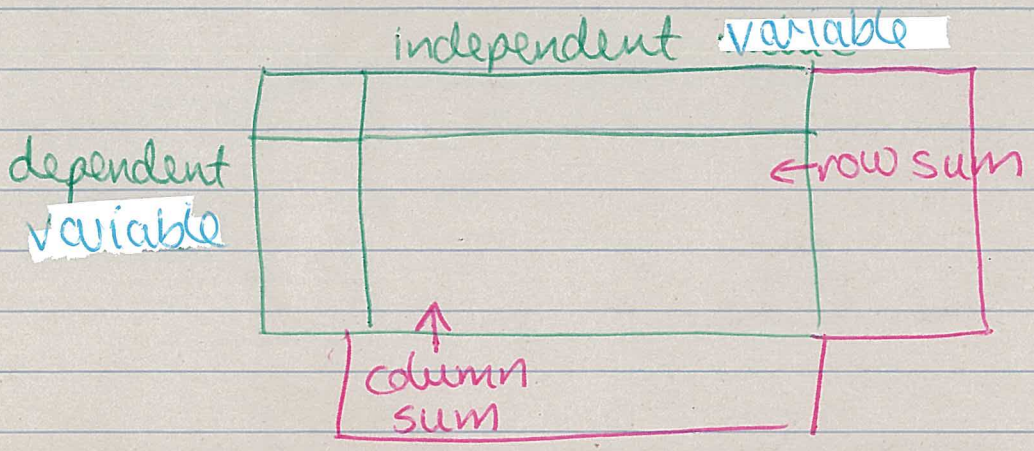


# Chapter 4 Notes

## Bivariate Data Analysis

2x categorical data - use a 2 way frequency table



2 way frequency tables are also called

- cross tabulations
- contingency tables

\* Their purpose is to help you find patterns of interaction between the 2 variables

Determining the independent variable can sometimes be a little tricky. It can help to consider the variable that is determined first will be the independent one.

e.g gender and smoking habits.

↑  
independent

↑  
dependent variable

(2)

\* You will need to convert frequencies into percentages AND then use the results to decide whether there is a relationship or not.

Remember percentage calculations ???

$$\frac{\text{result}}{\text{total}} \times 100 = \%$$

e.g.

House fate	No one attended	At least one attended	TOTAL
survived	168	53	221
destroyed	217	12	229
TOTAL	385	65	450

2 way frequency table above shows data from Ash Wed fires!

Step 1 Convert to % table

House fate	No one	At least one	TOTAL
survived	$\frac{168}{385} \times 100 = 43.6$	$\frac{53}{65} \times 100 = 81.5$	49.1
destroyed	56.4	18.5	50.9
TOTAL	100	100	100

must be 100% in each column

## Step 2 | Interpreting results

Compare the % results across the row. If there is little difference, there is no evidence of a relationship.

If there is a consistent difference, then the 2 variables are related.

## Step 3 | Writing a summary

Your summary will take the form of a general comment then you must use specific numbers to support your thoughts.

e.g. Houses where at <sup>least</sup> <sup>person</sup> one attended during Ash Wednesday had a significantly higher chance of surviving. 43.6% of houses survived when no one attended, whereas 81.5% survived when at least one person attended. Overall 49.1% of houses survived.

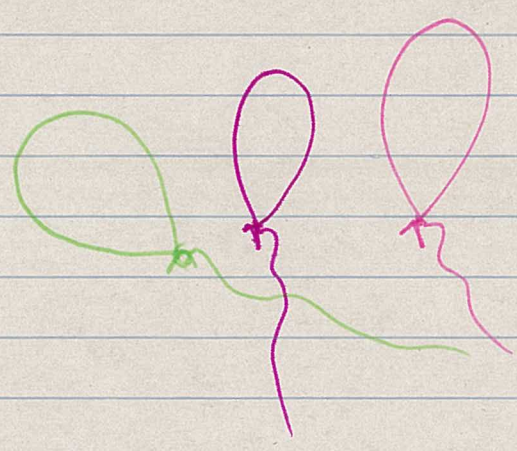
THIS DOES NOT IMPLY ONE VARIABLE CAUSES THE OTHER

The information in the 2 way percentage table can also be displayed as a SEGMENTED BAR CHART.

You simply draw two bars next to each other and make sure you use a clear key.

USE A RULER TO DRAW

OK!!



just cause we haven't had any for a while!!

