MuscleHub A/B Test Analysis

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Description of A/B Test

An A/B test was conducted at the MuscleHub to see if receiving a free fitness test when the people would first visit would make them more likely to become members of the gym.

Group A: Free Fitness Test

Group B: Control Group (No fitness test given)

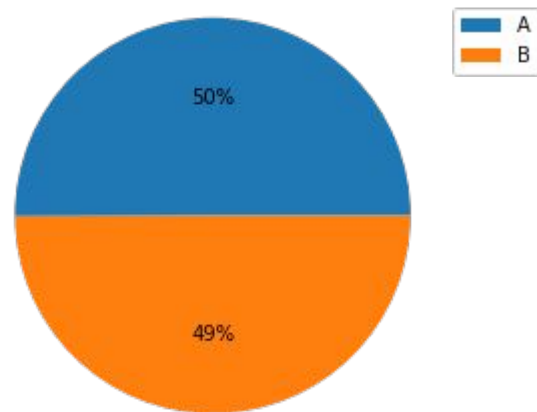Will offering a free fitness test make people more likely to become MuscleHub members?

Summary of Dataset

4 types of tables given for the dataset

List of people who:

- Visited
- Received a fitness test
- Got an application
- Purchase a gym membership

Pie Chart of AB Test Group Counts

Hypothesis Test 1

How many people who visited MuscleHub picked up a membership application?

- **Chi Square Test was to be used**
  - There are 2 sets of categorical data
- **P-value = 0.00096**
  - Null hypothesis is rejected
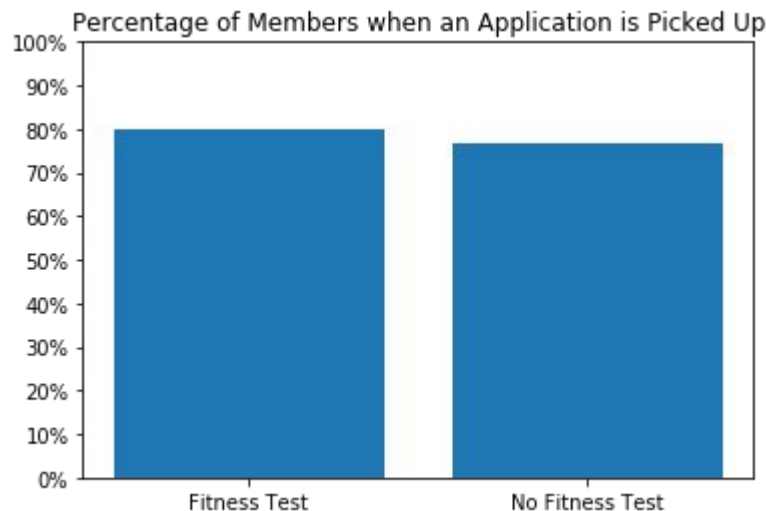 - There is significance between datasets

- Conclusion 1:
  - People who visited who didn't get a fitness test were more likely to pick up an application.

Percentage of Applications when a Fitness Test is Given or Not
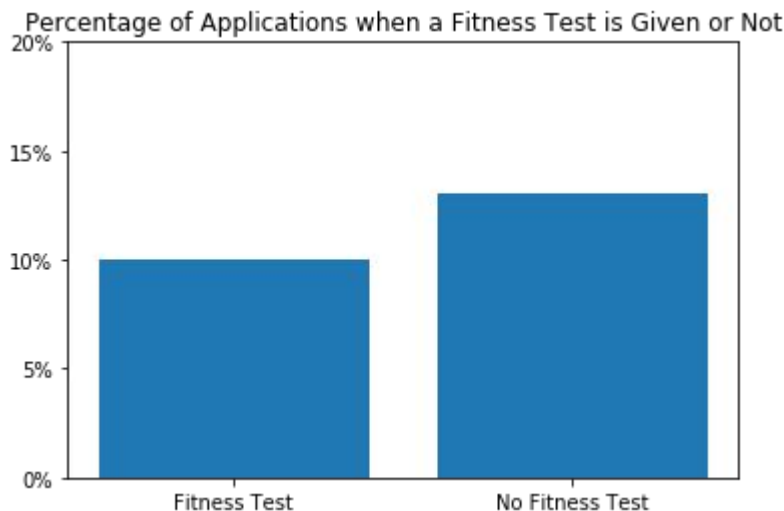
Hypothesis Test 2

How many people who picked up an application became a Musclehub member?

- Chi Square Test used.
  - There are 2 sets of categorical data
- P-value = 0.42
  - Null hypothesis is accepted
  - No statistical significance between dataset

- Conclusion 2:
  - There isn't statistical difference between people who did or didn't have a fitness test when seeing who is more likely to become MuscleHub members.

Percentage of Members when an Application is Picked Up

Hypothesis Test 3

How many people who visited MuscleHub became members?

- Chi Square Test was used again.
  - There are 2 sets of categorical data
- P-value = 0.014
  - Null hypothesis is rejected
  - Data is significance between datasets

Percentage of Members of People Among who Visited

- Conclusion 3:
  - People who didn't get a fitness test were more likely to become members.
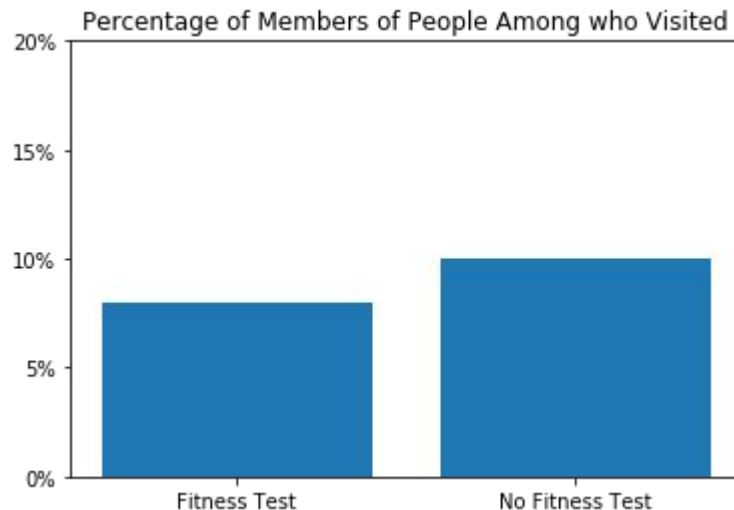
Qualitative Data

- From the interviews, it seems that female were overall more positive about the experience than males.
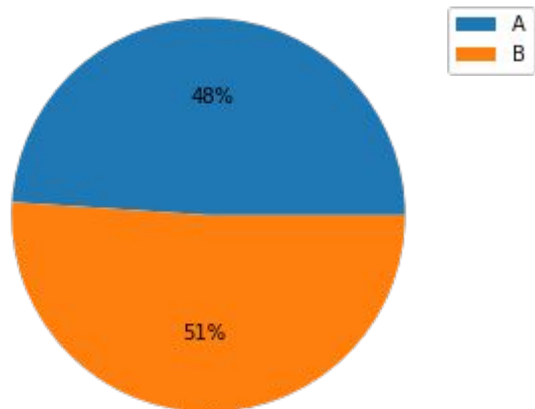
Recommends :

- Increase cleaning frequency of workout equipment
- Look at other interviews from males to see if there's any other comments about the initial visit experience.

What if analysis was done on each gender separately?
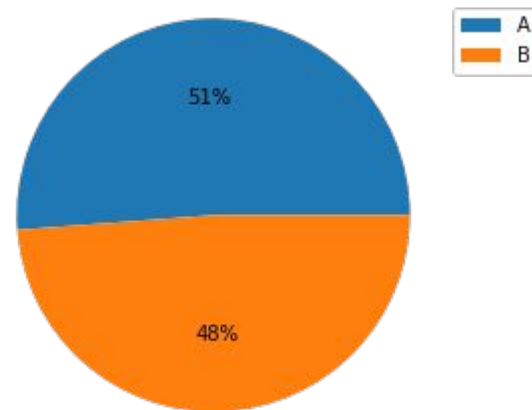
Separate Gender Analysis
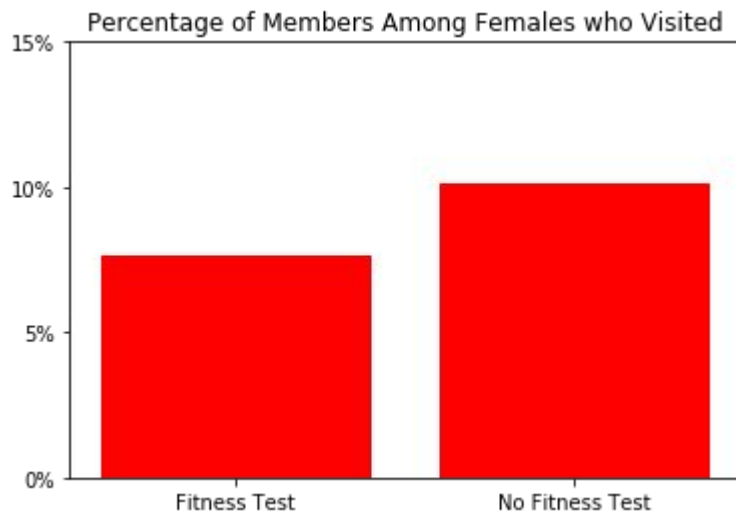
Female

Male

Female AB Test Group Counts

A
B

48%

51%

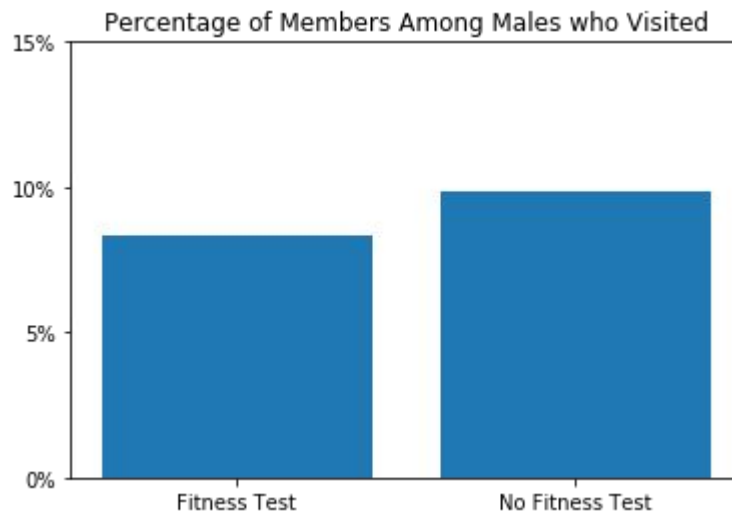Male AB Test Group Counts

A
B

51%

48%

Separate Genders Conclusions

Chi Square Test: P-value = 0.031

Females didn't receive a fitness test were more likely to become members than those who received fitness test.

Chi Square Test: P-value = 0.22

The results for males were not statistically significant. There isn't statistical difference between the 2 groups.

Conclusion

- Offering a free fitness test to MuscleHub visitors doesn't make them more likely to become members of the gym.

Recommendations:

- To not give a free fitness test to visitors to improve the likelihood of them becoming members.
- Increase cleaning frequency of workout equipment.
- To look into A/B testing for male visitors to the gym to increase membership percentage.