MuscleHub A/B Test

Description of the A/B Test

Visitors of MuscleHub are assigned to one of two groups:

Group A	Group B
1. Fitness test with a personal trainer	–
2. Application for the gym	
3. Payment for the first month's membership	

Does the entry fitness test decrease the probability for a visitor to become a member of MuscleHub?

Summary of the DataSets

A/B

visits
index
first_name
last_name
email
gender
visit_date

A

fitness_tests
index
first_name
last_name
email
gender
fitness_test_date

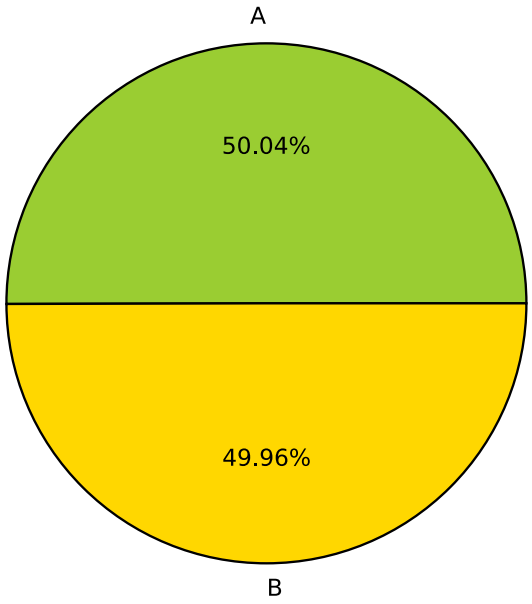
A/B

applications
index
first_name
last_name
email
gender
application_date

A/B

purchases
index
first_name
last_name
email
gender
fitness_test_date

Results of the three hypothesis tests



Total number of participants: 5004

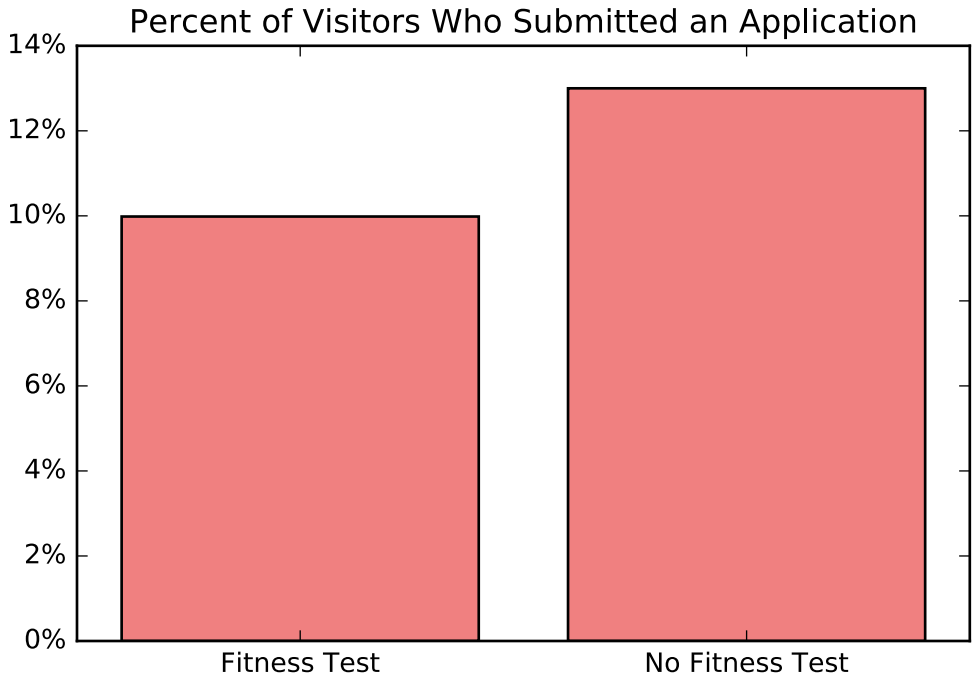
Group A: 2504

Group B: 2500

- “Application/No Application”, ect are categorical data
- Two categorical datasets
- Groups A and B are independent
- Categories are mutually exclusive

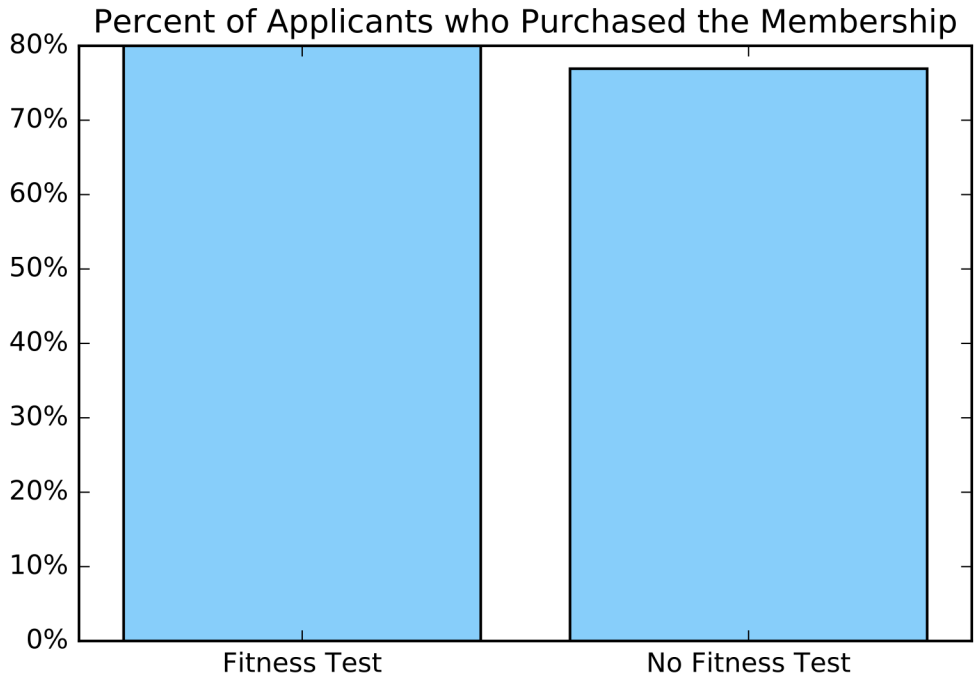
Chi-Square Test
is the correct test to use

1. Application Rate in A/B Groups



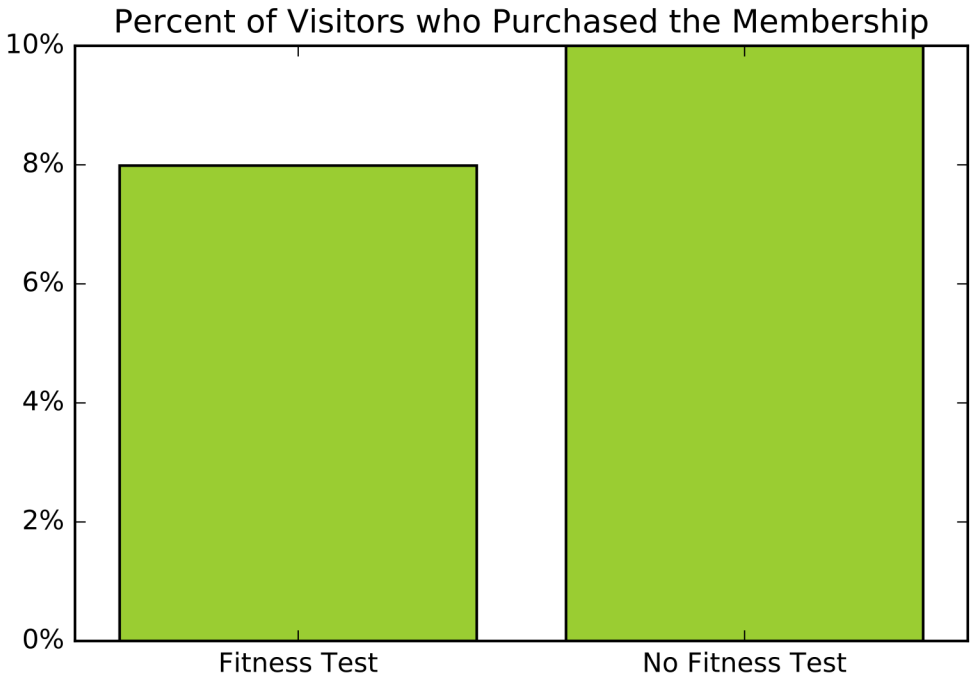
The Visitors of Group B submitted an application more often (13.0%) than the visitors of Group A (10.0%). The difference is significant at the 5% level ($p = 9.6 \cdot 10^{-4}$)

2. Purchase Rate among the Applicants in A/B Groups



The Applicants of Group B (76.9%) purchased the first month's membership as often as the applicants of Group A (80.0%). The difference is not significant at the 5% level (p = 0.43)

3. Purchase Rate in A/B Groups



The Visitors of Group B purchased the first month's membership more often (10.0%) than the visitors of Group A (8.0%). The difference is significant at the 5% level (p = 0.015)

Recommendation for MuscleHub

- The statistically significant difference between Group A and Group B shows that the fitness entry test intimidates some prospective members.
- The fitness test should not be obligatory for visitors who want to become members of MuscleHub.