

## Avatars set to shape real-world habits

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*Virtual worlds may soon be used to change people's behaviour and even their own body image*

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I STAND teetering on a narrow plank above a deep, yawning pit. I inch forward, stomach lurching, but no matter how hard I try, I can't step off into the void. Why would I want to? To prove that I am truly rational.

Despite appearances, there is actually no pit. I am standing in the [Virtual Human Interaction Laboratory \(VHIL\)](#) at Stanford University in California. This whole 3D scene is nothing more than a precise piece of digital choreography between the sensors that are tracking my every movement, and the two screens - one for each eye - that sit in the bulky head-mounted display that I am wearing. I know all this - yet I can't jump off. It's only when I scrape my foot sideways until it meets flat ground where there should be empty space that the illusion is finally shattered.

[The pit](#) is a glimpse of how virtual reality may soon affect what we get up to in homes, offices and shops, thanks to the development of inexpensive devices that make interaction in virtual environments as natural as it is in the physical world. "This million-dollar lab will be rendered completely obsolete," says Jeremy Bailenson, who heads the VHIL.

King of the devices that will usher in this shift is Microsoft's [Kinect](#) game controller, first released in November 2010 as an add-on to the Xbox 360. A depth-sensing camera transfers a player's movements instantaneously to an avatar on a computer screen, allowing them to move around inside a virtual world exactly as they would in the real world, without needing a joystick, keyboard or even the wand required by the Nintendo Wii.

Already people are [finding other uses for the Kinect](#) - from trying on virtual clothes and jewellery to videoconferences that allow participants to meet in a virtual room, where their body language can be faithfully represented. In a move to embrace this "Kinect effect", on 1 February Microsoft started selling [a version of the sensor](#) that is designed to work with Windows PCs.

Other devices are also on the way. The Kinect, which sells for \$150, can't provide the level of immersion I had with the pit, but the [personal 3D viewer released by Sony last year can](#) - though at \$800 it comes at a price.

The shift to a world where virtual experiences are common - and almost as intense and meaningful as real ones -



Seeing the future? (Image: Linda A. Cicero/Stanford News Service)

presents powerful psychological opportunities, says Bailenson. "We think virtual reality is a way to change very entrenched behaviour."

An unpublished study by Sun Joo Ahn, a former researcher in Bailenson's lab, who is now at the University of Georgia in Athens, serves as a case in point. To find out if behaviour in a virtual world can translate to the physical world, Ahn randomly assigned 47 people either to inhabit a lumberjack avatar and cut down virtual trees with a chainsaw, or to simply imagine doing so while reading a story. Those who did the former [used fewer napkins](#) (five instead of six, on average) to clean up a spill 40 minutes later, showing that the task had made them more concerned about the environment.

This effect has also been seen in experiments by Bailenson's team, who used virtual doubles that were either fatter or older than the volunteers [to encourage them to exercise or save for retirement](#) (*Journal of Marketing Research*, DOI: [10.1509/jmkr.48.SPL.S23](#)).

There's still work to do, such as finding out how long such effects last, but it seems immersive virtual experiences can change people's behaviour in useful ways. "It's a different way of sending out that message," says Ahn. "This might be more effective than public service announcements."

Advertisers, meanwhile, are sure to cotton on and use the same techniques to their own end, says Ahn. [Jaron Lanier](#), one of the original developers of the Kinect, based in Berkeley, California, conjures up a scene where diet pills are sold via an ad that takes a photo of a person and then manipulates it to make them look fatter.

Lanier sees another side too. By messing with our minds, these techniques might make people aware of the fragile nature of the self. "I think there is a really wide range of possible outcomes and the interesting thing is what we do with the technology," he says.