

# Sociology Factsheet



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## What are the problems sociologists may face when using experiments in their research?

**This Factsheet will look at:**

1. Sociological experiments as a form of data collection.
2. The limitations of experiments as a method of sociological research.

While experiments as a method of both data collection and hypothesis testing are widely used in both the Natural Sciences (such as Chemistry and Physics) and some Social Sciences (such as Psychology in particular), it is probably true to say that, for a variety of reasons, experimentation is not a method of data collection that is used very often in Sociology.

### Definition

In order to understand the concept of experimentation it is useful to begin with a definition.

**Giddens (1989):**

"An experiment can...be defined as an attempt, within artificial conditions established by an investigator, to test the influence of one or more variable upon others. Experiments are widely used in the natural sciences, but the scope for experimentation in sociology is limited. We can only bring small groups of individuals into a laboratory setting and in such experiments, people know they are being studied and may behave differently from normal."

### What are the characteristics of experiments?

#### (a) Control of variables

Experiments aim to discover the effect of one thing on another. Experiments are used in order to ensure complete control over all known variables, so that the researcher can isolate the key variables and be certain that he/she knows exactly what each variable does or responds to.



Therefore the objective of an experiment is to see how various factors affect the behaviour of the dependent variable. i.e whether the independent variable affects the dependent variable.

An independent variable is a factor that we think might have an effect upon the dependent variable. By changing the independent variable we can test this possible relationship by seeing if changes in the independent variable produce changes in the dependent variable.

#### (b) Testing hypotheses

When conducting experiments we are testing a possible hypothesis.

**In biology**, for example:

By manipulating the amount of light (the independent variable - the thing we change) and observing the effect it has on plant growth (the dependent variable - the thing we want to explain), we can come to some conclusion about a possible relationship between the two.



**In sociology**, for example:

By manipulating the type of television images (the independent variable - the thing we change) - in this instance, exposing children to a series of violent programmes - and observing the effect it has on their subsequent behaviour (the dependent variable - the thing we want to explain), we can come to some conclusion about a possible relationship between the two.



### There are two types of experiments:

#### 1. Laboratory experiments

These take place in a controlled environment, often known as the laboratory.

#### 2. Field experiments

Since Sociology is concerned with how people behave in the real world, sociologists have sought to adapt the experimental method to a realistic context ('the field'). Without the confinement of a laboratory, sociologists can seek to overcome the practical (but not always ethical) objections to the use of the laboratory method.

### Why experiments are not often used in Sociological research

For a variety of reasons, experimentation is not a method of data collection that is used very often in Sociology.

The reasons for this are many and varied.

#### 1. Ethical considerations:

Do sociologists have the moral right to conduct experiments upon people who may be unwilling victims, simply because the sociologist claims to be doing so in the name of "science"?

If participants do not know they are being studied, they cannot give their informed consent. If they are told they are being studied they may not act as they normally would. This would reduce the validity of the research because you may not be measuring what you set out to measure : in other words you may not be measuring the effect of the independent variable on the dependent variable. However, if you don't tell them, the study could be considered unethical.

#### 2. Methodological considerations:

##### Practical issues

It is frequently the case that the kind of experiments it might be useful to conduct are simply not practical (and nor are they ethical) e.g. separating identical twins.

Laboratory experiments often work with an isolated individual and the whole point of sociology is that our behaviour is affected by others e.g. peer groups, community etc. It is virtually impossible to measure the effect of social influences on personal behaviour through laboratory experiments as it is impossible to place a whole society or even a small community inside a laboratory.



**Control of variables**

Experimental methods of data collection involve a complex process whereby the experimenter attempts to manipulate and /or control a number of different factors (Independent variable) that may have a bearing upon, for example, a particular aspect of human behaviour (dependent variable).

One key problem is the difficulty of controlling all the possible variables, and therefore of being able to identify the actual variable that causes the observed changes. This is particularly the case with field experiments.

**Hawthorne Effect**

The laboratory is an artificial situation : what happens therefore may have little relevance to the real world.

When participants know they are being watched (even with a field experiment) they may behave differently so an accurate picture of their normal behaviour is not obtained. In the Social Sciences, we have to take into account the fact that our object of study (people) does have consciousness - people are aware of the world around them and can act purposely towards that world (if only to act in purposely unpredictable ways simply to mess-up your experiment.) This is known as the Hawthorne effect, named after a series of studies by Mayo at the Hawthorne works of the Western Electricity Company.

**Experimenter bias**

This is the effect that the experimenter's expectations have on the participants and therefore on the results of the experiment. The experimenter may display behaviour (intentionally or unintentionally) that influences participants to act in the desired way.

It is therefore much more difficult to study people in the same way that natural scientists are able to study rocks, plants etc.

**Examples of Sociological experiments**

**Exam tip:-** To get high marks in the exam you will need to show that you are aware of how different areas of Sociology link to each other. It is a good way to show here that you can use examples from different areas of the specification to support what you have written.

**1. Pygmalion in the Classroom by Rosenthal and Jacobson (1968)**

Rosenthal and Jacobson were interested in studying low educational achievement by Mexican children.

They found that when teachers were told that some pupils whom they had randomly chosen were 'intellectual bloomers' (bright), this caused the teachers to treat them differently, and they performed better at the end of the year.

By introducing a relatively controlled element into the classroom (interaction between teachers and pupils), Rosenthal and Jacobson were able to test their hypothesis and demonstrate that the expectations held by teachers about their pupils was a significant factor in the intellectual development (or lack of same) of those pupils.

**Activity**

**Identify some of the problems associated with conducting this experiment**

Was this a laboratory experiment or a field experiment?

Ethical issues

Methodological issues

**2. Study by Bandura et al (1963)**

Bandura was interested in studying the effects of violent images in the media on the behaviour of children.

They divided a group of children into 4 groups.

- Saw real life adults using a mallet to attack an inflatable doll (Bobo doll)
- Saw a film of adults attacking the doll
- Saw a film of cartoon characters attacking the doll
- Saw no violence at all

The children were then placed in a room for 20 mins with a doll similar to the one in the image shown to the first three groups.

The findings of the study was that aggression towards the doll was higher in each of the three groups that had experienced prior violent imagery.

**Activity**

**Identify some of the problems associated with conducting this experiment**

Was this a laboratory experiment or a field experiment?

Ethical issues

Methodological issues



**Summary**

Experiments are of limited use in Sociology but the basic principle of comparing one situation with another to try to find causes lies behind a lot of explanatory research in Sociology. E.g. many attempts to explain why working class children do less well than middle class children in education have compared the variables in their home backgrounds.

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| 1. Experiments are a common, very powerful method of research in the natural sciences.   | 4. One of the main problems with experiments is the fact that people have consciousness. This means that they can participate actively in an experiment in a way that non-conscious matter cannot. |
| 2. Ethical and methodological problems make experiments like those conducted in the natural sciences less common in sociological research.   | 5. The large number of possible variables involved in any form of sociological experiment means that:  |
| 3. Experiments in the natural sciences are a major method of research because scientists can have complete control over both the conditions under which an experiment takes place and all of the possible variables that are being tested. In sociology, this is not possible for: | (a) It is difficult to establish exact causal relationships.   |
| (a) Ethical reasons (we cannot force people to participate in an experiment, for example).   | (b) It is difficult to accurately repeat an experiment for the purpose of verifying data.  |
| (b) Methodological reasons (will people behave "normally" under laboratory conditions, for example?).  | 6. A major problem with sociological experiments is that of the difficulty involved in the standardisation of the conditions / environment under which an experiment takes place.                  |

**Fill in the blanks**

One method of data collection rarely used by sociologists is the experiment. This method is a study conducted in a \_\_\_\_\_ environment. There are two types of experiments; a \_\_\_\_\_ and a \_\_\_\_\_ experiment.

An experiment investigates the effect of the \_\_\_\_\_ variable on the \_\_\_\_\_ variable. In Bandura's study using the Bobo doll, the independent variable was \_\_\_\_\_ and the dependent variable was \_\_\_\_\_.

There are several reasons why sociologists do not use experiments to collect data. These reasons can be summarised into two explanations \_\_\_\_\_ considerations and \_\_\_\_\_ considerations. People don't behave the same in a laboratory experiment as they would in everyday life. This is known as the \_\_\_\_\_.

Another problem that can occur is that the experimenter may unintentionally communicate his/her expectations to the participants. This is called \_\_\_\_\_.

**Sample exam questions**

**Examine the problems some sociologists may face when using experiments in their research.**

To obtain high marks it is necessary to show detailed knowledge and understanding of sociological material relating to the problems of using experiments in sociological research. This will be accurately and sensitively interpreted and applied to the demands of the question and will be well balanced in its coverage of methodological and ethical concerns. Candidates will show the ability to organise material and analyse and/or evaluate it explicitly so as to produce a coherent and relevant answer. Evaluation will be closely related to the problems identified in the answer.

Answers will consider a range of problems of using experiments. Material may include:

- validity,
- representativeness,
- Hawthorne Effect,
- experimenter bias,
- control of variables,
- deception/informed consent,

**Examiner's comments** It is important to read the question carefully. This question is asking about experiments not research methods in general. Strong answers to this question maintained a clear focus on the experimental method, often distinguishing between laboratory and field experiments and/or making reference to sociological research that used experimental methods.