Module 17 prep guide

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1-Sample t-test

1. A 1-sample t-Test is used instead of 1-sample z-Test when σ is not known.
2. A 1-sampel t-test compares to a 1-sample z-test by both testing the Ho, both using the same formula for test statistic and both have the same symbol for statistic.
3. The t distribution is wider because of the uncertainty surrounding the use of s rather than σ in the standard error calculation.
4. The null hypothesis in a 1-sample t-Test is H0: µ = µ0.
5. The statistic in a 1-sample t-test is x bar.
6. The test statistic in a 1-sample t-Test is t = ¯ x−µ0/s/√n.
7. The formula to compute a confidence region in a 1-sample t-Test is ¯ x + t∗ s /√n.
8. The assumptions of a 1-sample t-test are σ is unknown and n ≥ 40, n ≥ 15 and the sample (i.e., histogram) is not strongly skewed, OR the sample is normally distributed.
9. The characteristics used to define when a 1-sample t-Test will be used is must be a quantitative response, must have one population and σ is unknown.
10. The R function used to perform a 1-sample t-Test with raw data is t.test(dfobj$qvar,mu=mu0,alt=HAtype, conf.level=confval).