Lab 12

Student's

Let...

μ_T = true mean of treatment group and μ_C = true mean of control group

Hypotheses: $H_0: \mu_T = \mu_C$ vs $H_a: \mu_T \neq \mu_C$

Parameters of interest: $\bar{x}_T = 181.8706$ $\bar{x}_C = 260.2976$ $sd_T = 197.3636$ $sd_C = 253.6135$

$sd_p = 227.07$ $n_T = 85$ $n_C = 84$

$SE_d = 227.07\sqrt{\frac{1}{85} + \frac{1}{84}} = 34.9345$

Test Statistic: $\frac{181.8706 - 260.2976}{34.9345} = -2.245$ with $df = 85 + 84 - 2 = 167$

Approximate p-value: $df = 167 \approx 200$ and $|t| = |-2.245| = 2.245$

From table $2.19 < \text{our } |t| < 2.35 \Rightarrow 0.02 < \text{our p-value} < 0.03$

See lab for conclusion.

See lab for solutions to practice problems.