

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\frac{s}{\sqrt{n}}}; \quad t = \frac{(\bar{X}_1 - \bar{X}_2)}{\sqrt{s^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} \quad df = (N_1 + N_2) - 2$$

$$= 17 + 4 - 2 = 19$$

$$t\text{-critical @ } p = 0.05, df = 19 = 2.093$$

$$s^2 = \frac{((n_1 - 1)s_1^2 + ((n_2 - 1)s_2^2))}{n_1 + n_2 - 2}$$

$$= \frac{((17 - 1)1.6^2 + ((4 - 1)1.6^2))}{19}$$

$$= 2.56$$

$$2.093 = \frac{0.6 - \bar{X}_B}{\sqrt{2.56 \left(\frac{1}{17} + \frac{1}{4} \right)}} \Rightarrow 0.6 - \bar{X}_B = 1.861$$

$$\text{effect size} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{2.56}} = \frac{0.6 - \bar{X}_B}{1.6} \Rightarrow \text{effect size} = \frac{1.861}{1.6} = \boxed{1.16}$$

high n + low SD

$$s^2 = \frac{((17 - 1)0.8^2 + ((4 - 1)2.4^2))}{19} = 1.44 \rightarrow \boxed{\text{increase effect size}}$$

high n + high SD

$$s^2 = \frac{((17 - 1)2.4^2 + ((4 - 1)0.8^2))}{19} = 4.95 \rightarrow \boxed{\text{decrease effect size}}$$