(Large Scale) Experiments

Experiments have an important function in understanding phenomena or testing a hypothesis of how they will behave under certain circumstances. There are understood to be four important elements of experiments, the treatment or the actions performed; the experimental units or subjects of the treatment; responses; and controls, where variables that may impact the result are regulated. Generally, experiments are categorised as 'controlled' or 'natural', the latter of which are closer to observations; and are used when it is difficult to control all variables and when it is impossible to control for all variables, respectively. Experiments may take place in a laboratory, but in the social sciences field experiments are used to observe behaviours in their natural setting.

Using '(Large Scale) Experiments'

Step 1: A topic or a research question is selected and defined as narrowly as possible. Prior to commencing the experiment it must be determined whether the research question has already been answered.

Step 2: The variables that are of importance to the topic or research question are isolated.

Step 3: A hypothesis is defined that predicts the results of the experiment and the behaviour of the variables.

Step 4: Data collection is planned. This includes a determination of which data will be collected and when this will occur.

Step 5: Decisions are made regarding the blindness of the experiment, or whether the volunteer and researcher know which individuals are in the 'control' or 'experimental' group.

Step 6: The experiment is conducted and data are collected. It is advised this occurs in a randomised way and the experiment is repeated to obtain multiple values for variables.

Step 7: Data are represented visually and analysed. A conclusion may then be made with regard to whether the hypothesis proposed was correct. This is most frequently accomplished through the use of statistical methods.