Explaining Research Methods Used by Social Scientists

The main methods of data collection used by social scientists are: surveys; questionnaires; interviews; experiments both field and laboratory; observations: participant and none participant and case studies.

Surveys are either interviews and/or questionnaires and are a method of investigation in which a researcher can collect information from a large group of people. They are used to find out details like peoples habits, opinions, attitudes or inter ests. The questions can be fixed or open depending on the subject matter or the information needed. The advantages of surveys are that they can be a quick and cheap way of gaining information standardises questions can be analysed quickly especially when a computer is used to source the information as the questions can be pre-coded. These surveys can be used to identify patterns and make comparisons e.g. between groups of people - young- elderly, Scottish, English, males and females. The disadvantages of sur veys are that if closed questions are used the sample can mean nothing and they don't give freedom of choice. The respondent may avoid certain questions or tell lies. If postal questionnaires are used to those can be a low response or problems with the sam pling for all sort of reasons including the joke factor so the sample may not be typical of the population.

A survey done by Seal et al.'s (1957) is an example of the use of surveys. It was a study done on child-rearing practices using two groups of mothers from the Boston area of the USA. The data was gathered by rating open-ended answers to structured questions given to the mothers in a taped interview, the raters never met the mothers personally. The researchers found that positive relationships betwe en the use of physical punishment and a child's higher aggression level. Mothers who were rated as warm and loving and had used 'withdrawal of love' as a major form of punishment had children with stronger consciences. Both these variables, withdrawal of love and strength of conscience, were assessed indirectly from the interview data and are examples of constructs, operationally defined by the coding system.

Interviews can be informal and casual to the formal, clinical interview. The advantages of this are that a good report can develop between the interviewer and the interviewee. This can help to gain honest information which is important when sensitive or personal information is required if allows people to open up about their experiences and it allows the interviewer to gain more background rather than just answers to questions. The disadvantages of this are that it can be time consuming and more than one interviewer can introduce bias. The success of the interview relies on the interviewer and therefor e is open to verbal and none verbal clues, frowning and putting their opinions to the interviewee. Sample's tend to be smaller and non-standardised making the production of statistics difficult. Also refusal to be interviewed can make the sample biased. Th ese interviews can also be formal or informal.

Questionnaires are almost all in the form of a written interview and the questions are usually pre-set. The advantages are that the questions can be open ended or multiple choice. A large sample is needed to make their conclusions useful and so could be more representative of the public making them more convincing. They are used for gathering factual information, behaviour and opinions and are usually in the form of closed questions. Questionnaires can be a cheap way of gaining samples if many respondents

answer them. The disadvantages to questionnaire are that the researcher can never be sure if he/she is being told the truth. The questions have to be worded carefully to avoid being offending or embarrassing the respondents or they may not be willing to answer them. The questions can also be time consuming and expensive because you can never be sure how many people will answer it.

Surveys, questionnaires and interviews can be done in many different ways including – postal drops, on the Internet, face to face and on the street or in a controlled environment.

Experimentation (field)

Conducted in the subjects' own environment instead of a laboratory e.g. Klow&Kennel (1976) In this experiment the independent variable was the random allocation of mothers to one of the two groups following the birth of their infants. In one group, mothers were given extra contact with their new infants; in the second group the infant's acre separation from their mothers until their first feed (the normal hospital procedure). The dependent variable was how the mothers reacted towards their babies. Amongst the findings from the research were that mothers in the first group reacted more positively towards their infants in a number of ways, such as holding their babies closer and establishing eye contact more. The advantages of field experimentation are that the participants are not aware they are being studied and if this is the case demand characteristics may be minimized. By avoiding the artificial setting of a laboratory environment, the field experiment helps eliminate the common criticism that the participants are not acting entirely natural. The disadvantages are that field experiments can be expensive compared to laboratory studies and ethical issues arise if participants are unaware of being in the experiment. It is also harder to replicate a field experiment.

Experimentation (Laboratory)

Laboratory experiments give the researcher complete control over how the experiment in conducted e.g. the "Stroop Effect" (Stroop 1935). The stroop effect was one of a series of experiments published by stroop in 1936 the term refers to how colour name words have an interfering effect on the time taken to name the ink colours of non matching colours, for example naming the ink colour of the word "blue" written in green ink takes longer than It does for the same word written in blue ink. In one of these experiments, the colour names red, blue, green, brown and purple were selected. For the experimental condition, each word was printed in a grid such that each word occurred twice in each column and twice in each row. No word appeared in the colour that if named, by an equal number times in each of the other four colours. No word or colour immediately succeeded itself in any column or row. A second sheet of words was produced using the same words in reverse order. The control condition used the same arrangement of ink and colours but this time each ink colours was represented by a coloured block. The independent variable was therefore whether the stimulus sheets consisted of words in ink colours, which conflicted with the colour of names or were in the form of colour blocks. The time taken to name the ink colours for each condition (the dependent) variable was compared on average, it took participants 47 seconds longer to name the ink colours of a stimulus sheet from the experimental condition, than from the control condition.

The advantages of experiments in controlled laboratory conditions are that we can define and manipulate some variables; other researchers can replicate experiments.

Experimentation allows the pace to be forced rather than waiting for natural events to reproduce the appropriate scenario.

Controlled laboratory experiments can yield both qualitative and quantative data and can be analysed using inferential statistics. The technical equipment is readily available and can be used to calculate accurate measurements.

The disadvantages are that variables can exist which have not been accounted for because of high levels of control they exclude the human element. A participant could manipulate the study by knowing in advance what the experiment is about, although concern may arise over the issue of consent and deception of the particip ants. Although experimental laboratory studies are a good example of a scientific methodology, social science has other methods, such a Naturalistic observations.

Naturalistic observations are just one of several ways of conducting observations e.g. *Rosenhan(1933)* Eight individuals, all free of any psychiatric symptoms presented themselves at different psychiatric hospitals in the USA. All reported the same symptoms- they said they heard voices say "dull", "empty" and "thud" in their heads. Apart from this single symptom they were instructed to behave normally, and give honest answers to any other questions they were asked. All were believed to be genuine patients and were admitted to the psychiatric hospitals concerned, seven with a diagnosis of Schizophrenia. On admission they immediately ceased reporting that they had been hearing voices. They were subsequently discharged 7 to 52 days later with diagnoses of 'Schizophrenia in remission', Rosenhan attributed these diagnosis to the context in which their behaviour was observed. Non-actually displayed the symptoms of Schizophrenia but in the context in which the symptoms were reported led to an expectation that these 'Pseudopatients' were indeed mentally ill.

The advantages of the Naturalistic observation are that careful observation can lead to the suggestion of the appropriate hypothesis for further investigation and to prevent time being wasted in carrying out unrealistic experiments. The behaviour observed is what the subjects naturally do under the circumstances.

The disadvantages are that people who know that they are being watched may react differently. Observers may be influenced by their own opinions about what ought to happen. Cause and effect cannot be established with any certainty. Reapplication may be difficult since the observer cannot control the environment or subject. Another method used by social scientists are case studies, which contrast with the above

A case study involves gathering detailed information about one individual or group. Participant observation is more useful in case studies on organisations however individual case studies are usually done on the history of the subject and by interview e.g. *mayall and petrie (1983)* studied a group of London children aged 2 and their mothers and childminders. The study found that the quality of care provided by the childminders varied considerably. Some children did well but others were 'failing to thrive'. In the case of children who weren't doing well, there were two possible explanations. Some of them came from homes where there was ongoing conflict and the children's problems could be explained in terms of discord. The other explanation lies in the childcare environment. Mayall and Petrie found that some children often spent the day in an under stimulated, lacking in love and attention. As well as differing methodologies there are different types of data gathering such as Primary and Secondary data.

Primary data is research, which is original, carried out by the researcher at first hand and can be used as a valuable secondary source of data for other researchers. Surveys, statistics, experiments and case studies etc.

Secondary data provides useful background information, which the researcher can read up on before starting his/her own research. Reliable secondary research can save time and money. But the disadvantages are that the information may not be reliable and could be bias.

Secondary data can include historical documents; research data collected by other scientists, government statistics and published records. Newspapers can also be a source but are highly subjective and bias. The advantages are that secondary sources are a cheap and readily available source of information.

Quantative data is data based on numbers and can be in the form of social surveys, for example, yes/no answers. In questionnaires or formal interviews using yes, no, maybe answers. Quantative data can be either Primary or secondary data, you can find qauntative data in statistical reports and research for instance, statistics by government departments and Internet surveys. Whereas Qualitative data gives more than numbers, it gives details, which can be gleaned through formal, and informal interviews this method gives more specific information than quantative data. Qualitative data can be primary or secondary data, it can be obtained by participant and non -participant research surveys.

Cumberbach et al (1990) Analysed over 500 prime time advertisements over a two week period in 1990 involving over 200 character appearances. 75% of men but only 25% of women were judged to be over 30 years old. Men outnumbered women 2:1 and 89% of voice-overs, especially for expert/official information, were all male. 50% of female voice-overs were categorised as 'sexy/sensuous'. The ratio of women to men rated as 'attractive' was 3:2.

Introspection is another method of gathering data used in the social sciences. This experimentation involves looking into oneself and explaining how you feel. Wilhelm Wundt (1879) described this as "conscience arising from two factors". The first of these is the sensory information that we receive from the outside world, through the sense receptors of hearing, vision and so on. Being aware of this incoming information was, in Wund's opinion, very much part of being conscious. In addition to this, out internal feelings and emotions contribute directly to what we are aware of. It was the combination of these two sources of information, which, according to Wundt, produced consciousness.

BIBLIOGRAPHY.

Seal et al (1957). Page148
Research Methods and Statistics in Psychology.
Hugh Cooligan.

Klow and Kennel (1976). Page137
Psychology for A Level. Second edition.
M. Cardwell, L. Clark, C. Meldrum.

Stroop Effect (1935). Page 135
Psychology for A Level. Second edition.
M. Cardwell, L. Clark, C. Meldrum.

Rosenhan (1973). Page 141
Psychology for A Level. Second edition.
M. Cardwell, L. Clark, C.Meldrum.

Cumberbatch et al (1990). Page 455
Research Methods and Statistics in Psychology.
Hugh Cooligan.

Wilhelm Wundt (1879) Page 117
Psychology an Introduction. Third edition.
N. Hayes, S. Orrell