



## Cramming Sam's Tips for Chapter 1: Why is my evil lecturer forcing me to learn statistics?

### Some important terms

When doing research there are some important generic terms for variables that you will encounter:

- *Independent variable*: A variable thought to be the cause of some effect. This term is usually used in experimental research to denote a variable that the experimenter has manipulated.
- *Dependent variable*: A variable thought to be affected by changes in an independent variable. You can think of this variable as an outcome.
- *Predictor variable*: A variable thought to predict an outcome variable. This is basically another term for independent variable (although some people won't like me saying that; I think life would be easier if we talked only about predictors and outcomes).
- *Outcome variable*: A variable thought to change as a function of changes in a predictor variable. This term could be synonymous with 'dependent variable' for the sake of an easy life.

### Levels of measurement

Variables can be split into categorical and continuous, and within these types there are different levels of measurement:

- Categorical (entities are divided into distinct categories):
  - Binary variable: There are only two categories (e.g., dead or alive).
  - Nominal variable: There are more than two categories (e.g., whether someone is an omnivore, vegetarian, vegan, or fruitarian).
  - Ordinal variable: The same as a nominal variable but the categories have a logical order (e.g., whether people got a fail, a pass, a merit or a distinction in their exam).
- Continuous (entities get a distinct score):

- Interval variable: Equal intervals on the variable represent equal differences in the property being measured (e.g., the difference between 6 and 8 is equivalent to the difference between 13 and 15).
- Ratio variable: The same as an interval variable, but the ratios of scores on the scale must also make sense (e.g., a score of 16 on an anxiety scale means that the person is, in reality, twice as anxious as someone scoring 8).