Effects of Fitness test upon gym membership

By Daniel Shelnut

Description of A/B test

- An A/B test was implemented to test the hypothesis by the manager of MuscleHub, Janet, on whether a fitness test negatively impacted membership rates for applicants.
- Approximately 5000 visitors were divided into two groups:
  - Group A: Asked to take a fitness test before filling out an application
  - Group B: Skipped the fitness test and moved straight towards filling out an application

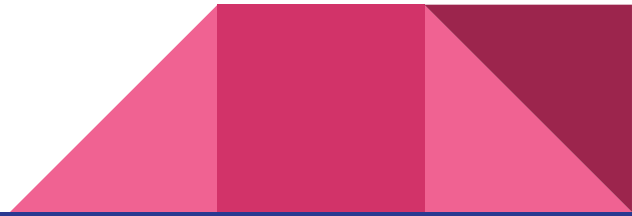
Key information about Dataset

Contains four separate tables:

- Visits: contains information about potential gym customers who visited MuscleHub
- Fitsness_tests: contains information about potential customers who were in ‘Group A’
- Applications: contains information about any potential customers who filled out an application
- Purchases: contains information about customers who purchased a membership to MuscleHub.

Not all tables contained the same number of entries

The four tables were merged into one main table for this analysis



Summary of Data

Total number of visitors: 5004 (2504 in group A and 2500 in group B)

Number of applications turned in for group A: 250

Number of applications turned in for group B:325

Percentage of applications turned in for group A: 9.984 %

Percentage of applications turned in for group B: 13.00%

Given that a visitor had picked up an application, the percentage who purchased a membership based on Group.:

Group A: 80.000%

Group B: 76.923%

For all visitors, the percentage who membership based on Group:

Group A: 7.987%

Group B: 10.000%

Results

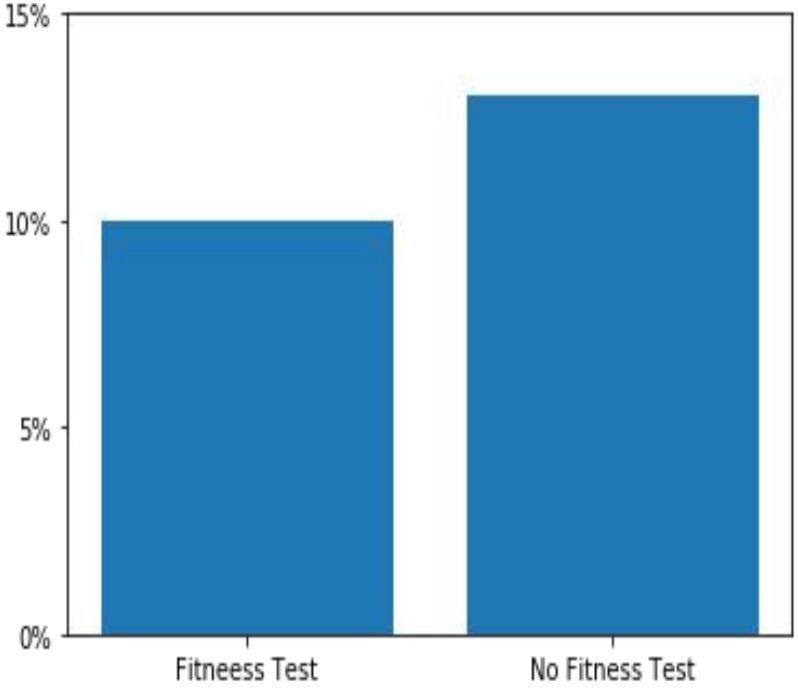


Figure 1:Percent of visitors who applied

p-value from Chi^2 test: 9.647 x 10^-4

Conclusion: Given that the p-value is below 0.05 there is a significant difference in the percentage of applications filled out between Group A and B.

Results (continued)

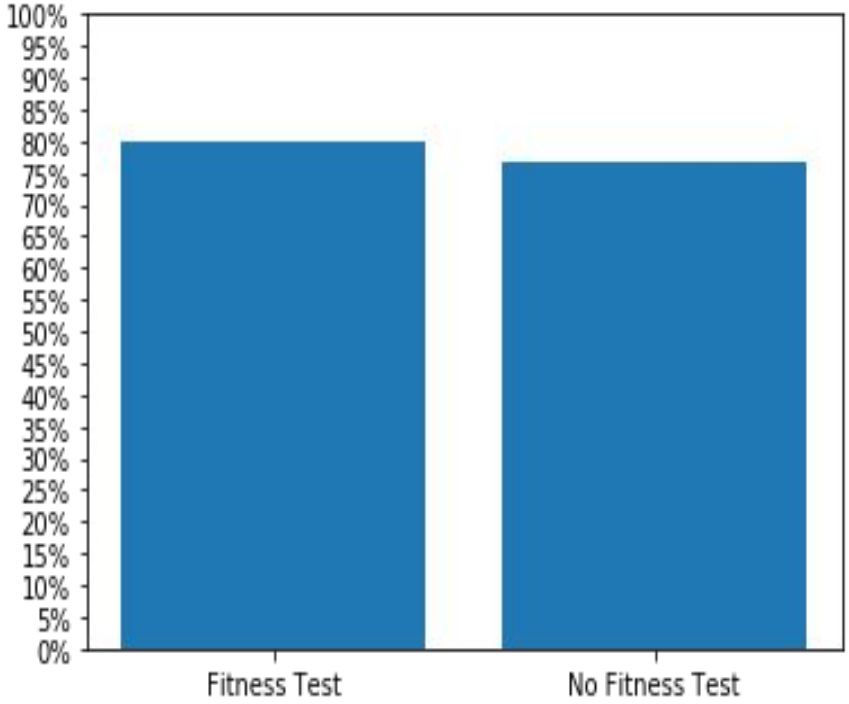


Figure 2: Percent of applicants who purchased a membership

p-value from Chi^2 test: 0.4325

Conclusion: Given that the p-value is above 0.05 there is a significant difference in the percentage of memberships purchased between Group A and B.

Results (continued)

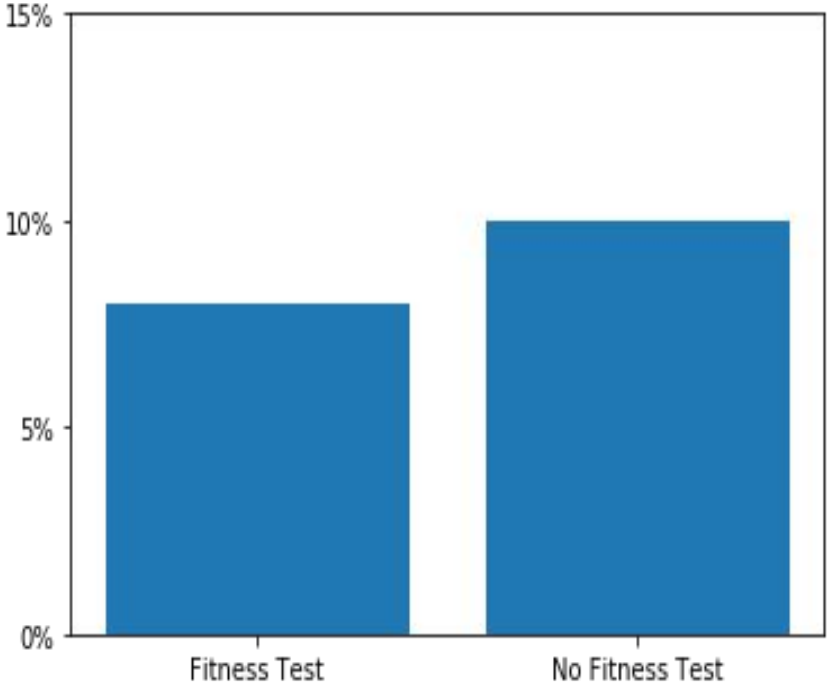


Figure 3: Percent of visitors who purchased a membership

p-value from Chi^2 test: 0.01472

Conclusion: Given that the p-value is below 0.05 there is a significant difference in the percentage of visits who purchased a membership between Group A and B.

Insight from the data

- Based on the A/B test generated, it seems the absence of a fitness test for applicants has a significant impact in determining whether a visit will fill out an application and purchased a membership.
- Though if someone has already picked up the membership there appears to be no significant effect that the fitness test or lack of one would have of purchasing a membership.
- A recommendation that I would make for Janet, the manager of MuscleHub, is to include an opt out option for the fitness test. This way people would not feel intimidated by the fitness test and potentially more likely to purchased a membership.