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JOHNS HOPKINS
BLOOMBERG
SCHOOL of PUBLIC HEALTH

Lecture 4d: Practice Problems

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Practice Problems

1. What is the potential controversy regarding one-sided versus two-sided p-values?
2. Why can a small mean difference in a paired t-test produce a small p-value if *n* is large?
3. If you knew that the 90% CI for the mean blood pressure difference in the oral contraceptives example did NOT include 0, what could you say about the p-value for testing:
   - H_o: $\mu_{diff} = 0$ vs:
   - H_A: $\mu_{diff} \neq 0$
4. Explain the concept of type-1 error and its role in the hypothesis testing process.
5. Why is it potentially difficult to interpret a non-statistically significant result in a small sample study?