

MuscleHub A/B Testing

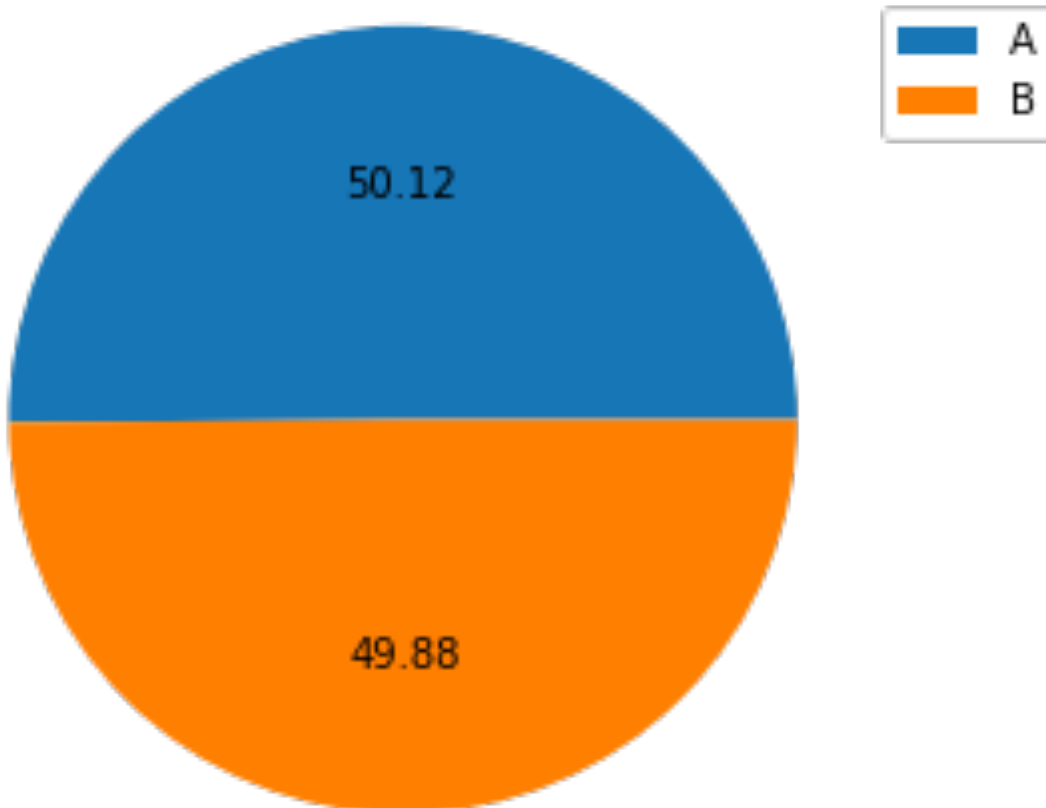
By Ori Amir

Why A/B Test?

- Interviews with prospective customers of MuscleHub gave the impression that it might be possible that the rather challenging fitness test taken, prior to the membership purchase might have dissuaded prospective customers.
- To test if that was the case an A/B test was devised: half of the new prospective customers were still given the fitness test and half were offered to purchase membership without having to undergo the test. A comparison of the number of customers ultimately purchasing membership, in each group, would suggest whether the fitness test had the suspected effect.

Random assignment

% participants assigned to A vs B groups



Of the 5006 prospective customers who visited the gym since the onset of the A/B test about half of participants (50.12%) were randomly assigned to group A – fitness test) and the rest (49.88%) were assigned to the group B – no fitness test.

Fitness test effect on submitting application?

Group	Application	No Application	Total	% With Application
A	250	2259	2509	9.96%
B	325	2172	2497	13.02%

To test whether having to undergo a fitness test affected prospective customers' willingness to submit an application, the chi2_contingency test was applied – a test ideal for the study of proportional distributions. Here the test yielded a **p value of 0.0008 suggesting that the fitness test indeed had an effect – that of reducing the likelihood of submitting an application.**

Of those picking up an application who became a member?

Group	Member	Not Member	Total	% Purchase
A	200	50	250	80.00%
B	250	75	325	76.92%

Most of the prospective customers who reached the stage of picking up an application have become members. A higher percentage became members of those prospectives who underwent a fitness test. Was this effect significant? Again I applied a chi square contingency test to test this hypothesis. It appears though that **of those who filled an application whether they underwent a fitness test did not affect their ultimate decision to purchase an application ($p = 0.43$).**

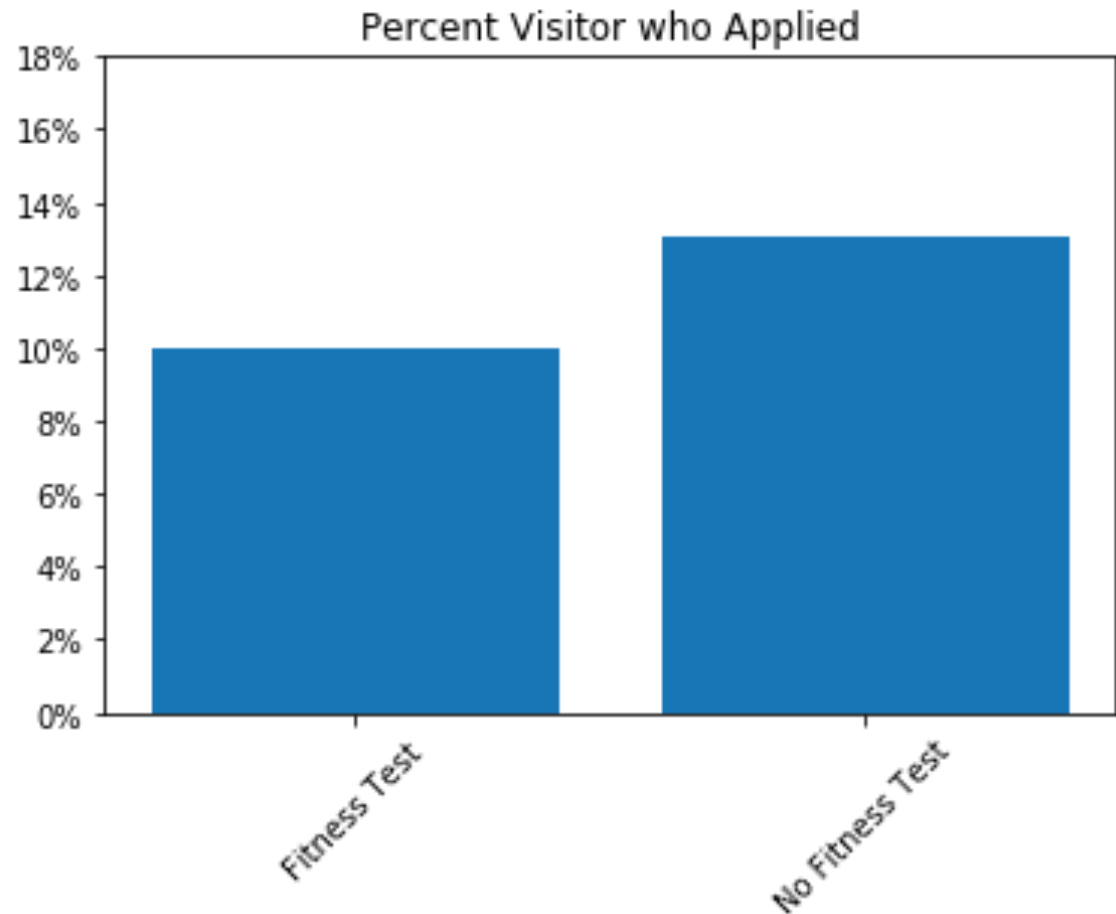
Effect of Fitness Test on **All** Perspective Customers

Group	Member	Not Member	Total	% Purchase
A	200	2309	2509	7.97%
B	250	2247	2497	10.01%

Of all prospective customers entering through the doors of the gym since the onset of testing those who underwent the fitness test were less likely to purchase membership than those who skipped the test (10% vs. 8% respectively). A chi square contingency test revealed the effect was significant with $p = 0.0133$.

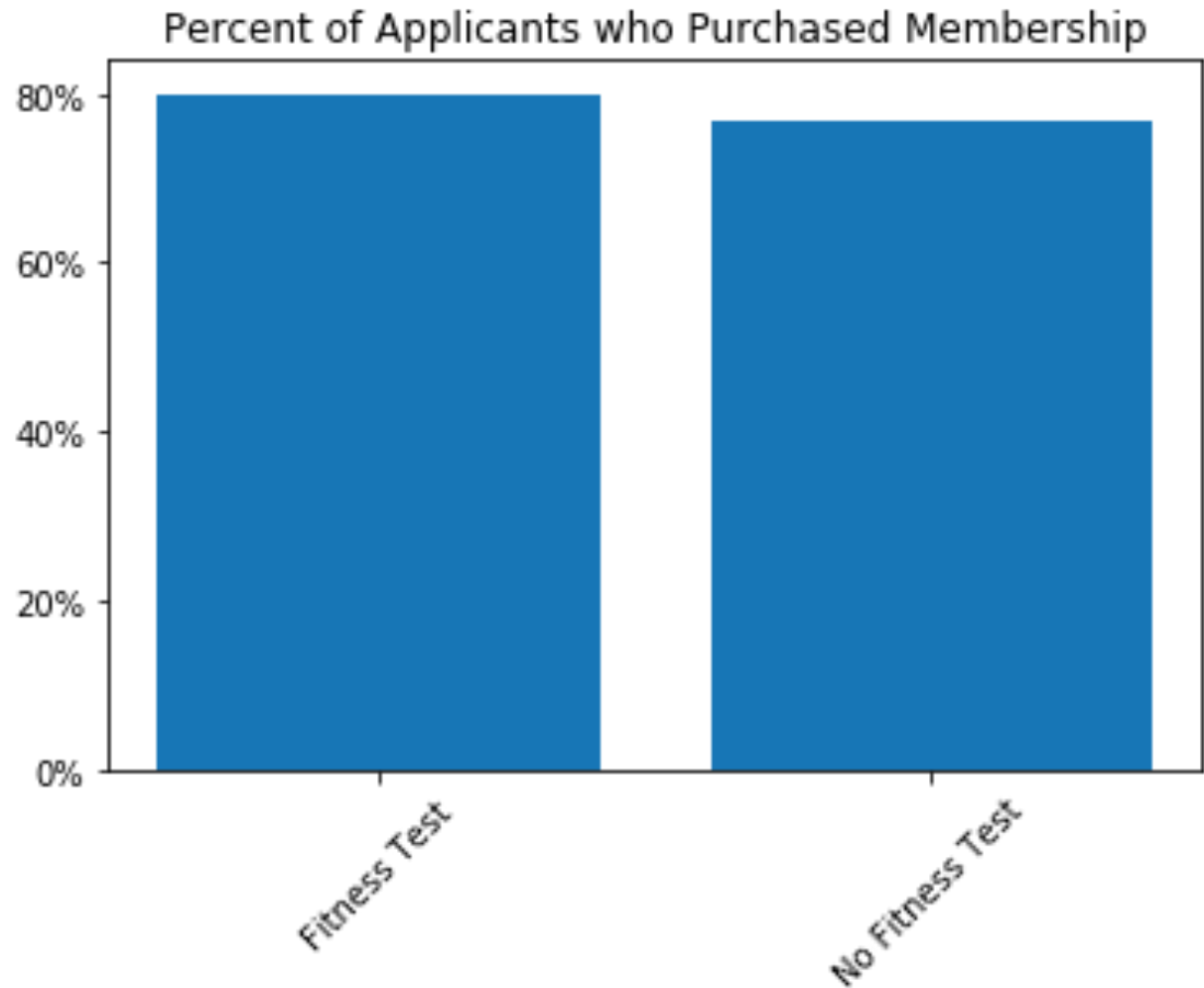
To summarize...

Participants who did the fitness test were significantly less likely to apply to a membership



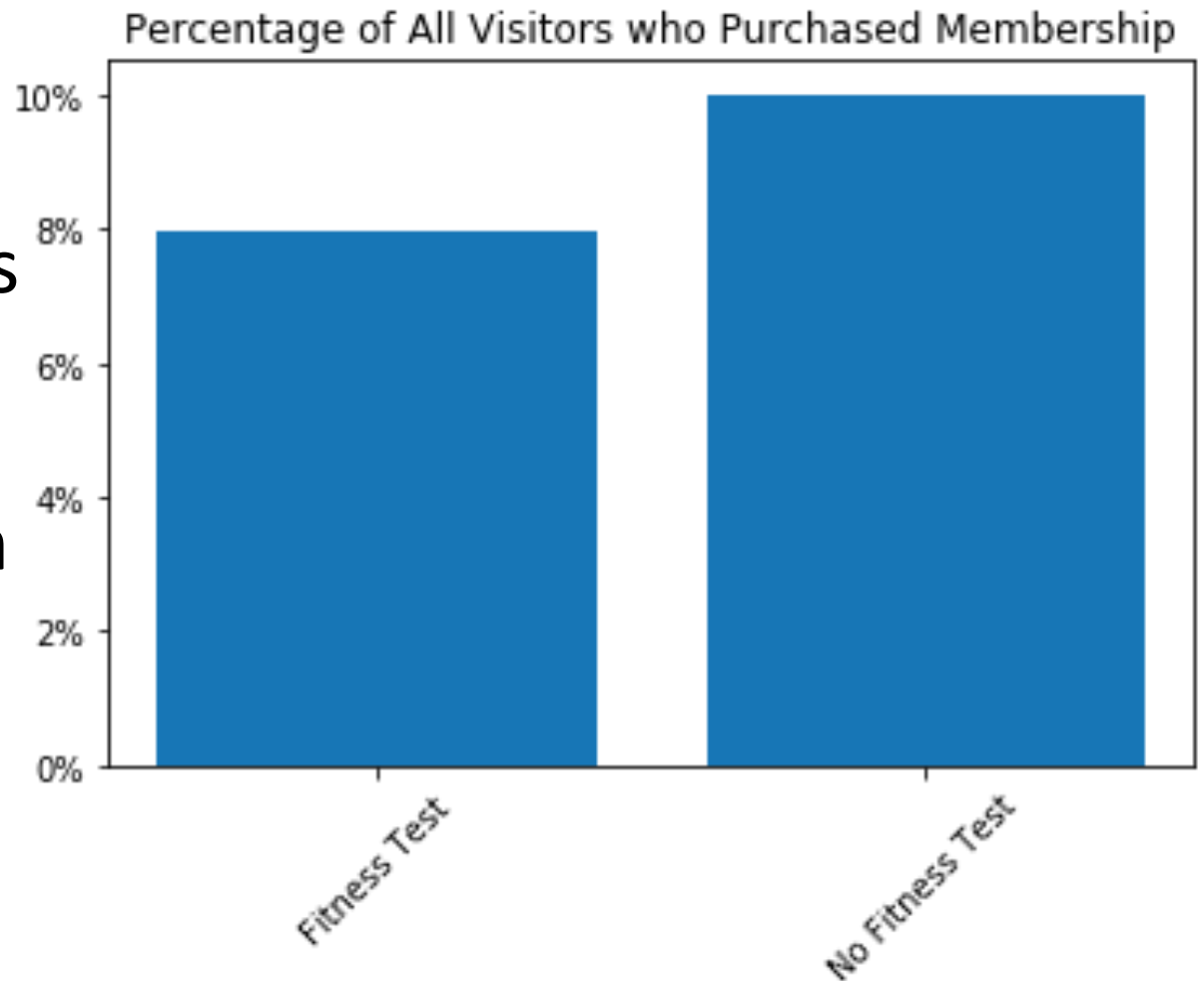
To summarize...

Of those who did apply, no effect of fitness testing on membership purchasing was significant



To summarize...

There was however a significant effect of fitness testing on membership purchase when all prospective customers are considered



Conclusions & Recommendation

- Fitness testing has decreased the likelihood of visitors to apply for gym membership and so to ultimately purchase a membership.
- Once a visitor has filed an application whether s/he has previously undergone fitness test does not seem to effect the final decision to purchase a membership.

Recommendation: to increase membership purchases either discontinue fitness testing or deliver the test AFTER a membership was purchased (or at least an application was filled)