

Measures of central tendency

[Science](#), [Mathematics](#)



Consider the following data set: 1, 2, 9, 9, 8, 9, 10, 10, 10, 11, 11, 11, 12.

The outliers in this set of data are on the low end of the scale. As such, the tail of the distribution is longer on the left side of the distribution than on the right side. Therefore, the mean tends to be pulled towards the left tail of the distribution. The effects of such outliers on the distribution is that one finds most of the values including the median tend to be greater than the mean (ABS, 2013). This example illustrates effects of outliers on distributions that result in negatively skewed distributions.

On the other hand, outliers result in opposing effects on positively skewed distributions. Consider the following positively skewed distribution: 1, 1, 2, 2, 2, 3, 3, 3, 9, 10. The outliers are on the high end of the distribution. Hence, the tail of the distribution will be longer on the right side of the particular distribution than the left side of the distribution. The median is less than the mean in this distribution. It is crucial to detect outliers in any distribution because they affect the data analysis. Of all the measures used to indicate central tendency, the mean is more sensitive to outliers than the median and the mode (ABS, 2013).