

Assignment 3: Simulation in R (Summer 15)

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In class 6, we have extensively discussed on imposing missing data and missing data handling. This assignment will focus on dependent t -test such that one variable is measured twice called X_1 and X_2 . Imagine that X represents depression. Patients who had a higher degree of depression will be unlikely to drop out from the study. That is, researchers will have no posttest score. We will investigate how this missing data mechanism impact the statistical results.

Please conduct a simulation to show the impact of missing data on dependent t -test. Check whether the estimate of the gain score and the significance testing are biased. Students should cover different kinds missing data mechanisms, including one that the missing on posttest depends on the score of pretest. Also, different missing data handling methods should be covered as well.

Hint:

Check the help page of the `t.test` function.