



# Muscle Hub- The Fitness Test Tests

An analysis prepared by Sarah Hudspeth



# Synopsis

In order to determine what helps visitors join Muscle Hub, Muscle Hub conducted a A/B test to see if offering a fitness test after application increased membership purchases.

Visitors were split into two groups: Group A had to complete a fitness test before submitting an application. Group B did not need to complete a fitness test before submitting an application.



# Summary of Data

The A/B test started on 7-7-2017 and ran until 9-9-17, approximately two months later. 5004 subjects were split into the two groups. The dates of original visit, fitness test date (if applicable), application date, and purchase date were tracked.

An analysis was then performed to see if there was significant difference in amounts of applications with or without fitness tests.



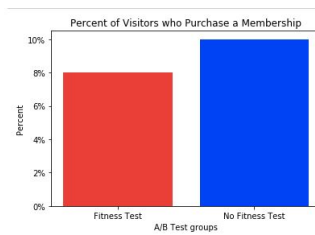
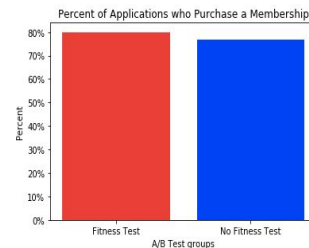
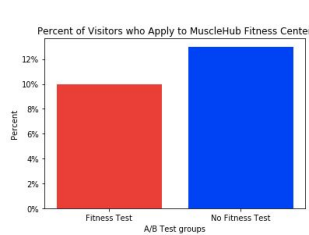
# Results

We performed three chi-square tests using Scipy's `chi2_contingency` function. Since there were two or more categories to analyze, this test was the appropriate one to use (there were no means of dataset to compare).

When comparing results of those who completed an application, the p-value was 0.0009648 (significant).

When comparing persons who completed an application and whether they purchased a membership, the p-value was 0.4325 (not significant).

Comparing visitors and those who then purchased a membership, the p-value was 0.001472 (significant).





# Conclusion

Conducting a fitness test as a means to membership at Musclehub gives statistically significant outcomes. Given some of the interviews also conducting, an option to have a fitness test is better than a required step of the process.

More visitors from Group B (no fitness test) completed an application and this was a statistically significant number given the p-value of 0.0009648.

The fitness test had no significance on applicants (p-value 0.4325)--in fact, those who completed a fitness test had a slightly higher rate of membership purchase. However, there was no statistically advantage given the p-value.

Overall, more visitors from Group B (no fitness test) had a statistically significant amount of more membership purchases (p-value of 0.01472)



## Recommendation

Our recommendation is that MuscleHub have an optional fitness test as a part of the membership process. Given that those who end of applying have a slightly higher rate of membership purchasing, it seems like a good benefit to offer. However, it should not be required. More visitors applied and ultimately purchased a membership if they did not complete a fitness test prior to application.