A measure of central tendency is a single value that attempts to describe a set of data by identifying the central position within that set of data. As such, measures of central tendency are sometimes called measures of central location. They are also classed as summary statistics. The mean (often called the average) is most likely the measure of central tendency that you are most familiar with, but there are others, such as the median and the mode.

The mean, median and mode are all valid measures of central tendency, but under different conditions, some measures of central tendency become more appropriate to use than others. In the following sections, we will look at the mean, mode and median, and learn how to calculate them and under what conditions they are most appropriate to be used.

**importance of mean**

The mean is essentially a model of your data set. It is the value that is most common. ... That is, it is the value that produces the lowest amount of error from all other values in the data set. An important property of the mean is that **it includes every value in your data set as part of the calculation**.

You will be surprised that the mean is perhaps the most important statistic in data because it forms the basis of conducting and understanding all other complex statistics. The mean is the “center of gravity” of your data, and is meant to carry a piece of information from every member of the sample. It is the most basic statistic that carries something from every respondent, and suggests the middle ground or the generally acceptable response. Regression analyses, validity issues, representativeness of sample, variance, etc, are pegged around the mean. It may be simplistic, but it founds the complicated stuff you see in statistics all over

**Standard deviation**

Standard deviation is a statistical measurement of the amount a number varies from the average number in a series. A low standard deviation means that the data is very closely related to the average, thus very reliable. A high standard deviation means that there is a large variance between the data and the statistical average, and is not as reliable. Keep reading for standard deviation examples and the different ways it appears in daily life.

The standard deviation is a commonly used statistic, but it doesn’t often get the attention it deserves. Although the mean and median are out there in common sight in the everyday media, you rarely see them accompanied by any measure of how diverse that data set was, and so you are getting only part of the story. In fact, you could be missing the most interesting part of the story.

Without [**calculating standard deviation**](https://www.dummies.com/education/math/statistics/how-to-calculate-standard-deviation-in-a-statistical-data-set/), you can’t get a handle on whether the data are close to the average (as are the diameters of car parts that come off of a conveyor belt when everything is operating correctly) or whether the data are spread out over a wide range (as are house prices and income levels in the U.S.).

For example, if you are told that the average starting salary for someone working at Company Statistix is $70,000, you may think, “Wow! That’s great.” But if the standard deviation for starting salaries at Company Statistix is $20,000, that’s a lot of variation in terms of how much money you can make, so the average starting salary of $70,000 isn’t as informative in the end, is it?

On the other hand, if the standard deviation was only $5,000, you would have a much better idea of what to expect for a starting salary at that company. Which is more appealing? That’s a decision each person has to make; however, it’ll be a much more informed decision once you realize standard deviation matters.

Without the standard deviation, you can’t compare two data sets effectively. Suppose two sets of data have the same average; does that mean that the data sets must be exactly the same? Not at all. For example, the data sets 199, 200, 201 and 0, 200, 400 both have the same average (200) yet they have very different standard deviations. The first data set has a *very* small standard deviation (*s*=1) compared to the second data set (*s*=200).