

Note: No quiz this week! Quizzes start next week. The quizzes are written in the last 15 minutes of your assigned tutorial. Please be on time.

Classify Variables

Variables: characteristics about each individual

Categorical/qualitative/nominal variables: take on values that are names or labels. E.g. Gender, nationality of a U of T student.

- Nominal scale: the set of categories for a categorical variable.

E.g. Consider the nationality of a U of T student {Canada, America, China, Japan}

Quantitative variables: measured on a numeric or quantitative scale provide meaning for the numbers which involves the process of measurement and the process of counting. E.g. Height of a U of T student.

- Interval scale(quantify the difference between levels): a quantitative measurement scale where the difference between 2 variables is meaningful.

E.g. Consider height of a U of T student

< 5 feet, short

5 < height < 5.7, medium

5.7 > , tall

Identifier variables: a categorical variable where each individual receives a unique number. E.g. Student ID.

Ordinal variables: a categorical variable that has a natural ordered category existed on an ordinal scale.

E.g. scores 1, 2, 3 and 4 to these four levels of educational experience.

E.g. a five-point likert scale with values “strongly agree”, “agree”, “neutral”, “disagree” and “strongly disagree”.

- Ordinal scale: a scale of natural ordering of values.

Note: don't assume that a variable is quantitative just because its values are numbers.

Questions:

1. (Chp 1.20)**STATS STUDENTS** An online survey of students in a large Statistics class asked them to report their height, shoe size, sex, which degree program they were in, and their birth order (1=only child or first born). The data were used for classroom illustrations.

2. (Chp 1.27) **BABIES** Medical researchers at a large city hospital investigating the impact of prenatal care on newborn health collected data from 882 births between 1998 and 2000. They kept track of the mother's age, the number of weeks the pregnancy lasted, the type of birth (caesarean, induced, or natural), the level of prenatal care the mother received (none, minimal, or adequate), the birth weight and sex of the baby, and whether the baby exhibited health problems (none, minor, or major).