A/B Test: Does MuscleHub's fitness test intimidate some prospective members?

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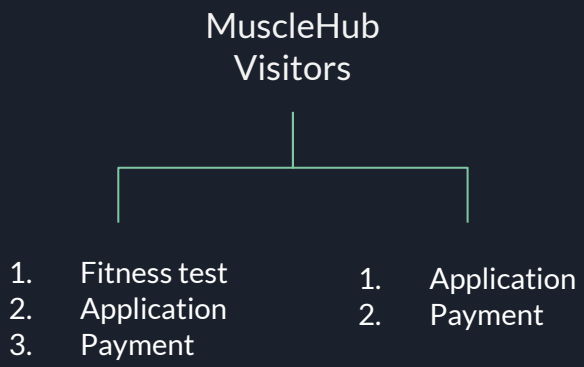
What happened in this A/B test?

MuscleHub visitors were randomly assigned to one of two groups:

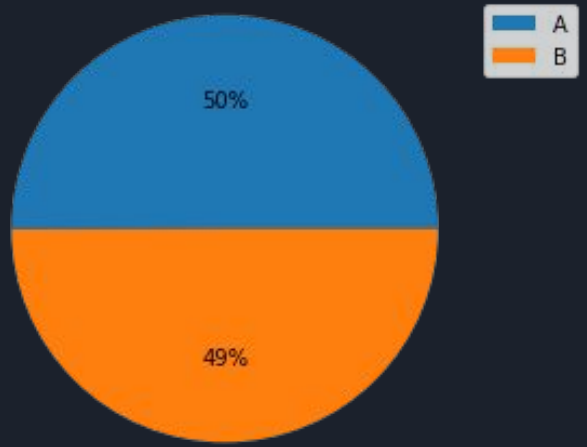
- Group A was asked to take a fitness test with a personal trainer
- Group B skipped the fitness test and proceeded directly to the application



Summary of our dataset

The dataset used to analyze this A/B test included approximately 2500 visitors from each group. Several tables of information were joined to help with the analysis including:

- Information about potential gym customers who have visited MuscleHub
- Information about potential customers in "Group A", who were given a fitness test
- Information about any potential customers (both "Group A" and "Group B") who filled out an application.
- Information about customers who purchased a membership to MuscleHub.



Hypothesis tests

After answering the following questions, the Chi Square test was used to determine whether the differences between Groups A & B were statistically significant:

1. What percentage of visitors filled out an application?
2. Of those who picked up an application, what percentage purchased a membership?
3. What percentage of all visitors purchased memberships?

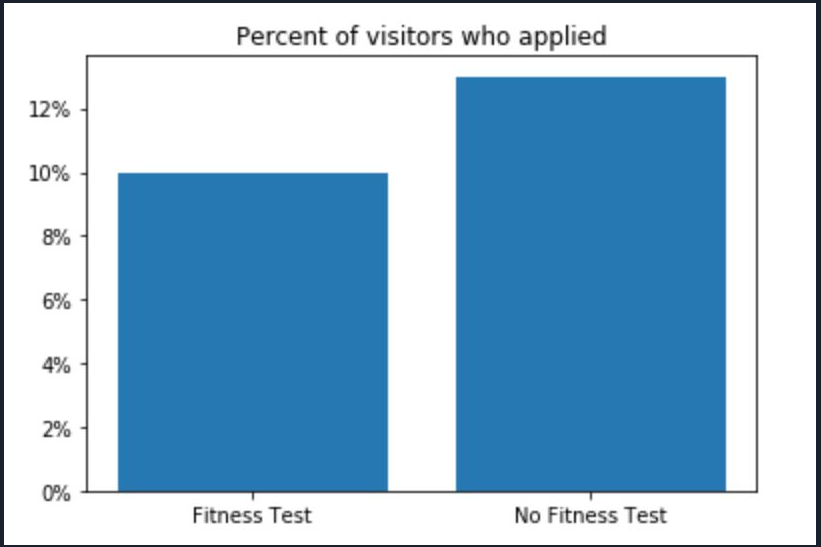
The Chi Square test was chosen because we had two categorical datasets that we wanted to compare (Groups A & B).

Test 1: What percentage of visitors filled out an application?

Upon examining the dataset, I found that more people from Group B turned in an application:

- Group A: 9.98%
- **Group B: 13.00%**

After running a Chi Square test and getting a p-value of 0.00096, I was able to **reject** the null hypothesis that there is no significant difference between Groups A & B.

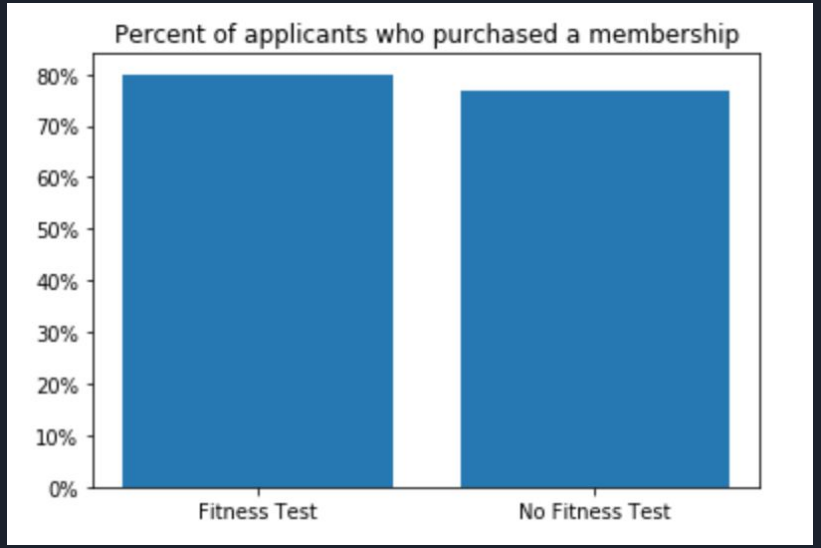


Test 2: What percentage of applicants purchased a membership?

Upon examining the dataset, I found that people who took the fitness test were more likely to purchase a membership if they picked up an application:

- **Group A: 80.00%**
- Group B: 76.92%

After running a Chi Square test and getting a p-value of 0.43269, I was able to **accept** the null hypothesis that there is no significant difference between Groups A & B.

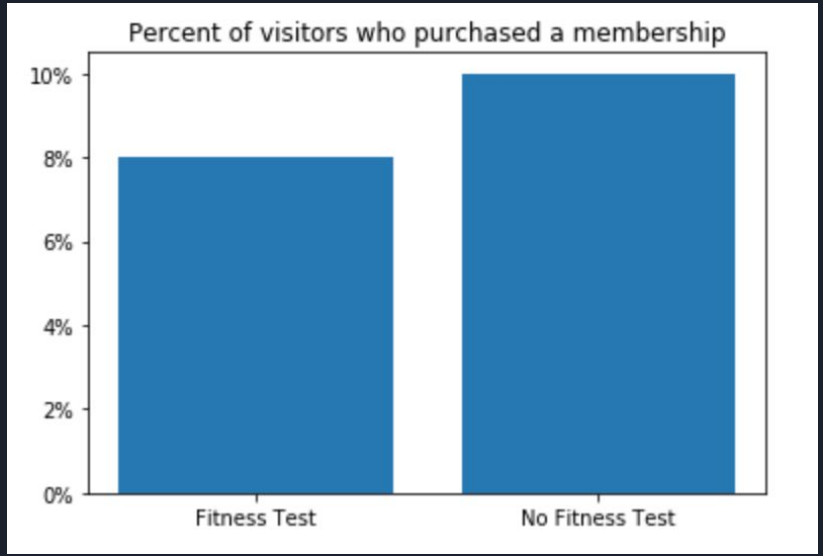


Test 3: What percentage of all visitors purchased memberships?

Finally and most importantly, I found that when considering all people who visit MuscleHub, people who skipped the fitness test were more likely to purchase a membership:

- Group A: 7.98%
- **Group B: 10.00%**

After running a Chi Square test and getting a p-value of 0.01472, I was able to **reject** the null hypothesis that there is no significant difference between Groups A & B.



Summary of our qualitative data

Based on the results of MuscleHub's interviews with different gym visitors who participated in the A/B test, fitness tests in general had mixed reviews.

Although it seems some visitors found the fitness test helpful, it's safe to say that it's not for everyone.

Recommendation for MuscleHub

The Chi Square test proves that Group B (No fitness test) is significantly better at converting MuscleHub visitors into paying members. Therefore, I recommend that MuscleHub remove the fitness test from the membership sign-up process and go straight to the application.