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Selecting a Research Design

Chapter Summary

How do you choose a research design? This chapter provides an overview of some of the most common research designs used by social science researchers. It provides assistance in deciding which approach, quantitative or qualitative, should be employed, and the characteristics of both qualitative and quantitative research. Qualitative research is intended to gather a great deal of information on a small number of individuals or groups with specific characteristics. Quantitative research is used to test relationships between two variables via formulating a hypothesis. The types of data as well as data collection techniques are specified for each design. The research design selected should be aligned with the research question(s). Techniques for collecting data are also described. Once a hypothesis or research objective has been formulated, the next step is to decide how the data will be collected. The researcher must decide what kind of data are needed to answer the research questions and what kind of questions are being asked. Choosing a research design is one of the most important and difficult parts of doing empirical research.

There are five basic types of research design. Each type is appropriate for a particular kind of research question or research objective. **Case study** designs usually focus on just a single case or entity (asks: what is going on? Or what is happening?). The case study is the basic building block of research design. The **longitudinal research design** involves two or more case studies of the same entity with some time between the studies; it is used to test for an association between two variables in the same entity at different points in time (asks: has there been a change?). A **comparison study** compares case studies of the relationships between variables for different entities at the same point in time (asks: is group A different from group B?). A **longitudinal comparison research design** is also possible, combining comparison (combining two case studies, each one of a different group at the same time) and longitudinal designs (combining two case studies of the same group at two different times) (asks: has there been a difference between group A and group B over time?). Finally, the aim of **experimental design** is to determine the effect that a change in one variable has on another (asks: is the difference between A and B due to a change in the independent variable?).

It is important for researchers to acknowledge that there is possibility that other variables not included in the study might be responsible for the observed changes in the dependent variable. You would need to design a study to account for these rival plausible explanations or control for intervening variables.

Key Terms

Case study A type of research design that is concerned with the situation of a single person, group, town, institution, or nation. In other words, the case study treats the entity as the unit of analysis. (p. 130)

Comparison study A comparison study compares case studies of the relationships between the same variables done for different entities at the same point in time. (p. 137)

Constant A type of variable that has no variation. For example, a survey may ask a question to respondents and all of them respond with the same answer. While this rarely happens, constants are troublesome and ought to be avoided. This problem can be resolved by asking questions that have a variety of different possible answers, such as those using a Likert scale. (p. 150)

Experiment (experimental design) The most scientifically rigorous type of research design. It involves isolating the research subjects to conditions that control all other factors except the independent and dependent variables of interest. In the experiment, the value of the independent variable is changed in order to measure its unique effects on the dependent variable. (p. 146)

Focus groups A type of group interview where four to twelve participants with similar characteristics meet and discuss issues related to the researcher's topic of interest. The focus group is run by one or two facilitators who direct the group conversation. Facilitators usually have an interview guide provided by the researcher, which lists a short number of topics or questions that must be discussed during the focus group. Like unstructured interviews, the questions or topics need not be addressed in the order they appear in the interview guide. The facilitator's job is to ensure the focus group does not end before the topics of the interview guide are discussed in sufficient detail. (p. 124)

Longitudinal comparison research design Involves repeated measurement of a phenomenon across two or more groups or cases over a period of time. (p. 142)

Longitudinal research design Involves the repeated measurement of a phenomenon over a period of time. The purpose of longitudinal research is to address questions of change over time. (p. 135)

Participant observation A qualitative research technique in which the researcher observes and participates along with the study subjects. This technique aims to reduce the distance between the researcher and the study participants. This subjective, in-depth immersion in the situation can yield rich, diverse data that contextualizes situations and environments that quantitative research is unable to produce. (p. 124)

Unstructured interviews A type of qualitative interview that lacks a questionnaire. Interviewers are given an interview guide: a list of topics that must be discussed in the interview. Participants are encouraged to speak freely about subjects of interest as a way of reducing researcher bias that creeps into directed questions. By speaking freely about the topic, researchers hope to obtain a more authentic version of events or more legitimate observations by participants in their own words. (p. 125)

Study Questions

Scroll down for answers.

1. What are the distinctive characteristics of a research question in qualitative research?
2. In what sense does a hypothesis guide the quantitative research project?
3. What are two basic requirements to consider when selecting a research design?
4. What steps must a researcher follow when developing an experimental design?
5. What are the requirements of a longitudinal comparison study?
6. Comparison studies are undertaken for which two reasons?
7. How does the researcher control the influence of other variables?
8. What is done about variables over which the research has no control?
9. What are the five types of research designs? List the main question each design asks.
10. Why is it difficult to conduct experiments in social science research?

Video

Youtube Movies, 2014. *56 Up – Trailer.*

<https://www.youtube.com/watch?v=Aw0AvgRZYaU>

The BBC's "Up" series is a timeless example of longitudinal study. The documentary series has been interviewing the same group of people every seven years, since they were seven years old. The series has captured births, deaths, marriages, breakups, careers beginning and ending, and shifts in values and politics and identities. While not academic research, it illustrates the complexity of tracking the same group of people over time, and the incomplete nature of any snapshot study. The latest installment, "56 Up," provides a look back at the previous 49 years of participants' lives. The trailer above provides just a snippet, but the documentary is available through many libraries, or can be rented online.

Answers to Study Questions

1. The distinctive characteristics of a research question in qualitative research are as follows:
 - They attempt to gather a great deal of information on a small number of individuals or groups with specific characteristics.
 - Research questions are based on previous observations and research on a particular behaviour but require greater specificity.
 - Research questions tend to be larger, more complex, and more explanatory than quantitative research questions.
 - They provide rich, descriptive material. (p. 124)
2. A hypothesis guides the quantitative research project in the following ways:
 - The hypothesis makes a claim that there is a relationship between two concepts (independent and dependent).
 - Evidence must be found for the relationship between the independent and dependent concepts.
 - Variables are identified for the independent and dependent concepts. (p. 126)
3. There are two basic requirements to consider when selecting a research design:
 - What kind of question is being asked?
 - How will the data be collected? (pp. 128–129)
4. A researcher must follow these steps when developing an experimental design:
 - Two groups must first be selected.
 - Measures for variables must be chosen.
 - Decide which of the two groups is to be the control group.
 - Measure the dependent variable before and after the experiment. (p. 146)
5. The requirements of a longitudinal comparison study are as follows:
 - It involves combining a comparison research design and a longitudinal research design.
 - This design asks the question, “Have the differences between x and y in entities A and B changed over time?”
 - The same variables must be measured in the same way in at least two entities at different points in time. (p. 145)
6. Comparison studies are undertaken for two reasons:
 - To investigate a relationship further by testing it within different types of entities. This practice might be called “doing the same test under different conditions.”
 - To investigate a relationship further by testing it within similar types of entities. This practice might be called “doing the same test under similar conditions.” (pp. 137–138)
7. Researchers control the influence of other variables in two main ways. First, be aware of the fact that other variables may be influencing the data. As you design a piece of research, it is important to keep a list of other potentially influential variables. The second step is to take some of these variables into account when you design your study. You may wish to select people for your

study who have the same characteristics so that the effects of outside variables will be the same for all people observed. (pp. 152–153)

8. The best you can do is note the absence of controls for these variables in the limitations section of your report. (p. 153)
9. The five main types of research designs are and the question each design asks:
 1. **Case study:** What is happening? Is there a relationship between X and Y in entity A?
 2. **Longitudinal study:** Has there been a change? Is the relationship between variables X and Y in entity A the same or different at time 1 and time 2?
 3. **Comparison study:** Is group A different from group B? Is the relationship between variables X and Y the same in entities A and B?
 4. **Longitudinal comparison study:** Has there been a difference between group A and group B over time? Has there been a change over time in the relationship between X and Y in entity A compared with entity B?
 5. **Experiment:** In what ways are groups A and B different? Is the difference in Y (dependent variable) between group A and group B due to a change in X (the independent variable)? (pp. 129–130)
10. Sometimes an experimental design is not possible, practical, or permissible. Many independent variables cannot be manipulated satisfactorily. This may be due to our sense of what is ethical. (pp. 128, 150)