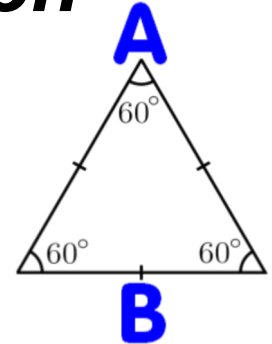


Sociology Shortcuts

M11. Types of Triangulation

In surveying, **triangulation** refers to a way of verifying the accuracy of a measurement (for example, between two points A and B) by using the known mathematical properties of equilateral triangles (each angle is 30 degrees and each side is the same length).



In Sociology this general idea translates into what **Denzin** (1970) identifies as five types.

1. Methodological Triangulation

In the most widely-used type of triangulation the researcher off-sets the *weaknesses* of one method with the *strengths* of another as a means of improving the **reliability** and **validity** of their research.

A combination of methods can give a more rounded picture of someone's life and behaviour; a researcher could, for example, *observe* a respondent's behaviour using participant observation and also *question* them about why they did something.

Alternatively the researcher could compare the results from two different methods used on the same people (such as a *semi-structured interview* and a *focus group*) and if the conclusions drawn are broadly the same this helps confirm the reliability and validity of the data.

Methodological triangulation can be subdivided into two types:

1. Within-method triangulation

Bryman (2001) calls this "*the use of varieties of the same method to investigate a research issue*".

On a simple level this might involve asking open and closed questions in the same questionnaire.

A general weakness of *questionnaires* is that the researcher must assume a respondent is telling us the truth. However, a researcher could off-set this by using an *observational method* to check they actually do what they say they do.

Hughes et al (1997)

Examined "*the appeal of designer drinks to young people*", using two contrasting methods: focus groups and structured interviews.

The data from one was used to cross-check and confirm data from the other (such as each showing a strong pattern of age-related differences in attitudes to designer drinks).

2. Between-method triangulation

The most common form of triangulation involves what **Bryman** terms the use of "*contrasting research methods*".

On a simple level this might involve combining a structured interview with some form of observational research.



Methodological triangulation: Harvey and MacDonald (1993)

1. Two or more researchers using same research technique
2. One researcher using two or more research techniques
3. Two or more researchers using two or more research techniques

2. Researcher triangulation

In studies that rely heavily on researcher interpretations to generate data, one way to control reliability and validity is to use *different researchers*:

- If different researchers using the same research technique arrive at the same results this help to confirm data reliability.
- Using researchers from different ethnic, age, gender and class groups can be used to check for things like observer and interviewer bias.

3. Data Triangulation

This involves gathering data through differing *sampling strategies* such as collecting data:

- at different times
- in different contexts
- from different people.

This type may also include gathering data from both the people involved - and the researcher's own experiences of - a situation.

Venkatesh (2009)

Was able to make sense of certain forms of behaviour (such as dealing crack cocaine) and experiences (such as being black and poor) in ways that would not have been possible if he had not been involved in the world he was studying. He gathered data from both those involved (their understanding of what it meant to be black and poor) and from his experience of living in their world.

4. Theoretical triangulation

Sometimes called *methodological pluralism*, this type involves a researcher combining different research *methodologies*, such as *interpretivism* and *feminism* and *methods* (*quantitative* and *qualitative*) in an attempt to improve research reliability and validity.

5. Environmental Triangulation

This type uses a range of environmental factors - different locations, times of day, seasons and so forth - to check data validity.

Milgram (1963)

In his series of classic obedience studies Milgram used different environmental conditions - a science lab at the prestigious Yale University and an old run-down building - to test whether the environment in which an experiment took place changed how respondents behaved.

In this instance he found respondents were many times more likely to obey instructions designed to apparently inflict punishment on innocent people in the Yale University science lab setting.

Advantages

While all research methods have strengths and weaknesses a researcher can use the strengths of one method to **compensate** for the shortcomings of another.

By gathering and aggregating different types of data (quantitative and qualitative) and sources (such as respondents and participant observers) the researcher is more-likely to get a complete, fully-rounded ("**holistic**") picture of the behaviour they're studying.

This, in turn, means that by using different methods and sampling strategies a researcher can generally improve overall data **reliability** and **validity**.

More specifically, data collected using higher reliability methods (such as questionnaires) can off-set reliability weaknesses in observational methods - with the reverse being the case for **validity**.

Confidence in things like the accuracy and truth of research data can be increased using triangulation.



Parke and Griffiths (2002)

"One obvious advantage of **non-participant observation** is that it relies only on observing behaviour. Since the researcher cannot interact in the behavioural processes, most data collected will be qualitative, interpretative, and to some extent, limited.

However, by using other methodological research tools (e.g. **structured interviews**), suspicions, interpretations and even hypotheses can be confirmed".

Finlay (1999)

Compared accounts of the same events given by different respondents in **semi-structured interviews** and added a further check by comparing "the oral record of those events with the contemporary **documentary** record in local newspapers".

Bechhoffer and Paterson (2000)

"If we are able to base part of an explanation on **unstructured interview** material, on **documentary evidence** and on the results of a **survey**, our confidence in our findings is likely to be greatly increased".

Trochim (2002) argues that if all research methods contain the capacity for *error*, the only sensible thing is to combine methods so that one type of error cancels out another.

Triangulation can be used for:

- **checking** data reliability and validity
- **comparisons**, where different researchers using the same method can compare data for similarities and differences.
- **confirmations** - verifying the accuracy of different types of data.

Disadvantages

In terms of resources, triangulation adds another layer of time, effort and expense. This involves things like the time needed to analyse different data types created from different methods, the need to employ more researchers and the general co-ordination of a much larger research project.

If a researcher gets contradictory data from two different sources it can be difficult - if not impossible - to disentangle "truth" from "falsity": if the researcher receives two opposing accounts of the same thing, which account is true? And more importantly, how can they tell? This can raise serious **reliability** and **validity** issues.

While the principle of "offsetting strengths with weaknesses" generally holds true we should avoid the *simple generalisation* that quantitative methods are *always* highly reliable but low in validity while qualitative methods are the reverse. **Official marriage statistics**, for example, are both reliable (the definition of "a marriage" doesn't change from year to year and every marriage is officially recorded) and valid: the statistics measure exactly what they claim to measure.

Despite these disadvantages, methodological triangulation has been used in a wide range of sociological research:

Barker (1984) used overt participant observation, questionnaires and semi-structured interviews in her research with the Unification Church ("Moonies").

Hey (1997) studied girls' friendships in two London schools using a combination of participant observation and personal documentation (some of the girls allowed her to read their diaries and she was also given access to the notes girls passed between each other in the classroom).

MacKeogh (2001) studied the "micro-politics of family viewing" in terms of how young people used television and their parents' attempts to control what they watched. Her primary method was overt participant observation (she wanted to understand the critical awareness of young people about the media they consumed). This was complemented by notes made by her respondents as well as semi-structured interviews used to explore some of the issues raised in the observations.

Garforth and Kerr (2010) examined "Women's under-representation in science", using a mix of interviews, focus groups and participant observation.

Naïve Realism

Bryman (2001) argues that something like methodological triangulation is a form of *naïve realism*, in a couple of ways

1. It's sometimes seen as a way of getting at "*the truth*" by throwing a vast array of resources, methods and data at a problem, based on the (*naïve*) idea "*there can be a single definitive account of the social world*".
2. Collecting different types of data adds a significant layer of complexity to an already-complex process and such data may not always be easily and neatly **compared**: "*Triangulation assumes data from different research methods can be unambiguously compared and regarded as equivalent in terms of their capacity to address a research question*".

This assumption may be invalid: differences arising between the data from, for example, a structured interview and a focus group may have less to do with the **reliability** and **validity** of each method and "*more to do with the possibility that the former taps private views as opposed to the more general ones that might be voiced in the more public arena of the focus group*".