

**TOWARDS A MORE  
STATISTICALLY  
LITERATE FUTURE**

# Stats for non- statistically- minded students

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# Social science disciplines



- Demography
- Economics
- Environmental planning
- Psychology
- Social statistics, methods
- Sociology
- Area and development studies
- Education
- Human geography
- Linguistics
- Management and business studies
- Politics and international studies
- Social anthropology
- Social work
- Socio legal studies

# Assessment objectives



- Evidence of achievement of learning outcomes  
*"I will learn what is assessed"*
- Learning outcomes are what we think students need  
*"[Sigh] I have to take methods because it's compulsory!"*
- Grades as a summary of performance (motivation)  
*"I will choose courses where I know I can perform well"*

# What “the” research suggests ...



- frequent, coherent, and consistent ‘micro-dosing’ (embedding within degrees)
  - mix/hide the vegetables in other things
  - does not need to be the focus of assessment
  - *e.g.* prepare a ministerial brief based on case material
- *we* (parts of/most of? Europe) are not all trained in statistics to teach it well
  - collaboration with NSIs?



# Dictionary definition

- What does it mean to be statistically literate?

often simply ability to read + write (here, also use)

Is it important for everyone to be able to write?

e.g. languages

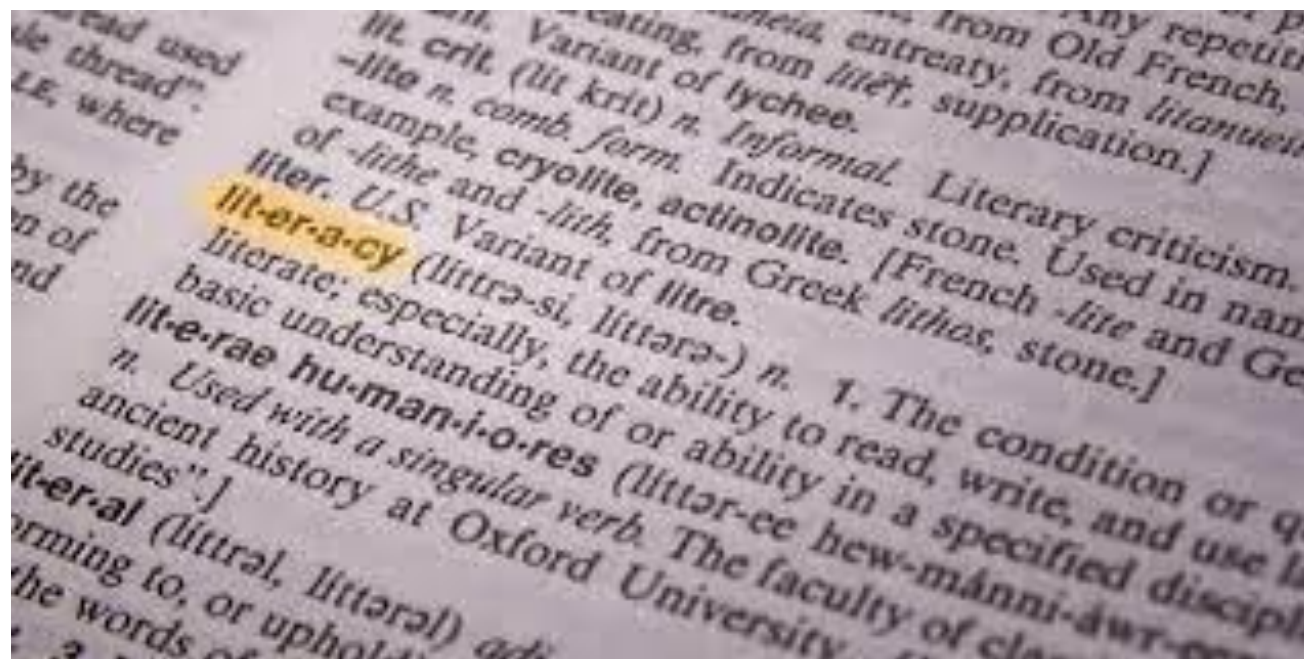


Table 3. Effect of public opinion on transposition

Variables	Model 1		Model 2		Model 3		Model 4	
	HR	SE	HR	SE	HR	SE	HR	SE
Main IV	Hard Euroskepticism				Soft Euroskepticism			
	Main effects							
Public Euroskepticism	0.96***	0.01	0.97***	0.01	0.98***	0.01	0.98***	0.01
<i>National factors</i>								
Government EU position	.	.	1.09***	0.02	.	.	1.09***	0.02
UK dummy	0.91	0.07	0.86*	0.07	0.92	0.07	0.87*	0.07
Germany dummy	0.85*	0.07	0.81**	0.07	0.84*	0.07	0.81**	0.07
Spain dummy	0.87*	0.07	0.63***	0.08	0.87*	0.08	0.62***	0.07
Greece dummy	0.27***	0.14	0.59***	0.05	0.69***	0.06	0.59***	0.05
<i>Policy and period dummies</i>								
Utility policy dummy	4.35**	3.09	4.32*	3.06	2.53	2.26	4.24**	3.01
Food policy dummy	2.52***	0.27	2.55***	0.28	1.12	0.96	2.54***	0.28
Transport policy dummy	2.83*	1.64	2.97*	1.72	1.65	1.34	2.91*	1.69
Maastricht dummy	4.80***	2.77	4.23**	2.40	4.87***	2.74	4.28***	2.43
Estimated transposition dummy	0.94	0.11	0.88	0.10	0.94	0.11	0.88	0.10
Interaction with log of time								
Greece dummy	1.16*	0.10	.	.	.	.	.	.
Utility policy dummy	0.86	0.09	0.86	0.09	0.93	0.13	0.87	0.09
Food policy dummy	.	.	.	.	1.14	0.15	.	.
Transport policy dummy	0.91	0.08	0.90	0.08	0.99	0.12	0.91	0.08
Maastricht dummy	0.86*	0.08	0.87	0.08	0.86	0.08	0.87	0.08
Number of observations	5386		5386		5386		5386	
Model BIC	13917.94		13908.67		13923.36		13912.11	

☆ 4 models b/c different variables incl./excl.

☆ first line – is it significant (\*\*\*)? Is the coef. < 1?

*“one expects to see a statistically significant hazard ratio below 1.00 for each operationalization of this variable”*

↳ less than 1 is slower

☆ *“multiple operationalizations of the aggregate public Euroskepticism variable indicates a robustness to this finding.”*



Table 3. Effect of public opinion on transposition

- ☆ Bayesian information criterion – lower (model fit)
  - ↳ Models 2 & 4
- ☆ Model 2: 0.97 means “every increase of 1 in aggregate public Euroskepticism (i.e. ‘hard Euroskepticism’) the likelihood of a directive being transposed at any given time decreases by 3%”
- ☆ Model 4: 0.98 means ...
- ☆ since Maastricht Treaty transposition quicker
- ☆ Models 1, 2, 4: those policies quicker than social policy
- ☆ All Models: DEESGR slower than NL

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# Concluding remarks

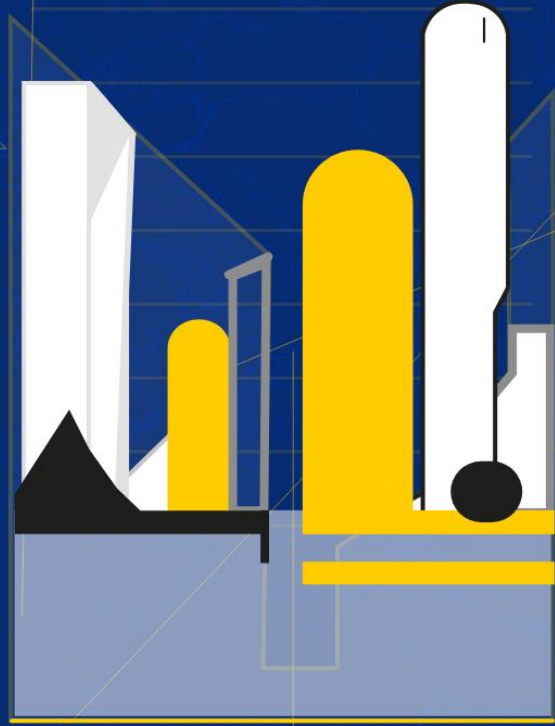


- What language(s) is statistics being taught in?
  - numbers are not linguistically neutral!
    - e.g. decimal points vs. commas; English millions
  - statistical programs + online help guides from US potentially creating 'double challenge' for students
- Generalising generations

*"younger people" should be statistically literate, learn to code, speak multiple languages, be prepared for multiple careers etc.*

Parents need to be literate as well!





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# Group discussion – questions

1. What about gender?
2. What is not collected?
3. Who are the political champions of NSIs?