Marko, Nisha, Sanil, and Zach’s Group

11/16/23

Our proposed experiment will measure the difference in mean arterial blood pressure for men and women before and after climbing the Leyburn library stairs, form floor 4 to the main floor.

Our experimental design can be seen here:

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Based on a study entitled “[The effect of exercise on large artery haemodynamics in healthy young men](https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2362.2005.01578.x)” we found that Mean Arterial Blood Pressure (MAP) could can be expected to increase from 86 to 103 mmHg. Thus, we performed our power analysis for our men group (see below) and got that we need n = 2, using a type I error of .01 and a type II error of .2 (power = .8).

We could not find similar increase in MAP data during exercise for women, so we assume that the increase is similar, and use the same power analysis to say n = 2 for women. See Power analysis carried out below:

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