Hypothesis

Student’s Name

Institution

**STEP 1:**

A sample collected is true random when it is not bias to any issue. In order to ensure that the sample is random, various methods can be used to draw the sample from a population and will be using random numbers. This numbers can be selected using sample of n=12 men and n=8 women from the population of men and women and this should be done using random numbers and therefore, this will make sure that the sample obtain is truly random.

**STEP 2:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Men** |  |  |  | Women |  |  |
|  | **Time** | **Exercise per week** | **Favorite** |  | **Time** | **Exercise per week** | **Favorite** |
| 1 | 0.22 | 3 | Aerobic | 1 | 0.22 | 3 | Aerobic |
| 2 | 0.22 | 3 | Push up | 2 | 0.2 | 3 | Push up |
| 3 | 0.2 | 5 | Aerobic | 3 | 0.19 | 5 | Aerobic |
| 4 | 0.19 | 4 | Aerobic | 4 | 0.18 | 4 | Cardiovascular |
| 5 | 0.18 | 4 | Cardiovascular | 5 | 0.2 | 4 | Push up |
| 6 | 0.2 | 0 | N/P | 6 | 0.22 | 0 | N/P |
| 7 | 0.22 | 2 | Aerobic | 7 | 0.19 | 5 | Aerobic |
| 8 | 0.26 | 3 | Aerobic | 8 | 0.25 | 2 | Flexibility |
| 9 | 0.23 | 3 | Cardiovascular |  |  |  |  |
| 10 | 0.22 | 4 | Aerobic |  |  |  |  |
| 11 | 0.25 | 0 | NP |  |  |  |  |
| 12 | 0.2 | 3 | Aerobic |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Mean | 0.216 | 2.833333333 |  | 5 | 0.20625 | 3.25 |  |
| Std | 0.024 | 1.527525232 |  | 2 | 0.02264 | 1.669045921 |  |

**STEP 3:**

Mean for men = 2.833 mean for Women = 0.206

Standard Deviation for men= 1.5275 Standard deviation for women = 1.6690

**2.) The Median number of days per week exercised**

Media for number of days for men = 3 and for women 3.5

**3.) The Mode of the favorite exercise**

The mode of the favorite exercise for men is Aerobics and for women is Aerobics and Cardiovascular

4.) **The 90% confidence interval of the mean**

The needed 90% confidence interval of the mean for women = (0.205, 0.252) and for men (0.20, 0.23)

STEP 4:

The two groups are significant differences. The hypothesis tested obtained that alpha is more than 0.05 and therefore, the null hypothesis is rejected. This means that there are significant differences between the two groups.