Motivating Exercise Through Gaming and Gamification

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Research Question:
How does the gamification of normal fitness activities compare to playing fitness games in terms of motivating the persistent participation in fitness related activities?

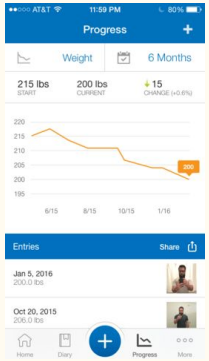
Background:
It is fairly common to hear of people dropping gym memberships or falling out of fitness routines. Getting in shape is considered to be hard work. Companies now try to sell products to help with the motivation to exercise in a few different formats.

The first is Fitness Video Games, which commonly use motion controls or other sensors to keep track of how the player moves while displaying a guide on the screen to lead them through an exercise routine. As an example, Wii Fit U, a fitness game by nintendo, has been found to increase metabolic levels equivalent to light-to-moderate physical activity (Tripette et al, 2014).

The second is fitness trackers, such as MyFitnessPal or Fitbit, many of which have gamifying elements such as leaderboards or achievements to get the user competing with their friends or strangers to stay motivated to get that workout in every day. Research indicates that gamification of applications increase customer engagement with the applications (Eisingerich, Marchand, Fritze, Dong, 2019), and some fitness apps cross the line into geosocial gaming which utilize GPS systems to bring players together, or compare them locally, as well as to add more mechanics to so-called “exergames” (Boulos, Yang, 2013).

A new exergame from Nintendo, Ring Fit Adventure..

Wii Fit U Trailer



MyFitnessPal screenshot taken from blog.myfitnesspal.com

Most studies regarding exergames are focused on that short term engagement, but do not concern themselves with long-term use. We want to see if games and gamification increase the likelihood of continuing healthy fitness activities.

Method:
New signees at a local gym will be approached to participate in the study. They will be surveyed to see if they are currently using any fitness tracker apps. They will be questioned on the features of the app to determine if it has gamification elements to it. These participants will be put into two groups accordingly. One with gamified tracking, one without. A third group is created by approaching consumers at a local game store who purchase “Ring Fit Adventure” for the Nintendo Switch.

Each group will be surveyed of the number of days they work out per week, length of the workout, and enjoyment of the workout, as well as basic demographics. They will be rewarded with a small amount of Amazon store credit for participation to incentivize response, but they are not required to actually exercise at any point to receive the reward. Surveys are sent out weekly. Trends will be observed to see how well participants keep up physical activity and if the type of activity changes for 6 months.

Hypothesized Results:
We expect that the regular gym group without application assistance will perform worse than either other group in terms of enjoyment, and the fitness tracker group will have the highest persistence. The exergame group will have the highest enjoyment, but we expect them to have the greatest fall off of participants, as we expect the novelty to wear off for most new users pretty quickly. However, we expect the ones that stay more than a month or so to perform better in exercise frequency and enjoyment than either other group.

Sources