

PYSC 224

Introduction to Experimental Psychology

Session 9– Descriptive Research Methodology- Part
1& 2

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Session Overview

- In psychology, not every research conducted require the use of an experimental design
- There are instances where it may not be practically/ ethically feasible to conduct experiments or a researcher cannot manipulate the independent variable, or instances where manipulation may cause physical or psychological harm to participants
- Such instances, require the use of non-experimental research methods known as descriptive research methods- studying people as they lead their lives in order to describe their behaviour and mental processes

Session Goals and Objectives

- By the end of this session, you should be able to
- Discuss the basic characteristics of descriptive research methods
- List and explain the various descriptive research methods
- Identify when to use each of these descriptive research methods
- Discuss the strengths and weaknesses of the various descriptive research methods

Session Outline

The key topics to be covered in the session are as follows:

- Why use descriptive research methodology?
- Types of descriptive research methodology- Part 1
- Types of descriptive research methodology- Part 2

Reading List

- Christensen, B.L. (2007). *Experimental Methodology* (10th ed.). Boston: Allyn & Bacon. (p.39-69)
- Kantowitz, B. H., Roediger III, H. L., Elmes, D. G. (2015). *Experimental Psychology*. Stamford: Cengage Learning (p. 44 – 51)

Topic One

WHY DESCRIPTIVE RESEARCH METHODOLOGY?

Descriptive research methodology

- According to Heiman (1995) descriptive methods are “used to
 - ❑ test hypotheses that a predicted relationship exist
 - ❑ describe a behaviour or subject
 - ❑ discover relationships and
 - ❑ determine to predict behaviour” (p.49)

Descriptive research methodology

- It involves studying people as they lead their lives in order to describe their behaviour and mental processes
- Variables of interest are not manipulated
- No external variables are introduced
- Instead, behaviour and relationships are observed without any influences
- It therefore does not try to find out cause-and-effect relationships

Why Descriptive research methodology?

- The researcher cannot manipulate the independent variable
- Studies where it is not practically possible to conduct experiments
- Manipulation may cause physical or psychological harm to participants
- Studies that do not require an experimental approach

Why Descriptive research methodology

- Descriptive studies are informational
- They are designed to gain more information about a phenomenon in the real world
- E.g.- a survey can be used to obtain information about peoples voting behaviour

Topic Two

TYPES OF DESCRIPTIVE RESEARCH METHODOLOGY- PART 1

Types of descriptive methodology

Part 1

- Case Study
- Archival Method
- Survey Method

Case Study

- An intensive description and analysis of a single individual or a setting such as an organization, school, neighbourhood, community or event
- Focuses on all aspects of a single participant or selected group of individuals
- Based on information obtained from a variety of sources such as interviews, documents, psychological test results, observations, archival records etc.

Case Study

- Example- a description of a patient by a clinical psychologist
- Also called the clinical method and very much used by Clinical Psychologist
- “A case study is typically done when a person has a “particularly rare unusual or noteworthy condition” (Cozby 2003 p. 96)

Case Study

Strengths

- Informational- provides an in-depth and complete description of a case or a situation
- It allows rare and unusual problems or events to be investigated, such as an unusual psychological disorder
- Once a researcher is able to obtain information about a 'case', he can develop ideas and hypothesis for further testing

Case Study

Weaknesses

- It does not provide a control group for comparison
- A single case may be misleading or unrepresentative and therefore the inability to generalize findings
- The researcher rely on peoples memories of their past experiences which may not be trustworthy because of distortions in memory
- Researcher's subjective feeling may influence the case study

Archival Method

- Examining already existing records
- Historical accounts of events such as court records, published research articles, police crime reports, records from schools, government agencies, hospitals etc.
- A researcher gains access to the archived materials to help answer the research question
- No live participant is tested in archival studies, instead it involves using records already collected from “participants” in the past

Archival Method

Strengths

- It allows access to phenomena that would otherwise be unobservable
- Example- investigating the successes of past presidents

Weaknesses

- The accuracy and appropriateness of the data depends entirely on the people who created the records

Archival Method

- The researcher conducts the study using data that he/she had no part in collecting
- Most of such data are collected for non-scientific reasons, and biases may have occurred during data collection
- Records of interest may not be accessible or may be unavailable to the general public
- Example- GTV records

Survey Method

- Collecting standardized information by administering questionnaires or interviewing a representative sample
- A group of people are asked a series of carefully worded questions
- Used to explore their characteristic, attitudes, opinions, beliefs, demographics or other behaviour in a natural setting

Survey Method

Strengths

- Surveys can be used to predict behaviour
- Information can be obtained from a large number of people
- A great deal of information can be gathered in a relatively short period of time

Survey Method

Weaknesses

- It is important to obtain a representative sample, but this may be difficult
- People may give responses that may not be true or may be inaccurate

Types of Survey

- Mail survey
- Telephone survey
- Group administration
- Face-to-face interview
- Internet survey

Mail Survey

- The researcher mails the questionnaire to the participants to complete and mail back
- Most useful when a researcher needs to use a larger sample and/ the questionnaire is lengthy (Heimen 1995)
- A problem with this method is the low “return rate”

Telephone Survey

- The researcher reads out the questions over the phone and the participants answer
- Response rate is higher than the mail survey
- It can be time consuming when there is only one interviewer
- Clarity of speech is necessary as well as a good opening statement

Group Administration

- Administering a questionnaire to a large group of individuals at one time
- Participants may not treat the questionnaire with the seriousness
- Participants may not have the sense of confidentiality and this may affect their response
- Some participants may feel compelled or pressured to participate

Face-to-Face Interviews

- A face-to-face interaction with participant
- A structured interviews and/ unstructured interviews could be used
- Structured interviews are not flexible, thus, important information may not be captured
- Unstructured interview the researcher gains more information but it is difficult to code and analyse responses

Internet survey

- The researcher posts the questionnaire on the internet and respondents answer them electronically
- Open-ended and/ close-ended questions can be posted
- Or the researcher solicits for potential respondents on the internet and those who express interest are sent questionnaires
- The researcher can reach a large number of potential participants e.g. SurveyMonkey.com

Topic Three

TYPES OF DESCRIPTIVE RESEARCH METHODOLOGY- PART 2

Types of descriptive methodology

Part 2

- Correlational Research Method
- Naturalistic Observation
- Developmental Research Designs
- Qualitative Research

Correlational study

- Used to assess and specify the relationship between two existing traits, behaviours or events
- Measuring two or more variables and using a statistical technique to determine the degree of relationship that exist between them
- This relationship is called correlation coefficient
- Three types of correlations exist

Correlational study

- **Positive correlation**- an increase in the measure of one variable leads to an increase in the other variable
- **Negative correlation**- an increase in one variable leads to a decrease in the other variable
- **Zero correlation**- there is no relationship between the two variables at all, one variable cannot help in predicting the other

Correlational study

FIBQ Subscales	Mean	SD	1	2	3	4
1- Demand for success belief	2.89	0.82	—			
2- Self reproach belief	2.11	0.89	.40**	—		
3- Need for fairness belief	2.88	0.90	.31**	.29**	—	
4- Desire for success belief	3.79	0.70	.42**	.13	.31**	—

Correlational study

Strengths

- It demonstrates the relationship that exist between two variables
- It allows predictions to be made
- One can also determine whether the relationship is positive or negative and the magnitude of it

Correlational study

Weaknesses

- Cause-effect relationship cannot be established
- Sometimes a relationship found may be coincidental

Naturalistic Observation

- Participants are observed in their natural environments without controlling or manipulating variables
- Examples- observing children in a day care centre, Christmas shoppers, students in lecture rooms, patients at the clinic, animals and their infants etc.
- The aim is to observe participants as they behave naturally but this is not always possible

Naturalistic Observation

- When participants are aware that they are being observed, it may cause a change in their behaviour, referred to as *observer effect*
- *Observer effect* can be minimized by concealing the observer, using hidden cameras, or unobtrusive observations
- E.g.- habituate participants to your presence when using a video recorder, i.e. you let them get used to you before beginning observations

Naturalistic Observation

Strengths

- Gives insight into how behaviour occurs in a real world
- Unobtrusive observations allows for the recording of 'natural behaviours', not tainted by any artificial laboratory setting
- Thus, well conducted naturalistic observations have extremely highly external validity

Naturalistic Observation

Weaknesses

- It can be time consuming and expensive
- Sometimes getting the natural habitat of participants may mean travelling long distances. E.g. observing rural people or animals in their habitat
- *Observer bias*- descriptions of behaviour are highly susceptible to experimenter expectations

Developmental Research Designs

- Involves evaluating changes in behaviour that take place over time
- Thus, the major variable is age
- Developmental psychologist often study age-related changes in individuals
- Example- Language development or cognitive development in children

Developmental Research Designs

- Two commonly used types are
 - Cross-sectional study
 - Longitudinal study

Cross-Sectional Study

- Participants of different ages are observed
- The researcher takes a cross-section of the population, by selecting persons of different ages, and tests them at only one point in time
- Example- Investigating how intelligence varies with age by testing participants aged 5, 10, 15 and 20 years old to assess age-related changes in behaviour

Cross-Sectional Study

Strength

- It can be conducted quickly and easily
- All age groups of interest can be tested at the same time

Weakness

- Participants who are tested are of different cohorts which can result in generational or cohort effect due to differences in subject history

Cross-Sectional Study

- Example- studying participants from 25, 45, 65 and 75 years groups
- The difference in age which the researcher studies are confounded by differences in subject history
- Thus, cross-sectional designs are generally considered less effective than longitudinal studies

Longitudinal Study

- A single group of participants is followed over a period of time
- Measured repeatedly at selected time intervals to note changes that occur over time in the specified characteristics- e.g. breastfeeding effects
- Example- giving an intelligence test to participants at 5 years intervals over a 30 year span

Longitudinal Study

Strengths

- There is no cohort effect as participants are of the same cohort and thus will have the same background
- Participants variables are kept reasonably constant between the conditions
- Permits the researcher to see developmental changes as it occurs over time
- E.g.- How language development progresses

Longitudinal Study

Weaknesses

- Cross-generational effects can occur
- Conclusions from a particular generation may not apply to another generation
- Society and culture are constantly changing so a longitudinal study that is done over a long period of time may not generalize well to future generations
- E.g.- Finding from a study conducted in 1970 to 1980 on the special bond between a mother and a child may not apply to mothers of recent times

Longitudinal Study

- Carryover effect
- It can be time consuming as one group of subjects are studied for a long period of time
- Subject mortality can also occur- when the study is over a long period of time

Qualitative Research

- *“An inquiry process of understanding a social or human problem based on building a complex, holistic picture formed with words reporting detailed views of informants and conducted in a natural setting”* (Cresswell, 1994)

Qualitative Research

- It is used to
- Better understand any phenomenon on which little is known
- Gain new perspectives on things about which much is already known
- Or to gain more in-depth information that may be difficult to convey quantitatively

Qualitative Research

- Understand behaviour in a natural setting
- Understand a phenomenon from the perspective of the research participant
- Understand the meanings people give to their experience (Strauss & Corbin, 1990)
- Help us to understand the world in which we live and why things are the way they are

Qualitative Research

- Creswell (1994) categorises it into five major traditions
- The Biography
- Case-study
- Ethnography
- Grounded theory
- Phenomenology (e.g. Interpretative Phenomenological Analysis (IPA) approach)

END OF SESSION 9 Part 1& 2

References

- Creswell, J (1994) *Research Design: Qualitative and Quantitative Approaches*, Thousand Oaks, (Calif), Sage
- Heiman, G. A. (1995). *Research methods in psychology*. Boston: Houghton Mifflin.
- Strauss, A Corbin J (1990) *Basics of qualitative research Grounded theory procedures and techniques* Newbury Park: Sage Publications

