

Lab 07

JIN, ICK HOON

2009. 07. 28.

2. Why do we have to use the standard error (estimated standard deviation) of the sample proportion in a confidence interval for the true proportion but we use the true standard deviation in a Z-test?

A confidence interval gives us a range of plausible values for a population parameter, i.e., we don't know the actual value of the parameter. Since the standard deviation of the sample proportion is dependent on the value of the true population proportion, we must estimate it with the standard error which substitutes the sample proportion value for the true population proportion value. In a hypothesis test, however, we are assuming a value for the population proportion, so we use it in the Z-test statistic.

3. Why do we pool the two sample proportions together in a 2-sample Z-test for two proportions?

The hypothesis test for testing two proportions assumes the true proportions are equal, $H_0: p_1 = p_2$. This means we are assuming the two sample proportions are estimating the same value. Pooling them gives us a bigger sample and thus a better estimate.