Friday Study Hours For Male and Female students at Universtiy of Rochester presented by 4 men group

I. Introduction

For this STATS Project, we are interested in the studying hours on a typical Friday of students here at University of Rochester. Specifically, we are interested in whether there is a significance difference between Male students and Female students in term of their studying hours on a Friday. In this project, we first collected data, and made the graphical display of the data with Excel. To determine whether there is a significance between the studying hours on a Friday of male students and female students, we also ran a hypothesis test.

II. Summary of data collection

We randomly collected the data from 40 male students and 40 female students at University of Rochester. To make sure that our samples are representative enough, we included 10 samples from each grade level (Freshman, Sophomore, Junior, Senior). In order to avoid any bias when collecting the sample, we took the samples at different locations including libraries, dining halls, and gyms.

III. Graphical summary

Table 1.

	0 hour	1 hour	2 hours	3 hours	>3 hours
Male	12	9	6	8	5
Female	6	11	7	9	7

Table 2.
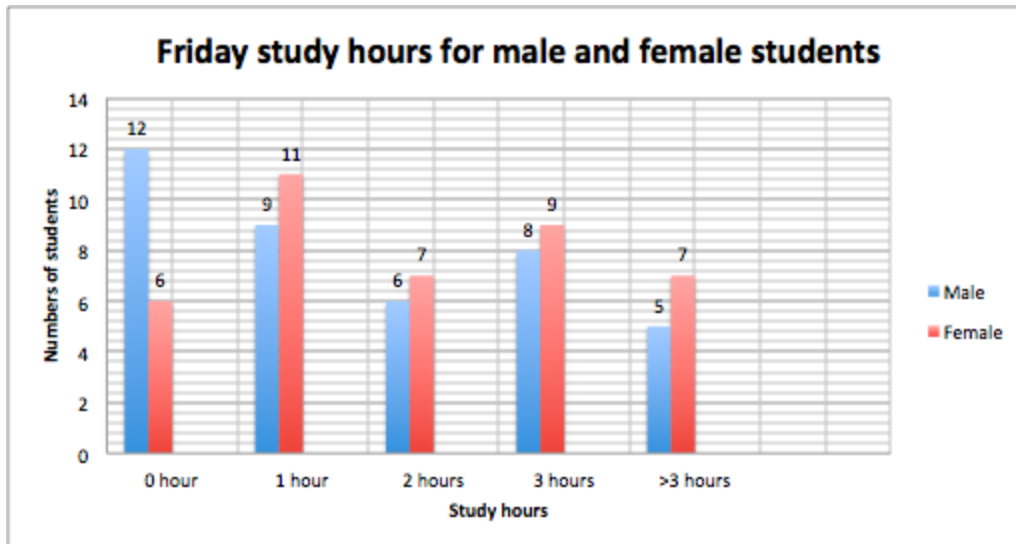
IV. Statistical inference

we listed all of our sample's study hour in a excel with gender male and female, then we

imported this data into R studio and conducted a hypothesis test.

Hypothesis Test

To determine whether there is a significance difference in the studying time on Friday between

Male and Female students, we ran a hypothesis test under a=0.05.

umale= study time of male

ufemale= study time of female

our sample size n>30

Ho: umale=ufemale

Ha: umale≠ufemale

alpha=0.05

The p-value we found with RStudio is 2e-16, which is smaller than alpha(2e-16<0.05) reject null hypothesis . This means there is sufficient evidence to reject null hypothesis. There is a significant difference between the studying time on Friday of male students and female students.

V. Interpretation/Explanation of Results

According to the p-value 2e-16, which is less than the alpha 0.05, we can reject the null hypothesis that male and female students in University of Rochester have same mean study hours on Friday and conclude that there is a significance difference between the studing time on Friday of male students and female students.

From the Table 1 and Table 2, the number of female students on each studying hour is larger than that of male students. In addition, the number of male students that do not study on Friday is larger than that of female students. we can conclude that average study hours on Friday for male students are less than that of female students.