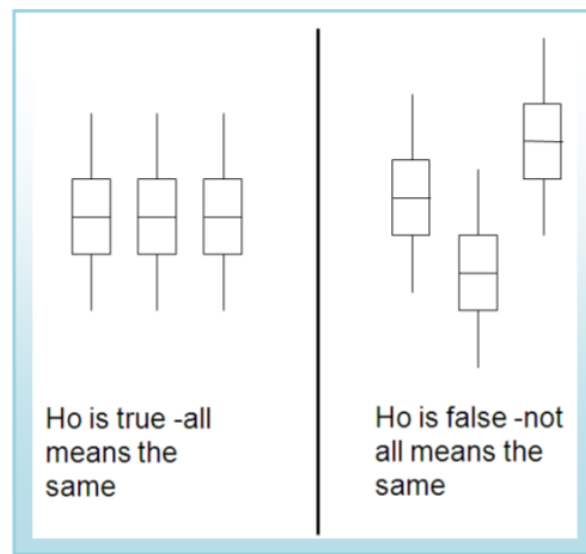


## 13.2: The Logic of ANOVA - How Comparing Variances Test for a Difference in Means.

It may seem strange to use a test of “variances” to compare means, but this graph demonstrates the logic of the test.



If the null hypothesis  $H_o : \mu_1 = \mu_2 = \mu_3$  is true, then each population would have the same distribution and the variance of the combined data would be approximately the same. However, if the Null Hypothesis is false, then the difference between centers would cause the combined data to have an increased variance.

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