



DESAIN PENELITIAN

2019

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Differences between quantitative and qualitative study designs

Quantitative study designs are specific, well structured, have been tested for their validity and reliability, and can be explicitly defined and recognised.

Study designs in qualitative research either do not have these attributes or have them to a lesser degree. They are less specific and precise, and do not have the same structural depth



Differences in philosophical perspectives in each paradigm combined with the aims of a study, to a large extent, determine the focus, approach and mode of enquiry which, in turn, determine the structural aspects of a **study design**



In quantitative research, the measurement and classification requirements of the information that is gathered demand that study designs are more structured, rigid, fixed and predetermined in their use to ensure accuracy in measurement and classification.

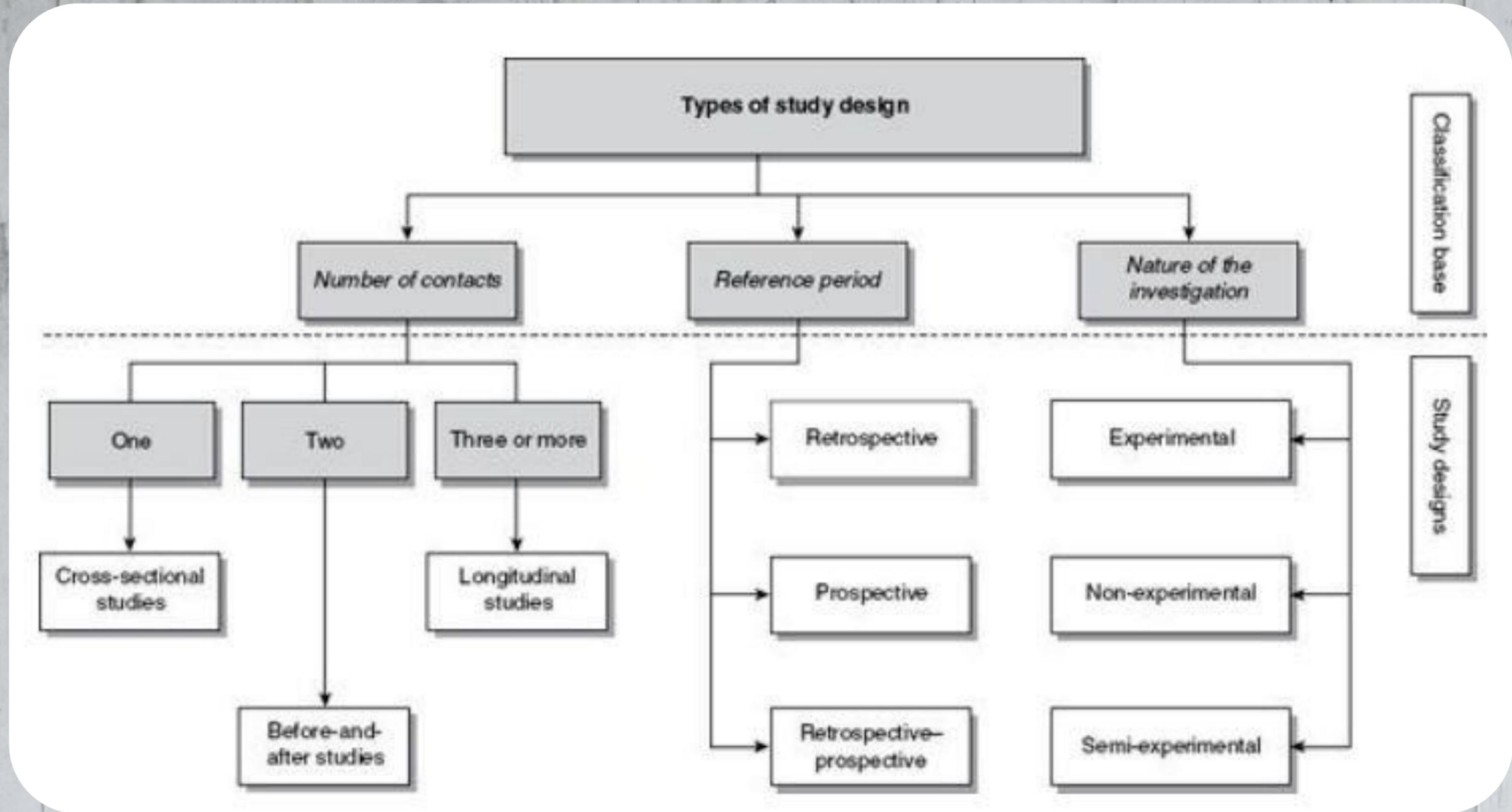


Study designs in quantitative research

Some of the commonly used designs in quantitative studies can be classified

by examining them from three different perspectives:

1. the number of contacts with the study population;
2. the reference period of the study;
3. the nature of the investigation.





Study designs based on the number of contacts

Based on the number of contacts with the study population, designs can be classified into three groups:

1. cross-sectional studies;
2. before-and-after studies;
3. longitudinal studies.



The cross-sectional study design

Cross-sectional studies, also known as one-shot or status studies, are the most commonly used design in the social sciences. This design is best suited to studies aimed at finding out the prevalence of a phenomenon, situation, problem, attitude or issue, by taking a cross-section of the population. They are useful in obtaining an overall 'picture' as it stands at the time of the study.



For example, a cross-sectional design would be the most appropriate for a study of the following topics:

- The reasons for homelessness among young people.
- The quality assurance of a service provided by an organisation.
- The impact of unemployment on street crime (this could also be a before-and-after study).
- The relationship between the home environment and the academic performance of a child at school.
- The attitude of the community towards equity issues.
- The extent of unemployment in a city.
- Consumer satisfaction with a product.
- The effectiveness of random breath testing in preventing road accidents (this could also be a before-and-after study).
- The health needs of a community.
- The attitudes of students towards the facilities available in their library



The before-and-after study design

The main advantage of the before-and-after design (also known as the pretest/post-test design) is that it can measure change in a situation, phenomenon, issue, problem or attitude.

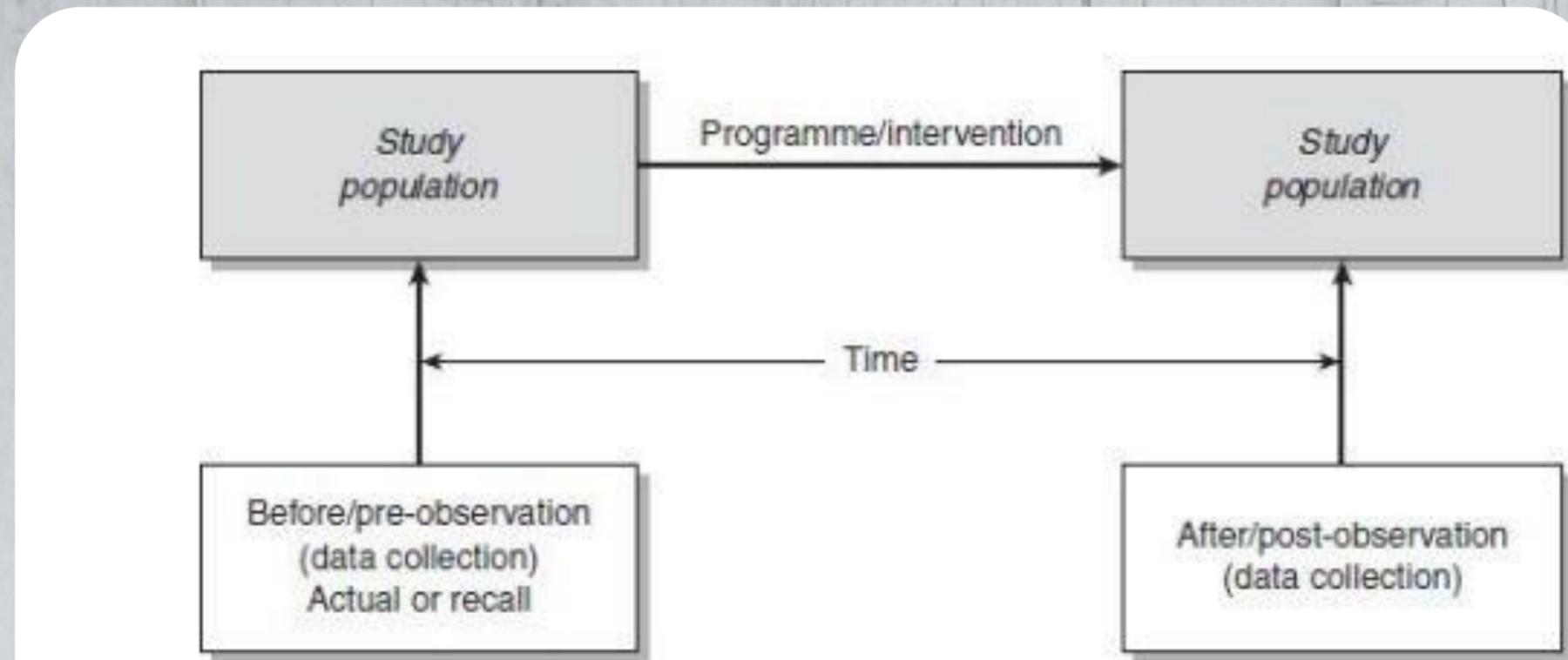


FIGURE 8.2 Before-and-after (pre-test/post-test) study design

FIGURE 8.2 Before-and-after (pre-test/post-test) study design



The following are examples of topics that can be studied using this design:

- The impact of administrative restructuring on the quality of services provided by an organisation.
- The effectiveness of a marriage counselling service.
- The impact of sex education on sexual behaviour among schoolchildren.
- The effect of a drug awareness programme on the knowledge about, and use of, drugs among young people.
- The impact of incentives on the productivity of employees in an organisation.
- The impact of increased funding on the quality of teaching in universities.
- The impact of maternal and child health services on the infant mortality rate.
- The effect of random breath testing on road accidents.
- The effect of an advertisement on the sale of a product



Longitudinal studies are also useful when you need to collect factual information on a continuing basis. You may want to ascertain the trends in the demand for labour, immigration, changes in the incidence of a disease or in the mortality, morbidity and fertility patterns of a population.

In longitudinal studies the study population is visited a number of times at regular intervals, usually over a long period, to collect the required information



Study designs based on the reference period

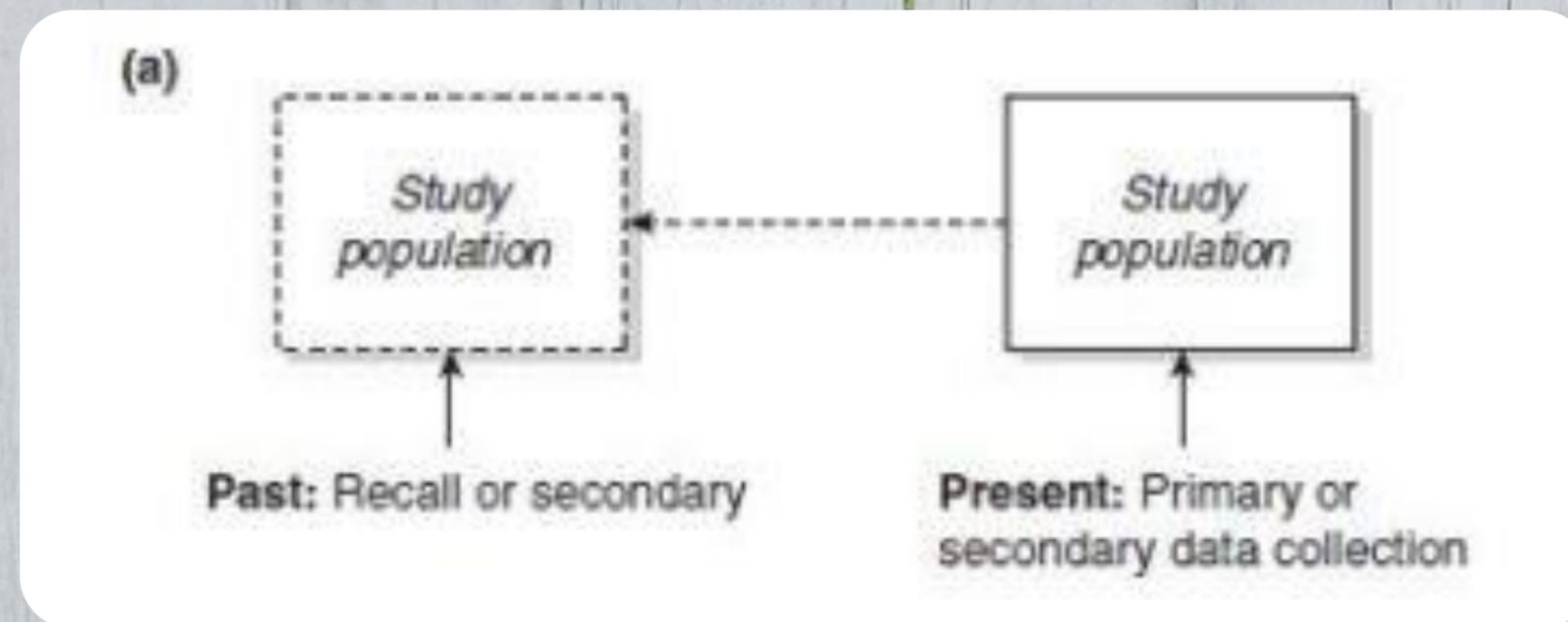
The *reference period* refers to the time-frame in which a study is exploring a phenomenon, situation, event or problem. Studies are categorised from this perspective as:

- retrospective;
- prospective;
- retrospective–prospective



The retrospective study design

Retrospective studies investigate a phenomenon, situation, problem or issue that has happened in the past. They are usually conducted either on the basis of the data available for that period or on the basis of respondents' recall of the situation

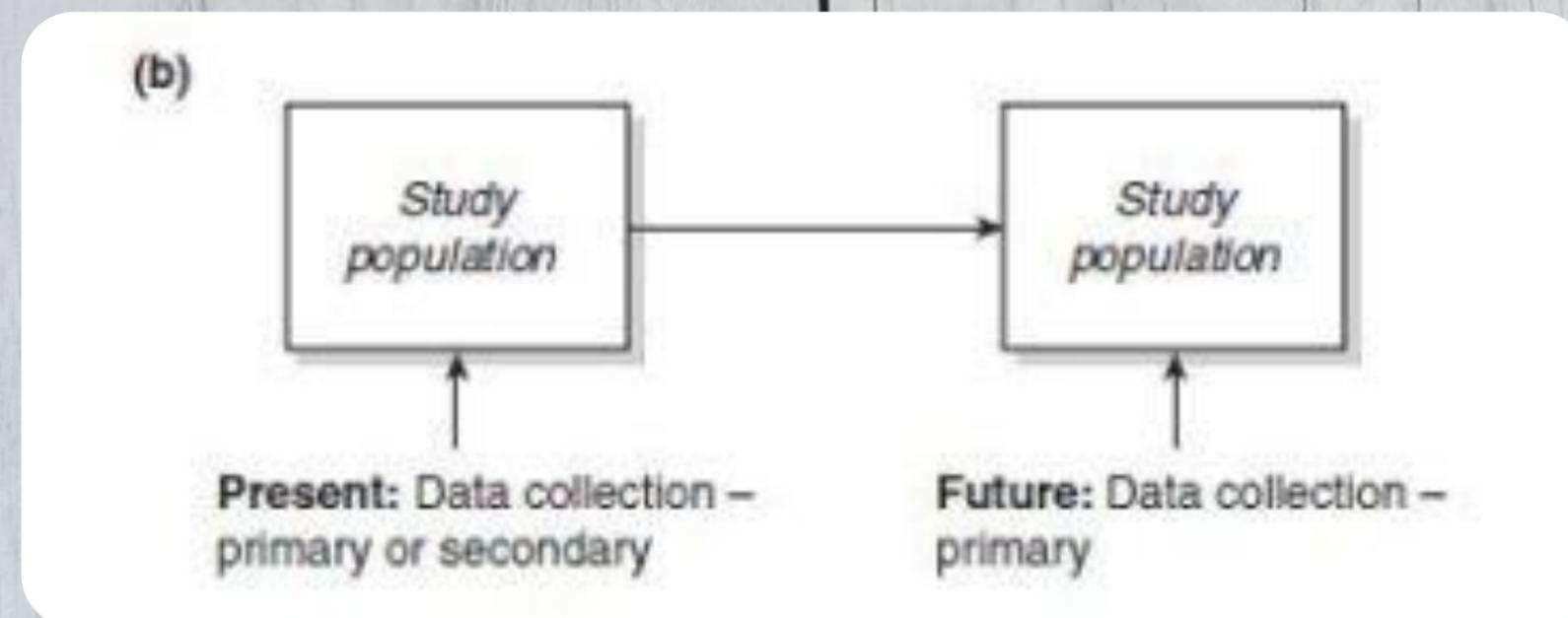




The prospective study design

Prospective studies refer to the likely prevalence of a phenomenon, situation, problem, attitude or outcome in the future. Such studies attempt to establish the outcome of an event or what is likely to happen.

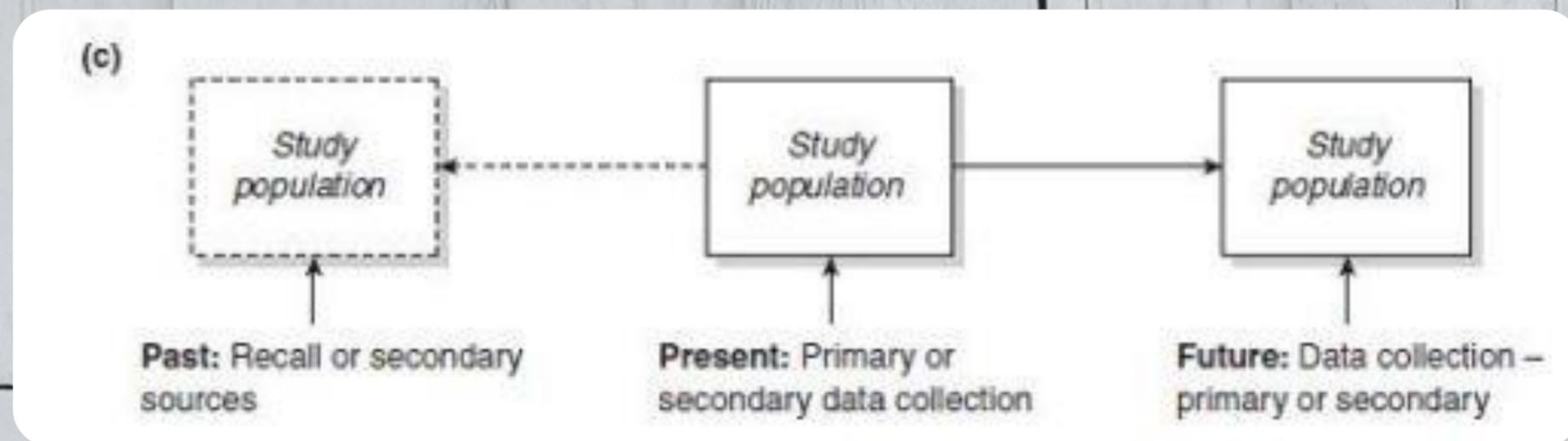
Experiments are usually classified as prospective studies as the researcher must wait for an intervention to register its effect on the study population.





The retrospective–prospective study design

Retrospective–prospective studies focus on past trends in a phenomenon and study it into the future. Part of the data is collected retrospectively from the existing records before the intervention is introduced and then the study population is followed to ascertain the impact of the intervention

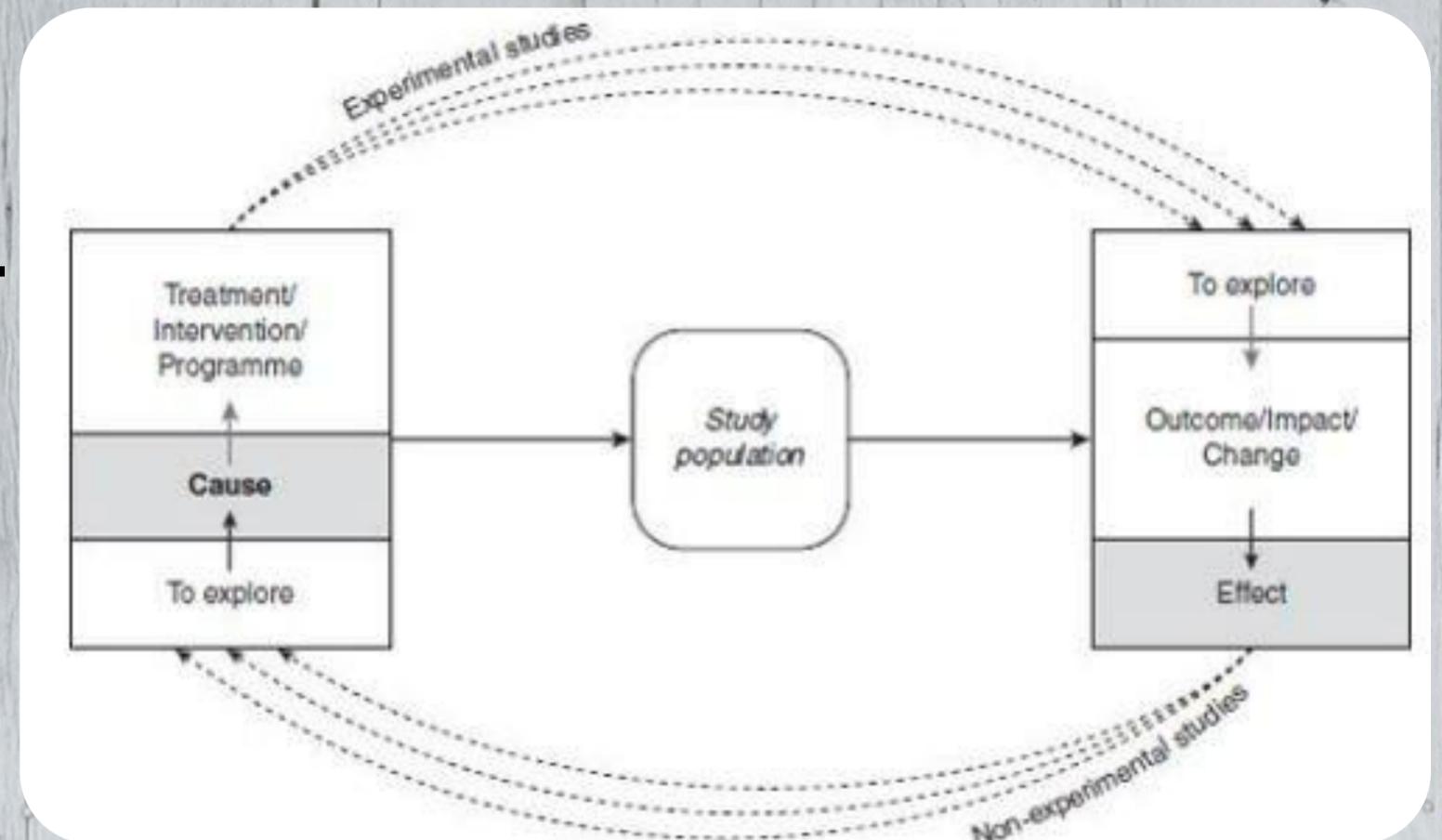




Study designs based on the nature of the investigation

On the basis of the nature of the investigation, study designs in quantitative research can be classified as:

- experimental;
- non-experimental;
- quasi- or semi-experimental.



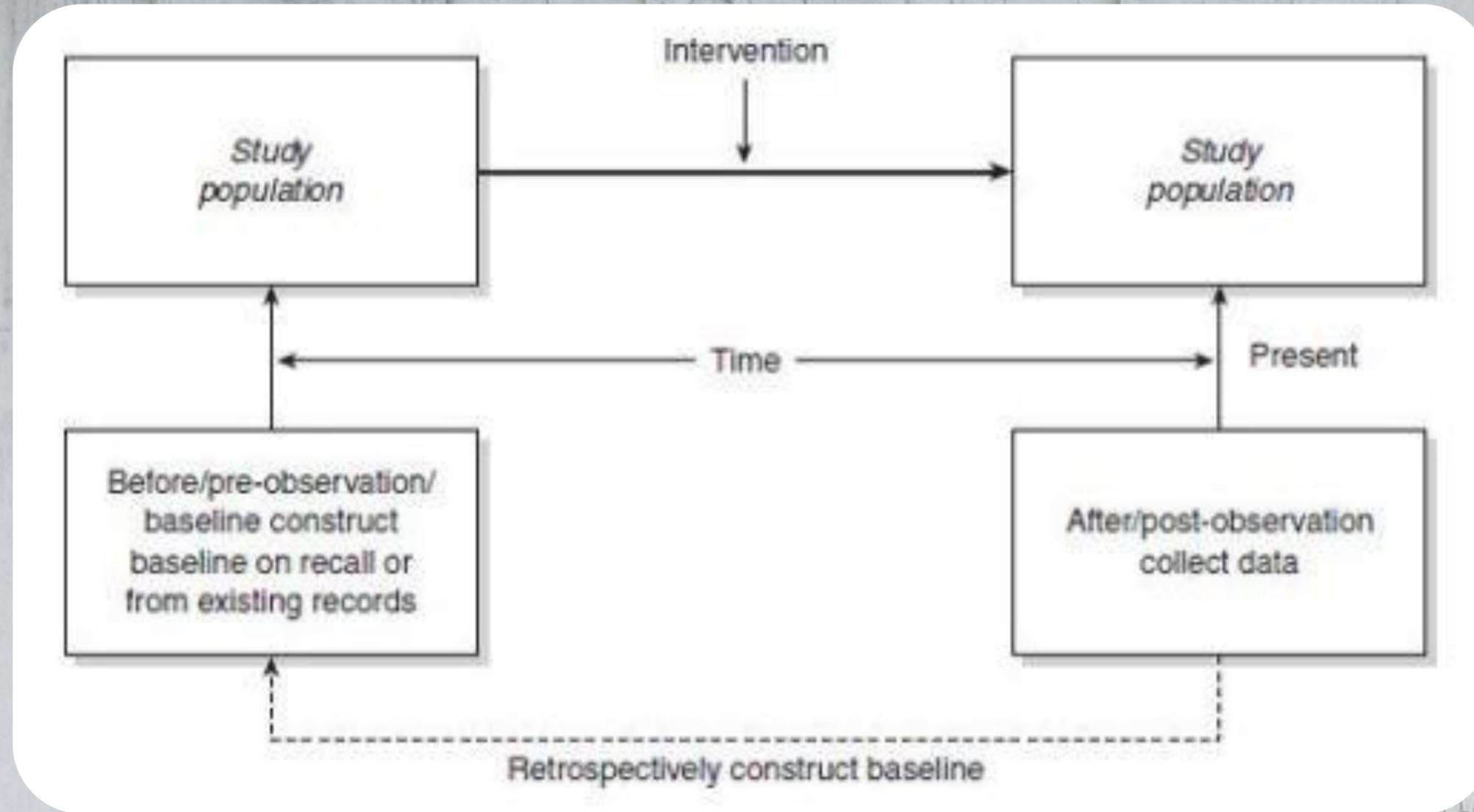


Experimental study designs

There are so many types of experimental design that not all of them can be considered within the scope of this book. This section, therefore, is confined to describing those most commonly used in the social sciences, the humanities, public health, marketing, education, epidemiology, social work, and so on.

These designs have been categorised as:

- the after-only experimental design;
- the before-and-after experimental design;
- the control group design;
- the double-control design;
- the comparative design;
- the 'matched control' experimental design;
- the placebo design.





THANK YOU!

Do You Have Any Questions?

