



# MuscleHub Gym Analysis

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# A/B Testing of Sign Up Process

The A/B test was undertaken due to the fact that there was a question as to whether or not putting new applicants through a Fitness Test *prior* to the application process was providing more applicants, or was the Fitness Test intimidating and driving potential members away.

We tested this hypothesis on the basis of the number of new applicants who were put through the Fitness Test, and those that weren't. And then further evaluated those who requested an application completing the process and eventually become members or not.

We split the total number of visitors during the testing period into two groups, A & B, that were almost evenly split, but only four additional visitors in A over B (insignificant difference for the sake of the testing).

Group A - Took the Fitness Test

Group B - Proceeded straight to the application without a Fitness Test

We then proceeded to examine how many people made it to Step 2 (Fill out an application for the gym) for both groups. We found that there was a 3% difference in the number of applications from Group B than Group A.



Next we used the same method to examine how many people who picked up an application actually completed the third step and became a paying member. Through this examination we discovered that roughly 3% more people who picked up an application, and had completed a Fitness Test (Group A), actually continued on to purchase a membership.

Finally we wanted to examine what percentage of all visitors completed the full application process and became a member. We discovered that overall there was roughly a 2% difference in favour of Group B (did not take the Fitness Test).

As with any hypothesis testing we need to dig deeper to understand the relationship of these numbers against an expected outcome. For this we used statistical analysis.





# Hypothesis Testing

## 1 - Who picks up an application?

As mentioned previously our initial analysis showed a 3% difference in favour of Group B. To test this result we used a Chi Square Test. Chi Square is a statistical test used to compare observed data with data we would expect to obtain according to a specific hypothesis.

Our Chi Square test on the data for those people who picked up an application gave a p-value of 0.09%.

From this we can assess that the initial analysis is accurate and that Group B does indeed fare better in applications when not forced to take a Fitness Test.



## 2 - Who purchases a membership from those who picked up an application?

Further to our analysis of people who picked up an application, we wanted to analyze whether those applications actually turned into purchased memberships. Through our initial analysis we found that the percentages shifted, and that 3% more people from Group A became members over Group B.

Again we used the Chi Square Test and received a p-value of 43.25%.

From this statistical analysis we can determine that there is no relation between either Group A or B to completing the process and purchasing a membership.

There is as much chance that a person from Group A OR B will purchase a membership after picking up an application.



### 3 - Who purchases a membership from all visitors?

To fully understand the “take up” of memberships out of all visitors throughout the testing period we conducted one more Chi Square test.

We had shown that overall against total visitors there was 2% more memberships from Group B than Group A. Once we performed the Chi Square test our p-value was 16.8%.

This tells us that, while it is more likely that chance isn't involved compared to the test of purchases from applications picked up, there is a difference overall that can't tell us for certain whether one group is more preferable than the other.



# Surveys Conducted

While hard data will always tell us a lot, it is advisable to ask your customer their perspective on the application process.

What we can discern from reading the visitors comments is that, of the 4 people asked, 3 of the 4 mentioned that they prefer to NOT be put through a Fitness Test prior to the application and membership purchase, and that this could be something that could turn them away.

One of the members, however, did state that the Fitness Test was a massive draw and really appreciated the introduction.





# Conclusion

Based on the data provided and analysed it would appear that Janet's hypothesis holds true, that the Fitness Test is more intimidating than encouraging for having visitors proceed all the way through the application process and purchase a membership.

However, my recommendation would be to offer both a Fitness Test introduction as well as No Fitness Test to proceed through the application process. All people are different and there will be some, based on the qualitative data and the data of memberships purchased from applications taken, that will appreciate the test, the feedback and could ultimately become a regular member. By being too rigid with the application process you potentially lose customers before you've even got them.