

Analysing Politics

Lecture 14: Multivariate data analysis: cross-tables

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- 1 Introduction
- 2 Two-way tables
- 3 Spurious relationships and three-way tables

Outline

- 1 Introduction
- 2 Two-way tables
- 3 Spurious relationships and three-way tables

Typology of methods

	Descriptive	Inferential
Univariate		
Multivariate		

Refresher

- Levels of measurement
 - Dichotomous
 - Nominal
 - Ordinal
 - Interval
 - Ratio

Refresher

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- Histogram / frequency table

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- Histogram / frequency table
- Measures of central tendency
 - Mean
 - Median
 - Mode

Refresher

- Levels of measurement
 - Dichotomous
 - Nominal
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 - Ratio
- Histogram / frequency table
- Measures of central tendency
 - Mean
 - Median
 - Mode
- Variation
 - Variance
 - Standard deviation

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Cross-table

	Democracy	Dictatorship
No war	40	74
War	3	11

Do dictatorships more often have war on their territory than democracies?

Cross-table

	Democracy	Dictatorship
No war	40	74
War	3	11

Democracies at war:

- Nigeria
- Uganda
- Guatemala

Cross-table

	Democracy	Dictatorship	
No war	31.2%	57.8%	
War	2.3%	8.6%	
			100.0% (128)

Do dictatorships more often have war on their territory than democracies?

Cross-table

	Democracy	Dictatorship	
No war	35.1%	64.9%	100.0% (114)
War	21.4%	78.6%	100.0% (14)

Do dictatorships more often have war on their territory than democracies?

Cross-table

	Democracy	Dictatorship
No war	93.0%	87.1%
War	7.0%	12.9%
	100.0% (43)	100.0% (85)

Do dictatorships more often have war on their territory than democracies?

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Spurious relationships

A relationship that appears to exist at face value, but that disappears when you control for another variable.

Bivariate cross-tabs: firemen

	Few firemen		Many firemen	
Little damage	3	7	0	3
Much damage	1	4	4	4

Bivariate cross-tabs: firemen

	Few firemen		Many firemen
Little damage	27	58	0
	64	8	43
Much damage	9	33	57
Total	100% (11)	99% (12)	100% (7)

Multivariate cross-tabs: firemen

	Few firemen		Many firemen	
Small fire				
Little damage	3	7	0	0
Much damage	2	0	2	0
Large fire				
Little damage	0	0	5	1
Much damage	0	4	1	4

Spurious relationships: firemen

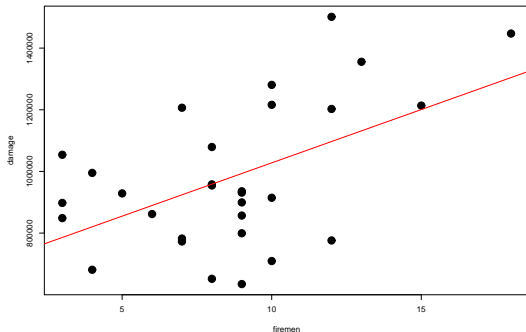


Figure: Fire damage by number of firemen

Spurious relationships: firemen

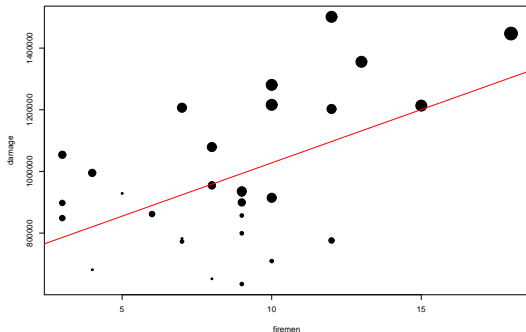


Figure: Fire damage by number of firemen, showing size of fire

Spurious relationships: firemen

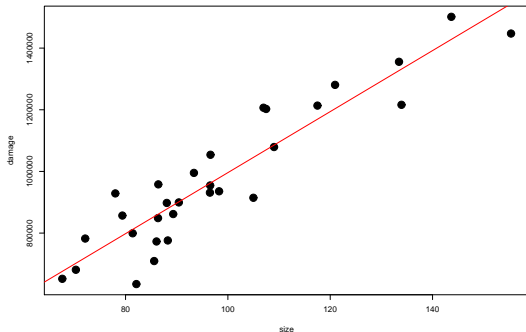


Figure: Fire damage by size of fire

Spurious relationships: firemen

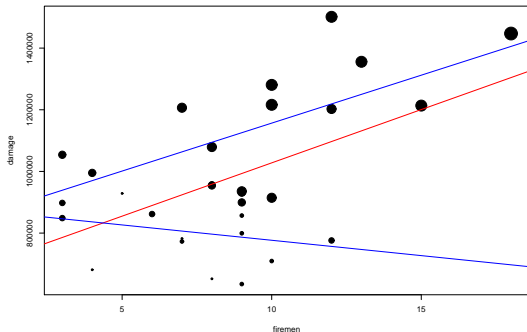


Figure: Fire damage by number of firemen, split by size of fire