

# **MuscleHub Membership Process Optimization**

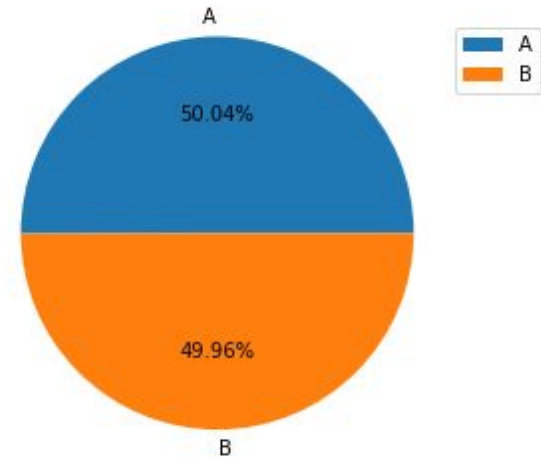
Fitness Test Evaluation

# To Fitness Test or not to Fitness Test

Question: Does a mandatory fitness test lead to fewer membership purchases?

Solution: An A/B test was performed where half of the participants took a fitness test and half did not.

- Participants in Group A were given a fitness test
- Participants in Group B were not given a fitness test
- There were 5,004 total participants
  - 2,504 in Group A
  - 2,500 in Group B
- Before a participant can purchase a membership, they are required to fill out an application



# Datasets

In order to analyse the results, we have been supplied tables containing the following:

- Personally identifiable information (PII) of all visitors to MuscleHub
- PII of everyone who had a fitness test and date of test
- PII of everyone who filled out an application and date of submission
- PII of everyone who purchased a membership and date of purchase

Using the PII that exists in each table, we were able to merge all of the data into one table, populating the date columns that don't exist for a visitor with a null value.

The group a visitor belongs to (A or B), whether they submitted an application, and whether they purchased a membership was determined based on the presence of a date in the applicable columns for each event.

# Areas of Evaluation

We compared Group A against Group B in the following three areas:

1. Number of visitors that submitted an application
2. Number of applicants that purchased a membership
3. Number of visitors that purchased a membership

# Hypothesis Testing Methodology

In order to determine if there is a significant difference between the results of the participants in Group A and the results of the participants in Group B we performed a Chi Square hypothesis test.

- This will tell us if we should accept the results of A/B test as having a clear winner, or if the results are too close to call.

Chi Square test was used because our datasets are categorical with more than two categories.

- In this case Group A has two outcomes (signed up or didn't sign up) and Group B has two outcomes (signed up or didn't sign up), which leaves us with four categories.

# Hypothesis Testing Results

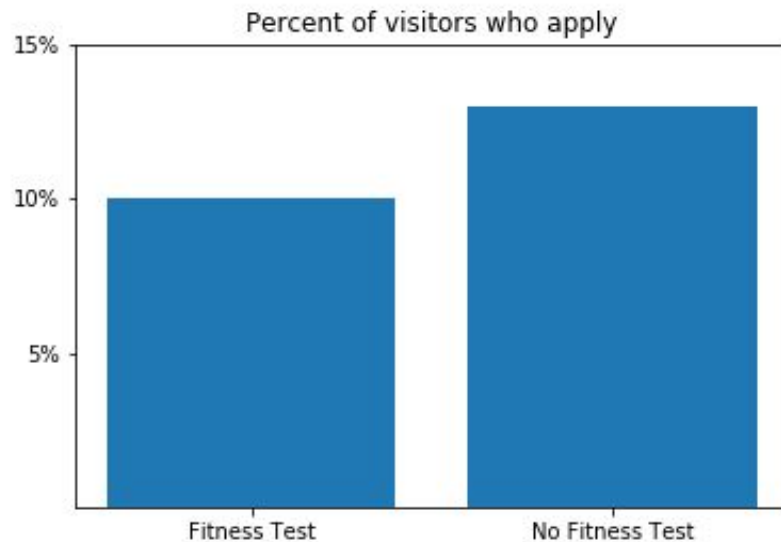
The results of this test on the three areas of evaluation yielded the following:

1. Number of visitors that submitted an application → **There is a significant difference between the groups**
2. Number of applicants that purchased a membership → **There is no significant difference between the groups**
3. Number of visitors that purchased a membership → **There is a significant difference between the groups**

This tells us for the first and third tests that there is enough of a difference between Groups A and B for us to be confident that the fitness test influenced the actions of the visitors. However, for the second test there is not enough of a difference for us to believe that the fitness test had any impact.

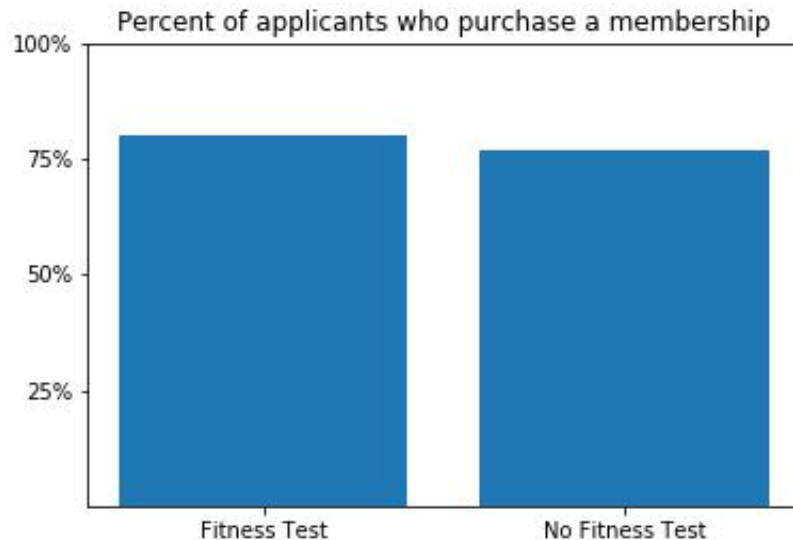
# Results

1. Number of visitors that submitted an application
  - ❖ Visitors who did not have a fitness test were more likely to apply than those that did



# Results

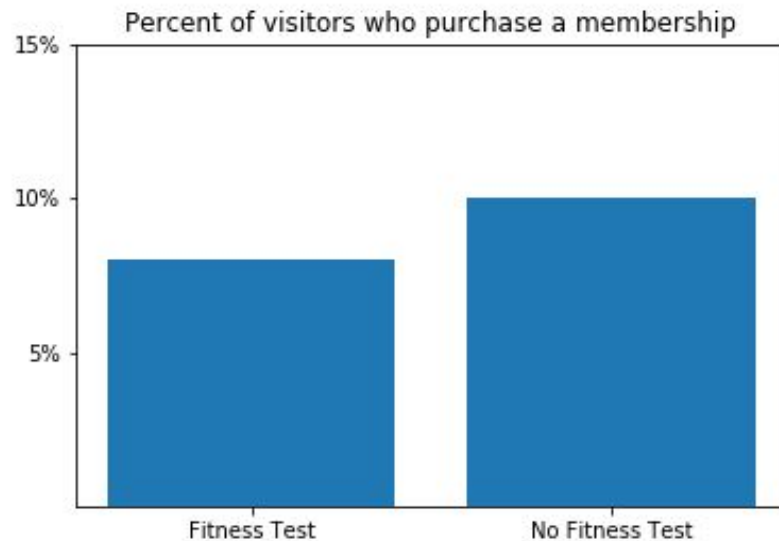
2. Number of applicants that purchased a membership
  - ❖ Visitors who filled out an application were as likely to purchase a membership if they had a fitness test or did not have a fitness test





# Results

3. Number of visitors that purchased a membership
  - ❖ Visitors who did not have a fitness test were more likely to purchase a membership than those that did



# Testimonials

Of the four visitors interviewed:

- Two belonged to Group A and one found the fitness test motivating while the other was deterred by it.
  - *“MuscleHub’s introductory fitness test was super helpful for me!”* -- Cora
  - *“I took the MuscleHub fitness test [...] Regretted it.”* -- Sonny
- Two belonged to Group B and they remarked on the lack of a fitness test in a positive way due to previous negative experiences at another gym.
  - *“Down at LiftCity they had me doing burpees 30 seconds after I walked in the door and I was like ‘woah guys slow your roll, this is TOOOO much for Jesse!’”* -- Jesse
  - *“I tried to sign up for LiftCity last year, but the fitness test was way too intense.”* -- Shirley

# Recommendation

Based on these three A/B tests we can conclude the following:

- The mandatory fitness test is deterring visitors from filling out an application
- Once a visitor has filled out an application, they are equally as likely to purchase a membership whether they have received a fitness test or not

Our recommendation for next steps is to remove the mandatory fitness test as it is deterring visitors from purchasing gym memberships. There also appears to be negative feelings towards fitness tests from other gyms in the area.

An alternative solution is to run another A/B test like this one except modify the signup steps so that only users who have filled out an application take the fitness test. In this case there will be more visitors who fill out an application and the fitness test may not deter the next step to membership purchase for those visitors what were previously put off by it.