Using a Virtual Environment to Indirectly Measure Racial Bias

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This project aims to develop a reliable method to indirectly measure racial bias through use of a virtual environment. Administered with a computer, the virtual environment guides participants through five interactions with computer controlled characters, each designed to elicit racial biases. During these interactions, participants choose whether to speak with a black person or a white person. The players also choose to speak to the non-player character in either a friendly or rude demeanor. Built on the Unity Game Platform, the workflow involved 3D modelling, C# and Lua coding, and beta testing. The final build was tested on a population of 303 high school students. A chi-squared test was run in R for each interaction to test the significance of race on the players' actions. No significant biases were found other than in the final interaction. In the prior interactions, the participants were equally friendly to both races and showed no racial biases based on the in-game characters' races. In the final interaction, the player finds a missing child and was significantly more rude to the white child than to the black child. Every student agreed to answer a questionnaire about demographics, but the demographics of the participant had no significant effect on the participant's actions. These results suggest that when given time to think, participants may filter their actions to avoid appearing to have an anti-black bias. Future work could be to develop an experimental scenario where participants make quick, and therefore unconscious, decisions in regard to race.

Awards Won: