MEASURES OF CENTRAL TENDENCY

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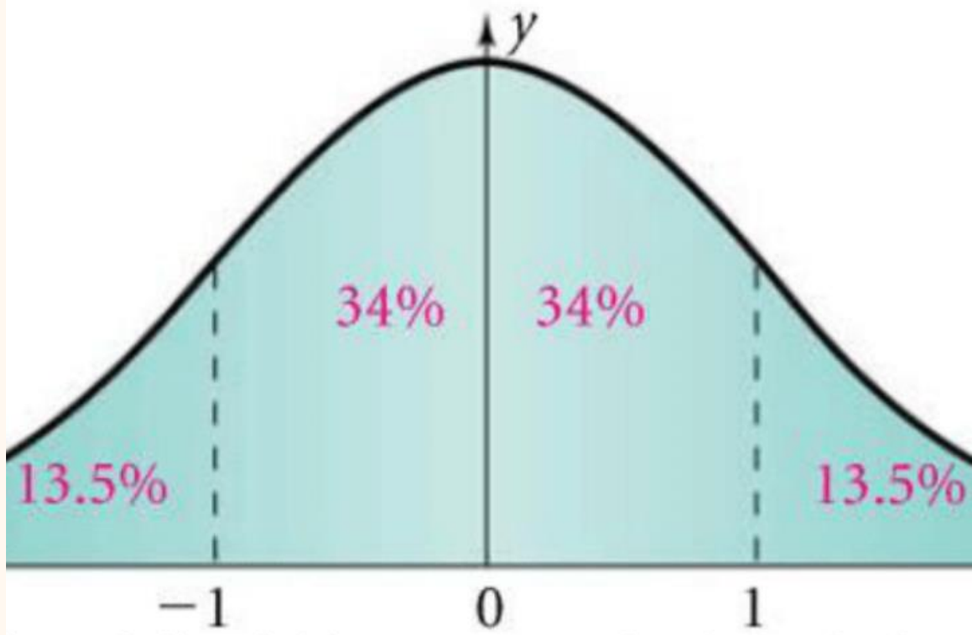
The Bell Curve

ution – shows data that vary randomly
- The pattern the data form is a bell-sh

he Standard Normal Bell Curv



lata fall within one standard deviation

ata fall within two standard deviations

Mean

Definition

The mean is the arithmetic average of a set of numbers. To calculate the mean, add up all the numbers in the set and divide by the number of values in the set.

Importance

The mean is useful in giving us a general understanding of a set of data. It's commonly used in educational and business settings for analyzing results and making informed decisions.

Median

Definition

The median is the middle number in a data set. If the set has an even number of values, the median is the arithmetical average of the two middle numbers.

Importance

The median is useful in giving us a more accurate understanding of a data set when there are extreme values or outliers. It's commonly used in medical research, polling, and income analysis.

Mode

1

Definition

The mode is the most frequently occurring value in a data set. A set can have one mode, more than one mode, or no mode.

2

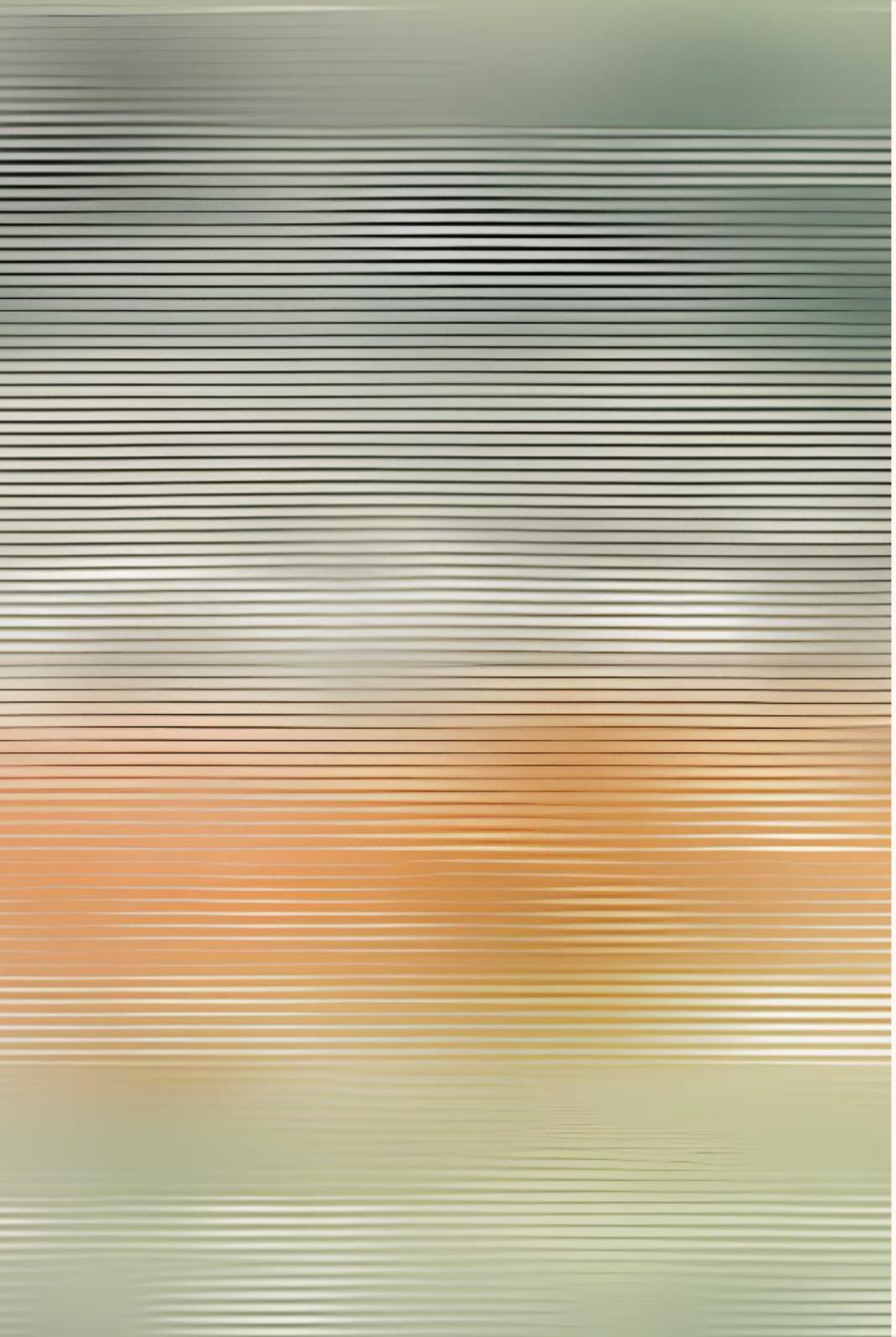
Importance

The mode is useful in identifying trends and patterns in data. It's commonly used in marketing research, product design, and quality control.

3

Considerations

The mode is not useful in identifying the spread or range of a data set.



Range

1 Definition

The range is the difference between the highest and lowest values in a data set. It's useful in identifying the spread or variability of a set.

2 Importance

The range is commonly used in analyzing data in fields such as ecology, finance, and meteorology to understand the variability and distribution of data.

Interpretation of Measures of Central Tendency

Uniform Distribution

Data has an equal frequency across a range of values. Mean, median, and mode are all the same.

Skewed Distribution

Data has an uneven frequency across a range of values. Mean, median, and mode differ.

Multimodal Distribution

Data has more than one mode. Mean and median are irrelevant.

Conclusion

Measures of central tendency are essential tools for understanding and analyzing data. These measures should be used together, and in conjunction with other tools and methods, to give a complete and accurate representation of a data set.