News and Perspectives

Should AI Be Your Personal Trainer?

Anna Zucker, JMIR Correspondent

Abstract

From providing fitness information to correcting form in real time, AI applications for physical fitness are rapidly evolving. In this *News and Perspectives* article, JMIR Correspondent Anna Zucker reports on the promise and limits of AI personal training.

Key Takeaways:

- AI chatbots can answer exercise questions and generate training programs at low to no cost and even observe and correct human movement in real time.
- AI cannot replicate the hands-on adjustments, real-time judgment, accountability, and relationship that human trainers provide.

In addition to her work as a freelance writer, Anna Zucker is a NCSF-certified personal trainer. One of her sources, Steven Kane, NASM CPT, was her personal trainer until 2024.

Physical inactivity is one of the leading risk factors of mortality, and exercise offers numerous, well-established health benefits. Those benefits may be further enhanced by personalized, supervised fitness instruction—often a luxury that millions worldwide can't access. Without guidance, it can feel impossible to know where to start.

Now, with an internet connection, anyone can ask for and receive guidance from large language models (LLMs) like ChatGPT. However, access to fitness knowledge may not be the same as access to fitness coaching.

Democratizing Fitness Knowledge

Michelle was an intermediate runner preparing for her first half-marathon, seeking guidance on balancing "running, strength training, recovery, and nutrition." Since she had a ChatGPT subscription and preferred home workouts, she prompted it for a personalized program.

For someone new to exercise, LLMs can access multiple sources and provide comprehensive answers in seconds. In fact, a 2026 study in the *Journal of Sports Science & Medicine* found ChatGPT outperformed certified personal trainers on scientific correctness, actionability, and comprehensibility for six of nine commonly asked exercise questions.

Michelle closely followed her ChatGPT-generated plan for a few months and says that she "absolutely saw results." Michelle says, "My endurance improved, I felt more confident, and it helped me build consistency."

A 2025 case study in the journal *BMC Public Health* found that ChatGPT 4.0 (GPT-4)–generated training programs were "as effective, safe, and comprehensive as those created by human coaches" and could provide personalized advice. Michelle's experience was similar, noting that she liked how, if something in her program didn't fit her schedule, she could ask for and receive adjustments.

Although these studies find ChatGPT may be as good as, or better than, human trainers, its knowledge base draws from content created by human fitness professionals. That same information, now freely accessible, helps democratize fitness knowledge, especially for people in resource-limited settings.

The Human Element of Training

Although Michelle saw results from her ChatGPT-generated running program, she eventually stopped following it. She says the problem "was the lack of ongoing engagement. Everything lived in a spreadsheet, and it became easy to ignore because no one was watching. The challenge was maintaining accountability without another person involved."

Another runner, Hannah, has seen the same trainer for four years and credits her consistency to accountability and trust. "I trust his expertise when it comes to fitness, and to talk about things that affect my physical well-being on a day-to-day basis, like new medications, bad sleep, work stress, or unexplained aches and pains."

Unlike ChatGPT, a personal trainer comes with verifiable credentials, education, experience, and professional standards.

A 2023 study in the journal *Biology of Sport* found that while GPT-4 could create personalized exercise programs, it "often prioritizes excessive safety over effectiveness of training" and fell short on "condition-specific prescriptions" that health care and fitness professionals provide.

Katy Vieira, PT, DPT, physical therapist and owner of ReMove Rehab and Performance, cautions that pushing too far too soon can be dangerous and undermine a patient's confidence, and she notes the importance of a human trainer

for appropriately calibrating and individualizing training programs. “Pushing the needle gently is the only way the body will respond and adapt. This is where AI may be lacking. A clinician or well-versed trainer assesses patient tolerance to joint positions and loading, and will modify appropriately.”

After her half-marathon, Michelle began in-person training. Convinced she couldn’t complete her final rep on her barbell bench press, her trainer told her he had been watching her and knew she could. She did. She says that experience stuck with her, “because he saw something I couldn’t see in myself.”

Vieira explains, “A program might specify performing a squat at a certain [intensity] to improve strength. However, depending on whether the individual is dealing with a sensitive low back or knees, or limited ankle mobility, we can trial different squat variations, loading parameters, and contraction types to find the squat for that person for that time.”

Steven Kane, NASM CPT, a personal trainer and rehab specialist based in Manhattan with 10 years of experience, describes a similar approach. “There are a thousand different ways and systems to look at pain, biomechanics, and exercise,” he says. “Sometimes a person comes to me in pain, and I choose one system, but that system doesn’t work. So, I work with the person to find the system that does.”

New AI Model Responds to Human Movement

An experimental study published in *Healthcare* in February 2026 tested MediaPipe Pose, a Google-developed AI model that can now do something once exclusive to human trainers: analyze body position and movement in real time via smartphone camera, providing instant feedback on exercise form.

The experiment followed 216 participants for 16 weeks of a resistance training program administered via an app using MediaPipe Pose, achieving 97.2% accuracy in estimating human movement. Participants saw results comparable to those of a human-trainer–administered program, including a 12% reduction in body fat and measurable gains in muscular strength, functional movement, and cardiorespiratory fitness.

However, the participants were young, healthy, mostly male students, and the study was controlled and conducted by American College of Sports Medicine–certified professionals. The authors caution that “subtle compensatory movement patterns, individual biomechanical variations, and contraindicated exercises for specific musculoskeletal conditions may escape algorithmic detection.”

MediaPipe Pose also doesn’t do what Kane does: “AI can’t watch [a client’s] muscles twitch and tell them if that’s the correct muscle working.” Even if it could, Kane adds, “If there’s no muscle to see, I will often feel myself whether or not it’s engaging.”

When working with injury, Vieira explains that a clinical assessment encompasses more than AI can access: movement compensation patterns, tissue capacity, sleep, stress, occupation, and how a patient is actually responding to a program over time. “Some programs have someone get back into 3-4 miles after an injury,” she notes. “In the clinic, we would follow a conservative walk:run program.”

The researchers concluded that “technology-mediated exercise instruction cannot fully replace the nuanced clinical judgment, individualized problem-solving, and motivational support provided by certified exercise specialists.”

Working Together

The study’s authors advocate for hybrid models: AI for daily guidance and certified professionals for regular check-ins. They suggest this balance could offer “equitable and sustainable access to health-promoting physical activity across diverse populations.”

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>
> Steven Kane, NASM CPT

Vieira cautions, “AI is a tool. It doesn’t replace your perception of how you feel. Trust your gut and talk to someone, because it’s better to err on the side of caution and be able to train for longer.”

Kane believes AI will ultimately clarify what good trainers are for. “AI will help the training industry distill what it does—we don’t need people counting reps and creating new supersets. We need 100% focus, critical thinking, real-time feedback, hands-on adjustments, and feeling cues.”

For those who can’t afford it, perhaps when sophisticated AI technologies like MediaPipe Pose become more widely available, a hybrid model could help make personalized fitness more accessible.

Keywords: artificial intelligence; AI; ChatGPT; large language model; physical activity; fitness; exercise; training; physical therapy

Please cite as:
Zucker A
Should AI Be Your Personal Trainer?
J Med Internet Res 2026;28:e106128
URL: https://www.jmir.org/2026/1/e106128
doi: 10.2196/106128