

Do You Even Lift?

Evaluating the Musclehub
Membership Process

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Musclehub is a boutique gym based in New York City. Currently, there are three steps to becoming a member - 1. take a fitness test with a personal trainer, 2. complete an application, and 3. submit membership payment.

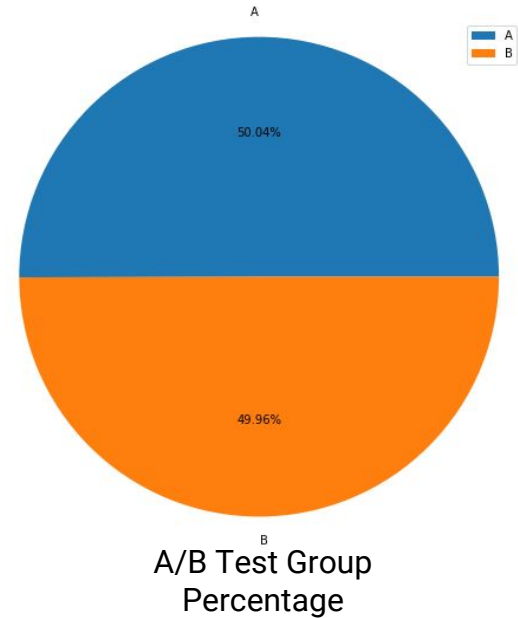
Is the fitness test an effective step in the application process or does it alienate prospective members? To evaluate this question, Musclehub conducted an A/B test that separated visitors into two groups; group A took the fitness test prior to submitting an application and group B bypassed the fitness test and went directly to the application phase.

Hypothesis: Visitors who proceed directly to the application phase (group B) are more likely to purchase memberships.

Creating A/B Test Groups

Musclehub tracks the number of 1. total visitors, 2. fitness test takers, 3. total applicants, and 4. total membership purchases in a SQL database. The analysis set combined these tables and examined the period between July and September 2017. The analysis dataset contained 5004 records; group A (fitness test) contained 2504 records and group B contained 2500 records (no fitness test).

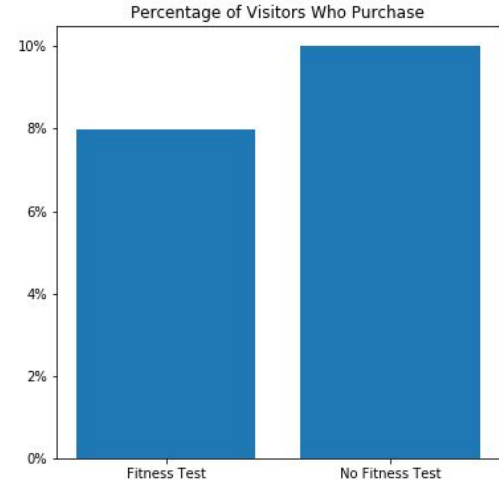
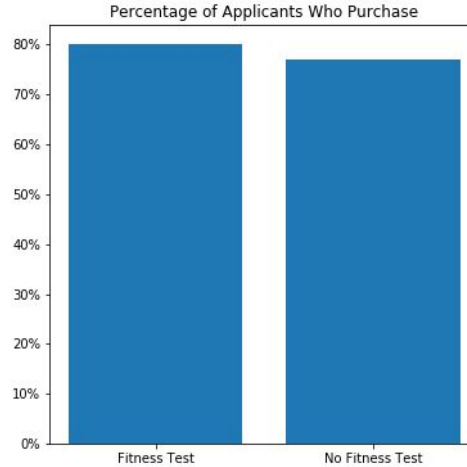
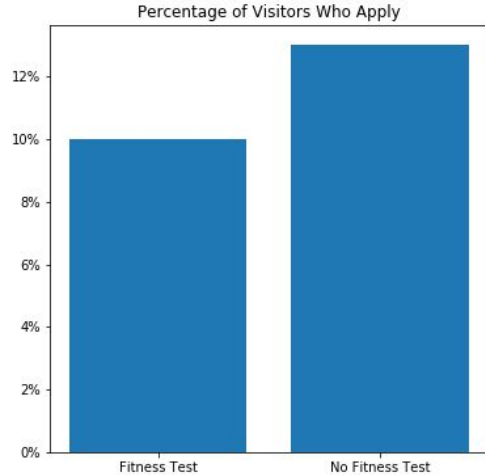
The remaining question is whether this a representative sample size - is the three month period consistent with visitor and membership trends or do other periods see higher activity.



Methodology & Results

Three data points were calculated and their differences tested for significance:

- Number of visitors in groups A and B who submitted an application.
- Number of applicants in groups A and B who purchased a membership.
- Number of visitors in groups A and B who purchased a membership.



Methodology & Results

Are the differences in the three data points for groups A & B due to chance? To test for significance we utilized the Chi Square Contingency test, which is used to evaluate differences between categorical data sets. For the purposes of these tests we will reject the null hypothesis - that differences between the two groups are due to chance - with a p-value of less than 5%.

- Number of visitors in groups A (250) and B (325) who submitted an application. Running the Chi Square test we get a p-value of 0.1% and reject the null hypothesis.
- Number of applicants in groups A (200) and B (250) who purchase a membership. Running the Chi Square test we get a p-value of 43% and accept the null hypothesis.
- Number of visitors in groups A (200) and B (250) who purchase a membership. Running the Chi Square test we get a p-value of 1% and reject the null hypothesis.

Summary of Visitor Interviews

With a sample size of four interview subjects it is hard to make any definitive conclusions. In this group half took the fitness test and the other half did not; one subject from each group purchased memberships. Interestingly of the two who purchased memberships they both cited taking or not taking the fitness test as a deciding factor in purchasing a membership.

Of the two who did not purchase membership, the subject who did not take the fitness test appreciated taking the test but ultimately did not purchase a membership because they did not like the facilities. The other subject who did not purchase a membership “regretted” taking the test, which could be a factor in them not signing up for a membership.

Conclusions

The quantitative data supports our original hypothesis that visitors who proceed directly to the application phase are more likely to purchase memberships. My recommendation to Musclehub would be to not require potential customers to take the fitness and proceed directly to the application phase.