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STATS – 341

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Variance vs Standard Deviation

Variance is the measure of variability. It is the average of squared deviations from the mean. Variance tells you the degree of the spread in your data set. It incorporates all data points in its calculations by contrasting each value to the mean. To find the variance, you first find the difference between each point and the mean. Then, you average the squared differences. If there is a population, you divide by the numbers of data points. If there is a sample, you divide one less than the total number of data points. Standard deviation measures the spread of normal distributions. It indicates a typical deviation from the mean. Standard deviation is considered to be more understandable, since it returns to the original measure units of the data set. To calculate, you must first find the average of the data set, then subtract the mean from each point in the data set, to see how far or close each point is from the mean. After completing these two steps, you square the results and then find the averages of the squares. The final step is to take the average of those squares to get the standard deviation. Variance and standard deviation are similar, but not the same as they do two different things. Variance measures the average of the squared differences from the mean, while SD, or standard deviation is the square root of the variance.