

# **Muscle Hub A/B Test**

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# Description of what happened in the A/B Test

- Inorder for Janet, the manager, to find out whether a fitness test intimidates visitors from completing the purchase and becoming a member. A A/B Test was conducted.
- Visitors were divided in two groups
  - Group A: were asked to take a fitness Test
  - Group B: would skip the fitness test.
- Here are the results of the hypothesis testing that was done, to find out statistically if Janet's hypotheses that visitors assigned to Group B will purchase a membership to MuscleHub.

# Summary of the dataset.

-Four tables were given

- visits: 6000 entries

- fitness tests: 2500 entries

- applicants: 575 entries

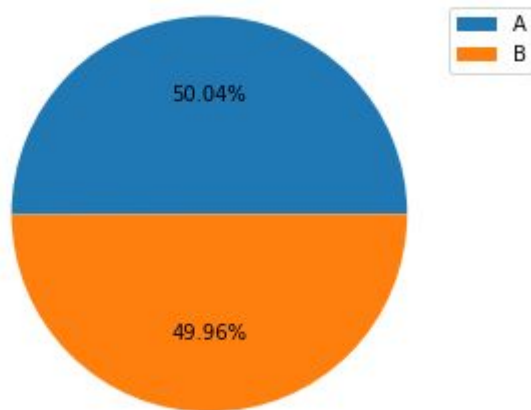
- purchases: 450 entries

- All the tables had 5 columns of information collected- first name, last name, email, gender and the date they visited or applied or purchased or took the fitness test.

- Merged the tables to get the details of each visitor who visited after 7-1-17, that is when the A/B test started - had 5004 entries.

- the visitors were divided almost equally with Group A assigned 2504 visitors and Group B assigned 2500 visitors.

# Visitors assigned



# Who picks up Application?

Group A : 250 picked Application

Group B: 325 picked Application

- 10% of visitors proceeded to application in Group A
- 13% of visitors proceeded to application in Group B.

# How many applications become members?

-Group A: Out of 250 applicants, 200 purchase membership. 80% of applicants become members.

-Group B: Out of 325 applicants, 250 purchase membership. 76% of applicants become members.

# All visitors who become members

- Among all the visitors to muscle hub:
- Group A: Out of the 2504 visitors, 200 purchase membership. About 7% become members.
- Group B: Out of the 2500 visitors, 250 purchase membership. About 10% become members.
- Looks like Group B is taking the lead with bringing in more members.
- Let's look at the hypothesis testing done to find out if these value are significant.

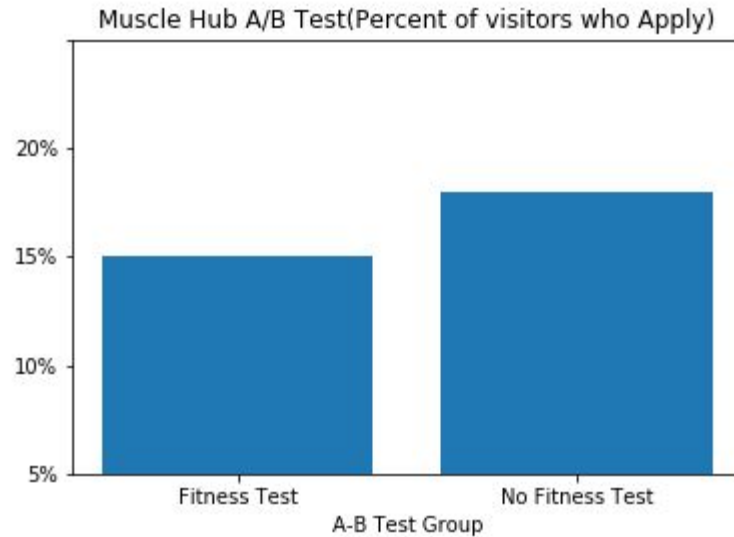
# Hypothesis Testing

- To find out who scored better in purchasing membership, I did a hypothesis test using **Chi Square testing**.
- Because we are looking at categorical data - membership & No membership and we do not have any known values to compare to - so cannot use binomial testing.
- The results are:



# Visitors that apply

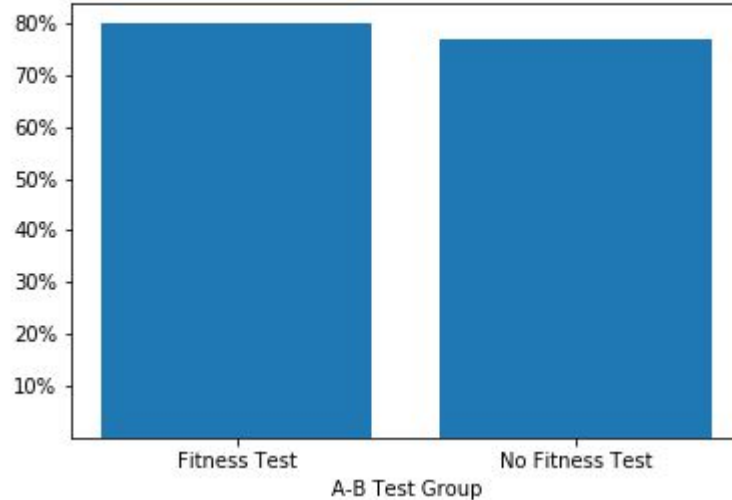
-Group B has more applications. With chi square testing the p-value is 0.09647%. The result is significant.



# Applicants that purchase membership

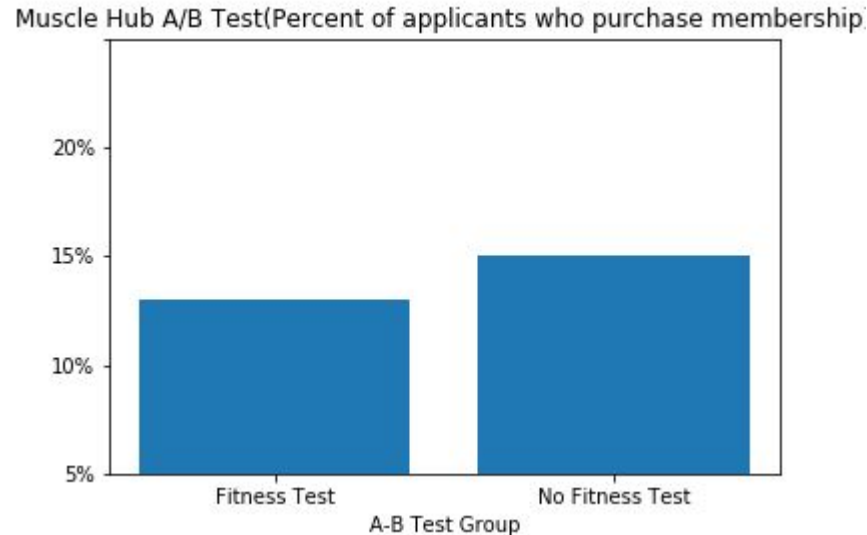
-Group A has more applicants that purchase membership, with chi square testing found out that the p-value is around 43% and that the result is not significant.

Muscle Hub A/B Test(Percent of applicants who purchase membership)



# Visitors who apply for membership.

-Group B has more visitors applying. With chi square testing we find that the p-value is 1.47%, the result is significant. So, Group B does have more visitors purchasing membership.



# Summary of qualitative data

- From the interviews, it looks like those who are serious about fitness do not worry about the fitness test, they take it as a challenge.
- There are some others that are picky with the way they choose their gym, there are other factors that come into play when choosing their gym membership.
- But for the most part, from my understanding, the fitness test intimidates the visitors.

# Recommendation

- If we need more visitors to sign up, then having no fitness tests as part of the application is the way to go.
- If we want only serious applicants, then having a fitness test as part of the application is a good challenge.
- **My recommendation** would be to have a fitness test after the application process, after they have become members, so that they can have it as a reference to improve from. This will be a win-win situation for both the gym and the members.