

# Computer calls can talk couch potatoes into walking, study finds

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Computer-generated phone calls may be an effective, low-cost way to encourage sedentary adults to exercise, according to a recent study by researchers at the Stanford University School of Medicine.

Results of the yearlong study found that regular telephone calls delivered from either live health educators or by an automated computer system successfully prodded inactive adults into a regular 150-minute per week exercise program.

What most surprised researchers was that the computer calls were almost as effective as the calls by a real person.

"This is the first study to directly compare the efficacy of a physical activity program delivered by a computer versus humans and found them to work similarly well," said lead author Abby King, PhD, professor of health research and policy and a senior investigator at the Stanford Prevention Research Center. "Theoretically, it could be delivered to anybody around the country or around the world, and could save time and money.

The study is published in the current issue of the journal *Health Psychology*. Many of the 218 San Francisco Bay Area adults over the age of 55 who participated in the study, referred to as the Community Health Advice by Telephone or CHAT, insisted at the start that they would need a live human voice to be successful, King said.

"Everybody got a chance to listen to the computer program so they knew what it sounded like before we started," King said. "About 80 to 85 percent told us that they preferred or needed a human."

But this didn't prove to be true. In fact, researchers noted that participants who lacked confidence initially in their ability to increase their physical activity levels and who also felt less comfortable interacting with people generally did better overall when they didn't have to talk to a human.

"We were thrilled that at six months the results were identical between the two groups. By 12 months, there was still virtually no difference. The bottom line is that people tend to prefer what they know. That doesn't necessarily mean that's the best program for them."

The goal was to get participants out walking at a brisk pace for 30 minutes most days of the week, or some other form of medium-intensity physical activity, for about 150 minutes a week, as recommended by the U.S. Surgeon General. They were divided into three groups: a control group that didn't get calls, a group called by trained health educators and a group called by a computer delivering an interactive, individualized program similar to that being delivered by the health educators. Exercise levels were measured with the use of an accelerometer, which provides an estimate of physical activity amount as well as intensity.

After a year, participants who received computer calls averaged 157 minutes per week of exercise, compared with 178 minutes for the group that received human voice calls and 118 minutes for the control group, which was not called. Both of the "called" groups averaged above the 150-minute a week goal, and that's the most important thing from a public health standpoint, King said.

The automated system was set up so that participants could converse by

using the telephone keypad. A typical computer call might go like this:

Computer voice: "Hello, Mrs. Jones. Your goal last time we talked was to do 30 minutes per day of brisk walking five days per week. Were you able to reach this goal? If yes, press 1; if no, press 2. What kind of barriers got in your way? If illness, press 1; if weather, press 2."

The computer would then provide advice about specific barriers, allow participants to set new goals and schedule the next telephone contact. One advantage of the computer system was the convenience of being able to make additional phone calls after hours when the human health counselor would be off duty, King said.

"I think a lot of people were pleasantly surprised that the computer voice was helpful," she said. "And it was just as helpful for women as men. We thought originally that women might like the human touch more."

"I thought I would hate it," said participant Rita Horiguchi, 62, of San Jose. "I wanted a real person. I didn't think a computer calling up would work, but I met my goals of walking 30 minutes four days a week. I did it just to satisfy the computer, but the funny thing was it actually worked."

Future research will now focus on how to combine the human and the automated touch into the best program for optimizing adherence and minimizing cost, King said. Researchers are also looking at how to use other methods of technology, such as cell phone texting, to encourage exercising. King has another study on promoting physical activity through hand-held computer devices coming out in a future issue of the American Journal of Preventive Medicine.

Source: Stanford University

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