

“A” Level Sociology

A Resource-Based Learning Approach

Module One:
Theory and Methods

Unit M14: Reliability, Validity and Triangulation

Introduction

To begin this section, we need to firstly look at a number of **basic concepts** that will be useful to us in our study of sociological methods.

1. Primary data

In basic terms, any form of data that is **collected personally** by a sociologist is considered to be "**primary data**". **Sources** of primary data include such things as:

- Questionnaires
- Interviews
- Observational studies (including Participant Observation)
- Content Analysis / Semiology

2. Secondary data

Any form of data that **originates** from a **source other than the personal researches** of the sociologist is considered to be "**secondary data**". **Sources** of secondary data include such things as:

- Newspaper articles
- Books, magazines, the mass media generally
- The research of other social scientists

3. Quantitative data.

This form of data results from an attempt, as the name suggests, to **quantify** the **relationship between two or more things**. In this respect, an attempt is made to represent the relationship **statistically / numerically**.

4. Qualitative data

This form of data results from an attempt to specify the **quality** of the **relationship between two or more things**. This usually involves the attempt to say something about the way people **experience** the social world and their social relationships. It is also concerned with the attempt to understand the **interpretations** and **meanings** people give to things. For **example, qualitative data** may be used in the attempt to:

- Discover the meanings people give to behaviour
- Understand how people interpret their social relationships, rules of social interaction and so forth.

Examples of this form of data collection might be:

- "A Sense of Freedom" by Jimmy Boyle (1977).
- "Street Corner Society" by William Foote Whyte (1955)
- "Asylums" by Erving Goffman (1968).

In each of the above studies, the writers attempted to collect information about various aspects of the social world ("**Juvenile Gang**" behaviour in the case of both **Boyle** and **Whyte**, **mental institutions** in the case of **Goffman**) by trying to **experience the world from the participant's point-of-view** (hence the name given to this particular form of **qualitative data** - "**Participant Observation**").

Reliability and Validity

As sociologists, we need to be able to understand the usefulness of the data we collect:

- How **accurate a picture** of social life we are getting
- Whether or not the **conclusions** we draw are **applicable** to everyone or simply the group of people we have studied ("**representativeness**").
- Can our research be **repeated** by others (a process known as "**replication**") and would they get **similar results** if they did repeat our research?

Two concepts that we use to **test the usefulness** of the data we collect are:

1. Reliability

The **reliability** of the data we collect must, of course, be an important consideration, since **if the data we use is not reliable**, then the **conclusions** we draw on the basis of such data are going to be fairly **useless**.

For **example**, if I attempt to draw **conclusions** about the state of **education** in Britain on the basis of a **couple of interviews** I conducted down the **pub** with whoever happened to be present at the time, it's probable that such **data is not likely to be very reliable as a guide to what is really happening in the educational system**.

Data reliability, therefore, is concerned with ideas such as:

- The **consistency** of the data collected.

Will, for **example**, the **same question** asked of the **same person** in **similar circumstances**, produce the **same answer**?)

- The **precision** (or lack of same) with which it is collected

For **example**, how **systematic** is a form of data collection that relies upon asking people questions about something about they may have little direct knowledge?

- The **repeatability** of the data collection method

For **example**, if another sociologist attempted to repeat my research "down the pub", would similar results be achieved?

In simple terms, **data** can be considered broadly **reliable** if the **same results** (or broadly similar) can be gained by **different researchers** asking the **same questions** to the **same** (or broadly similar) people.

For **example**, a researcher may attempt to **check the reliability** of a response within a questionnaire by asking basically **the same question** in a **slightly different way**:

- How old are you...
- When were you born?

In this (very simple) **example**, the researcher attempts to **cross-check** the **reliability** of an answer - if they get two different answers, then it is likely that the data being collected is not going to be very reliable (this, incidentally, is a form of **data triangulation** - a concept that is discussed in more detail below).

As I've noted, a **related concept** here is that of **replication** (the ability to **repeat** a piece of research and get the same - or very similar - results).

For **example**, in an **experiment**, if a **different researcher** is able to use **the same methods** on the **same material** to produce **the same result**, then the **conclusions** gained could be said to be **reliable**...

In general terms, the **reliability of data** collected will be **affected** by such things as:

- The **opportunities** available for the researcher (**consciously** or **unconsciously**) to introduce **bias** into the data collection process.
- The level of **standardisation** the researcher is able to introduce into their data collection (for **example**, is **everyone asked the same set of questions** in the **same way**?).

For **example**, where data collection depends upon such things as the **interpretation** of people's **behaviour** (the **inability to record accurately** people's behaviour, for example) the **less reliable** the data is likely to be...

Returning briefly to the example of **statistics** produced by the **government**, the **reliability** of such things as **monthly Unemployment totals** can be shown by asking:

- **How** are the **statistics collected**?
- Is it possible to **bias** the collection of such statistics?
- Do the **statistical** totals depend upon the **interpretation** of the researcher as to what constitutes "unemployment"? and so forth.

2. Validity

Data is only **useful** if it **actually measures what it claims to be measuring** and, in this respect, the concept of **validity** refers to **the extent to which the data we collect gives a true measurement / description of "social reality"** (what is "**really happening**" in society).

Thus, in relation to the **example** of **Unemployment statistics**, whilst we can be reasonably certain that such statistics are **collected reliably**, month-on-month, we also need to know how **accurate** (or "**valid**") a picture of **unemployment** in our society they **represent**.

For **example**, if we wanted to **compare** levels / rates of unemployment in our society between **today** and **twenty years ago**, could we use government statistics for this purpose?

Although such **statistics** are **collected reliably**, we need to understand how **definitions** of what constitutes "**unemployment**" may have **changed** over time - and, in this respect, since the **definition** has **changed about 25 times over the past fifteen years**, it follows that such **statistics** are **not valid** for purposes of **comparison** (we are **not**, in technical terms, "**comparing like with like**").

Additionally, since such **statistics** do **not** use a **definition** of "**unemployment**" that **involves counting everyone who wants to find a job**, but **can't**, it's **unlikely** that they **represent** a true or **valid picture** of **unemployment** in Britain...

As should be clear, the concepts of **reliability** and **validity** go **hand-in-hand** in sociological research:

- If **data is reliable but not valid**, then it may have **limited use**. We can make **general statements** about the world, but such statements may not actually **apply** to any one social group (such as the "unemployed").
- If **data is valid, but not reliable**, we may **not** be able to use it to make **general statements** about the world (for example, we may be able to **understand** something about **one group** of unemployed people that doesn't necessarily apply to all unemployed people).

Finally, therefore, a **general rule** to follow whenever you are presented with data to analyse / interpret (whether it be data collected from primary sources such as interviews, experiments, observation and the like, or secondary sources such as novels, Official Statistics and so forth), is that you should always seek to **apply** the concepts of **reliability and validity** to the data.

Triangulation.

As I have tried to show, various **methods of data collection** have different **advantages** and **disadvantages** and, given this fact, it would seem to make sense for the sociological researchers to make use of a number of different methods in their research since:

- A **weakness in one method** could be **avoided** by using a **second method** that is **strong** in the **area** that the **first is weak**.

For **example**, when we **interview** people a general **weakness** here is that we have to take it on **trust** that the respondent is telling us the **truth**. In this instance, we might use an **observational method** to try and **check** we are getting the truth about someone's behaviour. By **observing them in their everyday life**, for example, we might be able to check they actually do what they tell us they do...

Question:

You might like to think about whether or not this is always possible. What kinds of problems might you encounter, as a researcher, in trying to combine quantitative and qualitative methods in this way?

- A **combination of different methods** would give us a much **more rounded picture** of someone's life and behaviour. Thus, we could **observe** a respondent's behaviour and make notes about it using a form of participant observation and we could also **question** them about why they did particular things, why they behaved in one way rather than another and so forth.

The name we give to this idea (if you haven't already guessed) is "**triangulation**" and it derives from a technique used by **surveyors** in their work. If you want to understand the **theory behind the concept**, then read on - if you are happy that you understand the idea then you can skip the next few paragraphs.

Going From A to B...

If you had to **measure the distance between two points** (A and B), you would need to ensure this was **measured accurately** (since if you are a **surveyor**, an inaccurate measurement might result in a road being built a few yards too short, for example).

One way to do this might be to measure the distance a few times (the **replication** of your measurements). If you always came-up with the same result then you might reasonably **assume** you have correctly measured the distance between the two points (your measurement is **reliable**).

However, even if you did this, you **could not be certain** that the **method / machine** you were using was itself **accurate** (a **machine** might be **faulty**, for example). As a means of **double-checking** the **accuracy** of their **measurements**, **surveyors** use a knowledge of **mathematics** to ensure measurements are correct.

For example, we know that, **mathematically**, **each angle of an equilateral triangle** (one that has **sides of exactly the same length**) is always **60 degrees**. Thus, if we "**triangulate**" our measurement by taking **three different measurements** (point A to point B, B to C and C to A) we can check our measurement of the distance between point A and point B is correct by using our knowledge of mathematics to confirm the accuracy of our measurement.

Thus, if we measure the distance between point A and point B and find that it comes to 100 feet, then measure 100 feet between point B and a third point (C) and finally we measure 100 feet from point C back to point A, we create an **equilateral triangle. If our original measurement was accurate, then each angle of the triangle will equal 60 degrees.** If one or all of our measurements was not accurate, then at least one of the angles will **not** be 60 degrees and we then know that we have not measured the distance between our original points (A and B) correctly (so we'll have to do it all again...).

And Back Again...

Now, you might well be saying, this is all very well and interesting (but, then again, you might not - unless, of course, you're a surveyor, in which case you probably couldn't get enough of this stuff...), but **what has this got to do with sociology?**

The answer is deceptively simple.

- If a respondent claims they always do something in a given situation (for example, that they always vote in a particular way or they intend to vote in a particular way), we have to take this on **trust**.
- If, however, we could **observe** them in the act of voting, this would give us a way of **checking the accuracy** of their claim. Whilst this is **not as reliable** a way of measuring the accuracy of something as the technique used by a surveyor, it does give us **some measure of control** over the **accuracy** of the data we collect.

In general terms, the concept of triangulation can be **applied** to both the way we use various **different methods** in the research process ("**methodological triangulation**") and the way we can **combine various theoretical perspectives** in our research ("**theoretical triangulation**"). It might, therefore, be useful to look at each of these briefly in turn.

1. Methodological Triangulation.

As **Harvey and MacDonald** note ("Doing Sociology: A Practical Introduction"), there are **three basic types** of **methodological triangulation**:

- a. **One researcher** using **two or more research techniques**.
- b. **Two or more researchers** using the **same research technique**.
- c. **Two or more researchers** using **two or more research techniques**.

In general terms, **methodological triangulation** can be used for a number of purposes:

- To collect **different types of information** (**qualitative** and **quantitative**, **primary** and **secondary**, for example).
- With **two or more researchers using the same method** (**observation**, for example) their **observations** can be **compared** to see if they **agree** that they have seen the same things in the same ways.
- To **check that data collected in one form** (for example, through a structured **interview**) is both **reliable** and **valid**. As I've already noted, some form of **observational** method could be used to check these things.
- To **verify** (that is, "**confirm**") that any **data** collected is **accurate**.

2. Theoretical Triangulation.

This is a **much less common form of triangulation** (for reasons that we don't really need to go into here), but it is possible to study the behaviour of a social group from both a **Structuralist** and an **Interactionist** theoretical perspective, for example.

- From a **Structuralist perspective** you might be interested in looking at a **group** such as "the **family**" in terms of the **institutional relationships** that exist between the **family and work, education, religion** and the like.
- From an **Interactionist perspective** you might also be interested in looking at **family life** from the **point of view** of **particular family groups** or even **individual members of different families**.

Whilst, as I've noted, this form of triangulation is possible, it's also quite **rare** in sociology. This is mainly because researchers who hold different perspectives on the social world tend to be interested in looking at specific aspects of that world - a "Structuralist", for example, might not be very interested in how individual family members feel about their life within such a group, just as an "Interactionist" might not be very interested in trying to explore family structures on an institutional level.