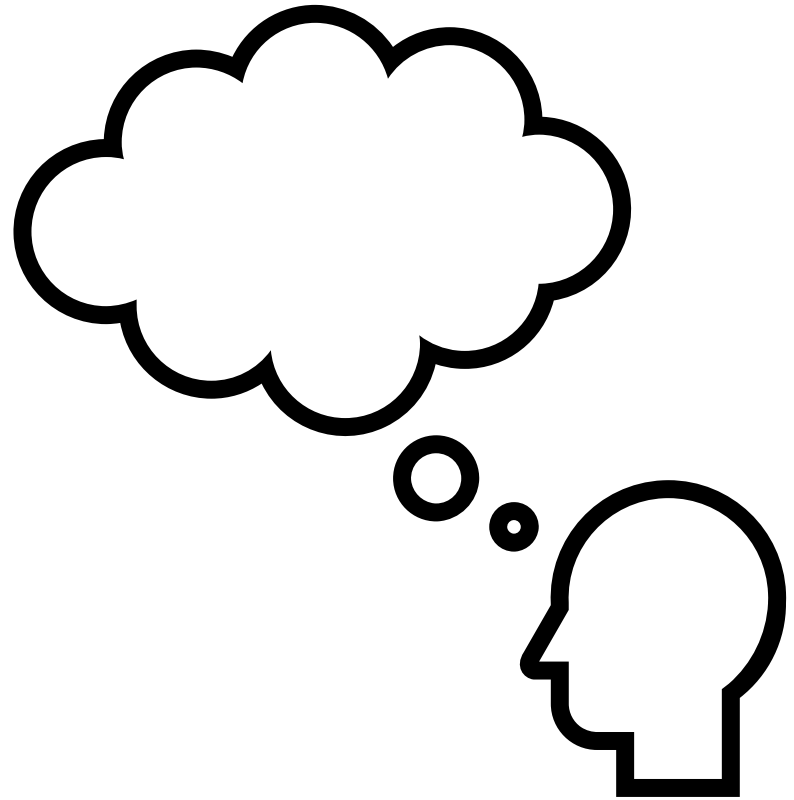# Variable Classification

Do we *even have* a variable?

- Variables need to be **variable**.

- If not variable, then constant.
  - This means it is a characteristic of you sample!

WELL ANYWAY...

Variable types

- ~~Categorial~~

- ~~Continuous~~
- ~~Numeric~~

Variable types

Qualitative

- Expresses a quality
- Can be expressed non-numerically
- Categorized

Quantitative

- Expresses a quantity
- Are expressed numerically

- Can perform mathematical operations on them

Can I manipulate the values with arithmetic?

Scale of Measurement

If Qualitative

- Nominal
  - It's all in a name

  - Ex: Student ID, Music genre

- Ordinal
  - Order matters
  - Ex: Placement in a race (1st Place, 2nd Place, 3rd Place), Grade Letters

If Quantitative

- Interval
  - Equal intervals/spacing between values
  - Ex: Celsius, SAT scores

- Ratio
  - Meaningful zero
  - Ex: Kelvin, Points earned in a class

QUIZ TIME!

Number of votes in an election

What is the variable type?

What is the scale of measurement?

Highest degree acheived

What is the variable type?

What is the scale of measurement?

Men's jeans sizes

Men's jeans sizes

What is the variable type?

What is the scale of measurement?

Women's jeans sizes

Women's Bottoms		
Juniors'	Women's	Waist Size
0	00	24
1	0	25
3	2	26
5	4	27
7	6	28
9	8	29
11	10	30
13	12	31
15	14	32
17	16	33
	18	34

35

sessed.

Women's jeans sizes

What is the variable type?

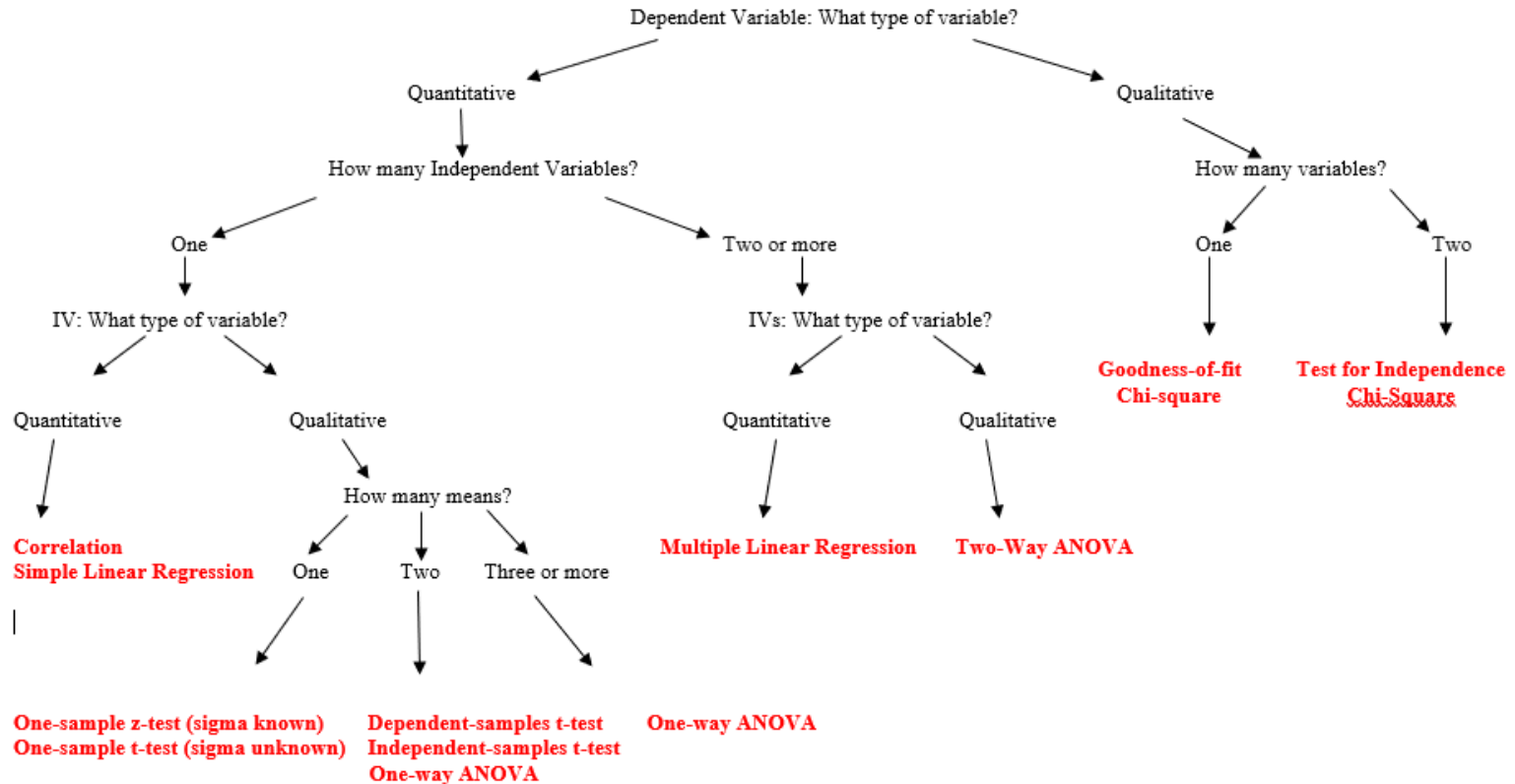What is the scale of measurement?

Language proficiency

What is the variable type?

What is the scale of measurement?

Why do we care

- Type and scale of measurement will guide the models/statistics that we utilize

ONWARD WE GO…