

Chapter 2

Psychological Research

Learning objectives



Research

- ▶ **Research Definition.** Research is a careful and detailed study into a specific problem, concern, or issue using the scientific method. ... This is **best** accomplished by turning the issue into a question, with the intent of the **research** to answer the question.

Psychological research

- A systematic process of gathering and analysing data with the purpose of developing and understanding of a mental and behavioural phenomena.
- Psychological research refers to research that psychologists conduct for systematic study and for analysis of the experiences and behaviors of individuals or groups. Their research can have educational, occupational and clinical applications.

Why do psychological research

- Develop an understanding of a mental and behavioural phenomena
- A search for truth
- Generation of further research questions
- Generate theory
- Improve the behavioural situation

Approaches to psychological research

- Psychologists often begin the research process by asking a question about how or why things happen in this world. It might be a unique question about a new trend or an old question about a common aspect of life. Once a question is formed, a psychologist proceeds through an in-depth process to answer it. In deciding how to design that process, the researcher may **adopt a scientific approach**. The following sections describe these approaches to knowledge.

Scientific method

- A method of procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing and modification of hypothesis.
- The scientific method involves developing and testing theories about the world based on empirical evidence.
- empirical evidence(It is based on direct experience and/or observation)

Scientific method

- Typically, the scientific method starts with these steps
 1. Ask a question,
 2. Research existing sources
 3. Formulate a hypothesis
 4. Design and conduct a study
 5. Draw conclusions
 6. Report results

Validity and Reliability

- Researchers want to maximize the study's **reliability**(how likely research results are to be replicated if the study is reproduced). Reliability increases the likelihood that what happens to one person will happen to all people in a group.
- **Validity**, which refers to how well the study measures what it was designed to measure.

1. Ask a question

- The **first step** of the scientific method is to ask a question, describe a problem, and identify the specific area of interest.
- After you have identified your research idea, and identified a general problem that sounds interested to you, the next step is to become familiar with the published information on your topic.

2. Research existing sources

Literature Review

- The next step researchers undertake is to conduct background research through a literature review, which is a review of any existing similar or related studies.
- A visit to the library and online search will uncover existing research about the topic of study. This step helps researchers gain a broad understanding of work previously conducted on the topic at hand and enables them to position their own research to build on prior knowledge.
- Researchers including student researchers, are responsible for correctly citing existing sources they use in a study or that inform their work. While it is fine to borrow previously published material (as long as it enhances a unique viewpoint), it must be referenced properly and never plagiarized.

3. Formulate a hypothesis

theoretical frame work

- It is the researcher's prediction about the results of the study under investigation.
- In psychology, the hypothesis will often predict how one form of human behaviour influences another. In research, independent variables are the cause of the change. The dependent variable is the effect, or thing that is changed. For example, in a basic study, the researcher would establish one form of human behaviour as the independent variable and observe the influence it has on a dependent variable. How does gender (the independent variable) affect rate of income (the dependent variable)? How is social class (the dependent variable) affected by level of education (the independent variable)?

4.Design and conduct a study

Methodolgy

- In planning a study's design, psychologists generally used **research methods** of social investigation:
 - Experimental Method
 - Observational Method
 - Survey Method
 - Correlation Method
 - Case Study Method
 - Interview
 - Field research Method
 - Secondary data analysis
 - Primary data analysis.

Experimental Method

- There are two main types of experiments: **lab-based experiments** and natural or field experiments. In a lab setting, the research can be controlled so that perhaps more data can be recorded in a certain amount of time. In a natural or field-based experiment, the generation of data cannot be controlled but the information might be considered more accurate since it was collected without interference or intervention by the researcher. To set up a lab-based experiment, sociologists create **artificial situations** that allow them to manipulate variables. The psychologists selects a set of people with similar characteristics, such as age, class, race, or education. Those people are divided into two groups. One is the experimental group and the other is the control group. The experimental group is exposed to the independent variable(s) and the control group is not. To test the benefits of tutoring, for example, the psychologists might expose the experimental group of students to tutoring but not the control group. Then both groups would be tested for differences in performance to see if tutoring had an effect on the experimental group of students.

Observational Method

- Observational research means in which a researcher observes ongoing behavior. ... It is a social research technique that involves the direct observation of phenomena in their natural setting. It is done by a second person. Collected data is reported. It may be formal, informal, participant or non-participant observation.

Survey Method

- ▶ As a research method, a survey collects data from subjects who respond to a series of questions about behaviours and opinions, often in the form of a questionnaire. The survey is one of the most widely used scientific research methods.
- ▶ Sociologists conduct surveys under controlled conditions for specific purposes. Surveys gather different types of information from people. It is a great method for discovering how people feel and think—or at least how they say they feel and think. Surveys can track preferences for presidential candidates or reported individual behaviours (such as sleeping, driving, or texting habits), or factual information such as employment status, income, and education levels.
- ▶ A survey targets a specific population, people who are the focus of a study, such as college athletes, international students, or teenagers. Most researchers choose to survey a small sector of the population, or a sample: that is, a manageable number of subjects who represent a larger population. The success of a study depends on how well a population is represented by the sample.

Correlation Method

- ▶ Correlation studies are used to look relationships between variables, understand and assess the statistical relationship between them. There are three possible results of a correlation study.
- ▶ **A positive correlation**
 - Both variables increase or decrease at the same time in the same direction-either up or down.

High with High,,,Low with low

Example

The relationship b/w high IQ and high GPA.

.The relationship b/w unemployment and increasing rate of suicide..

Correlation Method

► A negative correlation

- Indicates that as the amount of one variable increases, the other decreases, means two variables move in the opposite direction-either up or down.

High with low, Low with High

Example

A student who has many absences has a decrease in grades.

► Zero correlation

- No relationship between two variables(when one variable increases, the other can increase, decrease.)

For **example** there is **no relationship** between the amount of tea drunk and level of intelligence

Case study Method

The Case-Study Method



A carefully drawn biography that may be obtained through interviews, questionnaires, and psychological tests

- It is an in depth study of a person, group or phenomenon. It helps to understand cause and source of peoples fear, anxiety etc.

Interview

- ▶ An interview is a one-on-one conversation between the researcher and the subject, and is a way of conducting surveys on a topic. Interviews are similar to the short answer questions on surveys in that the researcher asks subjects a series of questions. However, participants are free to respond as they wish, without being limited by predetermined choices. In the back-and-forth conversation of an interview, a researcher can ask for clarification, spend more time on a subtopic, or ask additional questions.

Field Research Method

- ▶ Field research refers to gathering primary data from a natural environment without doing a lab experiment or a survey. To conduct field research, the sociologist must be willing to step into new environments and observe, participate, or experience those worlds. In field work, the sociologists, rather than the subjects, are the ones out of their element. The researcher interacts with or observes a person or people, gathering data along the way. The key point in field research is that it takes place in the subject's natural environment, whether it's a coffee shop or tribal village, a homeless shelter, a hospital, airport, mall, or beach resort.

Secondary data analysis

- The information collected for another purpose that already exists.
- **Secondary data sources**
 - Government information, internal, commercial, online database and publications.
- **Examples**
 - Reports
 - Summary
 - Recommendation

Advantages and disadvantages of Secondary data

➤ **Advantages**

- Obtained quickly
- Less expensive than primary data

➤ **Disadvantages**

- Information may not exist or may not be usable

Primary data

- Information collected for the specific purpose at hand.
- Primary sources are original materials..
- **Examples**
 - Interviews
 - Newspaper
 - Surveys
 - sampling

Advantages and disadvantages of Primary data

➤ **Advantages**

- Targeted issues are addressed
- Data interpretation is better
- Efficient spending for information
- Source of data is known

➤ **Disadvantages**

- Time consuming
- More expensive than secondary data

5. Draw conclusions

- Data is collected by the company or an outside firm.
- The data is then processed and checked the accuracy and completeness of the data and then coded it for analysis.
- Finally, the data is analysed by a variety of statistical methods
- The researcher interprets the findings, draw conclusions and report to the management.

6.Report results

- Managers and researchers must work together to interpret results for useful decision making.

Ethics

- Ethics is concerned with what is good for individuals and society and is also described a moral philosophy. The term is derived from the Greek work ethos which can mean custom, habits, or character.



Ethics

- Ethics covers the following areas:
 - How to live a good life
 - Our rights and responsibilities
 - The language of right and wrong
- Our concept of ethics have been derived from religions, philosophy and cultures.