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241.4 Essay 2

Get Paid to Stay Fit

Research Question

Do monetary rewards motivate people to get fit?

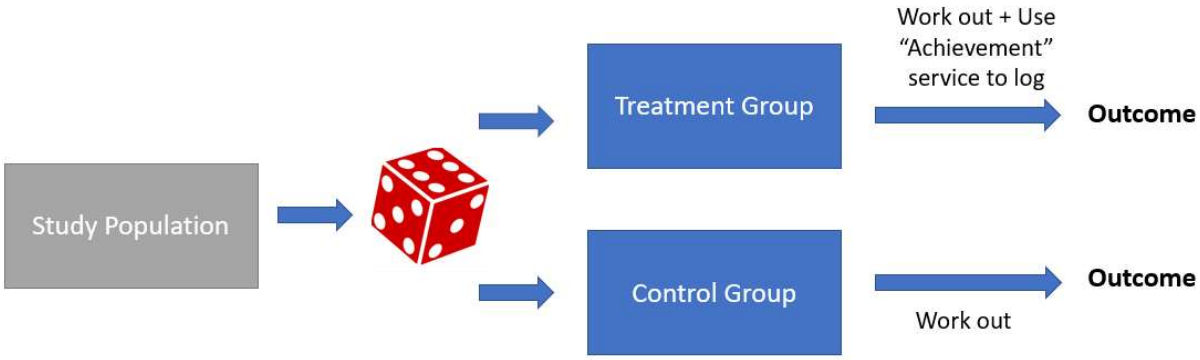
Objective

Conduct Randomized Control Trial to assess the impact of monetary benefits on one's physical activity and determine if there's a cause-effect relationship between the two.

Background

We live in a digital age where lethargy rules over active life style. Right from voice activated door openers to light controls, human activity and movements have reduced to minimal (no more than press of a button or swipe of a finger). Sitting has become the new smoking. The individuals who follow regimented workout schedule are very few. One thing that hasn't changed over generations is the desire for money. So, why not motivate people to get fit and in that process, make some money? Besides feeling healthy, fit and confident, these also influence social and economic factors (control healthcare cost).

Study Design



This Randomized Controlled Trial is conducted using a free service called 'Achievement' (https://www.myachievement.com/), a service that provides monetary rewards for people performing physical activities. Even though this service allows connecting with various apps like Apple Health, Samsung Health, Fitbit, Strava, MyFitnessPal, Garmin etc., for the purpose of this trial we will restrict the apps to Fitbit, Samsung and Apple Health. 'Achievement' even provides points for Sleeping, Tweeting Healthy, Answering Surveys, however we will exclude these activities for our trial. The only activities included in the trial are walking, meditating, exercising, biking, running, swimming. The Service allows members to earn $10 for every 10,000 points. Rewards are paid out within 3-7 business

days, and Achievers can redeem cash directly into their PayPal account or bank account of choice. This study is conducted to find out if there's an increase in physical activity among subjects due to the monetary benefits offered by this Service.

Subjects and Inclusion Criteria

The plan is to find participants/subjects for this experiment through family, friends, Facebook network as well as UCB slack community. For initial screening, participants will be asked to fill in a questionnaire with basic questions regarding their workout pattern, lifestyle, diet etc. At a minimum, about 60 adults (both gender included) belonging in the same socio-economic status and in the age group of 25-45 will be identified for this trial. The workout pattern baseline behavior among these adults should be 2-3 days /week so we can identify an increase due to monetary benefit. To qualify for this study, the subjects should not have a medical condition that would prevent them from carrying out normal physical activity. All subjects should have android/iOS device, connectivity and ideally a wearable device to track steps count. For those subjects that do not have a wearable device, "Achievement" service allows recording manually recording workout in an app such as MyFitnessPal that will be synced to "Achievement" (6 points for each recorded workout or exercise). To make sure there are potential outcomes that include both gender, we can do Block randomization assignment for each group.

Length of the Trial

6-8 weeks

Treatment

The subjects will be monitored for a baseline period of 2 weeks before the treatment. This is done to log the baseline workout activity/steps for each individual before applying the treatment. Once the baseline period is complete, subjects will be placed into 2 groups based on randomized assignment – Treatment and Control groups. The treatment group will use "Achievement" service for the duration of the trial while the control group will carry out their usual routine. The two groups are then followed up to see if there are any differences between them in outcome. Both groups will be treated identically in all respects except for the intervention being tested.

Measuring Outcome

At the end of the trial period, we will measure the steps/physical activity and the points earned by subjects. The primary outcome is the physical activity/steps logged from a wearable device that's synced to the "Achievement" service. This will avoid

overestimation/underestimation error due to subjects self-reporting their workout/physical activity. The secondary outcomes of this trial are points/rewards earned by treatment group (within each block) and weight of subjects. We will begin the trial with the sharp null hypothesis of no treatment effect. The trial will reveal if the subjects in treatment group have statistically significant increase in physical activity. As part of the trial, covariates, if any, will be identified and ATE will be computed (Individual ATE within Treatment and Control group as well as ATE within each block). Two-sided test will be applied for all available data, and a P value < 0.05 is considered statistically significant.

Conclusion

This trial will reveal if there are changes in physical activity among individuals due to incentives offered. Even if the finding reveals a significant change, since the trial period is short, we may need to measure the outcome for a longer period (6 months, 1 year etc.) to determine if subjects maintain this active lifestyle change for a longer term. As with any trial, the level of participation from subjects is a key factor for ultimate success of this trial.