Want to exercise more? Get yourself some competition

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Imagine you're a CEO trying to get your employees to exercise. Most health incentive programs have an array of tools—pamphlets, websites, pedometers, coaching, team activities, step challenges, money—but what actually motivates people? Is it social support? Competition? Teamwork? Corporate leaders often try a little bit of everything.

A new study published in the journal *Preventative Medicine Reports* from the Annenberg School for Communication at the University of Pennsylvania found these efforts should hone in on one area: Competition. It was a far stronger motivation for exercise than friendly support, and in fact, giving people such support actually made them less likely to go to the gym less than simply leaving them alone.

"Most people think that when it comes to social media more is better," says Damon Centola, an associate professor in Penn's Annenberg School and the School of Engineering and Applied Sciences, and senior author on the paper. "This study shows that isn't true: When social media is used the wrong way, adding social support to an online health program can backfire and make people less likely to choose healthy behaviors. However, when done right, we found that social media can increase people's fitness dramatically."

For this research, Centola and Jingwen Zhang, Ph.D., lead paper author and recent Annenberg graduate, recruited nearly 800 Penn graduate and professional students to sign up for an 11-week exercise program called "PennShape." The federally funded, university-wide fitness initiative created by Centola and Zhang provided Penn students with weekly exercise classes in the University fitness center, fitness mentoring, and nutrition advice, all managed through a website the researchers built. After program completion, the students who attended the most exercise classes for activities like running, spinning, yoga, and weight lifting, among others, won prizes.

What the participants didn't know was that the researchers had split them into four groups to test how different kinds of social networks affected their exercise levels. The four groups were: individual competition, team support, team competition, and a control group.

In the individual group, participants could see exercise leaderboards

listing anonymous program members, and earned prizes based on their own success attending classes. For each team group, participants were assigned to a unit. In the team support group, they could chat online and encourage team members to exercise, with rewards going to the most successful teams with the most class attendance. In addition, those in the team competition group could see a leaderboard of other teams and their team standing. Participants in the control group could use the website and go to any class, but were not given any social connections on the website; prizes in this group were based on individual success taking classes.

Overwhelmingly, competition motivated participants to exercise the most, with attendance rates 90% higher in the competitive groups than in the control group. Both team and individual competition equally drove the students to work out, with participants in the former taking a mean of 38.5 classes a week and those in the latter taking 35.7. Members of the control group went to the gym far less often, on average 20.3 times a week.

The biggest surprise came in the number of workouts a week by members of the team support group: Just 16.8, on average—half the exercise rate of the competitive groups.

"Framing the social interaction as a competition can create positive social norms for exercising," Zhang says, now an assistant professor at the University of California, Davis. "Social support can make people more dependent on receiving messages, which can change the focus of the program."

How organizations use social media can affect how receptive people are to online signals, explains Centola, an expert on social networks and diffusion.

"Supportive groups can backfire because they draw attention to members who are less active, which can create a downward spiral of participation," Centola says. In the competitive groups, however, people who exercise the most give off the loudest signal. "Competitive groups frame relationships in terms of goal-setting by the most active members. These relationships help to motivate exercise because they give people higher expectations for their own levels of performance."

Competition triggers a social ratcheting-up process, he adds. "In a competitive setting, each person's activity raises the bar for everyone else. Social support is the opposite: a ratcheting-down can happen. If people stop exercising, it gives permission for others to stop, too, and the whole thing can unravel fairly quickly."

The positive effects of social competition go beyond exercise, to encouraging healthy behaviors such as medication compliance, diabetes control, smoking cessation, flu vaccinations, weight loss, and preventative screening, as well as pro-social behaviors like voting, recycling, and lowering power consumption.

"Social media is a powerful tool because it can give people new kinds of social influences right in their own home," Centola says. "Lifestyle changes are hard to make, but if you can give people the right kinds of social tools to help them do it, there's a lot of good that can be done at relatively little cost."

  More information: Jingwen Zhang et al, Support or competition? How online social networks increase physical activity: A randomized controlled trial, *Preventive Medicine Reports* (2016). DOI: 10.1016/j.pmedr.2016.08.008

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