



MuscleHub A/B Test

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Background

Our manager thought that the fitness test MuscleHub provides intimidates some prospective members

So an A/B test was setup with visitors randomly assigned between two groups:

Group A: will still be asked to take a fitness test with a personal trainer

Group B: will skip the fitness test and proceed directly to the application

Our manager's hypothesis is that visitors assigned to Group B will be more likely to eventually purchase a membership to MuscleHub.

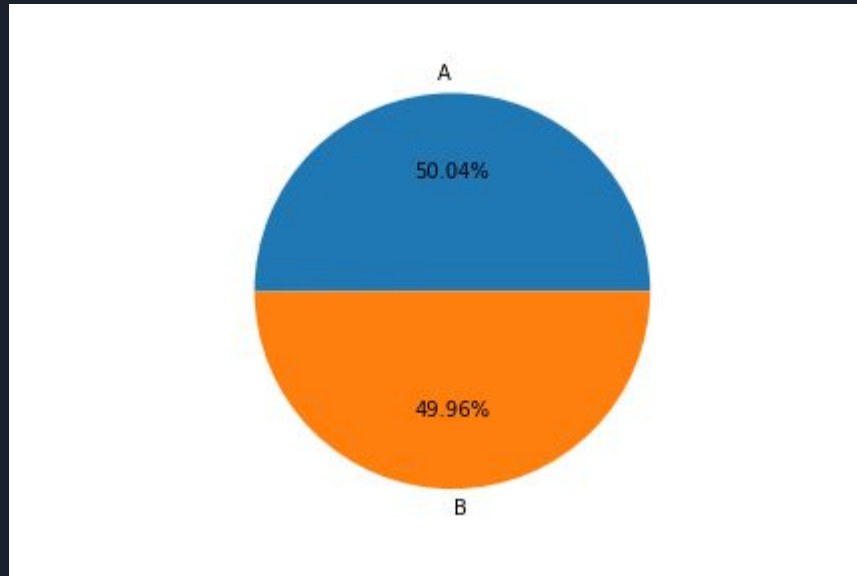


Summary of dataset

- Data was collected with four tables that all included first name, last name, email, and gender
 - Visits - contains information about potential gym customers who have visited MuscleHub
 - Fitness_tests - contains information about potential customers in "Group A", who were given a fitness test
 - Applications - contains information about any potential customers (groups A and B) who filled out an application. Not everyone in visits will have filled out an application
 - Purchases - contains information about customers who purchased a membership to MuscleHub
- The data was joined between all four of the tables on first name, last name, and email starting from the visit date of 07/01/2017 or later (start of A/B test).

Population tested

Our test included 5004 individuals with the following distribution between Group A and B:





Hypothesis tests ran on the following:

- Who picks up an application
- Who purchases a membership
- Percentage of all visitors who purchased memberships



Who picks up an application

The following table shows how many individuals fill out an application based whether they were given a fitness test(A) or not(B).

Group A or B	Application	No Application	Percent w/ application
A	250	2254	9.98%
B	325	2175	13%

A Chi Square test was ran due to two categorical datasets that are being compared

A p-value of 1 was obtained with the test



Who purchases a membership

The following table shows how many applicants became a member on whether they were given a fitness test(A) or not(B).

Group A or B	Member	Not Member	Percent purchase
A	200	50	80%
B	250	75	76.92%

A Chi Square test was ran due to two categorical datasets that are being compared

A p-value of 1 was obtained with the test



Percentage of all visitors who purchased memberships

The following table shows how many individuals became a member on whether they were given a fitness test(A) or not(B).

Group A or B	Member	Not Member	Percent Purchase
A	200	2304	7.98%
B	250	2250	10%

A Chi Square test was ran due to two categorical datasets that are being compared

A p-value of 1 was obtained with the test



Outcome

With all the tests, there was no statistical difference between group A or B since the p value was at 1 for all of them.

From my viewpoint, I also saw a small difference in percentage change between A and B which was not enough to consider the fitness test being a main component to an individual signing up.

This concludes that there is possibly some other variable(s) that might give a better A/B test to help MuscleHub.



Summary of the qualitative data

- Based on Cora, the client had a goal, but just didn't know what to do first, so the fitness test was very helpful in showing a path to his goal. In this case, the fitness test was really good, but not everyone is like this.
- Based on Jesse, the fitness test would be intimidating for the client, but even though he was not given one, that was not the reason why the client denied a membership. It was due to sanitary reasons
- Based on Sonny, although willing to do a fitness test, it was not his kind of thing. This shows that some people are willing, but there is another factor as to why he did not like it.
- Based on Shirley, she was given a fitness test somewhere else and did not like it. This client wasn't given a fitness test with Musclehub. But, what won over the client appears to be the fact that the atmosphere and culture of MuscleHub was friendly.



Recommendations for MuscleHub

Next time have a predetermined sample size determined with Lift when A/B testing

Do not continue to run the test with more sample size to see if you can get significance. This results in personal bias.

Possibly base if individuals need the fitness test on introduction with client. (e.g. ask some questions related to what a client is looking for so that they can accommodate the client's needs)

Make sure there are other variables implied or thought about that could be the reason for an individual's end goal of signing up or not .