MuscleHub Analysis

Capstone Project 1
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Objective

Current signup process for Musclehub:
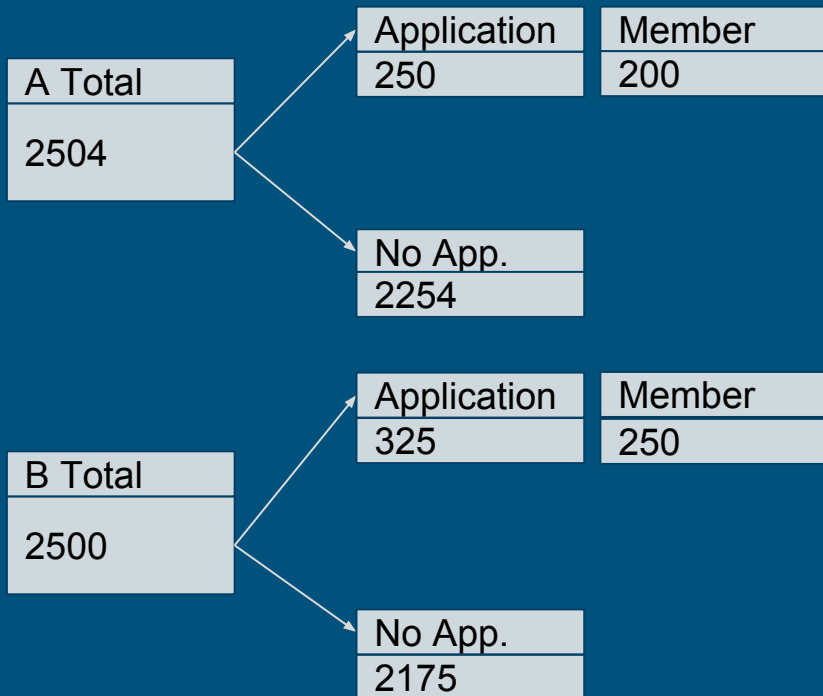
Fitness Test	Application	Pay for first month
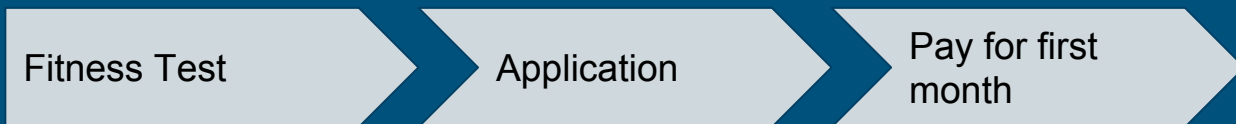
Does the fitness test intimidate prospective members?

A/B Test to answer the question:

A	B
Fitness Test	No test, straight to application

Observations from Data

A Total		Application		Member
2504		250		200

		No App.
		2254

B Total		Application		Member
2500		325		250

|		No App.
		2175

The A Group (with fitness test) had a lower conversion to application (9.984% vs 13.000%) than the group without the fitness test.

However, of those who picked up an application, those is Group A were more likely to become members (80.00% vs 72.92%)
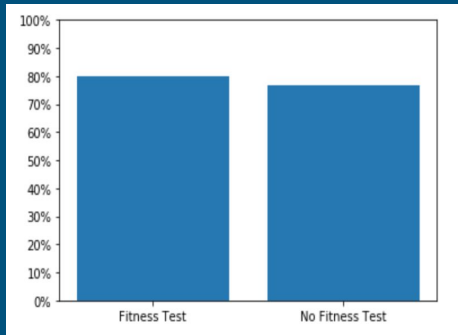
Looking at conversion rates comparing total visitor numbers to those who become members,, Group A had a 7.987% conversion rate, while Group B (not test) had a much 10% conversion rate.
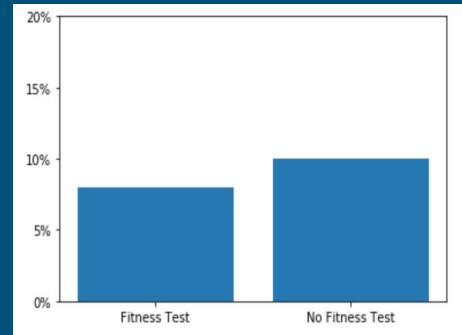
Observations from Data

% visitors who apply
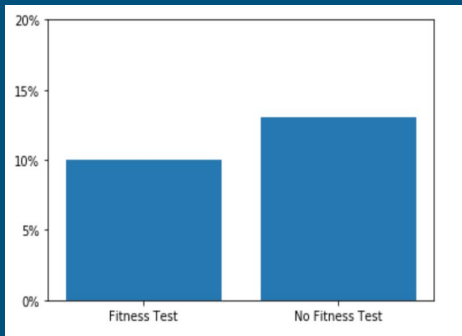
% applicants who purchase membership

% visitors who purchase membership

Results from Statistical Analysis

Perform Chi2 test on each step to gauge statistical significance of test:

    H0: Results from Group A and B are dependent

    H1: Results are independent

Visit to Application:

        Group A - 250 of 2504

        Group B - 325 of 2500

        P value = 0.00096, which is less than 0.05 cutoff, so we reject H0. Results are statistically significant

Application to Membership:

        Group A - 200 of 250

        Group B - 250 of 325

        P value = 0.43, so cannot reject H0. Cannot confirm that the results are not dependent. This is the wrong metric to consider, as should look at how many visits become members in each group, not applications become members. The fitness test should not have an effect.

Visit to Membership:

        Group A - 200 of 2504

        Group B - 250 of 2500

        P value = 0.014 < 0.05 so we reject H0. Results are statistically significant. Group B (no fitness test) has a higher level of membership sign up.

Results from Statistical Analysis

Perform Chi2 test on each step to gauge statistical significance of test:
    H0: Results from Group A and B are dependent
    H1: Results are independent

Visit to Application:
        Group A - 250 of 2504
        Group B - 325 of 2500
        P value = 0.00096, which is less than 0.05 cutoff, so we reject H0. Results are statistically significant

Application to Membership:
        Group A - 200 of 250
        Group B - 250 of 325
        P value = 0.43, so cannot reject H0. Cannot confirm that the results are not dependent. This is the wrong metric to consider, as should look at how many visits become members in each group, not applications become members. The fitness test should not have an effect.

Visit to Membership:
        Group A - 200 of 2504
        Group B - 250 of 2500
        P value = 0.014 < 0.05 so we reject H0. Results are statistically significant. Group B (no fitness test) has a higher level of membership sign up.

Recommendation

Given the statistical analysis of the A/B test data, the fitness test should be removed.

The interview data seems to uphold this view, as those who enjoyed the test may have been set on becoming members anyway. The Fitness Test is most likely detering visitors who would otherwise become members.