



Measures of Variability

What is variability? In general terms, it refers to how "spread out" a group of scores are. You will often hear the terms variability, spread, and dispersion used interchangeably. They all refer to how spread out a distribution is.

For example, let's look at the two distributions of classroom test scores shown here. Though they both have means of 7, it is obvious that the distributions are quite different. Specifically, the scores on the left graph are less spread out than those on the right graph. Or said in a different way, the differences among students are much less on the left graph than on the right graph.

Just as there are several measures of the center of a distribution, there are many measures of the variability of a distribution. Four are used frequently: the range, the inter-quartile range, the variance, and the standard deviation.