

# Inference on Centre or Spread

When working with quantitative data, it is important you distinguish whether you are carrying out inference procedures on the centre of your data or the spread of your data. A basic example below outlines the difference in these two inference procedures.

## Example:

A researcher is collecting data regarding the salaries of musicians and accountants. If the researcher was doing inference based on the centre of their data, they would be comparing the average (either mean or median etc.) of the two data types. For example they may predict:

- ❖ The average salary of accountants is higher than the average salary of musicians.

If the researcher was doing inference based on the spread of his data, they would be comparing the spread of the two data types (they may compare the interquartile range, the standard deviation or the variance etc.). For example they may predict:

- ❖ There is a wider variance in salary for musicians than for accountants.

I.e. some of the highest paid musicians earn millions of pounds and some of the lowest paid musicians earn pennies, whereas accountants tend to earn a less varied wage, and the difference between high paid accountants and the low paid accountants isn't large.