## DAP: Day 2

## Two-Variable Categorical Data

If you want to inspire confidence, give plenty of statistics. It does not matter that they should be accurate, or even intelligible, as long as there is enough of them. -Lewis Carroll

## Two-Way Tables

A two-way or contingency table is when two or more categorical variables are compared. The following table contains data on students' politics.

|  |  | MARGINAL DISTRIBUTIONS |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Gender |  | L | $M \times \mathrm{C}$ |  | Total |
|  | Female | 35 | 3 | 6) | 77 |
|  | Male | 50 | 4 | 21 | 115 |
| Total |  | 85 | 80 | 27 | 192 |

The data in the table are the counts for each category.
The total number of students involved is 192.

Categorical Data

## Two-Way Tables

Answer the following questions using the data in the table.

1. What percent of the class is male?

| Politics |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Gender |  | L | M | C | Total |
|  | Female | 35 | 36 | 6 | 77 |
|  | Male | 50 | 44 | 21 | 115 |
| Total |  |  | 85 | 80 | 27 |

2. What of the class considers themselves to be "Conservative"?
3. What percent of the males in the class consider themselves to be "Conservative"?
4. What percent of all students in the class are males who consider themselves to be "Conservative"?

Categorical Data

## Lets Make a Picture

-Comparing different variables.
-Here we can compare the percentages of the political preferences to gender. Does gender have an influence over political preference?
-For Liberal, it seems that they are about equally divided, however for conservative $22 \%$ are Female and $78 \%$ are Male.


Categorical Data

## Smoking and Education

-In your groups complete the Smoking and Education worksheet. - Use the post-it notes to write up a solution to show to the class.


## Categorical Data



