

Chapter 1: Data Types

TXCL7565/PHSC7565

What This Lecture Covers

- ▶ Three general types of data
- ▶ Why is this important

General Types of Data

- **Interval scale** (continuous data)
 - e.g., weight of a patient
- **Ordinal scale** (ordered categorical data)
 - e.g., patient's pain ranked on a scale of 1 to 10
- **Nominal scale** (categorical data)
 - e.g., patient's race

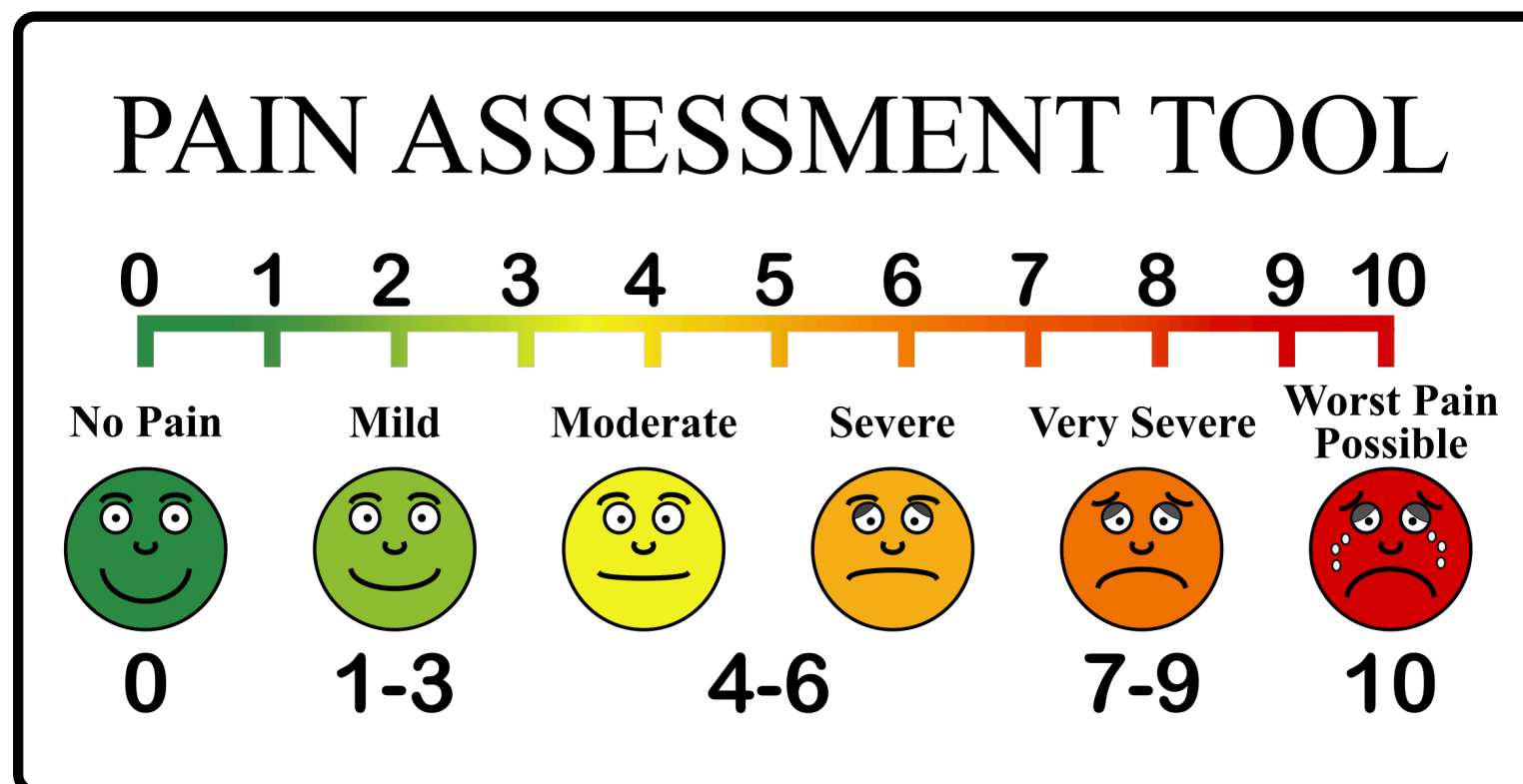
Interval Variable

Interval Variable - a continuous variable where a difference (i.e., an interval) means the same thing all the way along the scale, no matter where you start

- Differences in interval variables are often meaningful.

Ordinal Variable

Ordinal Variable - a variable that represents different categories where the categories have a natural sequence, i.e., lowest to highest, but the intervals between categories are undefined.



Nominal Variable

Nominal Variable - a variable that represents different categories where the categories have no natural sequence

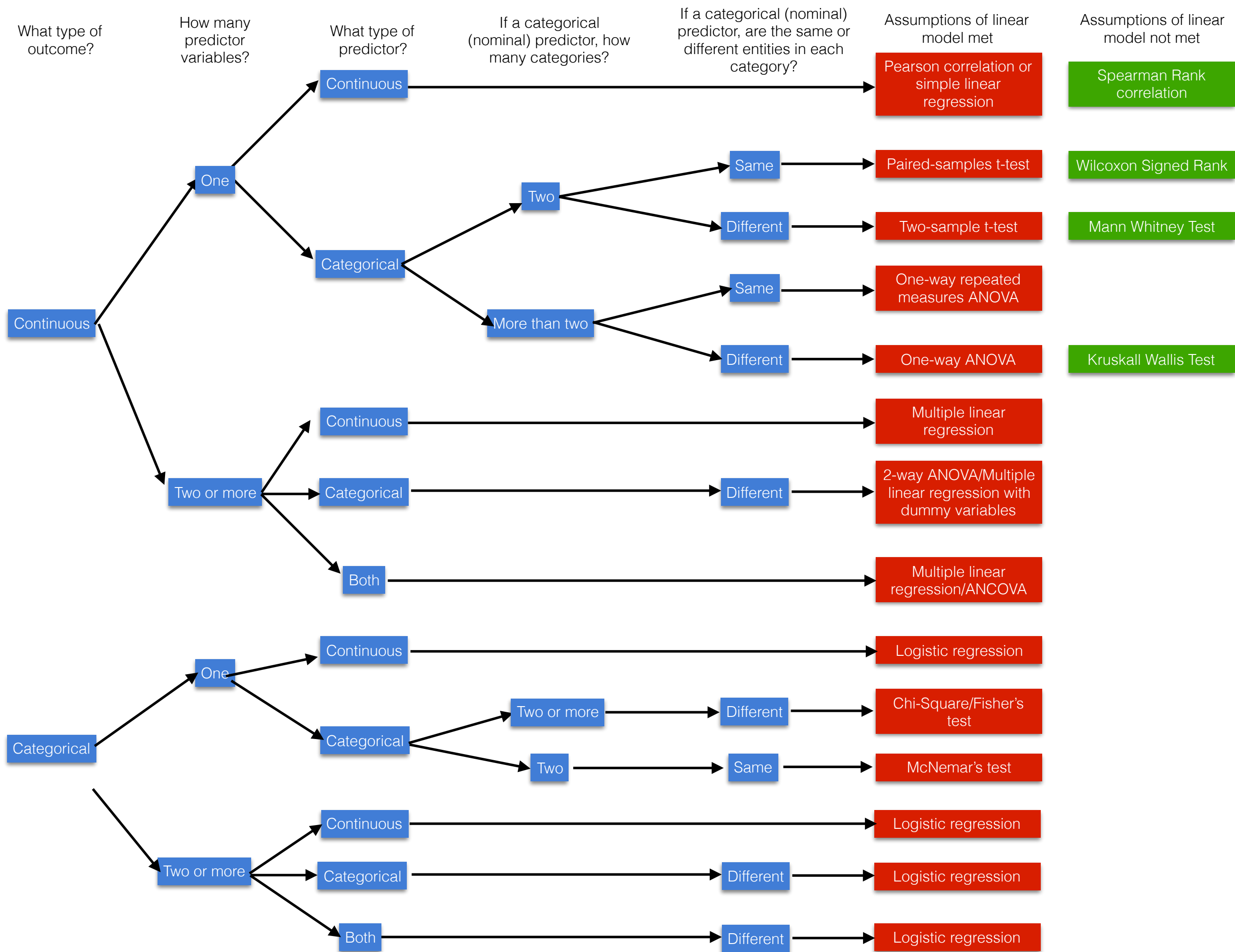
Binomial Variables

Binomial Variable - a variable that represents only two possible outcomes, e.g., dead or alive.

- Can either be classified as ordinal or nominal
- Synonymous with 'binary' or 'dichotomous'

Why do we need to know this?

- Choice of statistical method is dependent on type of data
- Choice of graphic is dependent on type of data
- Interpretation of results (especially 'differences') is dependent on type of data
- Not always obvious...



What did we learn?

- Variables can be classified as interval, ordinal, or nominal
- Binary, dichotomous, and binomial all indicate that a variable has two levels
- Type of variable dictates choices for analysis, visualization, and interpretation.