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STAT 365

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Project: Initial Proposal

**Research Question:** Am I a faster runner with tennis shoes/running shoes or barefoot?

**Explanatory Variable:** Running shoes or barefoot.

**Response Variable:** Time in seconds to complete running time trial.

**Data Collection Process:**

Each trial will consist of running 100 meters on an official collegiate track. Each trial will be timed using the iPhone stopwatch. Timing for each trial should be done by one person and the same person every time to distribute variability in human error.

This study will require about 50 observations. The runner who is being observed will need to complete 50 observations, 25 of each category (running shoe or barefoot). The order of treatments will be randomized, and the data collection process will take place over 2 days. Data collection days should take place at the same time on day 1 and day 2. The runner will be given 3 minutes to rest in between trials.

When reporting data, it will be important to note what type of running shoes were used in the study. It should be considered that type of running shoes could affect the results of the study. In addition, results and conclusions from this study cannot be generalized to a larger population.