

How can statistics be used to describe data?

Authored by
stats writer

June 29, 2024

RECOMMENDED CITATION

stats writer (2024). *How can statistics be used to describe data?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=158688>

Statistics is the practice of collecting, organizing, analyzing, interpreting, and presenting data. It is a powerful tool that can be used to describe and understand various aspects of the world around us. Statistics can be used to describe data by providing a systematic way of summarizing and visualizing large amounts of information. This allows us to identify patterns, trends, and relationships within the data, making it easier to draw meaningful conclusions and make informed decisions. By using statistical techniques such as measures of central tendency, variability, and correlation, we can accurately describe the characteristics and distribution of a dataset. Additionally, statistics can be used to compare and contrast different groups or variables, providing valuable insights and aiding in decision-making processes. Overall, statistics plays a crucial role in describing data and providing a deeper understanding of complex phenomena.

Statistics - Describing Data

Describing data is typically the second step of statistical analysis after gathering data.

Descriptive Statistics

The information (data) from your sample or population can be visualized with graphs or **summarized** by numbers. This will show key information in a simpler way than just looking at raw data. It can help us understand how the data is **distributed**.

Graphs can visually show the data distribution.

Examples of graphs include:

Histograms
Pie charts
Bar graphs
Box plots

Some graphs have a close connection to numerical summary statistics. Calculating those gives us the basis of these graphs.

For example, a box plot visually shows the **quartiles** of a data distribution.

Quartiles are the data split into four equal size parts, or quarters. A quartile is one type of summary statistics.

Summary statistics

Summary statistics take a large amount of information and sums it up in a few key values.

Numbers are calculated from the data which also describe the shape of the distributions. These are individual 'statistics'.

Some important examples are:

Mean, median and mode
Range and interquartile range
Quartiles and percentiles
Standard deviation and variance

Note: Descriptive statistics is often presented as a part of statistical analysis.

Descriptive statistics is also useful for guiding further analysis, giving insight into the data, and finding what is worth investigating more closely.

★+1 W3schools PathfinderTrack your progress - it's free!

Log in

Sign Up

ARABPSYCHOLOGY.COM