



**TOOLS FOR DATA COLLECTION
AND DATA ANALYSIS
IN NURSING RESEARCH**

AT

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BY

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Presentation outline

- Data collection defined
- Developing questions for data collection
- Types of data
- Methods for data collection/data collection tools
- Data analysis defined
- Steps in quantitative data analysis
- Steps in qualitative data analysis





Data collection - Gathering specific information to proffer solutions to relevant questions.

Developing appropriate questions for data collection

Concept

Variables

> Indicators

(Health status)

Different dimensions of the concept :Life expectancy, absence/presence of symptoms, measure of physical strengths, severity of symptoms

Operationalize the variables:
Questions: How would you rate your health for someone of your age group on a scale of 1 to 5?
What is your level of education?

Types of data

Qualitative / Quantitative
Data

Discrete / Continuous
Data

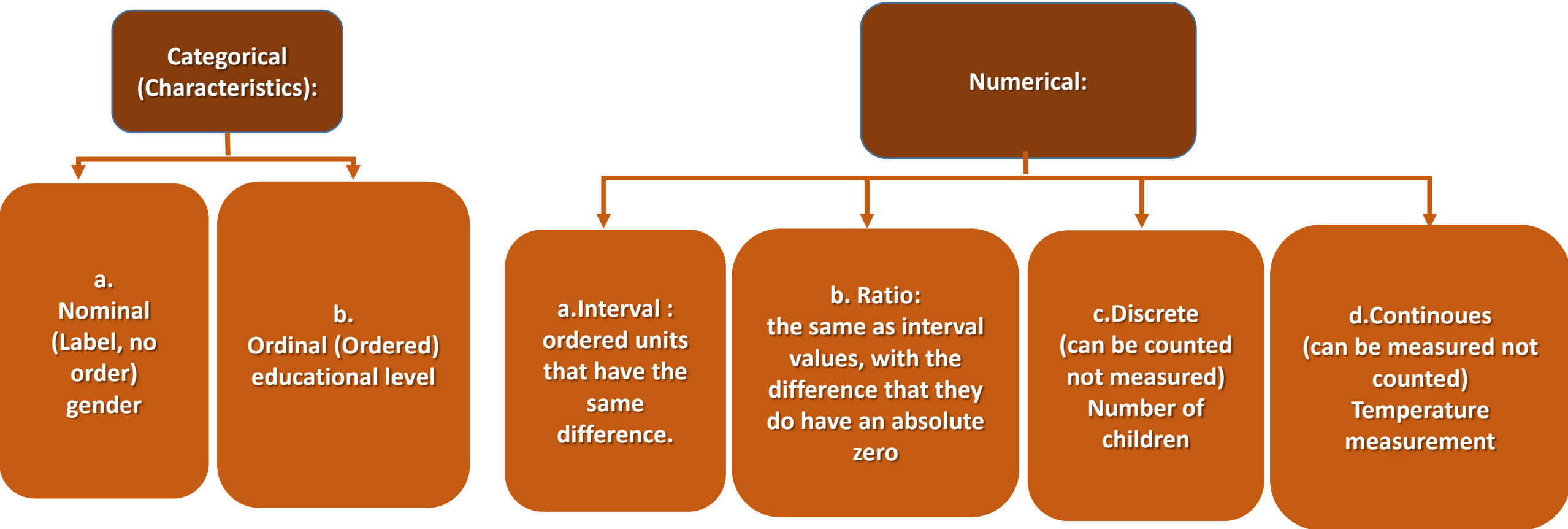
Primary / Secondary
Data

Types of government
(categorical)/
Number of students

Whole
number/Fractional
number

Collected by the
researcher/collected
by someone else

Types of data



you can use one label encoding, to transform ordinal data into a numeric feature.

1.Types: Structured, semi-structured and unstructured(IDI)
Tools: Questionnaire, question guide, computer, Audio recorder, digital camera and camcorder



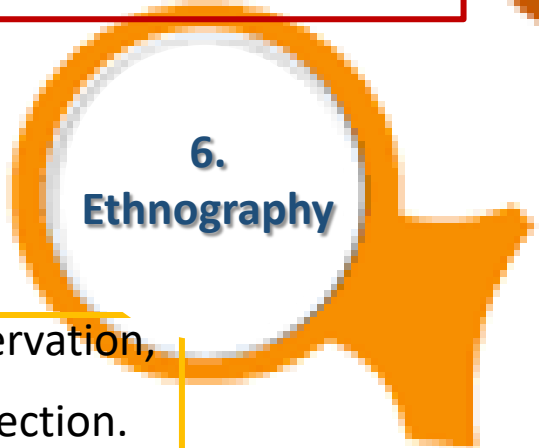
2.Types: Fixed-alternative, scale, and open-ended.
Tools: Paper questionnaire, on-line questionnaire



3.Types: In-depth analysis & shallow reviews of Reports, research journals, website articles, newspapers
Tools: Data abstraction Template, check list.



4.Types:Participant/non-participant;simple/behavioural;direct/indirect; covert/overt
Tools: Checklist, senses, digital camera,pictures, field note.



6.Ethnography(Direct observation, conversation, interviews, document and artifact collection.
Tools: Senses, checklist, data abstraction template, question guide, field note, recorder, camera



5.Types: Two-way, Single, dual moderator, Duelling moderator, respondent moderator, mini & online
Tools: Question guide, recorder, field note, camera.

Data analysis defined

- **Data Analysis** is the process of systematically applying statistical and/or logical techniques to describe, illustrate and evaluate data which provide a way of drawing inductive inferences from the data.

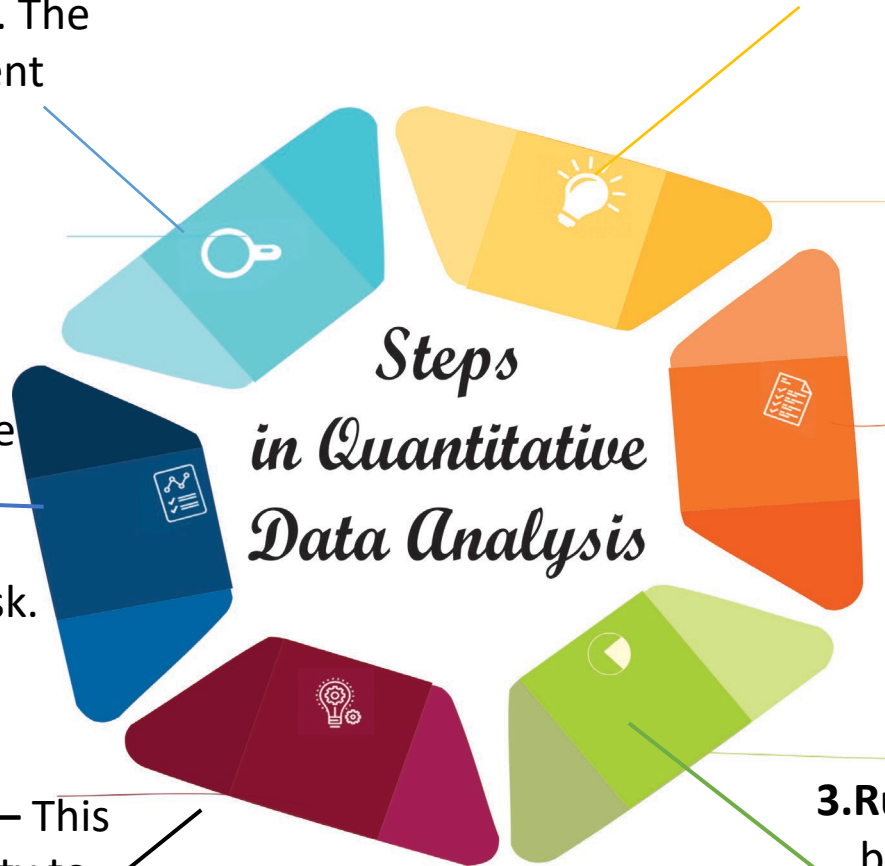


6. Look for statistical significance – This is generally captured through a ‘p-value’, which assesses the probability that your findings are **more than coincidence**. The lower the p-value, the more confident can be that findings are genuine.

SPSS,STATA,EPI-INFO,MS-EXCEL

5. Make sure you selecting the right statistical test – This relies on knowing the nature of your variables; their scale of measurement; their distribution shape; and the types of question you want to ask.

4. Run appropriate inferential statistics – This allows researchers to assess their ability to draw conclusions that extend beyond the immediate data. Differences between two or more groups; Changes over time; or Relationship between two or more variables.



1. Data management – Test run your software and finally perform data cleaning.

2. Understanding variable types – identify your dependent or independent variables and their measurement scales (nominal, ordinal, interval, and ratio).

3. Run descriptive statistics – Summarize the basic features of your data set through measures of **central tendency** (mean, mode, and median), **dispersion** (range, quartiles, variance, and standard deviation), and **distribution** (skewness and kurtosis).

1 Write down all discussions verbatim on a paper

2 Tag points: fear of pain, Fear of disability, Fear of surgery

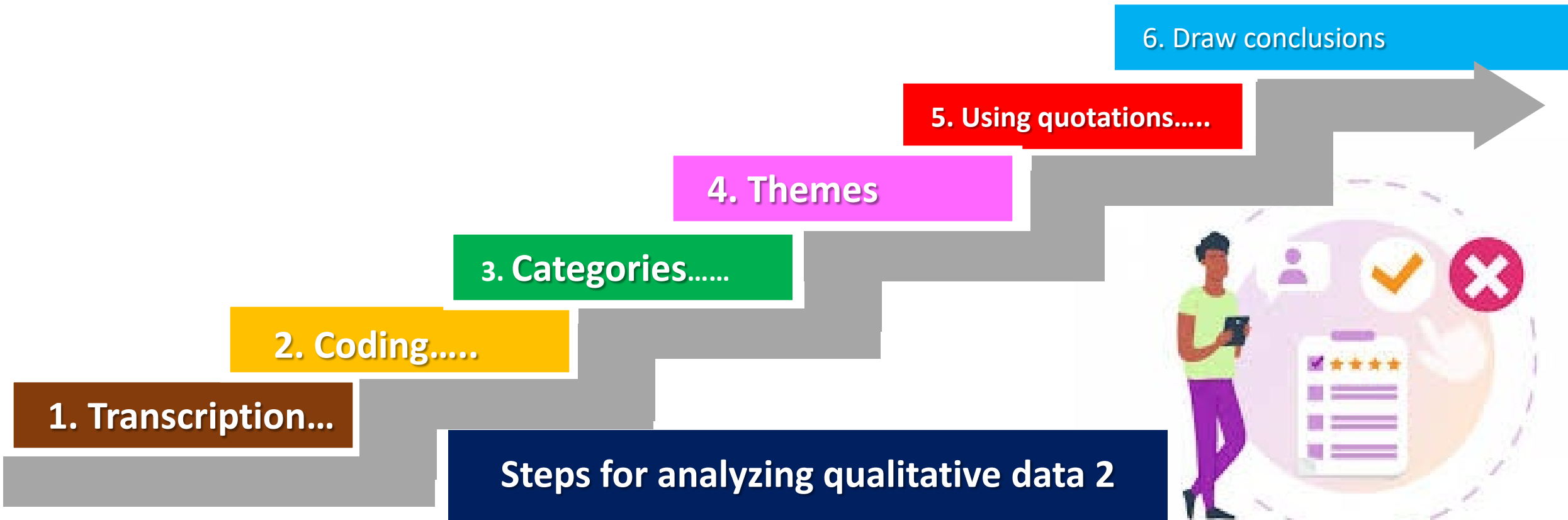
3 Form similar ideas/points: fear

4 Develop themes which reflects your interpretation of pertains across your data: lack of emotional control

5 Use quotations to illustrate categories and themes to keep the analysis firmly grounded in the data.

6 Draw conclusions.

NVivo ; Atlas Ti ; Quirkos



Conclusion

- My professional colleagues!
- To produce quality scientific evidences by nurses and for nursing policies and practices, we must develop skills for data collection and analysis.

A hand holding a glowing orb with a cityscape background and a butterfly.

Thank you

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