

Lecture 2

Types of variables

Quantitative

- Quantitative Variables

- It can be measured in the usual sense.
- For example:
 - the heights of adult males
 - the weights of preschool children.
 - the ages of patients seen in a dental clinic.

Qualitative

- Qualitative Variables

- Many characteristics are not capable of being measured. Some of them can be ordered (called ordinal) and Some of them can't be ordered (called nominal).
- For example:
 - classification of people into socio-economic group.
 - Hair color •

Types of quantitative variables

Discrete

- A discrete data
- can have countable numbers of values (there are gaps between the values)
- For example:
 - The number of daily admissions to a general hospital,
 - The number of decayed, missing or filled teeth per child in an elementary school.

Continuous

- A continuous data
- can assume any value within a certain interval of values assumed by the variable.
- For example:
 - Height, and blood sugar level of a person
 - weight,
 - skull circumference.
 - No matter how close together the observed heights of two people, we can find another person whose height falls somewhere in between.

Types of qualitative variables

Nominal

- **As the name implies it consist of “naming” or classifies into various mutually exclusive categories**
- **For example:**
- - Male - female - Sick - well - Married – single – divorced
Answers : yes or No, True or False

Ordinal

- **Whenever qualitative observation Can be ranked or ordered according to some criterion.**
- **For example:**
- - Blood pressure (high-good-low)
- - Grades (Excellent – V.good – good –fail)
- -BMI (underweight – normal – obese)

Example 1

Suppose we measure the amount of milk that a child drinks in a day (in ml) for a sample of 25 two-year children in Saudi Arabia.

The population :all two years children in Saudi Arabia

The variable: the amount of milk that a child drinks in a day (in ml)

The variable is: quantitative, continuous

The sample size is: 25

Example 2

Suppose we measure whether a child has a hearing loss or not for a sample of 20 young children with a history of repeated ear infections.

The population: all young children with a history of repeated ear infection.

The variable: whether a child has a hearing loss or not

The variable is qualitative, nominal. (Since the values are either “yes or „no”.)

The sample size is: 20.