Collecting Data

Pg. 10

What's the difference between categorical and quantitative variables?

Not measurable → measurable

Do we ever use numbers to describe the values of a categorical variable?

zip code, phone #, st. #, SS #

Skip

When describing the distribution of a quantitative variable, what characteristics should be addressed?

Alternate Example: US Census Data

Here is information about 10 randomly selected US residents from the 2000 census.

| State | Number of Family Members | Age | Gender | Marital Status | Total Income | Travel time to work |
|---|---|---|---|---|---|---|
| Kentucky | 2 | 61 | Female | Married | 21000 | 20 |
| Florida | 6 | 27 | Female | Married | 21300 | 20 |
| Wisconsin | 2 | 27 | Male | Married | 30000 | 5 |
| California | 4 | 33 | Female | Married | 26000 | 10 |
| Michigan | 3 | 49 | Female | Married | 15100 | 25 |
| Virginia | 3 | 26 | Female | Married | 25000 | 15 |
| Pennsylvania | 4 | 44 | Male | Married | 43000 | 10 |
| Virginia | 4 | 22 | Male | Never married/ single | 3000 | 0 |
| California | 1 | 30 | Male | Never married/ single | 40000 | 15 |
| New York | 4 | 34 | Female | Separated | 30000 | 40 |

Rows → cases

C Q humans & yrs C US Residents C # Q Q min.

(a) Who are the individuals in this data set?

(b) What variables are measured? Identify each as categorical or quantitative. In what units were the quantitative variables measured?

(c) Describe the individual in the first row.

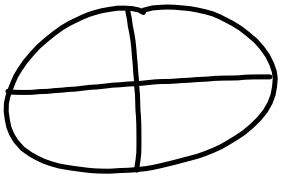
Collecting Data

Pg. 21-29

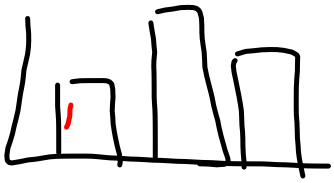
The "w's"

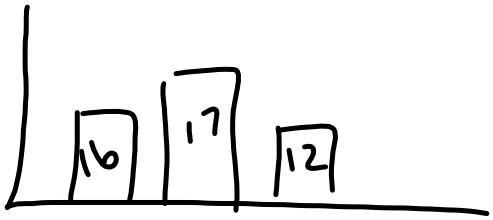
Counts

Area principle



Bar chart





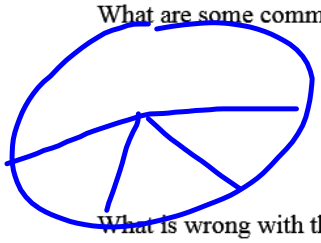

Pie chart

When is it inappropriate to use a pie chart?

Not % uniform data

15%
14%
17%
54%

What are some common ways to make a misleading graph?



What is wrong with the following graph?