



QIMR Berghofer
Medical Research Institute

Variables in a dataset

Different roles of variables

- **Outcome/dependent/response variable**
 - A variable that you would be interested in predicting or forecasting
 - It should be easily quantifiable, specific, valid, reproducible and appropriate to your research
 - Statistical analysis is done on outcome variables, and conclusions can be drawn from the statistical analysis
- **Explanatory/independent variables**
 - Any variable that explains the outcome variable
- **Confounding/mediating variables**
 - Can adversely affect the relationship between the independent and the dependent variable
 - Need to take these into account – through study design!

Types of variables

- **Categorical**
 - *Nominal*: variables that have no natural order
 - e.g. gender (male/female)
 - *Ordinal*: variables that have natural order
 - e.g. Severity (mild, moderate, severe)
- **Quantitative**
 - *Continuous*: arise from measurements
 - e.g. height (cm)
 - *Discrete*: arise from counting
 - e.g. number of moles on someone's back

What variables will you collect?

- **Outcome/dependent/response variable**
 - e.g. BMI
 - Will you measure 24.1 or whether 'underweight', 'normal' or 'overweight'?
 - How will you obtain it?
- **Explanatory/independent variables**
 - e.g. Diet
 - Average grams of protein per day?
 - Treatment group?
- **Confounding/mediating variables**
 - e.g. Alcohol, smoking
 - e.g. Public or Private hospital

How to contact the Statistics Unit

- **Email:**

Statistical.Services@qimrberghofer.edu.au

- **Location:**

Level 12, Bancroft Building, QIMR Berghofer, 300 Herston Road, Herston

- **Website:**

<https://www.qimrberghofer.edu.au/our-research/scientific-services/qimr-berghofer-statistics-unit/>