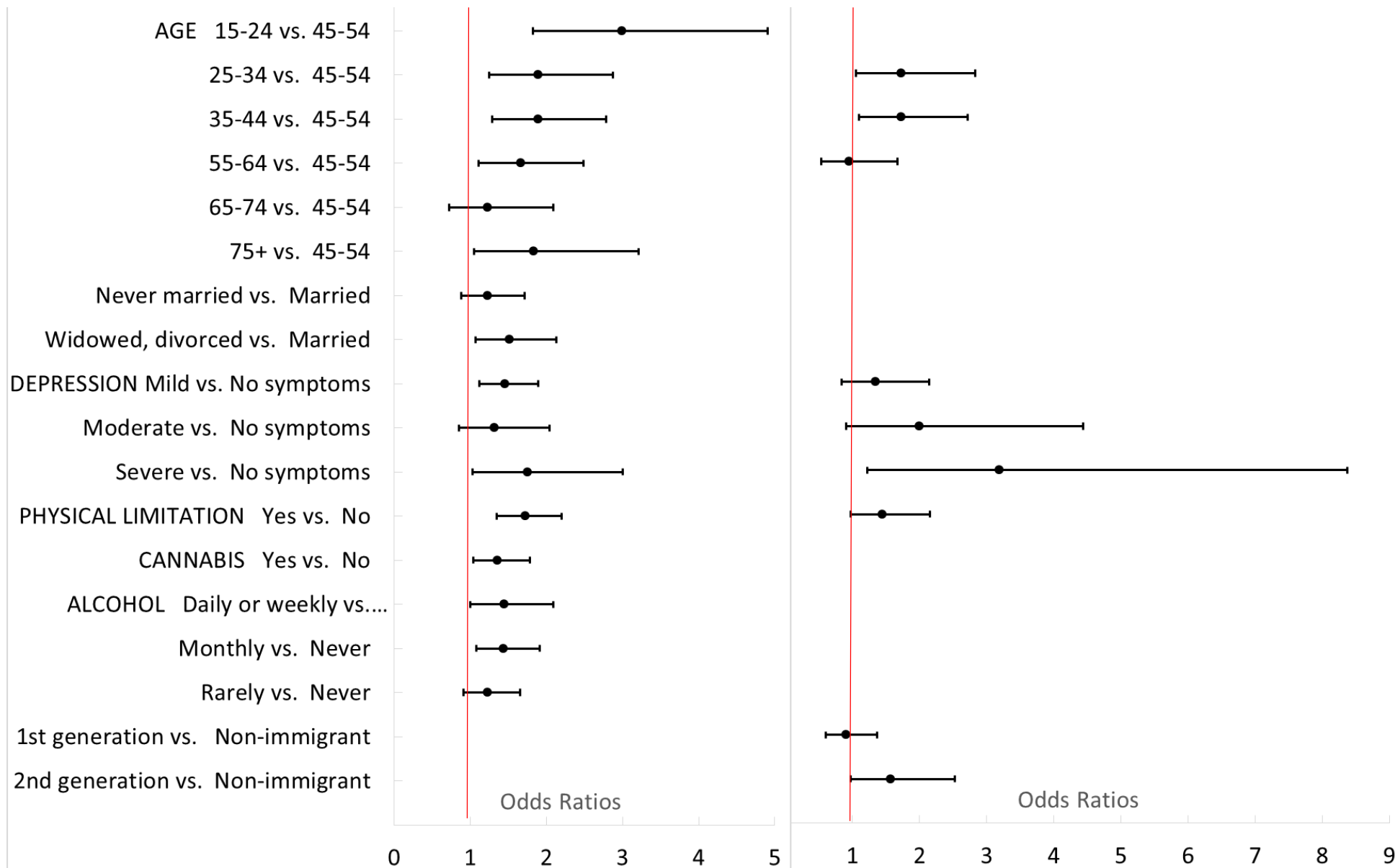
Statistical methods: Bivariate/multivariable logistic regression

HLA or RTA last year		Crude OR	95% CI	p	Adjusted OR	95% CI	p
Yes, N(%)							
Migration		0.006			0.050		
non-immigrant	56 (10.3)	1			1		
1-st generation	75 (10.3)	0.98	0.67 1.42		0.91	0.60 1.37	
2-nd generation	43 (16.7)	1.85	1.19 2.86		1.57	0.97 2.52	
Age group (years)		0.060			0.020		
25-34	42 (13.4)	1.66	1.08 2.53		1.73	1.10 2.72	
35-44	61 (13.2)	1.16	0.70 1.91		0.95	0.54 1.67	
45-54	41 (8.9)	1			1		
55-64	30 (10.3)	1.65	1.04 2.62		1.72	1.05 2.83	
Depressive symptoms (PHQ-8)		0.009			0.048		
No symptoms	123 (10.2)	1			1		
Mild	33 (14.0)	1.40	0.92 2.13		1.34	0.84 2.15	
Moderate	10 (17.9)	2.04	0.98 4.21		2.00	0.90 4.44	
Moderate/severe	8 (25.0)	3.14	1.37 7.20		3.19	1.22 8.37	
Limited because of a health problem		0.036			0.068		
Not limited at all	111 (10.2%)	1			1		
Limited	63 (14.4%)	1.44	1.02 2.01		1.45	0.97 2.16	

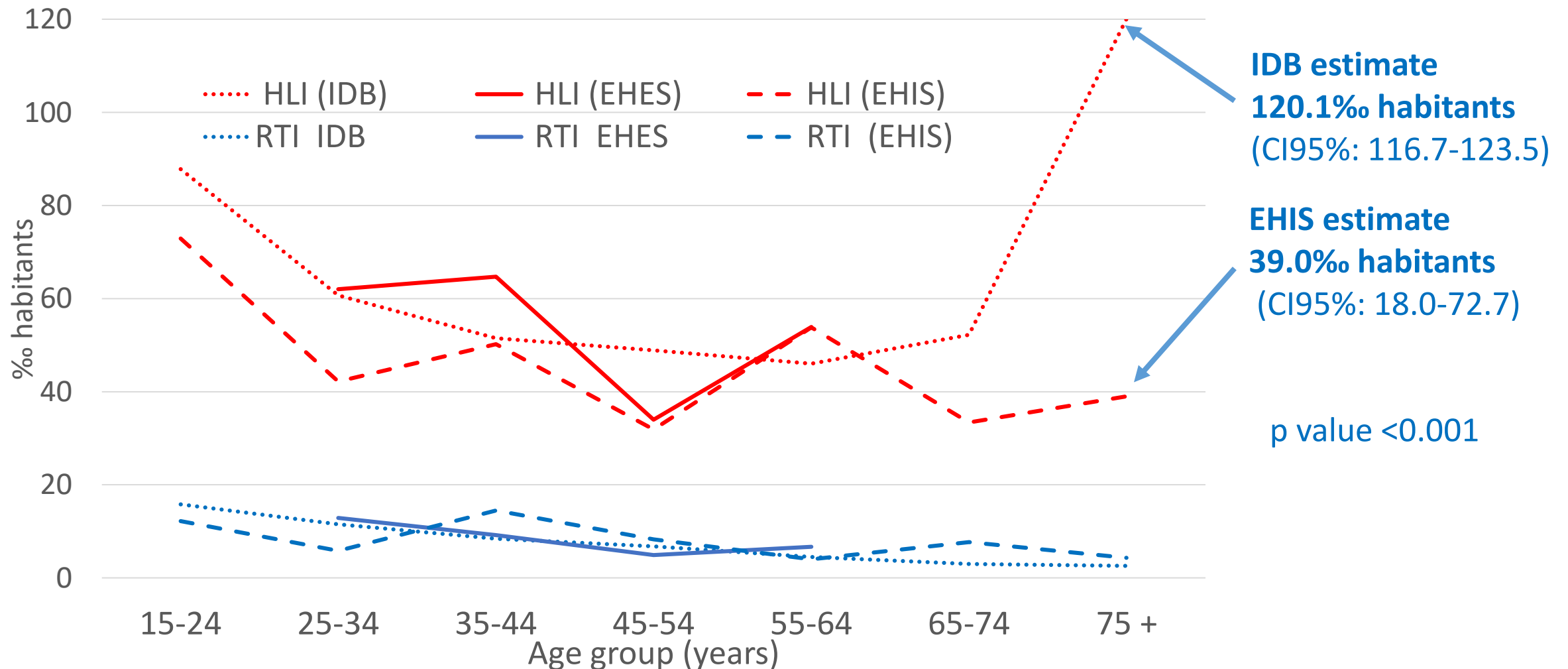
HLA or RTA last year	Yes, N(%)	Crude OR	(95% CI)	p	Adjusted OR	95% CI	p
Age-group (years)				<0.001			0.002
15-24	100 (21.7)	3.31	2.34 , 4.68		2.99	1.83 4.91	
25-34	92 (13.7)	1.89	1.34 2.66		1.89	1.25 2.87	
35-44	89 (12.3)	1.71	1.21 2.41		1.89	1.29 2.78	
45-54	63 (8.0)	1			1		
55-64	71 (11.6)	1.47	1.03 2.10		1.66	1.11 2.49	
65-74	30 (7.8)	1.07	0.67 1.70		1.23	0.73 2.10	
75 +	24(10.6)	1.53	0.92 2.54		1.83	1.05 3.21	
Legal marital status				<0.001			0.042
Married	217 (9.5)	1			1		
Never married	172 (17.1)	1.99	1.59 2.48		1.23	0.88 1.71	
Widowed or divorced	66 (14.0)	1.43	1.05 1.93		1.51	1.08 2.13	
Depressive symptoms (PHQ-8)				<0.001			0.016
No symptoms	236 (9.8)	1			1		
Mild	131 (16.5)	1.88	1.48 2.38		1.46	1.12 1.89	
Moderate	36 (17.4)	2.01	1.35 2.99		1.32	0.85 2.04	
Moderate-severe	28 (21.1)	2.49	1.59 3.89		1.76	1.03 3.01	
Limited because of a health problem				<0.001			<0.001
Not limited	229 (9.8)	1			1		
Limited	212 (16.0)	1.74	1.41 2.13		1.72	1.35 2.20	
Cannabis ever				<0.001			0.026
No	327 (10.9)	1			1		
Yes	133 (17.5)	1.82	1.45 2.28		1.36	1.04 1.78	
Excessive alcohol consumption				<0.001			0.057
Never	170 (10.3)	1			1		
Daily or weekly	67 (16.8)	1.84	1.34 2.52		1.45	1.00 2.09	
Monthly	120 (14.0)	1.55	1.20 2.00		1.44	1.08 1.91	
Occasionally	97 (11.9)	1.29	0.98 1.69		1.23	0.91 1.66	

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Incidence (‰ habitants) of hospitals treated Home and Leisure Injury (HLI) and Road traffic Injury (RTI) according to Injury Data Base-Luxembourg (IDB), EHES and EHIS surveys



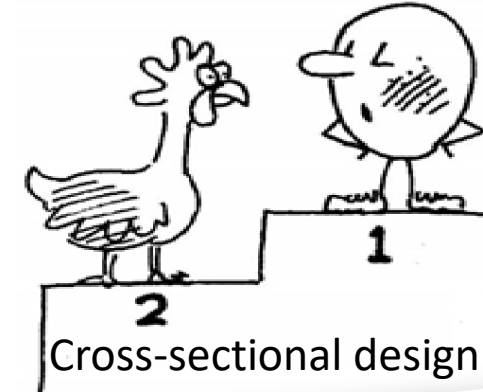
Factors associated with risk of injury

Young age (15-24 years old), second generation immigrant, excessive alcohol consumption, cannabis use, depression, physical limitation

Limitations

Memory (12 months), selection bias, possible inverse causality

Might lead to wrong conclusions (underestimated injury risk among 75+)



**Legal framework to
allow use of anonymous
linkable data**

The bigger picture

	Human factor	Vector	Environment Physical and social
Pre-event		IDB data	Other data sources
Event		The missing link	
Post-Event			