MuscleHub A/B test

Roadmap

1. **Introduction**

2. **Analysis of the data**

3. **Summary of the qualitative data**

4. **Conclusions (recommendation for MuscleHub)**

1. Introduction

When a visitor to MuscleHub is considering buying a membership, he or she follows the following steps:

1. Take a fitness test with a personal trainer
2. Fill out an application for the gym
3. Send in their payment for their first month's membership

We want to know whether the fitness test intimidates potential members. To accomplish this we are going to set up an A/B test.

1. Introduction

MuscleHub A/B test

Visitors will randomly be assigned to one of two groups:

Group A

All the visitors in this group will be asked to take a fitness test with a personal trainer.

1. Introduction

MuscleHub A/B test

Visitors will randomly be assigned to one of two groups:

Group A

All the visitors in this group will be asked to take a fitness test with a personal trainer.

Group B

All the visitors in this group will skip the fitness test and proceed directly to the application.

1. Introduction

MuscleHub A/B test

Hypothesis: visitors in group B will be more likely to purchase a membership.
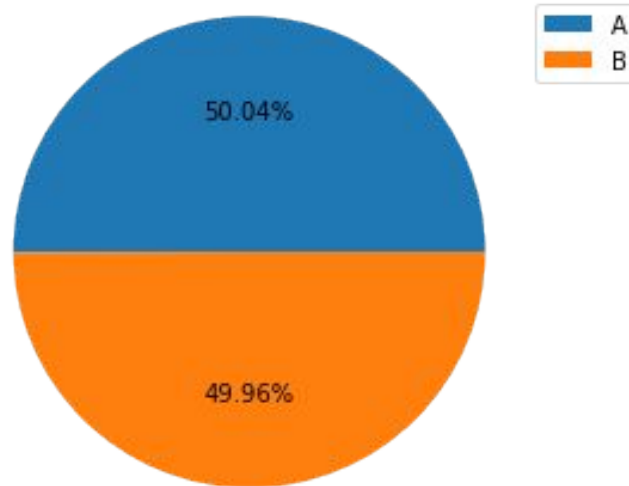
1. Introduction

MuscleHub A/B test

Hypothesis: visitors in group B will be more likely to purchase a membership.

Let's investigate whether this hypothesis is true or false. For that purpose we will analyse the data.

2. Analysis of the data

➔ MuscleHub has a <u>total of 5004 visitors.</u>

➔ About half of the visitors are in group A (2504) and half are in group B (2500).

2. Analysis of the data

Who picks up an application?

Recall that the sign-up process for MuscleHub has several steps:

1. Take a fitness test with a personal trainer (only Group A)
2. Fill out an application for the gym
3. Send in their payment for their first month's membership

2. Analysis of the data

Who picks up an application?

Recall that the sign-up process for MuscleHub has several steps:

How many people make it to Step 2, filling out an application?

1. Take a fitness test with a personal trainer (only Group A)
2. Fill out an application for the gym
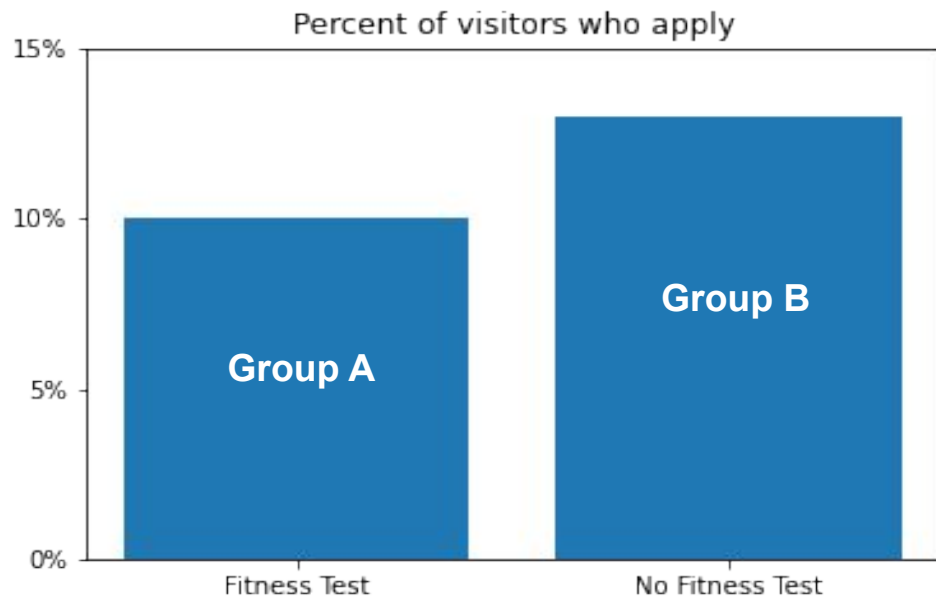3. Send in their payment for their first month's membership

2. Analysis of the data

Who picks up an application?

ab_test_group	Application	No Application	Total	Percent with Application
A	250	2254	2504	0.09984
B	325	2175	2500	0.13000

2. Analysis of the data

Who picks up an application?

Percent of visitors who apply

Group A — Fitness Test: 10%
Group B — No Fitness Test: 13%
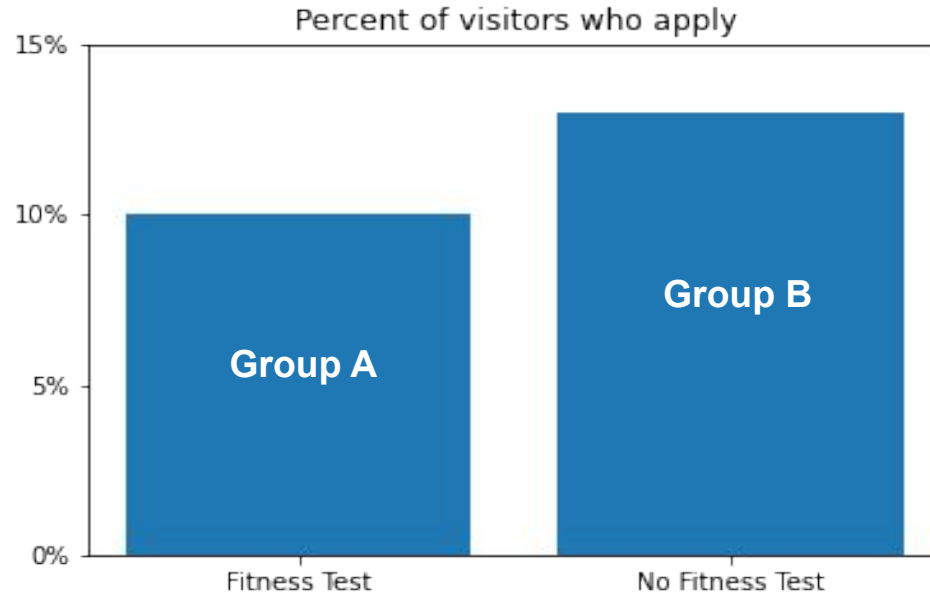
2. Analysis of the data

Is this difference statistically significant?

Using a Chi Square test, we found that this difference is indeed significant $(P < 0.001)$.

Percent of visitors who apply

2. Analysis of the data

Who purchases a membership?

Of those who picked up an application, how many purchased a membership?
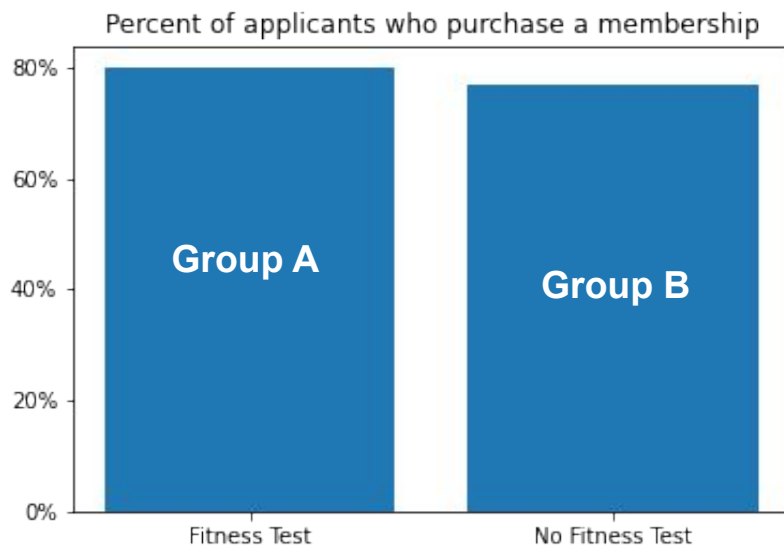
2. Analysis of the data

Who purchases a membership?

Of those who picked up an application, how many purchased a membership?

ab_test_group	Member	Not Member	Total	Percent Purchase
A	200	50	250	0.800000
B	250	75	325	0.769231

2. Analysis of the data

Who purchases a membership?

Of those who picked up an application, how many purchased a membership?
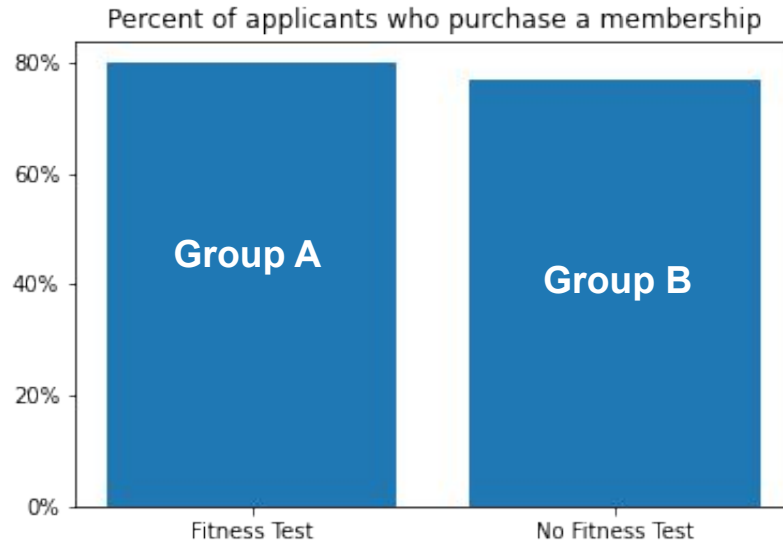

Percent of applicants who purchase a membership

2. Analysis of the data

Is this difference statistically significant?

Using a Chi Square test, we found that this difference is not significant (P = 0.43).

Percent of applicants who purchase a membership

2. Analysis of the data

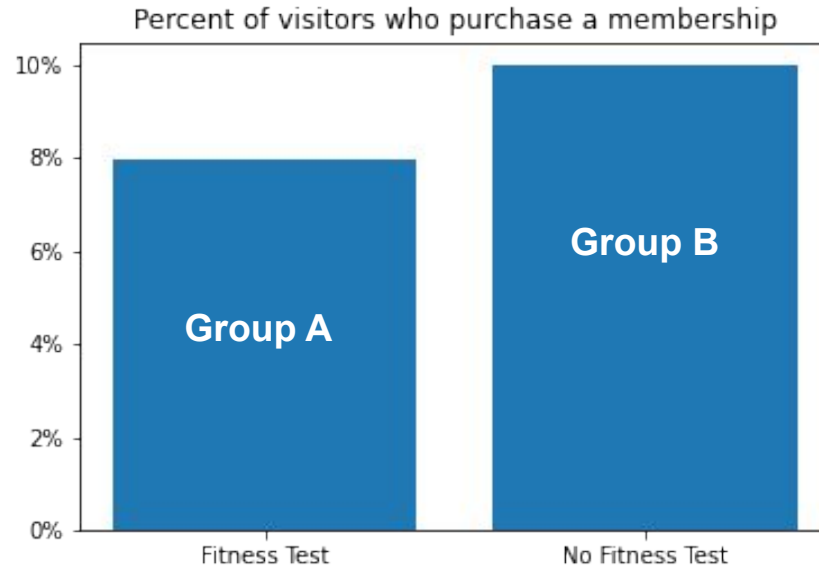**What percent of all visitors purchased a membership?**

2. Analysis of the data

What percent of all visitors purchased a membership?

| ab_test_group	Member	Not Member	Total	Percent Purchase
A	200	2304	2504	0.079872
B	250	2250	2500	0.100000

2. Analysis of the data

What percent of all visitors purchased a membership?

2. Analysis of the data

Is this difference statistically significant?

Using a Chi Square test, we found that this difference is significant (*P* = 0.015).

Percent of visitors who purchase a membership
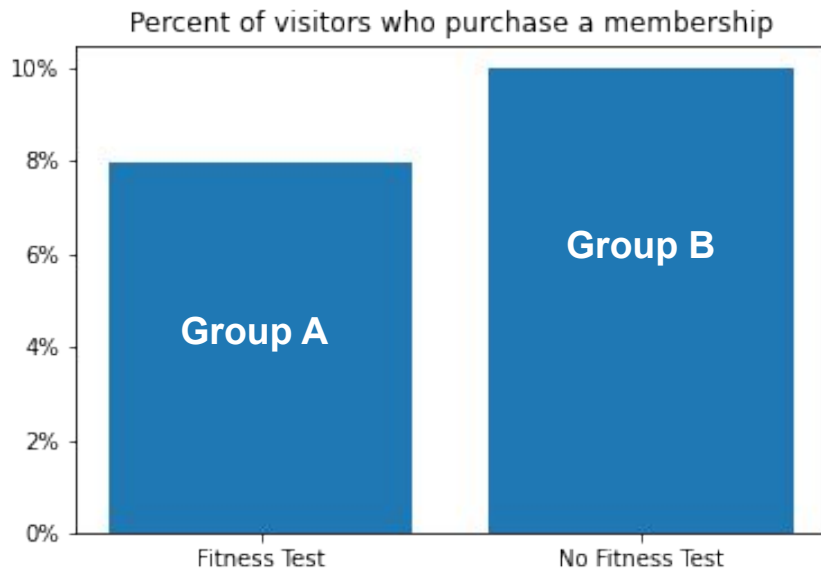
2. Summary of the qualitative data

➜ We interviewed four different gym visitors who participated in the A/B test.

➜ Only one of them has a clearly positive opinion about the fitness test.

Conclusions

Hypothesis: visitors in group B will be more likely to purchase a membership.

<u>The hypothesis is correct:</u> visitors in group B are more likely to purchase a membership.

Conclusions (recommendation for MuscleHub)

We recommend the removal of the fitness test as it may intimidate some prospective members.