



How to write Materials & Methods Section of a Research Protocol

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Study Design: (تصميم الدراسة)

Study Duration (مدة الدراسة)

Study Setting: (إعداد الدراسة)

Target Population/Sample Size: (السكان المستهدفين / حجم العينة)

Inclusion Criteria: (معايير الاشتمال)

Exclusion Criteria: (معايير الاستبعاد)

Study Variables: (متغيرات الدراسة)

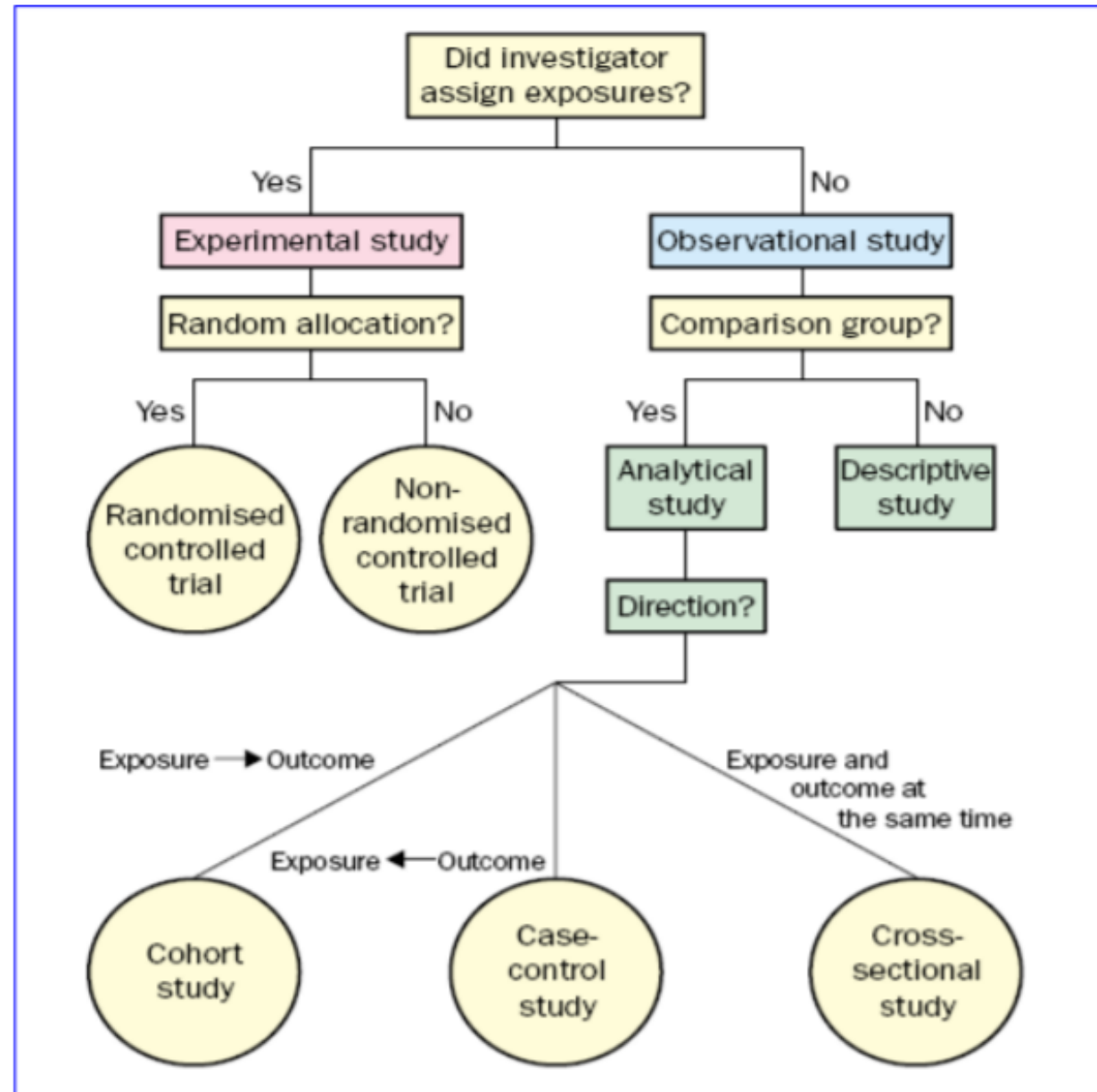
Ethical Considerations: (الاعتبارات الاخلاقية)


Data Collection/Data Source: (جمع البيانات / البيانات المصدر)

Questionnaires/data Sheets from other authors (*Copyrights or permission to use, or open access for academic and research purpose*)

Statistical Analysis: (تحليل احصائي)

Epidemiologic Study Designs





Research Designs

<i>Purpose</i>	<i>Study Design</i>
<i>To determine frequency & burden of a disease</i>	<ul style="list-style-type: none">* Cross sectional survey (Prevalence)* Cohort study (Incidence)
<i>To identify the risk factors</i>	<ul style="list-style-type: none">* Cohort study* Case-Control study
<i>To determine prognosis of a disease</i>	<ul style="list-style-type: none">* Cohort study
<i>To determine efficacy/ effectiveness of new treatment</i>	<ul style="list-style-type: none">●* Clinical trials●* Community intervention
<i>To evaluate community programs</i>	<ul style="list-style-type: none">* Evaluation



Study Duration

- ✓ Weeks
 - ✓ Months
 - ✓ Years
- 



Study Setting

- Where are you going to do the research?
- 



Target Population/Sample Size

- Who is selected to participate in the study?
- Proper definition of eligibility, inclusion, exclusion and discontinuation criteria of the study subjects should be stated
- The inclusion and exclusion criteria should be clearly defined
- Sample size calculation is recommended for economical and ethical reasons



Target Population/Sample Size

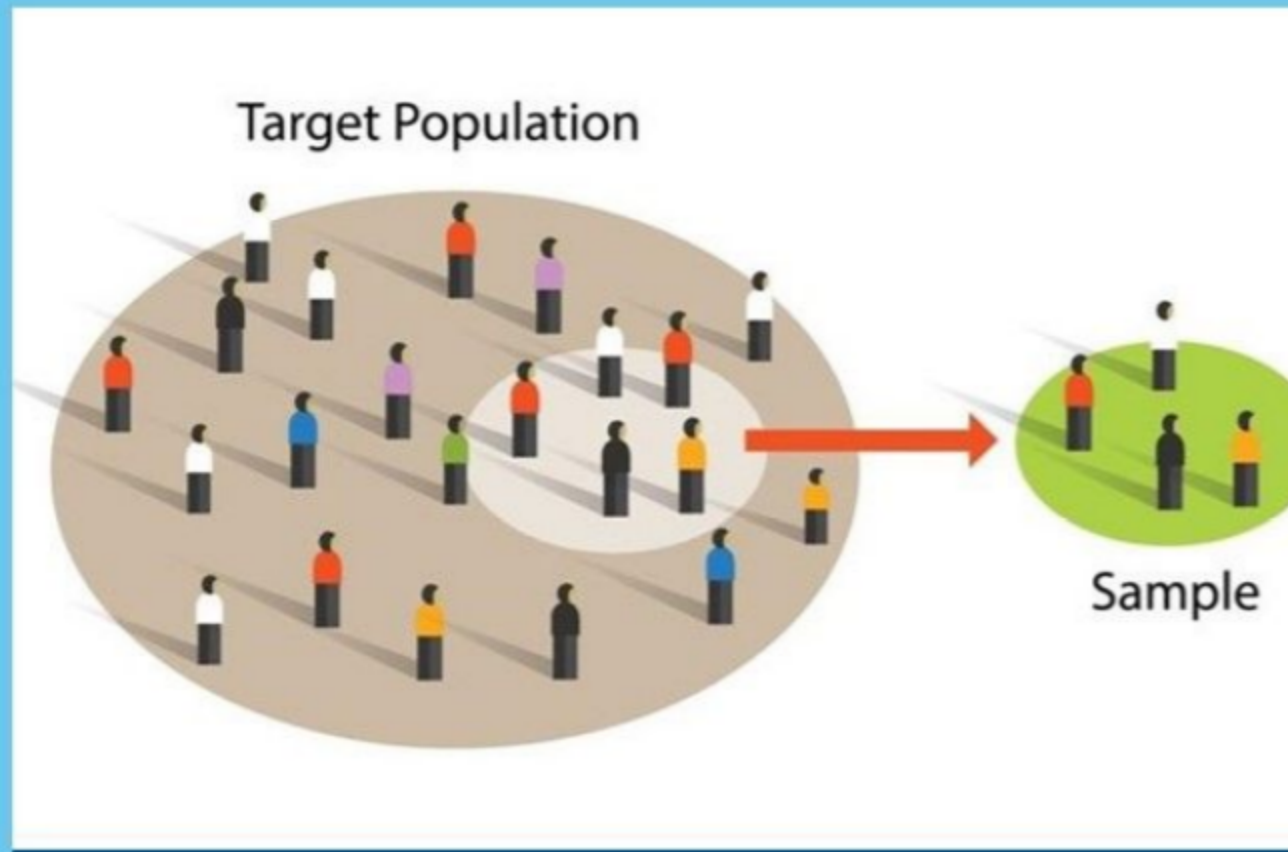
- The calculation of the sample size must be explained including the power of the sample
- The sampling technique should be mentioned, e.g., randomization that will be used in order to obtain a representative sample for your target population
- Each step involved in the recruitment of the study subjects should be described according to the selection criteria (inclusion and exclusion criteria)

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Project Sample Size for Thesis Research Paper Proposal



Study Variables



Variable

-  characteristic which is subject to change and can have more than one value such as age, intelligence, motivation, gender, etc



Study Variables

➤ Dependent and Independent Variables

➤ Independent variables

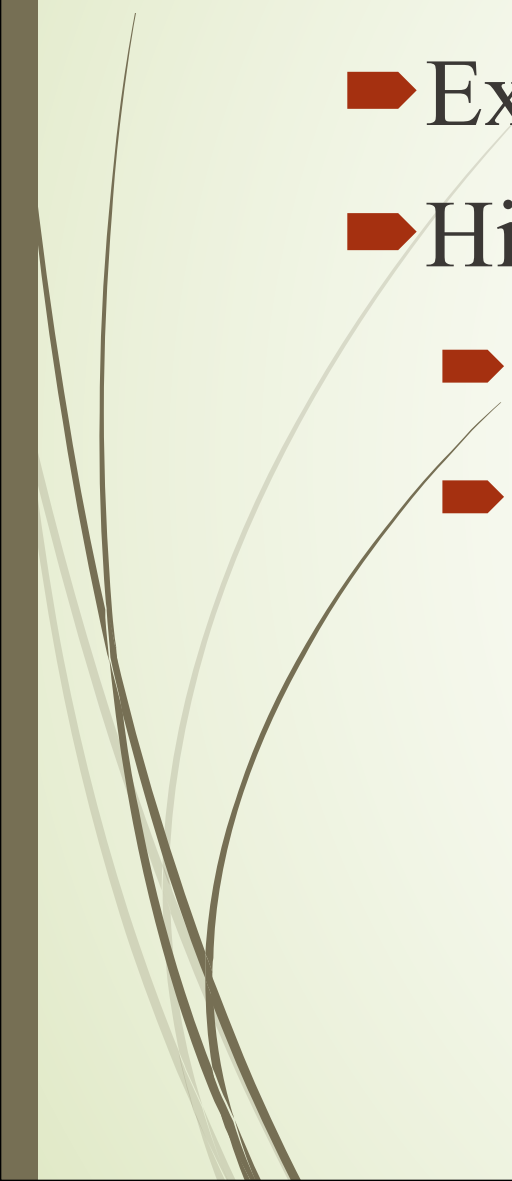
- are variables which are manipulated or controlled or changed
- It is what the researcher studies to see its relationship or effects
- Presumed or possible cause

➤ Dependent variables

- are the outcome variables and are the variables for which we calculate statistics
- The variable which changes on account of independent variable is known as dependent variable



Study Variables

- Example
 - Higher education typically leads to higher income
 - Higher education----(..... variable)
 - Higher income----(..... variable)
- 



Ethical Considerations

- The study will be conducted after Institutional Review Board (IRB) approval
- Informed consent will be given to the subjects before taking the decision to participate; the privacy and confidentiality of subjects' information will be guaranteed and protected by researchers
- The collected data is going to be used only for research. The information will be kept anonymous, and the participation is voluntary

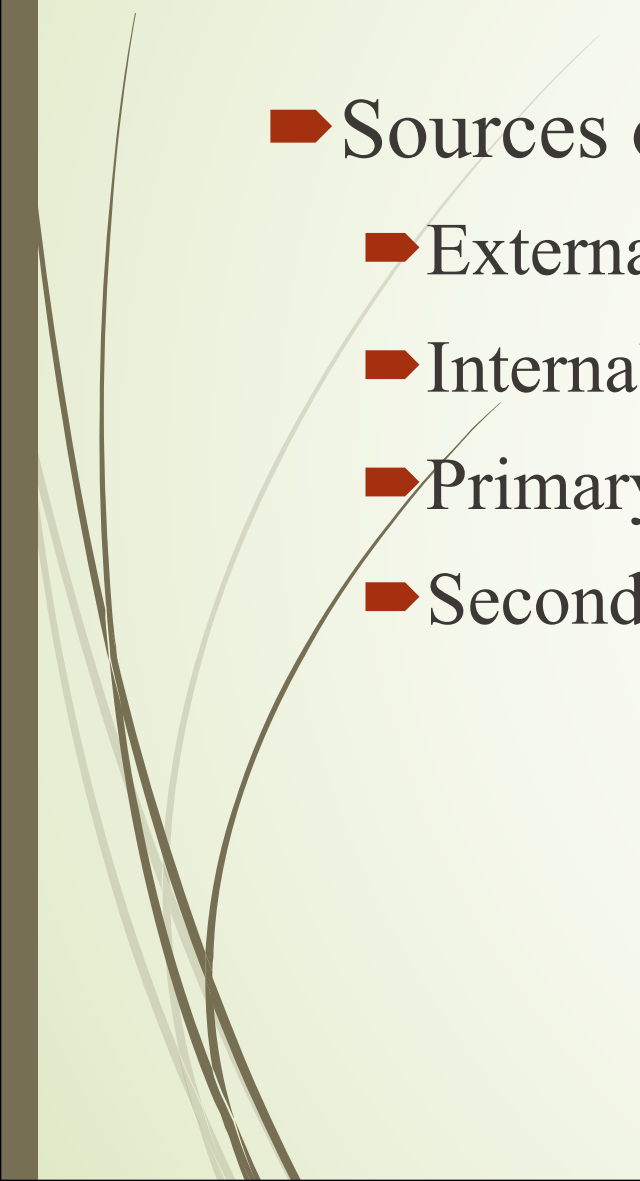


Data Collection/Data Source

- Qualitative Deals with descriptions
 - Data can be observed Data can not measured e.g. –Colour
- Quantitative Deals with numbers
 - Data which can be measured. e.g. –height ,weight , length



Data Collection/Data Source

- Sources of Data
 - External sources
 - Internal sources
 - Primary data
 - Secondary data
- 



Data tool

- Retrospective data (medical records)
- Questionnaires
- Interviews (Structured, Semi-Structured)
- Laboratory
- Clinical examinations
- Description of instruments, tools used for data collection, as well as the methods used to test the validity and reliability of the instrument should be provided



Data Management and Analysis

- This section should be written following statistical advice from a statistician
- The analysis plan and which statistical tests will be used to check the significance to the research question/hypothesis with appropriate references should be described
- Names of variables that will be used in the analyses and the name of statistical analysis that will be performed to assess the outcome should be listed
- If computer programs are to be applied, it is important to mention the software used and its version



Strengths and Limitations

- It is important to mention the strengths or limitations of the study,
 - what study can achieve or cannot achieve is important,
 - so as to prevent wasteful allocation of resources.

Thank You and Questions

