

STATISTICAL INFERENCE TABLE:

| Case | parameter | estimator | standard deviation | standard error | Sampling Distribution |
|---|-----------------|-------------------------|--|---|--|
| one mean or matched pairs diff | μ | \bar{x} | $\frac{\sigma}{\sqrt{n}}$ | $\frac{s}{\sqrt{n}}$ | t (n-1) |
| difference of two independent means | $\mu_1 - \mu_2$ | $\bar{x}_1 - \bar{x}_2$ | $\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$ | $\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$ | t with conservative df = smallest of (n ₁ -1) and (n ₂ -1) Or df= n ₁ +n ₂ -2 |
| one proportion | p | \hat{p} | $\sqrt{\frac{p(1-p)}{n}}$ | CI: $\sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$ ST: $\sqrt{\frac{p_0(1-p_0)}{n}}$ | z |
| difference of two independent proportions | $p_1 - p_2$ | $\hat{p}_1 - \hat{p}_2$ | $\sqrt{\frac{p_1(1-p_1)}{n_1} + \frac{p_2(1-p_2)}{n_2}}$ | CI: $\sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1} + \frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}$ ST: $\sqrt{\hat{p}(1-\hat{p})\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$ | z |