



# MuscleHub A/B Test

Minsup Sim

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# Purpose

Purpose of this A/B test is to find out if more people will purchase a membership if MuscleHub shortens application process by abandoning fitness test.

In this test there will be two groups: A and B.

A: Take fitness test - fill out application - purchase of membership

B: Skip fitness test - fill out application - purchase of membership

# Background Info

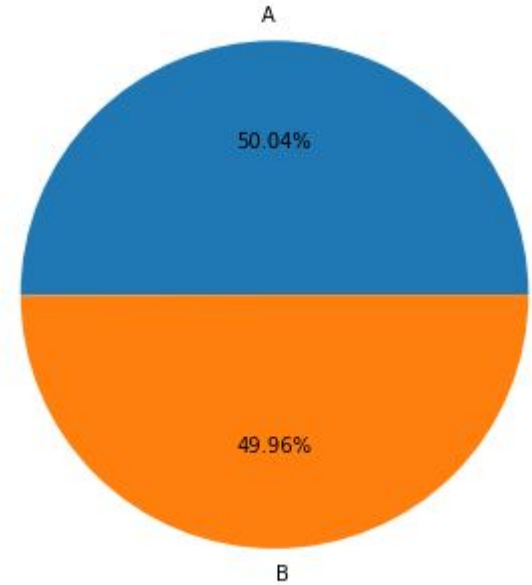
Total visitors: 5,004 people



Total A Group: 2,504 people



Total B Group: 2,500 people



Pie chart showing percentage of each group

# One Step Further Towards Membership: Application

Percent of people who picked up Application:

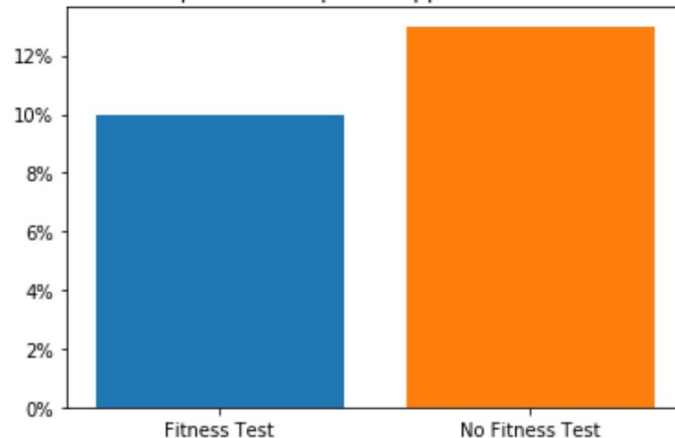


A: 9.98%



B: 13.0%

Percent of People who completed Application vs Test or No Test



Group	Application	No Application	Total
A	250	2254	2504
B	325	2175	2500

# Is Difference Statistically Significant?

Chi Square Test is applied to compare 2 categorical dataset in this case group A and B can be 2 categories

Null Hypothesis: There is no significant difference in percentage of application picked up by two groups

P-Value :0.00096

Since P-Value is less than 0.05, we reject our null hypothesis of there is no significant difference and accepts there is significant difference

# After Application, Membership?

How many purchased a membership among who picked up applications?

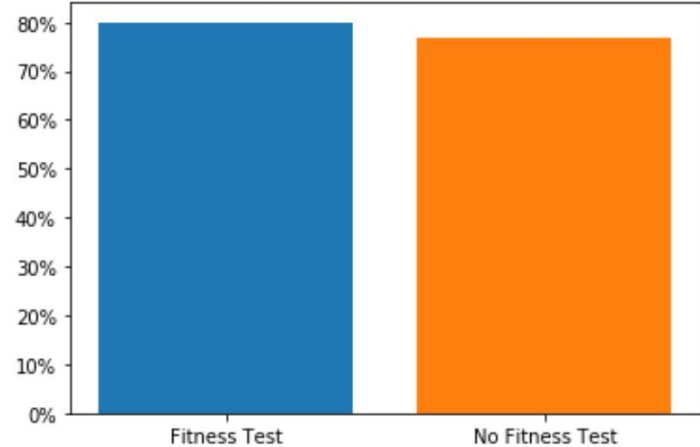


A: 80.0%



B: 76.9%

Percent of Buying Membership among People with Application vs Test or No Test



Group	Membership	No Membership	Total
A	200	50	250
B	250	75	325

# Chi Square Test

Is doing fitness test really get more members? Or was it just a random occurrence?

Chi Square Test says **there is no significant difference!!**

P-Value was 0.432 which is greater than 0.05 so we accept our null hypothesis

# Now for everyone, Membership?

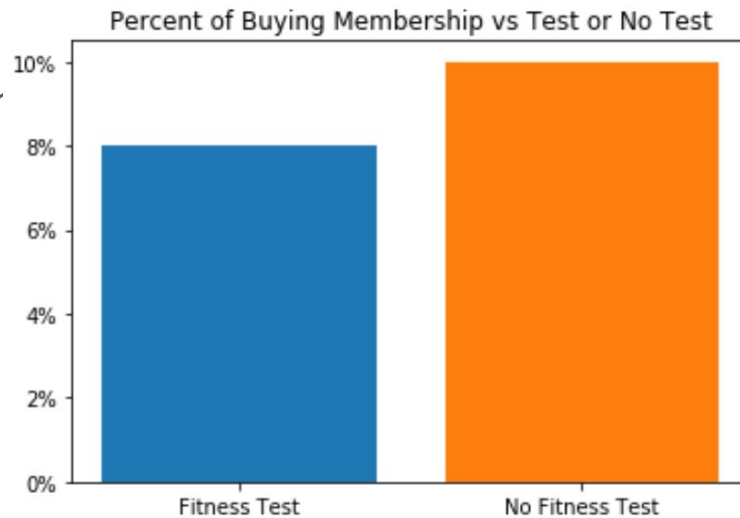
Final question is what percentage of all visitor purchased memberships in each groups?



A : 7.98%



B : 10.0%



Group	Membership	No Membership	Total
A	200	2304	2504
B	250	2250	2500

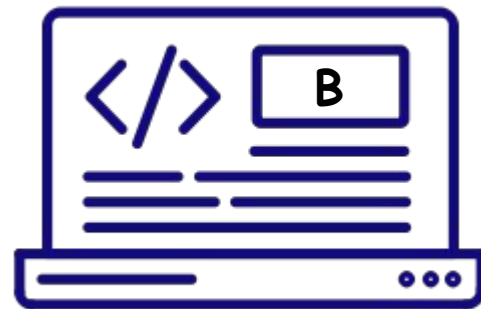


# Last Chi Square Test

A or B? Will we get more member by skipping fitness test?

With P-Value of 0.0147, we can conclude

B - skipping fitness test can get more members



# What does people say?

Among 4 people who did an interview, one person enjoyed fitness test.

one took fitness test and did not like it and other two did not take fitness test and was happy about it.

One of the variable affected membership purchase other than fitness test was cleanliness of gym machines.

This qualitative data also indicates that not having a fitness test can be an option to improve number of membership purchase, but it only gives a basic idea since sample size is too small.

# Recommendations

Analyzed data shows that plan B of not having fitness test can give 25.3% lift of the membership.

Another variable that can be easily taken care of is to keep the machines clean

