Data Collection

Today we're going to talk about Data Collection , so we will talk about different methods that the researcher may adapt to collect data , like <u>interview , questionnaires</u> , and internet .

- But how you can choose which method is the most appropriate for you ?
  It depends on many factors such as :
  - Instrument/tool availability
    (you should choose the **mot recent , reliable, and valid** instrument) .

- Now , what is your **plan** for data collection ?
  1- <u>Identify prioritization of data needs</u> (arrange them according to priority from your point of view)

  2- <u>Measures of variables</u>
     (measure has the same meaning of Scale / instrument)
     There's two types of instruments here :
     # Psychosocial (you ask about attitude , knowledge)
     # Physiological

  3- <u>Selection of existing (already available) instrument</u>
     But which instrument is better ?
     There's many features like :
     # Conceptual Stability (validity , reliability and the availability of instrument)

- Some instruments , you can't use them until you ask for a permission from the author or the institution ho offer it

- we as a student , they will give you a limited no. of copies to use for free

- the permission can be without charges

- add to your proposal that you take a permission , this will support your study from an ethical point

- many instruments you can use them for free (if they are in a public domain)

Cost   # Data Quality
population appropriateness (instruments must be chosen with the characteristics of population in mind , e.g. : children , adults or both))
Reputation (if you find past researchers similar to yours , seek for a help from them , they can guide you)

So , In summary : Select the most valid , widely used and recommended instrument by journals .

Why we use existing instrument , rather than developing a new one ?

Developing a new instrument is a research by itself , it needs time and money .

So try to avoid this (put it as a last resort)

To develop a new instrument , you need to find out the items / variables , then submit them to a sample

After that enter them to a statistical program , do an analysis for them , and the last step is modification .

- There are **two types of Instruments** :
  1) Structural Instrument
  2) Non Structural Instrument

** Structural Instrument :

- All questions / items are set in a fixed format , so all data collector will ask the same questions , not using their own words

- The data collector are trained to achieve (<u>inter – inter reliability</u>) which means the similarity between them
But , how we can make sure that it's available and made ?
By designing a tool that must be structured .

Structural Instrument lead to Inter – Inter reliability

- The purpose is to avoid variations , and the subjunctive explanation

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In structural instrument , you can't explain the questions by your own words

Except if there's a note that you can explain <u>but with limitation</u>

For example :

In a questionnaire , there was a question about negative smoking , not all people understand what we mean by this , so the data collector can explain to them by reading the definition that you put beside negative smoking

So , even the explanations are similar between all data collectors , because if you use your own words for clarification , this will lead to BIAS and you will not get a valid data .

- Methods to use a structural instrument :
  1 * Interview schedules
  2 * open ended questions (with limitation)
  3 * close ended questions (Yes or No)
  4 * questionnaires

** Non Structural Instruments :

- Used in :
  - Open ended questions
  - Qualitative research (the data collector are free to say what they want , but they're specialist in this **,** and there's a special method to ask)
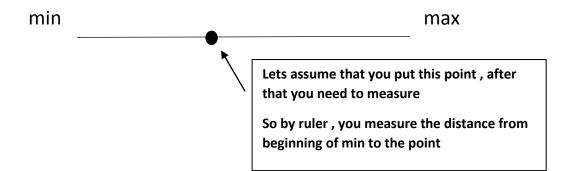
*** Closed ended question ***

1 – Dichotomous (2 choices only , e.g. : yes or no , healthy or not)

2 – multiple choice

3 – Rank order (e.g. : arrange these factors according to the importance of them from the highest to the lowest : Family , Career , Religion and money)

4 – Forced Choice (you can't move the next question unless you answer this question)

5 – checklist

6 – Rating (by numbers or steps , bipolar scale)

e.g. : put **X** on the number that reflect your opinion out of 10

         1   2   3

7—Visual analog Scale (line without numbers , length of the line = 100 mm)

e.g. : by vision determine/ draw a point where you are

min   max

Lets assume that you put this point , after that you need to measure

So by ruler , you measure the distance from beginning of min to the point

*** psychological Scales ***
- Multiple items
- Measure the depression , anxiety , reflect attitude and stigma

*** Lickert Scale ***
- Most commonly used
- SUMMATED rating scale
- Contain Psychosocial items , multiple items (20 as a minimum)

  ** all items have a one scale called Main / Total Scale (from maximally satisfied to minimally satisfied)

  ** all items talk about the same domain / variable (it's a series of statements about phenomenon)

  ** each item has it's own rating from 1 to 5

  ** to measure the total score for the scale , do a summation for all items scores (each item determined and scored for : intensity and the direction of favorability)

- The scale indicate the degree of agreement and disagreement for a specific variable

  ((<u>when you give a reflection on variable , you have to have many items to choose from</u>))

	1	2	3	4	5
Item 1		X			
Item 2				X	

- 1 - indicate that you're extremely disagree while 5 indicate that you're extremely agree

*** Semantic differentials ***
- Bipolar rating scale
- In Lickert scale all items have the same scale (disagree to agree) , but here each item has different scale (2 different extremities)

e.g. :

1) bad   good

2) week   strong

3) active   passive

- It's preferred that all items to be in one direction (from the negative to positive)
- Sometimes some items have a reversed direction which mean when you score a higher no. this will indicate that you're less satisfied
(the purpose of this , from a point of view of some authors , is to <u>check the reliability</u>
Because if the participant answer all questions with same score , the researcher will notice that even in the question where he must put a high score like all questions , he put no.4 - not 1 - which indicate a low

satisfaction since it's reversed , so he only put scores without reading :P)

*** questionnaires ***

- Definition : package of many instruments + demographic sheet + Cover sheet .

> ** if you overcome the demographic variables for some characteristics that are related to the participant , it will be called : Characteristic Sheet (and it will be added to questionnaire)
>
> ** Cover sheet : Consent form for the quastionnaires (we will talk about it in ethics lecture)

- Advantages :

1) less costly   2) less time consuming

3) no risk of interview bias (this is a disadvantage in the interview) – here you answer without the effect of data collector

4) **Anonymity** (you don't ask the participant to write their names , so you will not be able to identify from where you get the information)

** it's different from confidential which means ensure privacy

5) group administration (you distribute them once so it's the most economical)

** we can consider this as an example on Cross Sectional design

6) it can be distributed directly or through Mails and Web based Survey (but the response rate here is low)

Sorry for any mistake ☺

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