

Seminar 1

How to collect and manage data?



Two Sources of Data

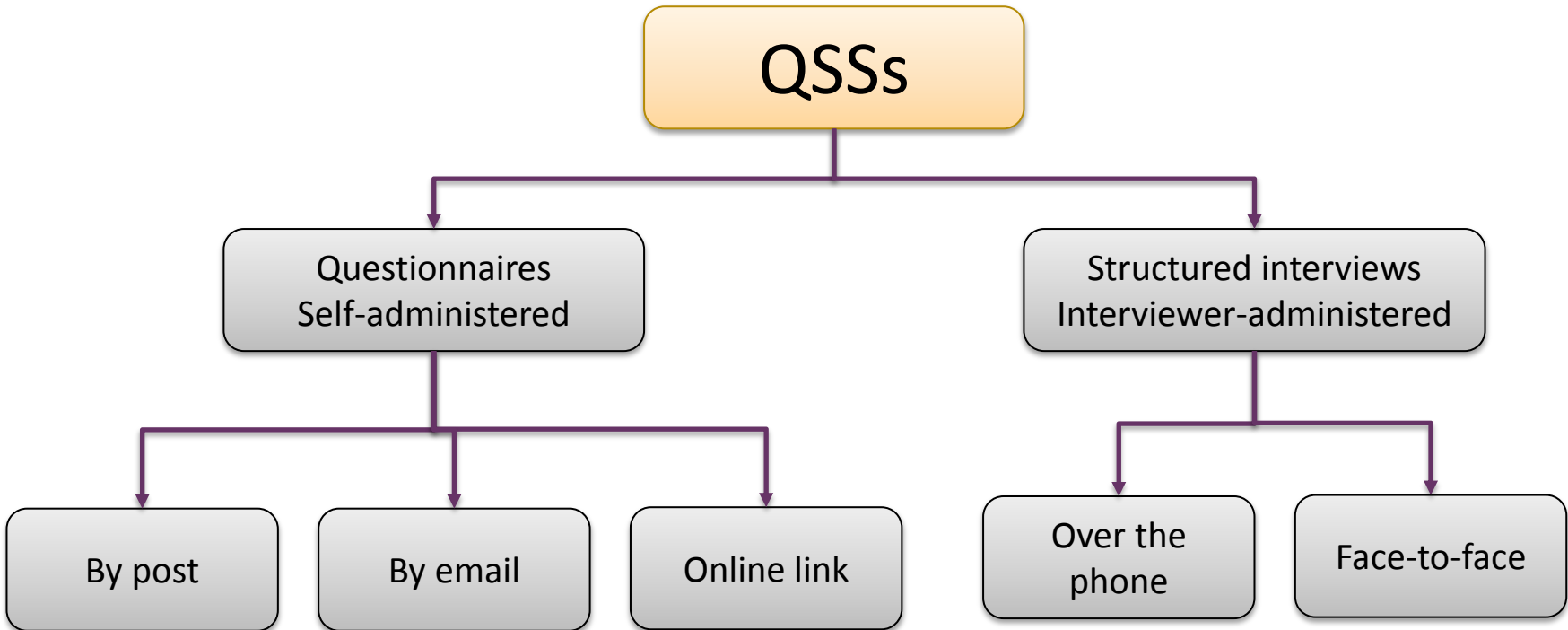
- Secondary data: data collected previously by someone other than the researcher (e.g. census, statistical reports, central banks' reports)

You have to check the reliability and credibility of the data.

- Primary data: data collected by the researcher usually by means of social surveys.

You have to prove data reliability and credibility

Quantitative Social Surveys (QSSs)



Comparison

Attribute	Online	Postal	Telephone	Face-to-face
Suitability	Connected people	Not connected	Selected and reachable	Selected
Confidence	High with email	Low	High	Very high
Disturbances/ contamination	Low/probable		Influence of interviewer	
Sample	Large		Limited by resources	
Response rate	30-50% for organisations, less than 10% in general	30-50-%	50-70%	
Questions	Closed with sequence		Close but can include open in mixed methods	
Data input	Automated	Manual entry		



A good Quality Survey

- Groves et al, (2009, p.40) identify two major characteristics of a good quality survey:
 - I. answers people give must accurately describe the characteristics of the respondents; and,
 - II. the subset of persons participating in a survey must have characteristics similar to those in a larger population.



Operationalisation

- Operationalisation is the transformation of ideas and concepts into tangible indicators of their existence (Saunders, Lewis & Thornhill 2007).
- It entails "turning concepts into measurable variables by defining the variable in terms of the procedure used to measure it." (Burns & Burns 2008, p. 76).

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
The salesperson was courteous and professional.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Pre-testing questionnaire evaluation

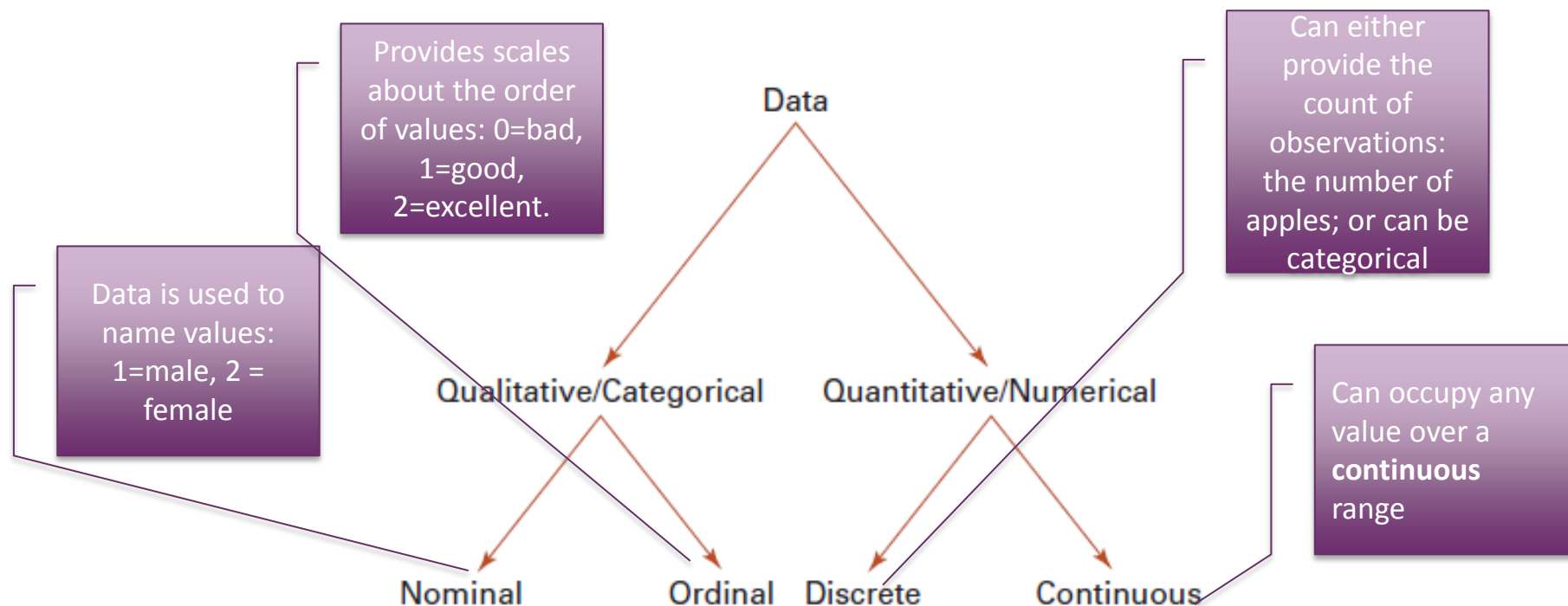
- Groves, et al. (2009) identify three standards that all survey questions should meet concerning:
 - I. Content (does the questions concern the data that is planned to be collected?)
 - II. Cognitive level (is it understandable?)
 - III. Usability (the ability to complete the questionnaire).
- Measures to do pretesting evaluation:
 - I. Pilot test with small sample.
 - II. Review of professionals and academic people.

Steps involved when designing a questionnaire

- There are nine steps involved in the development of a social survey:
 1. Decide the information required.
 2. Define the target respondents.
 3. Choose the method(s) of reaching your target respondents.
 4. Decide on question content.
 5. Develop the question wording.
 6. Put questions into a meaningful order and format.
 7. Check the length of the questionnaire.
 8. Pre-test the questionnaire.
 9. Develop the final survey form.



Types of data



Levels of measurement

It is the process through which observation is translated into numbers.

Data Level	Definition
Nominal	Names or classifications are used to divide data into separate and distinct categories.
Ordinal	Measures that rank observations into categories with meaningful order.
Interval	Measures on a numerical scale in which the value of zero is arbitrary but equal intervals exist between successive points on the scale. (temperature).
Ratio	Numerical measures in which zero is a meaningful value and the difference between values is important.

Data level, operations and statistical methods

Data Level	Meaningful Operations	Statistical Methods
Nominal	Classifying and Counting	Nonparametric
Ordinal	All of the above plus Ranking	Nonparametric
Interval	All of the above plus Addition, Subtraction, Multiplication, and Division	Parametric
Ratio	All of the above	Parametric

Adapted from Black et al (2016)

Staff Survey (selected items)

Age: ☐ under 20 ☐ 21 to 30 ☐ 31 to 40 ☐ 41 to 50 ☐ over 50yrs

Length of service with the organization (in years): _____ Employment status: ☐ permanent ☐ casual

For each of the aspects shown below please rate your level of agreement and importance using the following scales:

Agreement: 1=not at all 2=slight extent 3=moderate extent 4=great extent 5=very great extent

Importance: 1=not at all 2=slightly important 3=moderately important 4=very important 5=extremely important

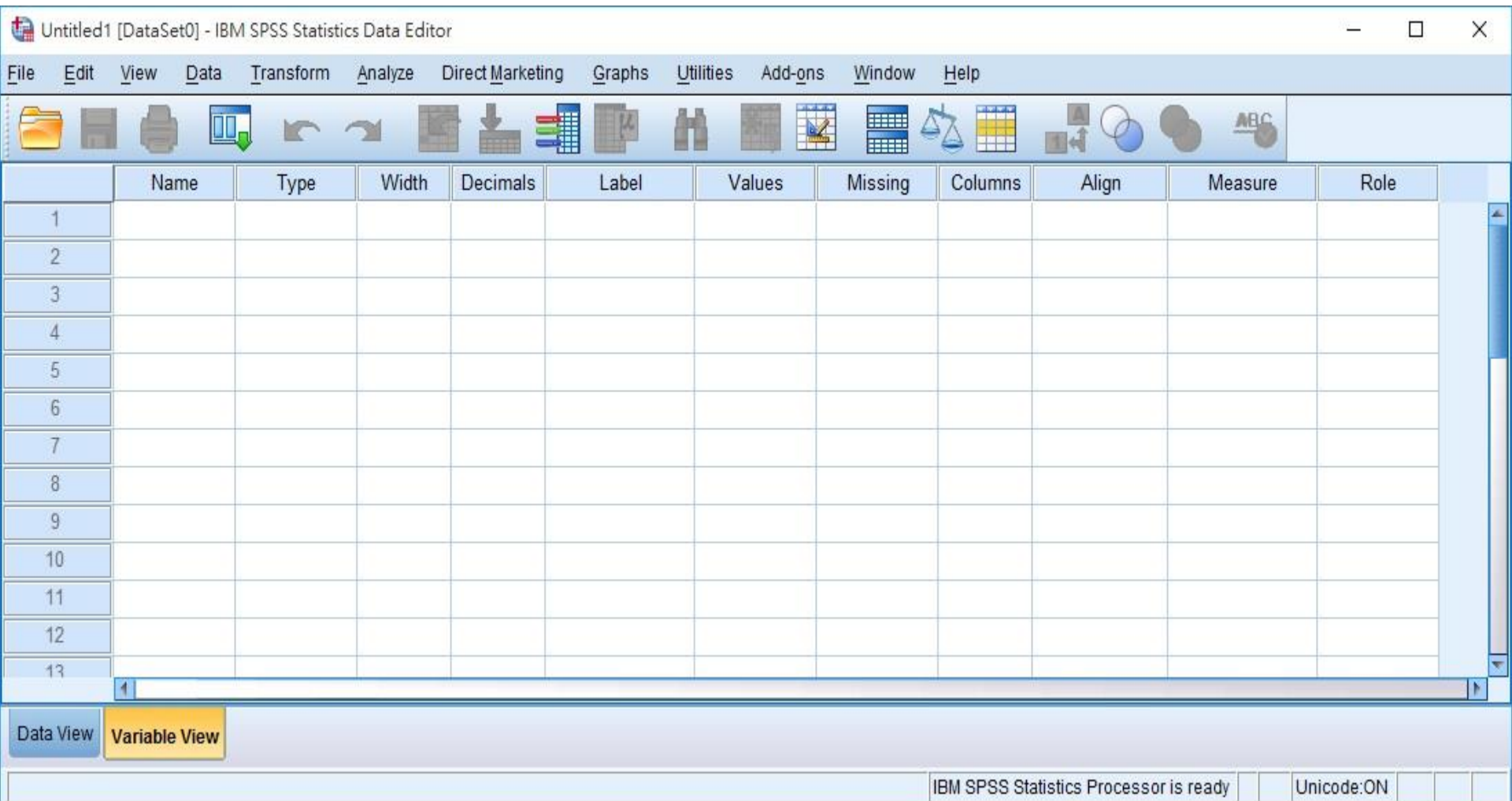
	Agreement	Importance
1. Is it clear what is expected of you at work?	1 2 3 4 5	1 2 3 4 5
2. At work have you been provided with all the equipment and materials required for you do your work efficiently?	1 2 3 4 5	1 2 3 4 5
3. Does the organization keep you up to date with information concerning development and changes?	1 2 3 4 5	1 2 3 4 5
4. Do you receive recognition from the organization for doing good work?	1 2 3 4 5	1 2 3 4 5
5. Does your manager or supervisor encourage your development at work?	1 2 3 4 5	1 2 3 4 5
6. Do you feel that your opinions seem to count to the organization?	1 2 3 4 5	1 2 3 4 5
7. Does the organization make you feel that your job is important?	1 2 3 4 5	1 2 3 4 5
8. Do you feel that your fellow workers are committed to doing good quality work?	1 2 3 4 5	1 2 3 4 5
9. Has your performance been assessed or discussed in the last six months?	1 2 3 4 5	1 2 3 4 5
10. Have you had the opportunity over the last year at work to improve your skills?	1 2 3 4 5	1 2 3 4 5

Would you recommend this organization as a good place to work? ☐ Yes ☐ No



Murdoch
UNIVERSITY

Data View Page - SPSS





Murdoch
UNIVERSITY

Workshop-Task 1

- **Convert** the questions of the questionnaire (Staff Survey) into variables and **create** a data file with SPSS.



Murdoch
UNIVERSITY

Workshop-Task 2

- **Answer** the questionnaire, then enter your answers in the data file you have just created.



Workshop-Task

- **Open data file (staff Survey.SAV)**
- **Distinguish between categorical variables** then screen them for errors.

Procedure to screen categorical variables:

Analyse –Descriptive Statistics – Frequencies.

Procedure to screen continuous variables:

Analyse –Descriptive Statistics – Descriptive-check minimum and maximum.

Thank you