

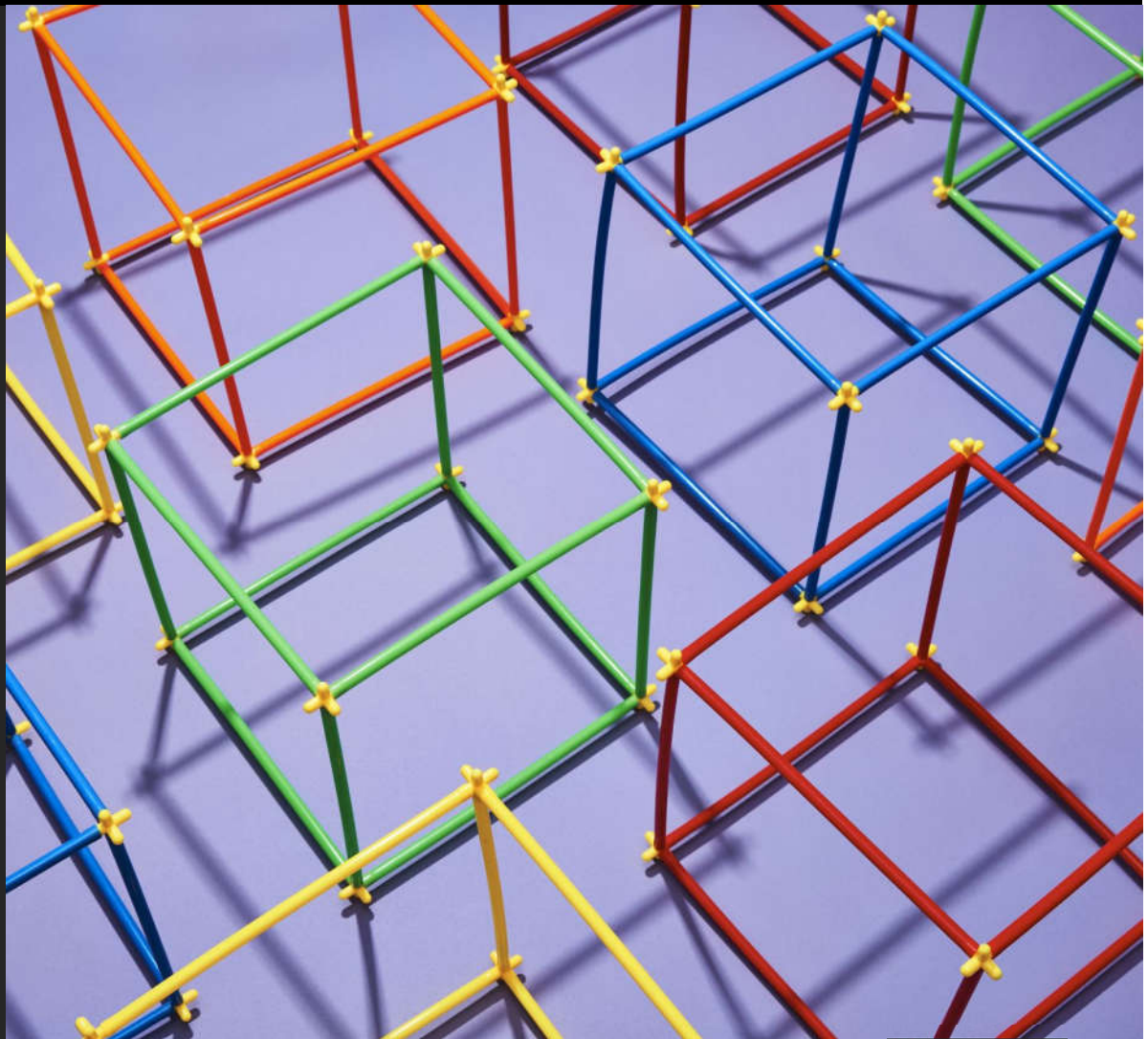
03 STRATEGI PENELITIAN NON- EKSPERIMENTAL

KULIAH 03

PENELITIAN KUANTITATIF &
STATISTIK DESKRIPTIF

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CHAPTER 10
THE NONEXPERIMENTAL AND
QUASI-EXPERIMENTAL STRATEGIES



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NONEXPERIMENTAL AND QUASI-EXPERIMENTAL RESEARCH STRATEGIES

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- the nonexperimental and quasi-experimental research strategies compare groups of scores, like true experiments, but do not manipulate an independent variable to create the groups.
- These two strategies do not have the internal validity of true experiments and cannot establish unambiguous cause-and-effect relationships.
- quasiexperimental studies make some attempt to minimize threats to internal validity, whereas nonexperimental studies typically do not.

Like true experiments, the **nonexperimental research strategy** and the **quasi-experimental research strategy** typically involve comparison of scores from different groups or different conditions. However, these two strategies use a nonmanipulated variable to define the groups or conditions being compared. The nonmanipulated variable is usually a participant variable (such as college graduate vs. no college) or a time variable (such as before vs. after treatment). The distinction between the two strategies is that nonexperimental designs make little or no attempt to control threats to internal validity, whereas quasi-experimental designs actively attempt to limit threats to internal validity.

NONEXPERIMENTAL AND QUASI-EXPERIMENTAL RESEARCH STRATEGIES

the Structure of Nonexperimental and Quasi-experimental Designs

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- 2 general categories of nonexperimental and quasi-experimental designs:
 1. Between-subjects designs, also known as nonequivalent group designs
 2. Within-subjects designs, also known as pre–post designs

TABLE 10.1

An Overview of Research Designs for the Nonexperimental and Quasi-Experimental Research Strategies

| | Between-Subjects Designs | Within-Subjects Designs |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Type | Nonequivalent Group Designs | Pre–Post Designs |
| Purpose | Compares preexisting groups of individuals (i.e., groups that are not randomly assigned) | Compares two or more scores for one group of participants |
| Examples of designs | <ul style="list-style-type: none">• Differential research• Posttest-only nonequivalent control group design• Pretest–posttest nonequivalent control group design• Cross-sectional developmental design | <ul style="list-style-type: none">• Pretest–posttest design• Time-series design• Longitudinal developmental design |

BETWEEN-SUBJECTS NONEXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS: **NONEQUIVALENT GROUP DESIGNS**

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A **nonequivalent group design** is a research study in which the different groups of participants are formed under circumstances that do not permit the researcher to control the assignment of individuals to groups, and the groups of participants are, therefore, considered nonequivalent. Specifically, the researcher cannot use random assignment to create groups of participants.

threats to Internal Validity for Nonequivalent Group Designs :
individual differences

BETWEEN-SUBJECTS NONEXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS: **NONEQUIVALENT GROUP DESIGNS**

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Nonexperimental Designs with Nonequivalent Groups :

1. The Differential Research Design

individual differences are the primary interest.

Researchers deliberately create separate groups of participants based on a specific individual difference.

to establish differences between the preexisting groups

= ex post facto research

A **differential research design** is a research study that simply compares preexisting groups. A differential study uses a participant characteristic such as gender, race, or personality to automatically assign participants to groups. The researcher does not randomly assign individuals to groups. A dependent variable is then measured for each participant to obtain a set of scores within each group. The goal of the study is to determine whether the scores for one group are consistently different from the scores of another group. Differential research is classified as a nonexperimental research design.

BETWEEN-SUBJECTS NONEXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS: **NONEQUIVALENT GROUP DESIGNS**

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Nonexperimental Designs with Nonequivalent Groups :

1. The Differential Research Design

BOX 10.1 Differential Research and Correlational Research

Many researchers place differential research in the same category as correlational research. In many ways, differential research is similar to the correlational research strategy (introduced in Chapter 6 and discussed in Chapter 12). In differential and correlational studies, a researcher simply observes two naturally occurring variables without any interference or manipulation. The subtle distinction between differential research and correlational research is whether one of the variables is used to establish separate groups to be compared. In differential research, participant differences in one variable are used to create separate groups, and measurements of the second variable are made within each group. The

researcher then compares the measurements for one group with the measurements for another group, typically looking at mean differences between groups (Figure 10.4a). A correlational study, on the other hand, treats all the participants as a single group and simply measures the two variables for each individual (Figure 10.4b). Although differential research and correlational research produce different kinds of data and involve different statistical analyses, their results should receive the same interpretation. Both designs allow researchers to establish the existence of relationships and to describe relationships between variables, but neither design permits a cause-and-effect explanation of the relationship.

BETWEEN-SUBJECTS NONEXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS: **NONEQUIVALENT GROUP DESIGNS**

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Nonexperimental Designs with Nonequivalent Groups :

2. The Posttest-Only Nonequivalent Control Group Design

Nonequivalent groups are commonly used in applied research situations in which the goal is to evaluate the effectiveness of a treatment administered to a preexisting group of participants. A second group of similar but nonequivalent participants is used for the control condition.

= *static group comparison*

A **nonequivalent control group design** uses preexisting groups, one of which serves in the treatment condition and the other in the control condition. The researcher does not randomly assign individuals to the groups.

A **posttest-only nonequivalent control group design** compares two nonequivalent groups of participants. One group is observed (measured) after receiving a treatment, and the other group is measured at the same time but receives no treatment. This is an example of a nonexperimental research design.

BETWEEN-SUBJECTS NONEXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS: **NONEQUIVALENT GROUP DESIGNS**

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Quasi-experimental Design with Nonequivalent Groups

1. The Pretest–Posttest Nonequivalent Control Group Design

In this design, the first step is to observe (measure) both groups. The treatment is then administered to one group, and, following the treatment, both groups are observed again.

A **pretest–posttest nonequivalent control group design** compares two non-equivalent groups. One group is measured twice, once before a treatment is administered and once after. The other group is measured at the same two times but does not receive any treatment. Because this design attempts to limit threats to internal validity, it is classified as quasi-experimental.

WITHIN-SUBJECTS NONEXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS: PRE-POST DESIGNS

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Nonexperimental pre-post Design

1. The Pretest-Posttest Design

A **pre-post design** is a research study in which a series of observations is made over time for one group of participants.

WITHIN-SUBJECTS NONEXPERIMENTAL AND QUASI-EXPERIMENTAL DESIGNS: PRE-POST DESIGNS

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Quasi-experimental pre-post Design

1. *Time-Series Design*

A **time-series design** has a series of observations for each participant before a treatment or event and a series of observations after the treatment or event. A treatment is a manipulation administered by the researcher, and an event is an outside occurrence that is not controlled or manipulated by the researcher.

2. single-subject designs

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DEVELOPMENTAL RESEARCH DESIGNS

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Developmental research designs

Developmental research designs are used to examine changes in behavior related to age.

1. Cross-Sectional Developmental research Design

The **cross-sectional developmental research design** uses different groups of individuals, each group representing a different age. The different groups are measured at one point in time and then compared.

2. Longitudinal Developmental research Design

The **longitudinal developmental research design** examines development by observing or measuring a group of cohorts over time.

3. *Cross-Sectional Longitudinal Designs*