

Pumping up fitness app features may add muscle to workout commitment

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Fitness apps are easy to download and can help motivate people to start workout routines, but that may not be enough to sustain those routines in the long run. However, Penn State researchers suggest there may be ways

to tweak those apps to inspire a deeper commitment to a fitness routine and help users hit their fitness goals.

In a study of how people used a [fitness](#) app, the researchers found that certain app features that boosted inner, or intrinsic, motivation—particularly feelings of autonomy, community and competence—boosted a user's chance of sticking with his or her workout routine.

Fitness app users often struggle with maintaining a fitness routine, according to the researchers. Rock Health, a technology and healthcare venture fund, reported that about 47.5 percent of people who started to use a health app eventually stopped participating.

"A major challenge for this industry is to keep people using the app after the novelty has worn off," said S. Shyam Sundar, James P. Jimirro Professor of Media Effects and co-director of the Media Effects Research Laboratory. "The bottom line of our project is to find ways that we think will help people sustain interest in their workouts."

The researchers, who report their findings in the journal *Health Communication*, said that customization features that inspire autonomy—such as the number of workouts that users can follow and the amount of personal details they added to their app—corresponded to the number of tracked workouts and the amount of weight lifted.

For each workout program the user followed, the weight they lifted went up by 3.2 percent and the number of workouts they tracked went up 3.8 percent, according to lead author Maria Molina, a doctoral candidate in mass communications. She added that a unit increase in information disclosed by the user resulted in a 22.3 percent increase in tracked workouts. Similarly, when the user added more personal data to their profile, they reported lifting about 36.8 percent more weight.

The researchers said that relatedness, which they measured by analyzing a few factors, including the number of people users follow and the number of people who follow the users, significantly predicted the number of workouts the users tracked and the amount of weight they lifted. However, these effects depended on gender. While the number of followers increased the amount of weight lifted for everyone, the number of people users follow increased weight lifted only among female users. The number of followers also increased the likelihood that users would reach their body fat goals, but again only for female users.

"The number of followers and the number of people you follow in social apps, or social technology in general, may build a sense of relatedness among people who are working out," said Molina. "In other words, they feel like other people are in the same boat as they are."

Competence—or the level of proficiency people felt using the app—also linked with their workouts. Molina said that the number of photos a user posts on his or her site is one way to measure the user's competence. In this study, the number of photographs positively predicted how much weight the user lifted.

The researchers found some differences in why men and women work out. Female users appear more concerned about their weight, while men seem motivated by increasing social recognition and competition, as well as building strength and endurance.

The researchers used data from publicly available profiles on BodySpace, often referred to as the "Facebook of fitness apps." The final sample contained about 682 profiles of people who used the app from 2003 to 2017. About 408 profiles were from male users and 255 were those of female users. About 2.8 percent of the users did not report their gender.

Sundar said that the findings may help developers design fitness apps that not only increase their user-retention rates, but also keep their members motivated to continue their [workout](#) routines and reach their fitness and health goals.

"What we are establishing here is that certain features that can convey your sense of relatedness with others, your autonomy and your competence are systematically associated with the workouts you perform and the percentage of goals you achieve," said Sundar. "These are the concepts that the developers should be thinking about. What we did is reverse-engineered it, in a sense, taking existing metrics available in the app and inferring what features matched up with competence, autonomy and relatedness. Something that developers might not think to do."

Sundar added that future research may couple a questionnaire with a study of fitness apps to determine if [users](#) sense that the features are creating feelings of competence, relatedness and autonomy.

Provided by Pennsylvania State University

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