

Study shows the influence of immersive virtual reality on racial bias

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The study was conducted with 32 white women that were randomly assigned to a white or black virtual body. Credit: Universidad de Barcelona

Researchers of the University of Barcelona have studied the influence of immersive virtual reality (IVR) on racial bias. The study, published in the journal *PLOS ONE*, has used this technology to analyse the effects of immersion in automatic behaviours towards other races.

The results show that adopting a certain virtual race, regardless of the

user's actual race, has an effect on certain unconscious behaviours towards virtual people. According to the researchers, these results show the impact of these experiences in the perception, [behaviour](#) and attitudes but they also open the door to the uses of this technology to fight racist attitudes.

Embodying a different person virtually

During social interactions, people identify as members of social groups to which they belong spontaneously. This identification, in which features such as race or sex are strong contributors, has an influence on interpersonal perceptions and behaviours. A common method to counteract this bias is perspective taking, which usually requires people to imagine what it would be like to have another skin color or sex. In the new study, researchers have changed this perspective using IVR:

"Instead of making them imagine they are another person, we put the [participants](#) in the situation of actually 'being' another person," says Mel Slater, a researcher of the Institute of Neurosciences of the UB.

The study was conducted with 32 white women who were randomly assigned to a white or black virtual body. With [virtual reality](#) glasses and clothes, the participants embodied the given avatar and had to interact with another virtual woman that was created by the program. In the experiment, the participants had to describe a set of pictures that appeared on a virtual wall, and then listened to the description by the other virtual woman. Each participant repeated the experiment twice in different weeks, but always with the same skin color that was first assigned. However, the skin color of the avatar with which they shared the virtual space was different in every test.

Mimics as a harmony indicator

Researchers recorded the experiments and analysed the level of imitation of participants with the other virtual person. To do so, they recorded the times the participant imitated movements of the other person unconsciously, such as touching her face, resting the arms on the hips or scratching their arm. "Unconsciously, participants copied a lot more the gestures of the other virtual person when they had the same [skin color](#). For example, when the volunteer met a black avatar, she imitated her more than when meeting a white one," says Slater.

"This imitation is important, since it is an unconscious behaviour which, according to studies of social psychology, indicates a social understanding. That is, we unconsciously tend to imitate more those with whom we are in harmony".

Changes outside the virtual experience

The researchers emphasize that it is not possible to compare these results outside the virtual simulation, since it would be necessary to monitor the participants to certify the variation of racial bias in their daily lives. In this sense, a previous study by EventLab has shown that embodying a virtual person of a different race "reduces [racial bias](#) at least a week after the exposure to virtual reality."

According to researchers, this impact on implicit behaviours of the participants makes IVR a future promising tool to fight racism in everyday life. "When its use gets generalized in society, I can imagine non-violent games and interactive films with IVR in which the player embodies different roles and bodies," says Slater.

"Other possible applications would be the use of IVR so that public officials, such as policemen who work directly with people experience what it would be like to be treated differently depending on their virtual [race](#). This would be more important in countries with severe racial

problems than others where this is not a serious problem," concludes the researcher.

More information: Béatrice S. Hasler et al. Virtual race transformation reverses racial in-group bias, *PLOS ONE* (2017). [DOI: 10.1371/journal.pone.0174965](https://doi.org/10.1371/journal.pone.0174965)

Provided by University of Barcelona

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