Introduction to Biostatics

To summarize, standard deviation is the square root of variance, and both are used to measure the degree of dispersion or variability in a dataset. Standard deviation is commonly used since it is expressed in the same units as the original data, making it easier to read. Variance, or the squared version, is important in certain mathematical calculations but may be less intuitively comprehensible in the context of the original data.

Specifically, variance is a statistical term that describes the spread or dispersion of data points in a dataset. It returns a numerical value indicating how much individual data points in a dataset deviate from the dataset's mean (average). The formula for determining variance depends on whether you're dealing with a population or a sample.

A comparison of equations and formulas

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On the other hand, standard deviation measures how widely distributed the values in a dataset are relative to the mean. A lower standard deviation indicates that the data points are closer to the mean, whereas a higher standard deviation denotes that the data points are more spread. The standard deviation is the square root of the variance. There are two types of standard deviation depending on whether you are dealing with a population or a sample.

A table with text and symbols

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