Comparing Averages and Ranges

Choosing the right average and range

	Advantages	Disadvantages
Mode	It's easy to find. It **doesn't** get distorted by **outliers**. Can be used for **non-numeric** data. It's **always** a value in the data set.	It **doesn't** always exist, or there are **several modes**. Not always a good representation of the data — it **doesn't use all the data values**.
Median	It's easy to find for **ungrouped** data. It **doesn't get distorted** by outliers.	Not always a good representation of the data — it **doesn't use all the data values**. It **isn't always** a value in the data set.
Mean	It is usually the **most representative** average — it uses **all** the data values.	It **can be distorted** by outliers. It **isn't always** a value in the data set.

	Advantages	Disadvantages
Range	It's easy to find.	It **can be distorted** by outliers.
Interquartile range	It **doesn't get distorted** by outliers.	Not always a good representation of the data — it **doesn't use all the data values**.

Comparison of data using median and interquartile range

- Performance is compared through median eg in two sets of data having marks scored by each pupil in 2 classes then a bigger median will indicate better performance
- Consistency (and variation) is compared through IQR
  Bigger IQR means more variation in data hence less consistency

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