

### purposes of empirical research

1. exploration: first orientation on new research topic
2. description: describe observations
3. explanation: find out why these observations occur

### objects of study

who (or what) is social research about?

- individuals
- groups (e.g. families)
- organizations (e.g. faculties, student associations)
- social interactions
- social artifacts

### cross sectional + longitudinal research

**cross-sectional research:** study based on observations representing a single point in time, a cross-section of a population  
→ make the most conditional claims for causal explanation, while still able to corroborate/falsify hypotheses

**longitudinal:** a study design involving the collection of data at different points in time  
→ repeated cross-sectional with different people: trend studies  
→ repeated with the same set of people; panel studies

### compare means

Case Processing Summary						
	Included		Cases Excluded		Total	
	N	Percent	N	Percent		
v153 do you justify homosexuality (Q44E) *	52287	96.1%	2129	3.9%	54415	
v152 which religious denomination do you belong to (Q13A) (harmonized)						
<b>Report</b>						
v153 do you justify homosexuality (Q44E)						
v152 which religious denomination do you belong to (Q13A) (harmonized)						
	Mean	SD	Std. Deviation			
0 No religion	6.39	11913	3.674			
1 Roman catholic	5.15	12915	3.478			
2 Protestant	8.00	8688	2.968			
3 Muslim	1.88	5018	2.270			
8 Orthodox	2.07	6929	2.188			
Total	5.11	52287	3.789			
<b>ANOVA Table</b>						
		Sum of Squares	df	Mean Square	F	Sig.
v153 do you justify homosexuality (Q44E) *	Between Groups (Combined)	238953.206	4	59738.301	6054.596	.000
v152 which religious denomination do you belong to (Q13A) (harmonized)	Within Groups	515845.793	52282	9.887		
	Total	754799.000	52286			

### Explanatory research

Explanatory research implies causal relationships between concepts

explanations can be:

- idiographic: complete picture of all causes for observations, using all relevant factors
  - nomothetic: general understanding of a class of phenomena, using a small number of relevant causal factors
- the latter contain the hardest criteria for causality

### types of explanatory results

- crosstabs and compare means
- correlation
- regression

criteria nomothetic causality:

- a statistical correlation: changes in one characteristic are associated with changes in the other
  - time order: the cause takes place before the effect
  - nonspuriousness
- Spurious relationship: a coincidental statistical correlation between two variables is caused by a third variable

### regression

= the most popular explanatory statistic there are different types of regression, but the most common is *linear*  
it is both a *bivariate* and a *multivariate* analysis

\*bivariate: used when the data set contains two variables and researchers aim to undertake comparisons between the two data set

\*multivariate: used when there are more than two variables in the data set.

### crosstabs

v152 which religious denomination do you belong to (Q13A) (harmonized) * v153 do you justify homosexuality (Q44E)												
		Cross-tabulation										
		1 never	2	3	4	5	6	7	8	9	10 never	Total
v152 which religious denomination do you belong to (Q13A) (harmonized)	0 No religion	3652	467	452	380	1036	671	452	919	818	8216	15813
		22.8%	3.0%	2.9%	2.4%	18.3%	4.2%	4.1%	5.8%	5.2%	39.3%	100.0%
1 Roman catholic		2922	368	628	899	1046	788	874	959	925	2975	12915
		17.1%	4.4%	6.9%	3.9%	14.7%	5.9%	5.2%	6.7%	4.7%	20.1%	100.0%
2 Protestant		647	155	188	157	777	273	327	639	639	4606	8688
		7.5%	1.8%	2.2%	1.8%	9.0%	3.2%	3.8%	7.4%	7.4%	55.8%	100.0%
3 Muslim		3970	273	133	167	218	69	94	45	37	212	5818
		17.1%	6.4%	3.7%	2.1%	4.3%	1.4%	1.1%	0.8%	0.7%	4.2%	100.0%
8 Orthodox		7268	553	347	270	628	260	158	120	77	270	8933
		73.2%	6.6%	3.6%	2.7%	6.2%	2.6%	1.6%	1.2%	0.6%	2.7%	100.0%
Total		19918	2018	1748	1413	5007	2031	1865	2592	2177	14179	52287
		36.2%	3.9%	3.3%	2.7%	9.7%	3.9%	3.6%	5.0%	4.2%	27.1%	100.0%

### Research Design

research designs make the strongest claims for causal explanation.

*time* is a relevant dimension

the empiric cycle consists of the following steps:

#### 1. problem

- research problem: what do you want to know?

- purpose: why do you want to know?

#### 2. theory

- what's already known based on previous research?

- which concepts are relevant to fix the problem?

#### 3. hypotheses:

- concrete expectations based on theory

- deduction: form general theory to testable hypotheses

4. **data:** how are you going to fix the problem?

- by whom: subjects of study

- when and where?

- how: choice of method data collection and operationalization?

5. **data collection:** observations

6. **data processing and analyses**

7. **report results:** answer research question and connect to theory (induction)



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### correlation

Correlations			
		v54 how often attend religious services (Q15)	v153 do you justify homosexuality (Q44E)
v54 how often attend religious services (Q15)	Pearson Correlation	1	,297**
	Sig. (2-tailed)		,000
	N	54045	51964
v153 do you justify homosexuality (Q44E)	Pearson Correlation	,297**	1
	Sig. (2-tailed)	,000	
	N	51964	52287

\*\* . Correlation is significant at the 0.01 level (2-tailed).



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