Researchers wanted to investigate the effect of a drug on resting heart rate. Ten subjects were injected with the drug. The resting heart rate of each subject was recorded at 5, 15, 30, 45, and 60 minutes after injection.

A Repeated-Measures Experiment
When the independence assumption is violated, our estimate of $s$ may overestimate or underestimate the true value of $s$.

Thus our tests, confidence intervals, prediction intervals, etc. cannot be trusted.

Analysis of dependent data is covered in Statistics 402.