

MuscleHub A/B Test

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Background



- Janet, the manager of MuscleHub, thinks that the fitness test intimidates some prospective members, so she has set up an A/B test.
- Visitors will randomly be assigned to one of 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
- Janet's hypothesis is that visitors assigned to Group B will be more likely to eventually purchase a membership to MuscleHub.

The Data



- Janet has a SQLite database containing the following tables:
 - visits: contains information about people who have visited the gym
 - fitness_tests: contains information about the visitors who were given the fitness test
 - applications: contains information about visitors who filled out an application for membership
 - purchases: contains information about visitors who purchased a MuscleHub membership

The A/B Tests

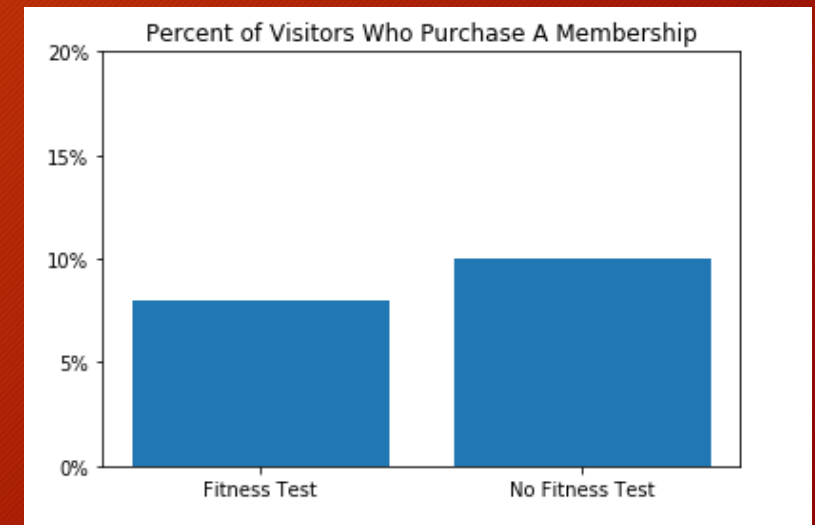
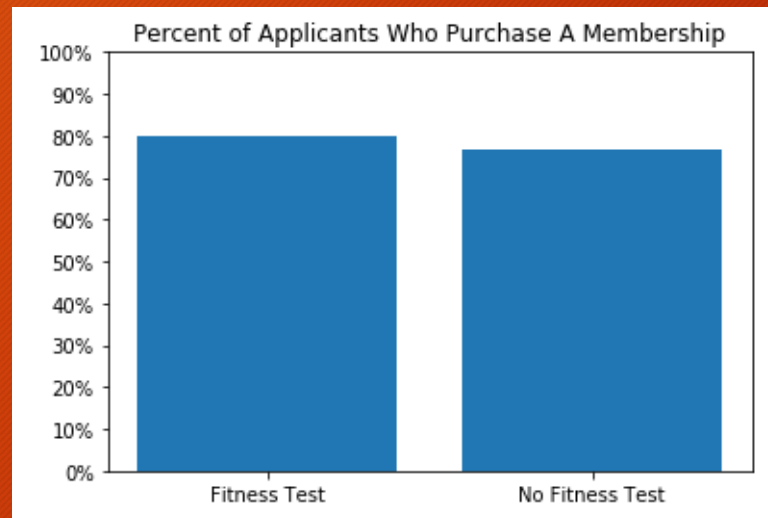
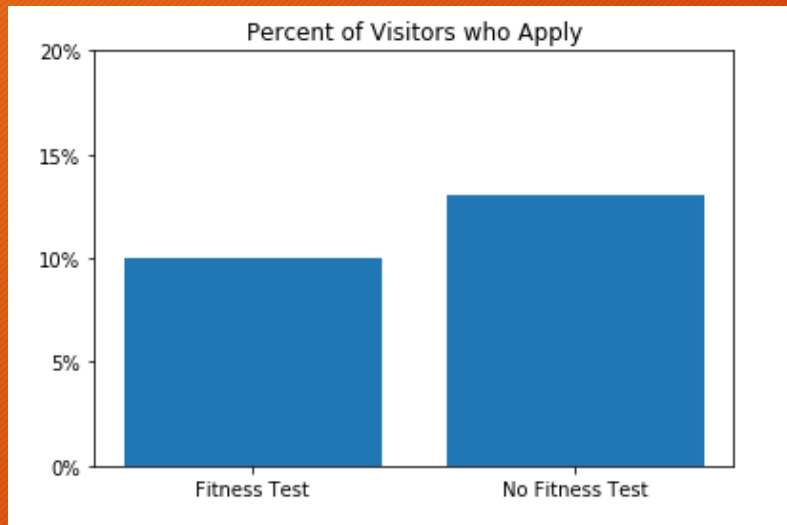


- The A/B tests were conducted for visits on or after 7-1-17
- Group A was given the fitness test while Group B was not
- We had 50.04% of those visitors in Group A and 49.96% of those visitors in Group B
- For groups A and B, we ran 3 tests for:
 - Percent of visitors who submitted a membership application
 - Percent of applicants who purchased a membership
 - Percent of visitors who purchased a membership
- For all 3 A/B tests the Chi Squared Test was used because in each instance we had two or more categorical datasets that we wanted to compare. That is, for groups A and B we looked at Application vs No Application and Member vs Not Member.

A/B Test Summary



- Our A/B testing revealed the following:
 - Group B had a significantly higher percent in turning in applications
 - There was not strong enough evidence to conclude a difference in membership purchases between the 2 groups if they completed an application
 - Group B had a significantly higher percent in membership purchases



Recommendations



- A/B testing revealed that visitors who are not given the fitness test will be more likely to eventually purchase a membership to MuscleHub
- Therefore, I would recommend that MuscleHub stop performing the fitness test on its visitors if its goal is to better increase its membership