



Introduction

Ontology and
Epistemology

Data & Theory

Quanti vs Quali

Recap

Researching Crime and Criminal Justice

Week 2: Quantitative vs Qualitative Data & Theory

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Learning Objectives

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- To examine the philosophical underpinnings of research (ontology and epistemology) in the social sciences
- To identify the main types of data used in the social sciences
- To explore the process of theory generation
- To highlight how all of the above elements are intrinsically related
- To make use of the quantitative/qualitative taxonomy to reinforce what we have learnt



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Recap

- *Ontology* refers to how we understand reality:
How do we think about the subject matter of study in the
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- *Ontology* refers to how we understand reality:
How do we think about the subject matter of study in the Social Sciences
Question: What are the subjects of study in Criminology?

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How do we think about the subject matter of study in the Social Sciences

Question: What are the subjects of study in Criminology?
e.g. crime, law, violence, punishment, etc.



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How do we think about the subject matter of study in the Social Sciences

Question: What are the subjects of study in Criminology?

e.g. crime, law, violence, punishment, etc.

- Objectivism claims that reality exists independent of the researcher, it has its own objective properties
- Constructivism posits that reality is in the eye of the beholder, reality is what we make of it

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- Objectivism claims that reality exists independent of the researcher, it has its own objective properties
 - Constructivism posits that reality is in the eye of the beholder, reality is what we make of it
- *Epistemology* refers to the theory of knowledge:
How do we know/learn about the social world?
 - Positivism posits that we can measure and count the different attributes of reality
 - Interpretivism posits that the social world can only be grasped by observing social interactions and listening to personal experiences



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- Question: Can we measure the severity of different forms of punishment (e.g. fines, community orders, suspended sentences, custodial sentences, etc?)



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- Question: Can we measure the severity of different forms of punishment (e.g. fines, community orders, suspended sentences, custodial sentences, etc?)
- Taking these views to the extreme is problematic:
 - A dogmatic view on positivism in Social Sciences is not realistic
 - On the other hand, if we assume that all is relative it is very hard to generate any kind of cumulative knowledge

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 - A dogmatic view on positivism in Social Sciences is not realistic
 - On the other hand, if we assume that all is relative it is very hard to generate any kind of cumulative knowledge
- These are mainly idealised categorisation, in reality most Social Scientists lay somewhere in between
 - Rather than strong personal views on the world, often has to do with the methods and topic of study

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Jose

- Subject: disparities in sentencing
- Data: sentence outcomes
- Methods: statistical analysis
- Deductive: Test hypotheses such as ‘Crown Court judges are inconsistent’
- Leaning towards Objectivism/Positivism

Sean

- Subject: citizen patrols
- Data: notes taken while shadowing patrols
- Methods: ethnography
- Inductive: Examining the behaviour of citizen patrols to generate his own theory
- Leaning towards Interpretativism/Constructivism



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- Data as raw information; gathered by researchers to be analysed; the building block of theory
- We can distinguish between quantitative and qualitative data
 - By quantitative data we mean numerical
 - By qualitative we mean anything else



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 - By quantitative data we mean numerical
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- We can distinguish two main formats of quantitative data
 - Individual data, describing traits of specific cases/subjects, i.e. variables (more on Week 6)

Question: Can you think of any variables that could be used to describe each one of you?



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Question: Can you think of any variables that could be used to describe each one of you?
your weight (in kgs, for example)
whether you are British (coded as 1) or foreigner (coded as 0)
number of crimes you reported to the police last year (0 to ∞)



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number of crimes you reported to the police last year (0 to ∞)
 - Aggregated data, describing traits of samples/populations



Aggregated Quantitative Data

- Aggregated data can be expressed in absolute and relative terms
- Absolute terms:
 - Aka the absolute frequency or the total count
 - Representing the sum of the values of a particular variable, e.g. 42 students in this class are British

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Aggregated Quantitative Data

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- Aggregated data can be expressed in absolute and relative terms
- Absolute terms:
 - Aka the absolute frequency or the total count
 - Representing the sum of the values of a particular variable, e.g. 42 students in this class are British
- Relative terms:
 - Proportions/percentages, e.g. 85% of students in this class are British
the number of times a particular value has been recorded in relation to the total number of cases available in the sample/population
 - Rate, e.g. there are 2 homicides per every 100,000 people in Finland
the number of times a particular value is recorded in relation to another quantity

Aggregated Quantitative Data

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 - Rate, e.g. there are 2 homicides per every 100,000 people in Finland
the number of times a particular value is recorded in relation to another quantity
- Question: Would you use absolute or relative measures to make comparisons across countries or times?

Quantitative Data

Introduction

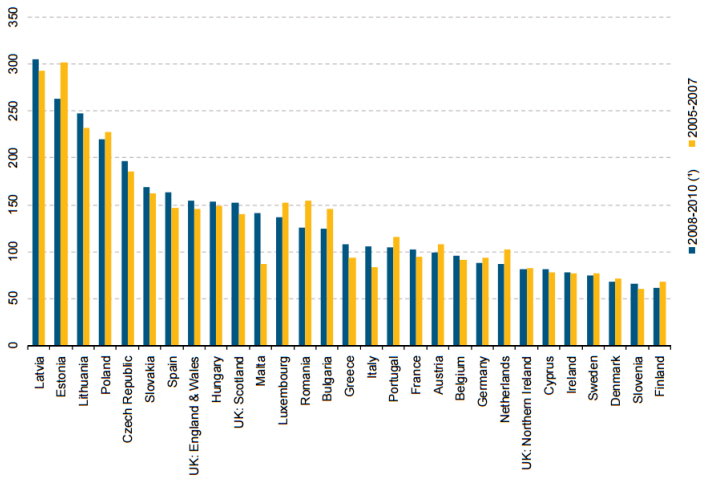
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Prison population rate per 100,000 population





Qualitative Data

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- Question: Can you think of examples of qualitative data?



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Qualitative Data

- Question: Can you think of examples of qualitative data?
 - Mainly words (spoken or written), but anything meaningful could be used
 - e.g. paintings from prisoners could be used to study their mental health,
police uniforms could be used to examine the recent process of police militarisation in the US

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- Question: Can you think of examples of qualitative data?
 - Mainly words (spoken or written), but anything meaningful could be used
 - e.g. paintings from prisoners could be used to study their mental health,
police uniforms could be used to examine the recent process of police militarisation in the US
- Qualitative data is usually very detailed, likely to include subjective information (opinions, beliefs, values)
- Hence it is difficult/impossible to code numerically
- Although there are different types of analysis that involve some sort of coding

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Question: "What in this course has helped you the most?"		
Response	Initial Coding	Focused Coding
I appreciate how much the instructor encouraged us to voice our opinions and to ask questions in class. As much as possible, he took the time to respond to everyone's questions and opinions, to explain concepts, and then to make sure everyone understood his answers. This helped me because I felt like I was being heard and I became more involved in learning the material.	Encouraging expression of viewpoint	Encouraging student participation
	Encouraging questions	
	Responded to questions	Presentation of content
	Explained content	
	Check for understanding	Student empowerment
	Student feels valued	
	Student feels involved in own learning	

Course Structure

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Week	Lecture	Seminar	Tutor	Assessment
1	Introduction to research methods		Jose	
2	Qualitative and Quantitative Research		Jose	
3	Sampling Methods (1 hour lecture + 1 hour seminar)		Jose	
4	Social Surveys and Questionnaires (1 hour lecture + 1 hour seminar)		Jose	
5	Accessing Secondary Data (2 hours workshop)		Jose	
6	Descriptive Statistics and Graphs Using SPSS (2 hours workshop)		Jose	
7	Inferential Statistics Using SPSS (2 hours workshop)		Jose	
8	Writing a Statistical Report (Assignment 1)		Jose	
9	Data Entry and Data Manipulation in SPSS (2 hours workshop)		Jose	
10	Experiments		Jose	
11	Ethics		Suzanne	
Christmas Break				Assignment 1
14	Interviewing and Focus Groups (2 hours workshop)		Suzanne	
15	Ethnography		Suzanne	
16	Qualitative Data Analysis (2 hours workshop)		Suzanne	
17	Document Analysis		Suzanne	
18	Designing A Research Study (Assignment 2 & 3)		Suzanne	
19	Undertaking Literature Reviews		Suzanne	
20				
21				
22	Group Presentations (4 hours)		Jose	Assignment 2
Easter Break				
23				
24				Assignment 3



Theory

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- We gather and analyse data to build and test theories
- We use theories to understand the world around us and to make predictions about the future



Theory

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Recap

- We gather and analyse data to build and test theories
- We use theories to understand the world around us and to make predictions about the future

Minor

Mid-Range

Grand



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Minor

Mid-Range

Grand

- Researchers day to day working hypotheses
- e.g. harsher punishments used for riot related offences prevented the outbreak of new riots



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- Researchers day to day working hypotheses
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Mid-Range

- A theory with limited scope, that explains a specific set of phenomena
- e.g. deterrence is effective against crimes driven by the opportunity to make an economic gain

Grand

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Mid-Range

- A theory with limited scope, that explains a specific set of phenomena
- e.g. deterrence is effective against crimes driven by the opportunity to make an economic gain

Grand

- All inclusive, systematic, highly abstracted theories of everything
- Question: What would you say here?



Theory and Data

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- Most empirical research connects theory (what we think) to data (what we record or measure)
- Inductive reasoning builds theories
 - From patterns in data to theoretical explanations
- Deductive reasoning tests theories
 - Theory formulated as hypotheses to be tested using data

Theory and Data

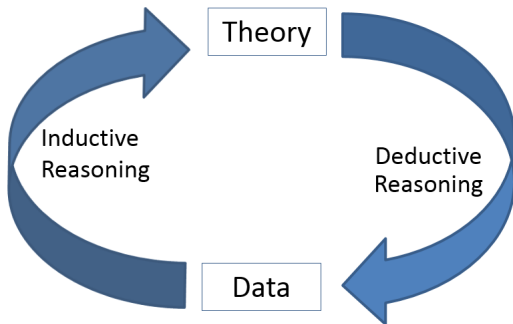
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Quantitative vs Qualitative

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Recap

What epistemological/ontological views predominate?

Quantitative

Qualitative



Quantitative vs Qualitative

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Recap

What epistemological/ontological views predominate?

Quantitative

- Objectivism / Positivism
- Reality can be objectively quantified
- People as objects upon whom research is carried out

Qualitative

- Constructivism / Interpretivism
- Reality only exists in the eyes of the beholder
- People as subjects actively involved in the research process



Quantitative vs Qualitative

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What type of data do they use?

Quantitative

Qualitative

Quantitative vs Qualitative

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Recap

What type of data do they use?

Quantitative

- Simple data easy to standardise and count
- Numbers
- Large samples
- Secondary data

Qualitative

- Deep, rich, messy data loaded with meaning
- Words
- Small samples
- Primary data



Quantitative vs Qualitative

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Recap

What is the typical process of knowledge creation in each research paradigm?

Quantitative

Qualitative



Quantitative vs Qualitative

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Recap

What is the typical process of knowledge creation in each research paradigm?

Quantitative

- Deductive
- Test theories / hypotheses

Qualitative

- Inductive
- Generate theory



Quantitative vs Qualitative

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Recap

What are each others main advantages?

Quantitative

Qualitative

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Recap

What are each others main advantages?

Quantitative

- Objective
- Generalizable
- Replicable
- Can look at trends and patterns

Qualitative

- Deep
- Detailed
- Can reach domains of study inaccessible to quantitative methods. i.e. subjects difficult to contact, concepts difficult to operationalise



Mixed Methods

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- ‘Paradigm wars’ - qualitative and quantitative used to be considered mutually exclusive
- Instead, the problem under investigation should dictate the methods of investigation
- It is increasingly common to see pieces of research using methods from both families, e.g.
 - The England and Wales Sentencing Guidelines has got a statutory duty to monitor compliance with its sentencing guidelines
 - Quantitative analysis of sentence outcomes used to detect courts where sentencing is systematically harsher or more lenient
 - Qualitative interviews with judges from those courts are arranged to understand the reasons behind such disparities

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- Research in the Social Sciences is underpinned by different philosophical views
- Data is much more than just numbers
- Used to test theories (deductively) or build theories (inductively)
- All of the above listed concepts are interrelated
- The quanti vs quali taxonomy - although a simplification - facilitates framing the concepts we've introduced

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- To review what we have covered here read:
 - Bryman (2016) Social Research Methods. Chapter 2 (available on Minerva)
- In preparation for next week's lecture and Seminar 1 make sure that you read:
 - Bachman & Schutt (2018) Fundamentals of Research in Criminology and Criminal Justice. Chapter 5 (available on Minerva)
 - In addition, to prepare for next week's seminar carry out the sampling exercise uploaded on Minerva