

STANDARD ERROR

WHAT IS STANDARD ERROR?

In the last slide deck, we saw that with the central limit theorem we take multiple samples from a population dataset and that, no matter what the original distribution, we can make it approximately normal by plotting the mean values of each sample, rather than each individual datapoint.

Standard error is the standard deviation of the means of our sample datasets.

HOW DO WE DO IT?

Let's say we have 6 samples from our original dataset. The means of those samples are:

10

12

11

10.5

9.5

11.1

The standard deviation of these samples is 0.88. In this case, this is also known as the standard error.

WHAT DOES THAT MEAN?

Our standard error tells us how close to the original mean our samples are. In other words, how representative of the population is the sample?

In our case, a standard error of 0.88 is pretty low variability and hence shows that these samples are likely to be very representative of the population.