

# Fitness Test: AB Test

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# AB Test

## Current Procedure

1. Take a fitness test with a personal trainer
  - N = 2504
2. Fill out a membership application
  - N = 250
3. Send in payment
  - N = 200

## New Method – No Fitness Test

- ~~1. Take a fitness test with a personal trainer~~
  - N = 2500
2. Fill out a membership application
  - N = 325
3. Send in payment
  - N = 250

## The Sample

- 5004 visitors between 07/01/2017 and 09/09/2017
- Randomly assigned to take a fitness test (A) or not (B)

	A	B	Total
Female	1255	1309	2564 (51.2%)
Male	1249	1191	2440 (48.8%)

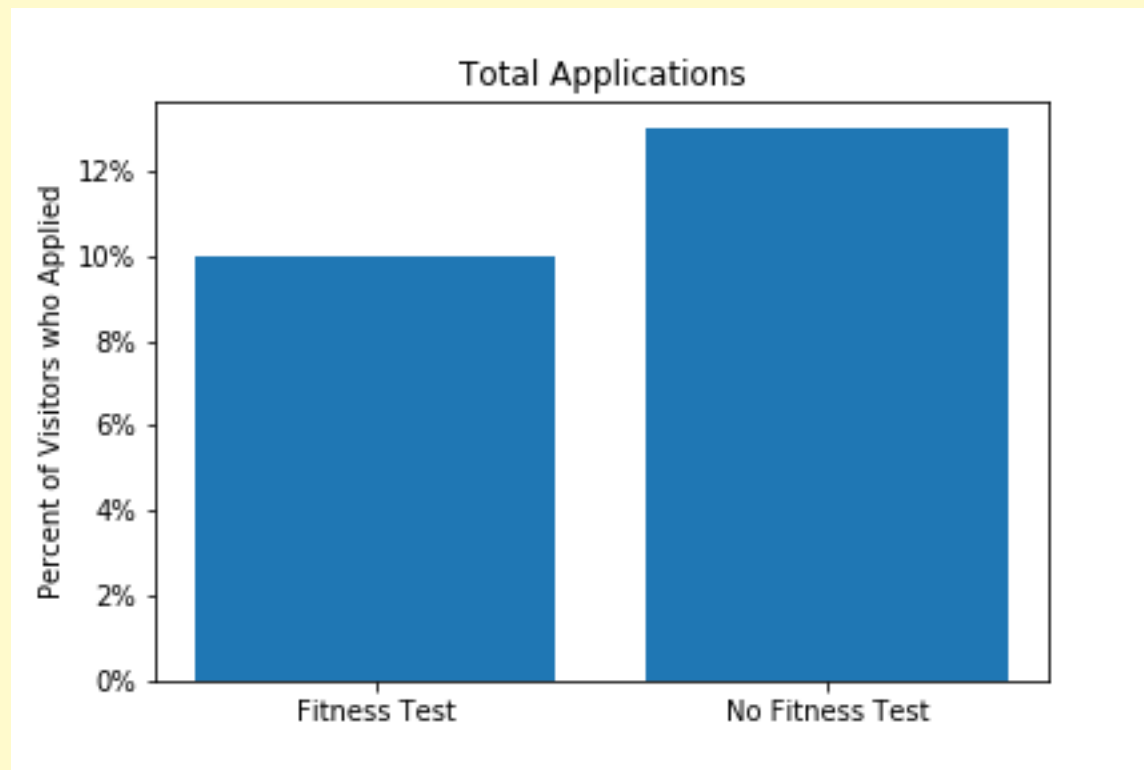
- No significance difference in the gender distribution of the groups ( $\chi^2 = 2.42$ ,  $p = 0.119$ )
- From 05/01/2017 to 06/30/2017, 480 (48%) Women, 520 (52%) Men
- No significance difference in the gender distribution from before the A/B test ( $\chi^2 = 3.37$ ,  $p = 0.066$ )

# Significance Testing

- Three hypothesis tests
  1. Who picks up an application?
  2. How many applicants purchase a membership?
  3. How many visitors purchase a membership?
- Chi-squared test for significance - appropriate for comparing the distribution of categorical variables between groups
- Null hypothesis is no difference. A significant result ( $p \leq 0.05$ ) means there is a difference between the groups

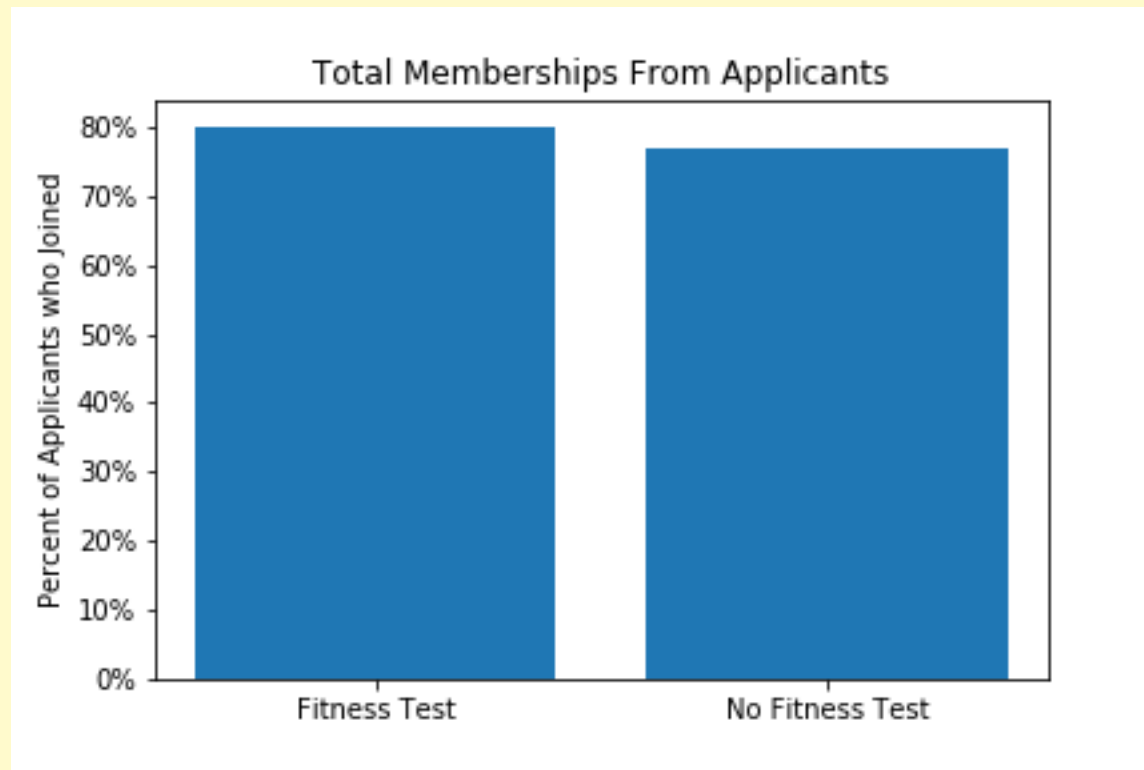
# 1. Who Picks Up an Application?

People who did not take a fitness test are significantly more likely to apply. ( $\chi^2 = 10.89$ ,  $p = 9.6 \times 10^{-4}$ )



## 2. How many Applicants Purchase a Membership?

Taking a fitness test does not change how likely applicants are to purchase a membership  
( $\chi^2 = 0.62$ ,  $p = 0.43$ )



### 3. How many Visitors Purchase a Membership?

Visitors who do not take a fitness test are significantly more likely to purchase memberships  
( $\chi^2 = 5.96$ ,  $p = 0.015$ )



# Interviews - Strengths

- Differentiation
  - “at LiftCity they had me doing burpees 30 seconds after I walked in the door...this is TOOOO much”
  - “I tried to sign up for LiftCity last year, but the fitness test was way too intense.”
- Low Pressure Atmosphere
  - “When I walked into MuscleHub I wasn’t accosted by any personal trainers”
  - “This is my first gym membership EVER, and MuscleHub made me feel welcome.”
- Personal Relationships
  - “I had to sign up and keep coming back [to] impress my trainer Rachel with how much I was improving!”



# Interviews - Opportunities

- Social Media
  - “I always wanted to work out like all of the shredded people on the fitness accounts I see on **Instagram**”
  - “I saw an ad for MuscleHub on **BookFace** and thought I'd check it out!”
- Word of Mouth
  - “I took the MuscleHub fitness test because my coworker...recommended it.”
- Clean Environment
  - “I...ended up not signing up for a membership because the weight machines had...sweat stains”

## Recommendation

1. Eliminating the fitness test significantly increased the number of visitors who purchased a membership.
  - Eliminate the mandatory fitness test
2. According to interviews, social media and word of mouth bring people in the door.
  - Consider a social media campaign, starring our trainers, emphasizing our welcoming atmosphere low-pressure fitness program
  - Discounts for members who bring in new members
3. While not statistically significant, the gender ratio has changed in the last 4 months.
  - Further monitoring of customer demographics

## Pivot Tables

From all visitors:

	Application	No Application	%Applied
A	250	2254	9.98%
B	325	2175	13.00%

From all applicants:

	Membership	No Membership	%Purchased
A	200	50	80.0%
B	250	75	76.9%

From all visitors:

	Membership	No Membership	%Purchased
A	200	2304	8.0%
B	250	2250	10.0%