

MuscleHub A/B Test

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Code Academy: Intro to Data Analysis

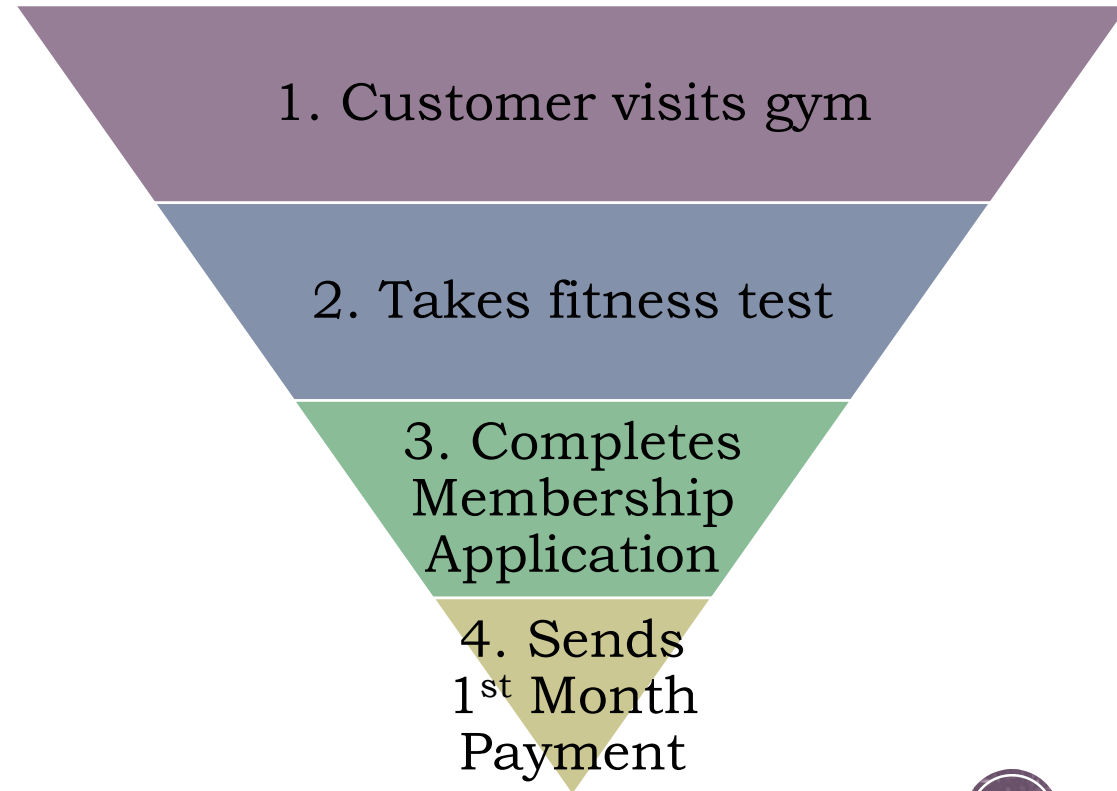
(June 19, 2018 Start Date)



Description of A/B Test

- The MuscleHub sales funnel is a four-step process (see figure 1 to the right)
- Janet, the manager of MuscleHub gym, wants to test the hypothesis that visitors are more likely to sign up for membership if they are allowed to skip the fitness test.
- She administers an A/B test starting July 1, 2017 where all visitors are randomly assigned to two groups:
 - Group A is required to take a fitness test with a personal trainer before filling out an application.
 - Group B skips the fitness test and proceeds directly to the application.

Figure 1. MuscleHub Sales Funnel



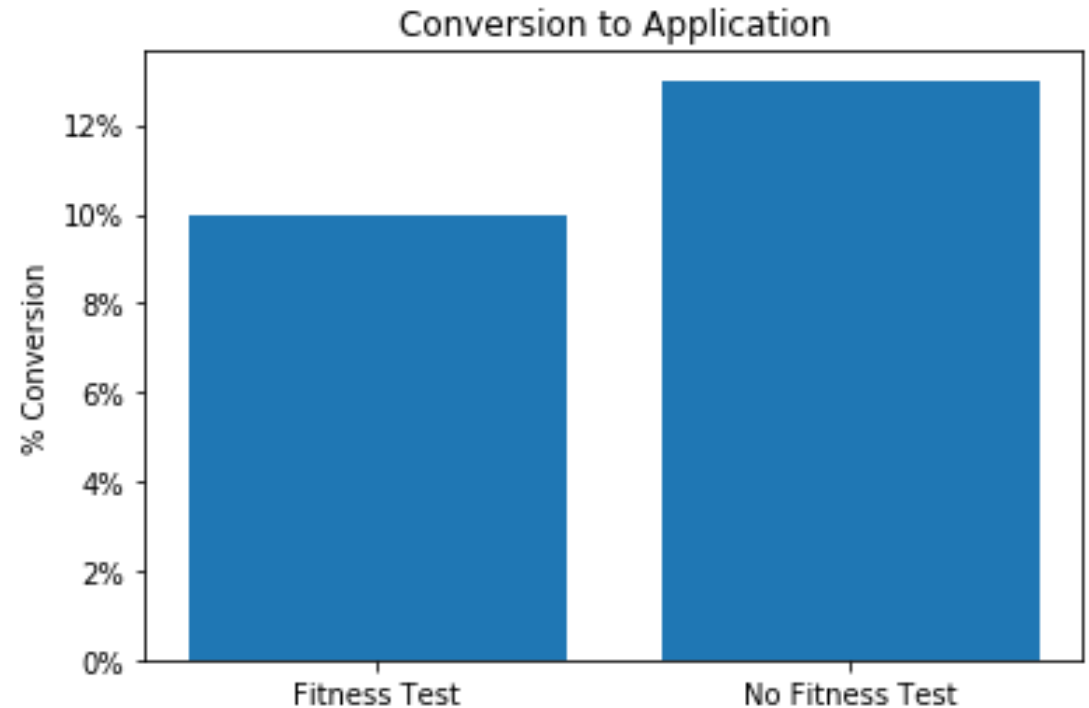
Background/ Summary of Dataset

- MuscleHub has collected raw data documenting customers' progression through each stage of the sales funnel. A table has been populated to document the customers that progress to each of the four steps in the sales funnel.
- A/B Test Scope
 - Data Duration: July 1, 2017 – September 9, 2017
 - Total # Visitors Tested: 5,003
 - A/B Test Groups
 - Group A (fitness test required): 2,504 people
 - Group B (no fitness test): 2,500 people

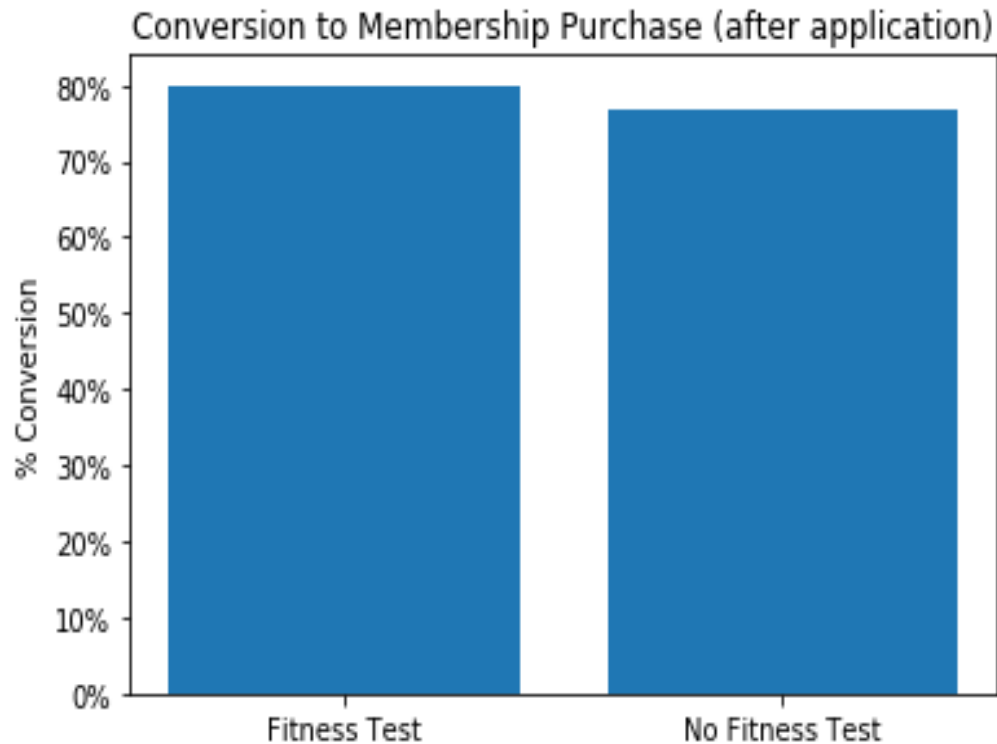


Test 1: Does fitness test affect conversion to Step 3. Application?

- Performed chi contingency test to compare two categorical datasets (those who took the fitness test vs. those who did not) to see if either group was more likely to progress down the sales funnel and complete an application.
- Results: 10% fitness test visitors completed application vs 13% among those who did not take the fitness test.
- Chi contingency pval = 0.09%, which means the difference is statistically significant.
- Conclusion: **Yes**, those who had **no fitness test** were **more likely** to complete a membership application.



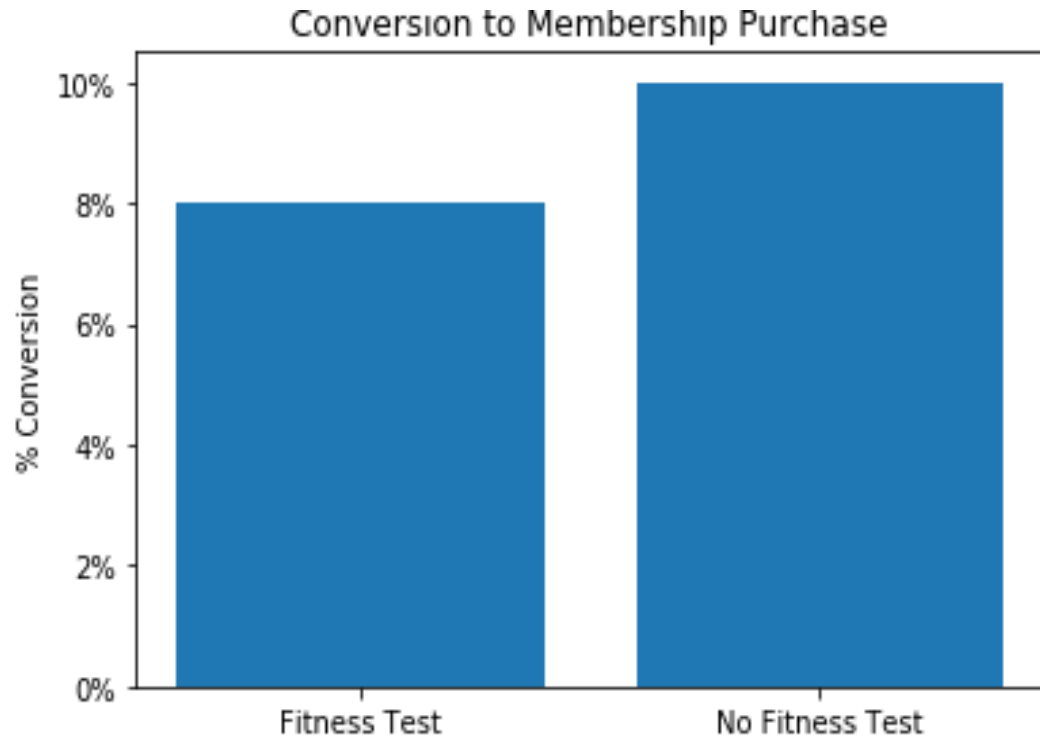
Test 2: Does fitness test affect conversion from 3. Application to 4. Membership Payment?



- Performed chi contingency test to see if there was further differentiation between the two groups, after submitting an application.
- Results: 80% fitness test visitors who completed step 3. application went on to complete step 4. by making the first month's payment. Meanwhile, 77% of no fitness test visitors who progressed to step 3 went on to complete step 4.
- Chi contingency pval = 0.43%, which means the difference is not statistically significant.
- Conclusion: **No**, if the visitor progressed to step 3 Application, having a fitness test (or not) did not affect the rate of conversion to 4. Membership Payment.



Test 3: Which group is more likely to purchase membership after first visit?



- Performed chi contingency test to see which type of visitor was more likely to purchase membership.
- Results: 10% visitors with no fitness test went on to complete step 4. compared to 8% of visitors in the fitness test group.
- Chi contingency pval = 0.01%, which means the difference is statistically significant.
- Conclusion: **No Fitness Test** visitors were more likely to complete the sales funnel and purchase membership.



Qualitative Data on Fitness Test

Out of the four visitors interviewed:



- **Three out of four** did not like/want the fitness test
 - Two visitors reported that they preferred the no fitness test option. They felt less intimidated and appreciated a quick application/membership process.
 - One visitor expressed regret for taking the fitness test



- **One out of four** liked the fitness test and signed up due to the positive experience



Recommendations

- Fitness test should be optional!
 - Consider reducing trainer staff or redeploying the staff for other activities with higher revenue generating potential.
- Continue to solicit feedback from those who took the fitness test to see how it can be improved.
- Keep machines and equipment clean with regular cleaning program
 - One of the visitors said they ultimately did not sign up (despite positive experience sans fitness test) because the equipment was dirty.

