

SO5041 Unit 1: Introducing Quantitative Social Research

Brendan Halpin, Sociology

Autumn 2019/0



Qual versus Quant?

- Social research is often divided into **qualitative** and **quantitative**:
 - Is this a real division?
 - What exactly is quantitative social research?
- In some respects the distinction is clear:
 - Quantitative research is concerned with numbers and statistical analysis, typically of large-scale surveys
 - Qualitative research is less obviously concerned with number, and typically is smaller scale and more in-depth
- ‘Qualitative’ actually covers a diverse range of research and method
- But sometimes this division is over-stated, e.g., “qualitative sociology” versus “quantitative sociology”
- It is only at the level of method that the division is clear

Positivism–Interpretivism?

- Some commentators see major philosophical divisions
 - quantitative \equiv positivist
 - qualitative \equiv interpretivist, anti-positivist
- While there are some parallels, this is misleading: quantitative research is not necessarily positivist, and is not incompatible with interpretivist frameworks
- Positivism is a philosophy of science that holds that only that which can be measured exists
- However, it is often used to mean a naïvely scientific approach to social research, or as an inherently negative way of referring to the quantitative method

Positivism–Interpretivism?

- In the past positivists have argued that social science should use exactly the same methods as the natural sciences,
 - suggesting that social phenomena should be studied via **measurement** and **observation** from the outside,
 - strongly downplaying the role of understanding or of *rational social action*

Critique of positivism

- Positivism has many critics, in sociology often from an interpretivist perspective: the interpretation of the meaning of action and communication is paramount for this sort of social research
- Some attacks on positivism have been extended to attacks on quantitative methods, but it is mistaken to treat them as the same
- Many interpretivists criticise the quantitative method for not being able to deal with the complexity of meaning and context in social life – this is not the same as attacking it for being positivist

Quantitative approaches and rationality

- A great deal of quantitative research works in terms of knowledgeable rational actors
 - Weber (key theorist for interpretivists) himself carried out a number of quantitative projects
 - Much neo-Weberian sociology uses quantitative method, e.g., “rational action theory” school
- Moreover, to justify quantitative sociology it is sufficient that you can say some useful things via “measurement”, and conversely, all naturalistic research is in a sense dealing with measurement and observation
- Increasing use of "mixed methods": both qual and quant in the same project

Limitations

- Though quantitative research is not necessarily positivist, it has clear limitations
 - Rigid, almost industrial method – less opportunity for a dialogue between theory and data collection during the research process
 - Restrictive: you can only deal with the data you have
 - Weak on rare or hard-to-trace populations, or on rare events
 - Institutional context: large investment required means substantial pressure to follow the pressures of funding

Powerful

- But it is very powerful for certain types of question
 - whether certain processes or phenomena are present in a given population
 - where the *relative size* of competing effects is important
 - indeed, wherever it is necessary to generalise to a large population
- Probably true to say that the best research is methodologically ecumenical

“Scientific” model?

- Though not necessarily positivist, quantitative research has strong affinities with a “scientific” model of the research process
 - the *Theory* \Rightarrow *Hypothesis* \Rightarrow *Test* cycle
 - *Falsification* in the Popperian sense
 - an interest in causal relations

The experiment

- The ideal type of this method is the experiment as, at least conceptually
 - subjects allocated randomly to two groups,
 - one control group
 - one “treatment” group exposed to the variable of interest
 - with the strong inference that differences in outcome between the two groups are caused by the treatment
- Experiments are, of course, almost always impossible in social research (and much other research)

Observational data

- The alternative is the observational model:
 - collect data “in the field”, e.g., using surveys or “observation”
 - use *multi-variable statistical techniques* to search for *causal relations*
- Necessarily weaker than the experimental model: much harder to be sure you are not missing another reason for a given effect
- Generally harder to reason about causality with observational data: the evidence you have is simply **association** or **correlation**

Ambiguity

- That is, your survey may show that unemployed people have lower mental health than other categories (an “association” between employment status and mental health), but cannot tell you why:
 - unemployment might simply be bad for you
 - people with mental health problems may be more prone to lose jobs
 - or a third factor may affect both (e.g., geography: in one region there may be higher unemployment and higher mental ill-health for unrelated reasons)

Taking time into account

- Longitudinal observational designs help
 - if respondents are observed at two time points, and we systematically see people moving from employment to unemployment and equanimity to depression (and vice versa), we can exclude the “third factor” argument
 - if we observe people more frequently, we may be able to observe the onset on unemployment before the onset of depression at an individual (or vice versa) and argue with more confidence for a causal relationship