Research shows avatars can negatively affect users

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(PhysOrg.com) -- Although often seen as an inconsequential feature of digital technologies, one's self-representation, or avatar, in a virtual environment can affect the user's thoughts, according to research by a University of Texas at Austin communication professor.

In the first study to use avatars to prime negative responses in a desktop virtual setting, Jorge Peña, assistant professor in the College of Communication, demonstrated that the subtext of an avatar's appearance can simultaneously prime negative (or anti-social) thoughts and inhibit positive (or pro-social) thoughts inconsistent with the avatar's appearance. All of this while study participants remained unaware they had been primed. The study, co-written with Cornell University Professor Jeffrey T. Hancock and University of Texas at Austin graduate student Nicholas A. Merola, appears in the December 2009 issue of Communication Research.

In two separate experiments, research participants were randomly assigned a dark- or white-cloaked avatar, or to avatars wearing physician or Ku Klux Klan-like uniforms or a transparent avatar. The participants were assigned tasks including writing a story about a picture, or playing a video game on a virtual team and then coming to consensus on how to deal with infractions.

Consistently, participants represented by an avatar in a dark cloak or a KKK-like uniform demonstrated negative or anti-social behavior in team situations and in individual writing assignments.

Previous studies have demonstrated these uniform types to have negative effects on people's behaviors in face-to-face interactions. For example, Cornell researchers Mark Frank and Tom Gilovich showed that dark uniforms influence professional sports teams to play more aggressively on the playing field and in the laboratory. Peña's research demonstrates how these effects operate in desktop-based video games, and sheds light on the automatic cognitive processes that explain this effect.

"When you step into a virtual environment, you can potentially become 'Mario' or whatever other character you are portraying," said Peña, who studies how humans think, behave and feel online. "Oftentimes, the connotations of our own virtual character will subtly remind us of common stereotypes, such as 'bad guys wear black or dress up in hooded robes.' This association may surreptitiously steer users to think and behave more antisocially, but also inhibit more pro-social thoughts and responses in a virtual environment."

According to Peña, these findings can be particularly useful to video game and combat simulation developers.

"By manipulating the appearance of the avatar, you can augment the probability of people thinking and behaving in predictable ways without raising suspicion," said Peña. "Thus, you can automatically make a virtual encounter more competitive or cooperative by simply changing the connotations of one's avatar."

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