



National Science Foundation
WHERE DISCOVERIES BEGIN



SCIENCE
NATION

The Online Magazine That's All About Science for the People



January 24, 2011

Virtual Self

Your avatar may be just a virtual identity, but it can also affect how you are in the real world

"In this world of new media, people spend a lot of time interacting with digital versions of one another." --Jeremy Bailenson

If you spend a lot of time online, you may even have an electronic alter ego--an avatar. An avatar is a movable image that people design to represent themselves in virtual reality environments or in cyberspace.

"For some reason, I always pick really short people," says Stanford undergraduate student and avid video gamer Oliver Castaneda.

"I have multiple variations," says Michelle Del Rosario, another gamer and undergraduate student at the Virtual Human Interaction Lab (VHIL) at Stanford University. "Sometimes I choose to look like a really fun and bubbly character. Sometimes I want to look very serious."

Sounds like avatars are for fun and games but could avatars actually change us? Jeremy Bailenson thinks so. With support from the National Science Foundation (NSF), he created the VHIL to study, among other things, the power avatars exert on their real world masters.

"As a lab, we've gone a bit out on a limb and argued that the reason you have an avatar is because an avatar makes you more human than human. It gives you the ability to do things you could never do in the physical world. You can be 10 years younger. You can swap your gender. You can be 30 pounds heavier or lighter. Any behavior or appearance you can imagine, you can transform your avatar to embody," explains Bailenson.

Sometimes, avatars are designed to be ideal versions of their creators, and there's now evidence that the virtual reality persona begins to influence the real life persona.

"Remember, in the virtual world--height, beauty--these things are free. We've demonstrated that if I increase the height of your avatar by 10 centimeters, you'll win a negotiation compared to if I decrease the height of your avatar by 10 centimeters."

Bailenson gives another example. "I use algorithms to age a 20-year-old undergraduate's avatar and then I give that undergraduate the opportunity to save money or to spend it frivolously. The undergraduate will put more money in savings as opposed to go out and spend it on partying."

Your avatar also may affect your fitness. In another test, Del Rosario puts on a head-mounted display that reveals an avatar that looks just like her. As she runs in place, her avatar runs, too, and visibly loses weight. When Del Rosario stands still, her avatar stops, and gets

fatter. As you might suspect, it is important that the avatar resemble its creator.

"So, the power comes from seeing yourself in the third person gaining and losing weight in accordance with your own physical behavior," says Bailenson. "Twenty-four hours later, people exercised more after being exposed to watching themselves run than watching someone else run."

And, as it turns out, Bailenson and colleagues say we also tend to prefer others who resemble us. The researchers reached that conclusion in 2004 when they subtly morphed students' faces with those of the presidential candidates. The students favored the hybrid candidate that included their own features.

"Even though nobody consciously detected that their own face was morphed inside the image, people whose face was morphed with Bush were more likely to vote for Bush in terms of their self-report on the survey. People whose face was morphed with Kerry indicated they'd be more likely to vote for Kerry. It's very powerful stuff," Bailenson says.

He believes avatars will soon play an even bigger role in our lives online. How we shape our own avatars and how we interact with others could have profound influences on our behavior.

"People like things that are similar to them whether it's verbally, non-verbally or an appearance. We like people that look like us," Bailenson explains. "We wanted to ask the big question in a world where I can make myself look more like you--how does that affect my ability to influence you?"

"Yeah," says Castaneda. "I think we're just beginning to explore all the potential there for, you know, re-imagining yourself in different worlds."

And the line between reality and virtual reality gets blurrier every day.

Miles O'Brien, Science Nation Correspondent
Ann Kellan, Science Nation Producer