

The Art and Science of Virtual Reality-based Conflict Resolution

Virtual Reality as an Empathy Machine

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I am a Virtual Reality (VR) researcher dedicated to the question of how immersive experiences influence our attitudes and behavior. My work is primarily research-motivated but it also aims to generate and validate new concepts and techniques that have the potential to make a real impact. VR has been recently promoted worldwide as the ultimate 'empathy machine' and a main focus of my research lies on exploring how this potential can be used for conflict resolution and peace-building.

As a VR researcher I find myself at the intersection of art, science and technology. I believe that merging these disciplines is also the way forward to more effective conflict resolution and peace-building programs: combining creativity, technological innovation and a data-driven approach to measuring impact.

In the following I will describe two examples of my research on the potential of VR to enhance empathy between members of groups in conflict. These examples illustrate how VR can be used to simulate and transform reality – by breaking the limitations of our physical reality. This approach has much in common with contemporary art as both rely on imagining alternative realities and providing a gateway to experimenting with alternative views.

Art also plays a crucial role in the design of immersive experiences. Recent advancements in VR technologies allow for entirely new forms of artistic expressions that help to make VR scenarios more engaging. Deeper engagement is likely to lead to an even more profound and long-lasting impact on the participant.

Simulated interactions with “virtual enemies”

VR provides a unique opportunity to simulate encounters with members of groups in conflict without actually meeting them face-to-face while preserving essential characteristics of human communication. In a simulated contact scenario, we replace the human interaction partner by a life-sized virtual agent that looks and acts like a representative of the opposing group. Although natural language processing capabilities of virtual agents are still limited, participants tend to treat them as if they were real persons. Such simulated interactions have the great advantage that they reduce anxiety. It is less anxiety-provoking to meet a virtual representative of the other group than meeting them face-to-face. Moreover, we can exploit the virtual nature of the encounter by programming the agent's behavior in a way that enhances the experience and creates a positive impact on the participant.

We conducted an experiment to explore the influence of implicit mimicry behaviors by a virtual agent in a simulated intergroup encounter. We know from previous research that people tend to mimic others that they like and that are similar to them (Chartrand & Bargh, 1999). However, mimicry has been found to occur to a much lesser extent in interactions with disliked and dissimilar others, such as members of groups in conflict (e.g., Gutsell & Inzlicht, 2010). This is critical because mimicry serves important social functions, including the establishment of rapport and increasing empathy between interaction partners.

Based on these theoretical considerations, we designed a life-sized virtual agent, named “Jamil” who represents a Palestinian (Hasler et al., 2014). We invited Jewish Israeli participants to talk to Jamil about the security fence – a controversial issue in the Israeli-Palestinian conflict (see Figure 1). We found that when Jamil mimicked participants’ body postures, they expressed more empathy towards the Palestinian situation compared to a no-mimicry control condition.

While I do not claim that such simulated interactions in VR should replace real human interactions, they can be a first step in a gradual process towards creating a constructive dialogue with “the other.”

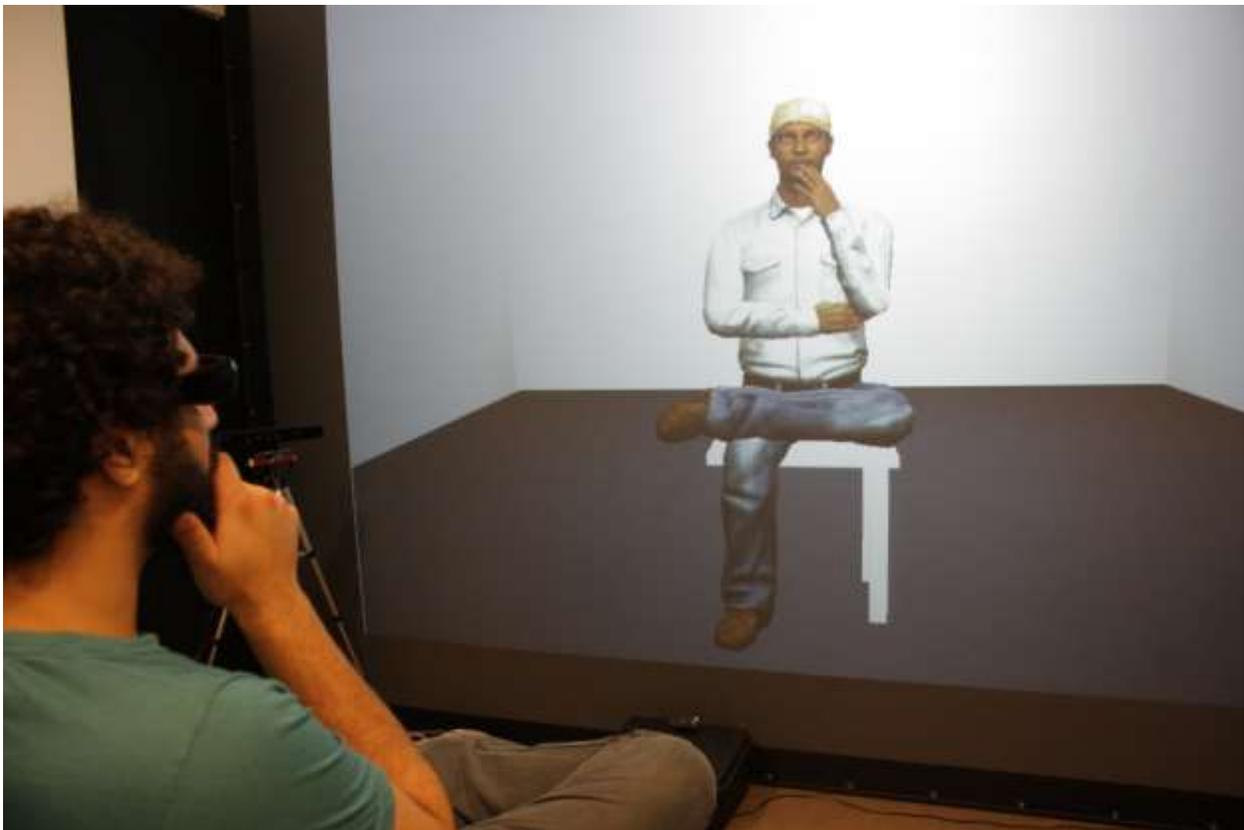


Figure 1: A Jewish Israeli student in a political discussion with a “virtual Palestinian.” The virtual character subtly mimics the student’s body language. This has been shown to increase his empathy and sympathy towards the Palestinian situation. Photographer: Hilan Navot

Virtual self-transformations

Another interesting technique to enhance empathy in VR is embodied perspective-taking (Yee & Bailenson, 2006). VR makes it possible to put people, literally, in the body of an 'other' giving them the illusion that the virtual body is their own (e.g., Blanke et al., 2015). When they look down at themselves or look into a virtual mirror, they see a virtual body instead of their physical body and it moves synchronously with their own body movements. This virtual body may be very different from one's real, physical appearance, for example regarding age, gender or race, and the experience of such virtual self-transformations has a profound psychological impact.

We investigated the behavioral consequences of virtually changing participants' skin color in an experiment (Hasler et al., 2017). We put White participants in either a White or Black virtual body. They engaged in a picture description task once with a White and once with a Black virtual partner (see Figure 2). White participants embodied in a black virtual body treated other black virtual characters more favorably than other white characters as indicated by increased mimicry. This result is surprising as it illustrates that we can instantaneously change unconscious racial preferences by embodying people in a virtual body of different skin color.

What appears to be a minor change may have wide-ranging consequences. Letting participants unconsciously exhibit such reversed race-preferences may facilitate the establishment of more positive interracial relationships outside of the VR simulation. These findings point into a promising new direction in the still ongoing struggle against racism in many areas of our daily lives, and may find application in the context of different types of intergroup conflicts.

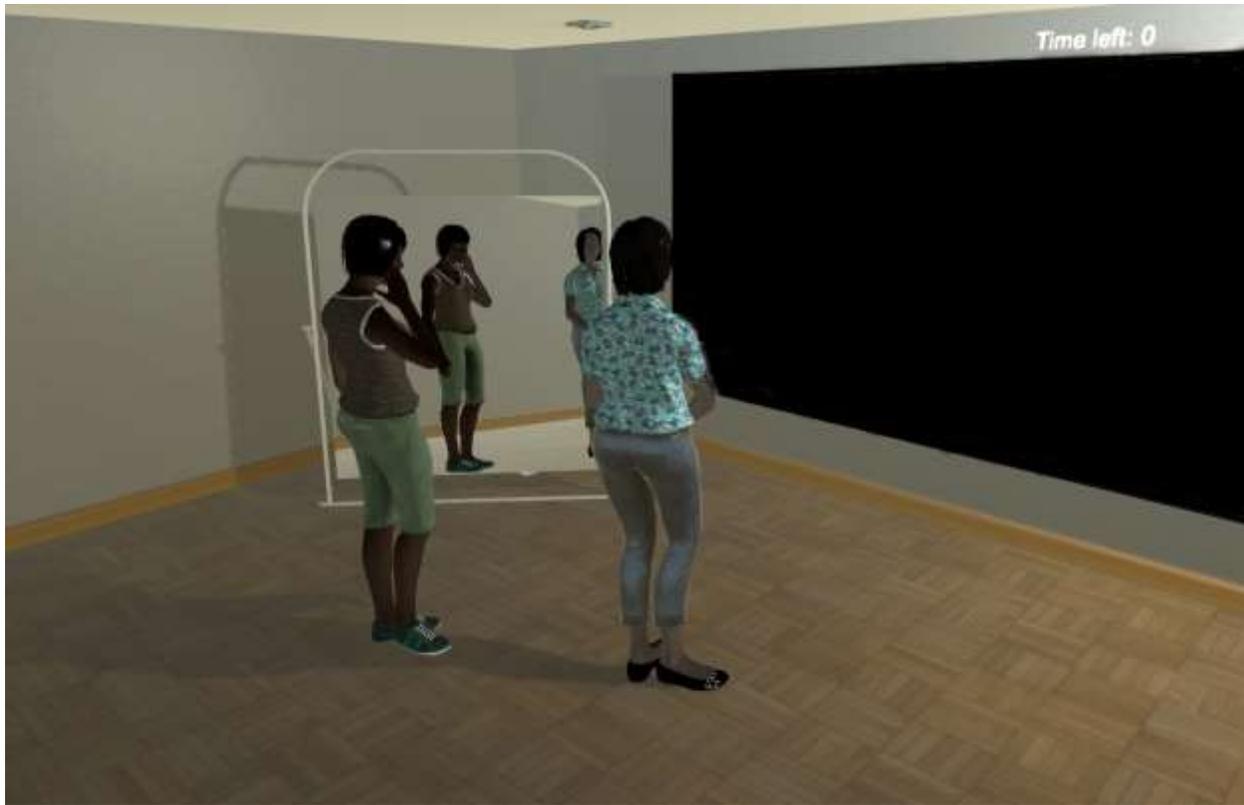


Figure 2: The participant is embodied in a Black virtual body (left). She sees a picture displayed on the front wall [here removed due to copyright reasons] and her virtual Black partner to her right. She can see herself and her partner in the virtual mirror when turning her head to her left.

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Béatrice Hasler is a Senior Lecturer in the Sammy Ofer School of Communications and Adjunct Lecturer in the Baruch Ivcher School of Psychology at the Interdisciplinary Center (IDC) Herzliya. After obtaining her PhD in Psychology from the University of Zurich, she has been a Post-Doctoral Researcher in the Experimental Virtual Environments Lab for Neuroscience and Technology at the University of Barcelona and the Advanced Reality Lab at IDC Herzliya. Her research is dedicated to a creative exploration of virtual reality and avatar technologies as a new research tool to advance our understanding of intergroup conflicts and as a new method for their potential resolution.