The impact of virtual reality on prejudice towards immigrants through a positive contact and perspective taking

Corine Stella Kana Kenfack, PhD

Assegnista di Ricerca

Referente del progetto: Prof.ssa Ankica Kosic

The contact – prejudice approach

➢ The Contact Hypothesis – Continuous positive intergroup interactions are necessary to curb prejudice and reduce intergroup conflicts (Allport, 1954; Binder et al, 2009)

➢ Direct Contact may not be feasible because of linguistic, cultural, geographical, or behavioural tendencies

➢ Face to face contact has stronger and long lasting effect than the other contact strategies

➢ **But in which conditions might contact be optimal in reducing prejudice ?**

Virtual reality

➢Immersive, interactive, multi-sensory, 3D computer generated environments (Cruz-Neira, 1993) experienced through sensory stimuli in which one's actions partially determine what happens in the environment.

➢In social psychology ➔ Study how intergroup attitudes are influenced by implied contact with others

➢"Virtual Embodiment" ➔ Process of replacing a person's body by a virtual one" (Slater & Sanchez-Vives, 2016).

➢Perspective taking ➔ Cognitive capacity to experience the situation and the world in the shoes of another person (Galinskyet al.,2008)

Virtual Reality – Empirical interventions

➤ Embodying avatars from a social outgroup are linked to perspective-taking processes in VR environments, which enhances empathy, and improves attitudes towards the target group (Slater, 2010)

➤ Embodying a dark-skinned avatar decreased implicit bias toward African Americans for White participants (Peck et al., 2013)

➤ Virtual reality intervention succeeded in eliciting more positive attitudes toward drug users (Christofi et al., 2020)

Study 1a - Effectiveness of exposure to prosocial behaviour through virtual reality setting on reducing prejudice towards black persons in Italy

Aim: investigate whether the exposure to a prosocial situation involving a black person as the protagonist of the prosocial behavior could influence the implicit prejudice racial bias.

Participants: Two hundred and thirteen (38 males and 175 females) participants, with normal or corrected vision

Measures: Before VR:

*Attitudes toward immigration: positive attitudes (*7 items - α = .77)*; negative attitudes (*21 items - α = .92)

Implicit racial bias – IAT (Greenwald et al., 1998): a seven categorisation task using images and words (trait related to morality (i.e., fair vs unfair), competence (i.e., competent vs incompetent) and sociability (i.e., friendly vs unfriendly). Higher IAT scores are interpreted as the greater implicit racial bias

After VR:

Implicit racial bias – IAT (Greenwald et al., 1998):

*Behavioural intention:* "Intention to allow the window cleaner to clean"

*Negative emotions toward the window cleaner:* (10 items - α = .84);

Experimental design

➢Before the VR: A week before the experiment participant made the IAT and the preliminary questionnaire

➢The participants, light skinned (male/female Italians) were immersed in VR where they saw themselves as driving a car for 10s and then stopped at traffic red light.

➢Each participant saw a hand belonging to a white or to a dark person.

➢While stopped at the red light they saw an immigrant (dark skin) who was waiting to wash the windscreen of cars.

➢Participants were randomly divided into two groups➔ prosocial vs neutral

Group 1 – Prosocial
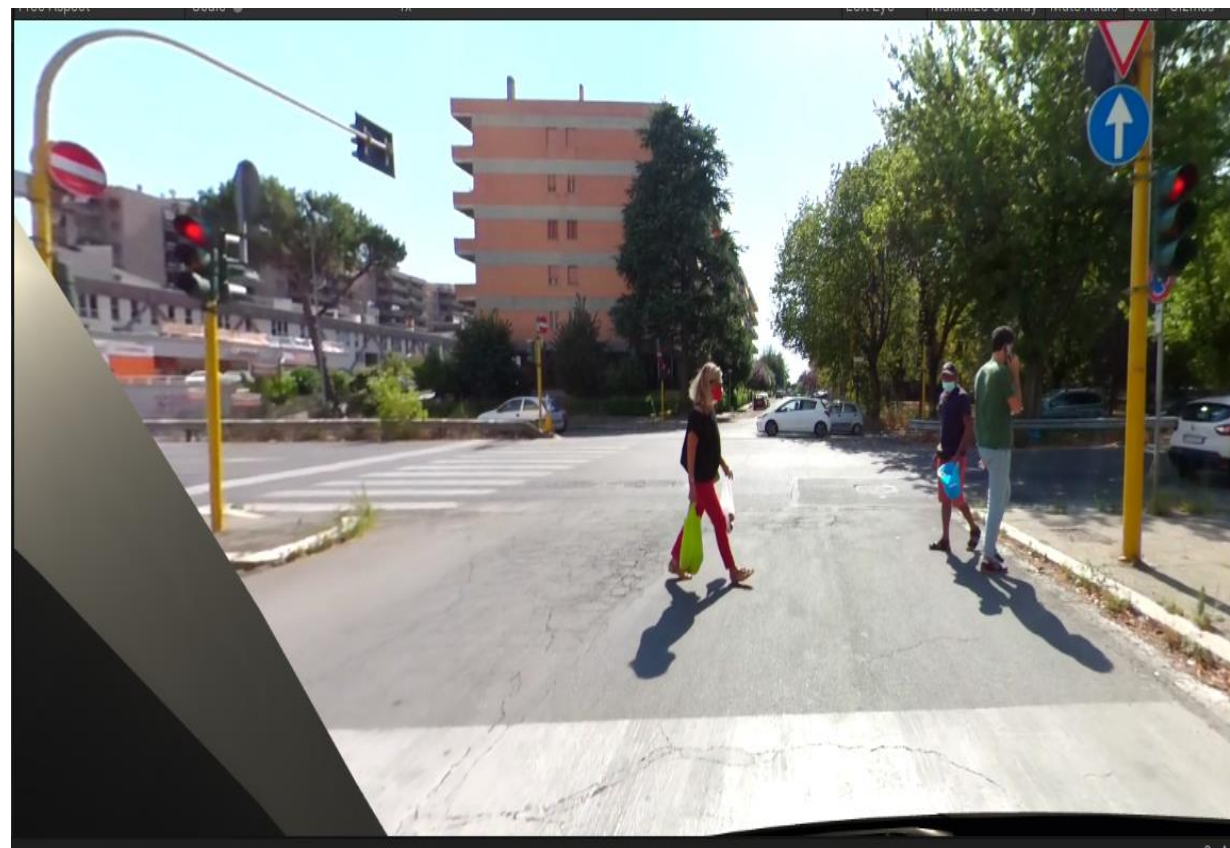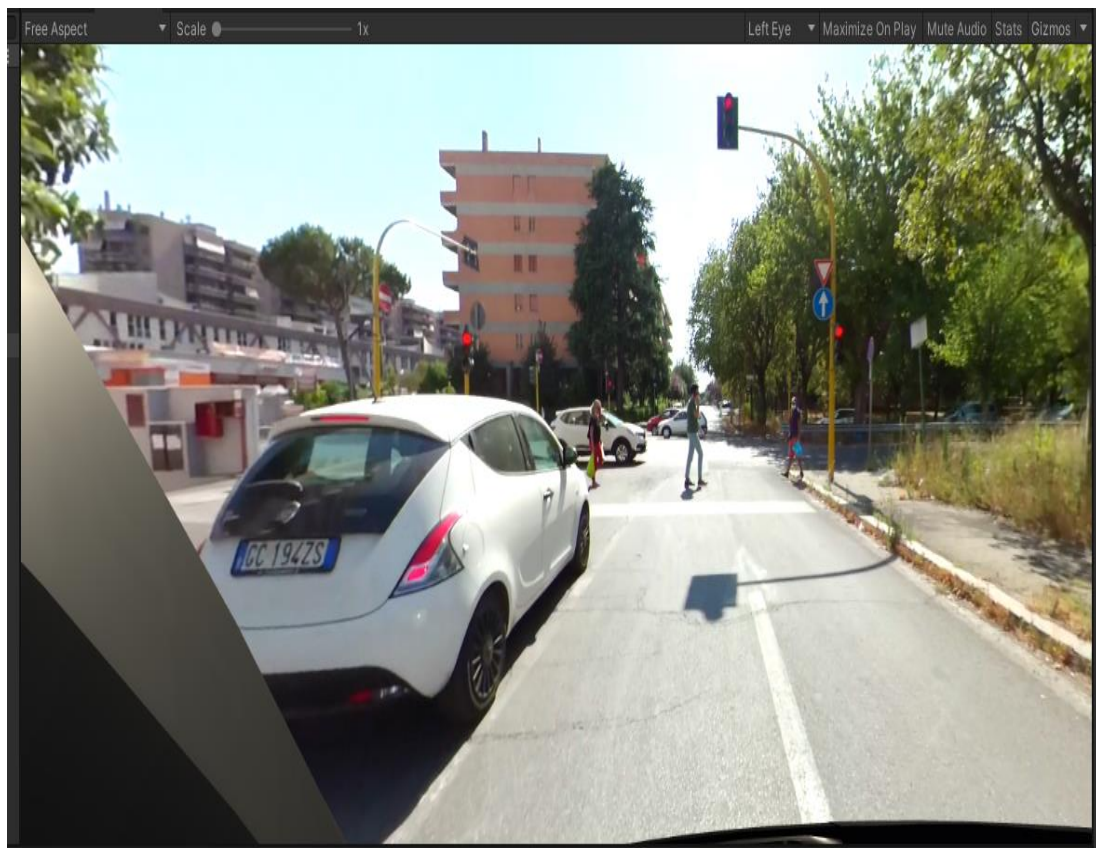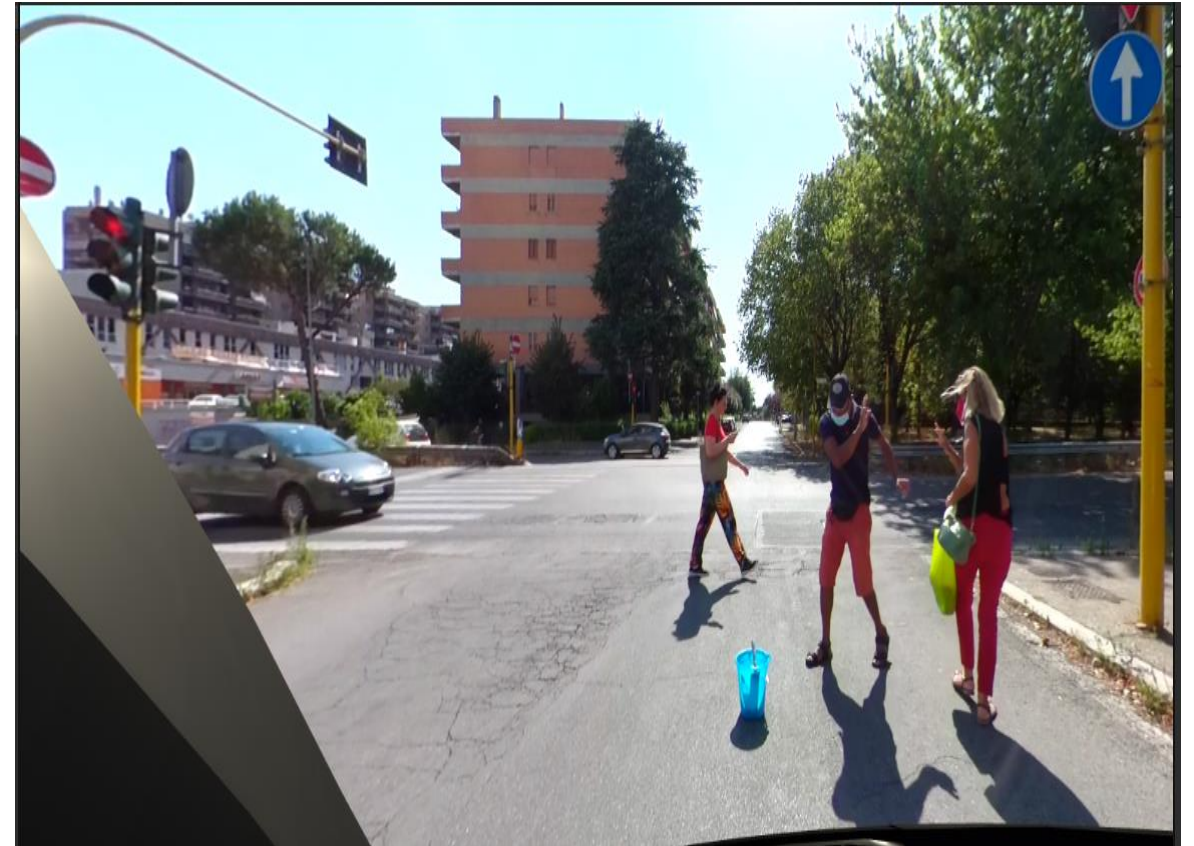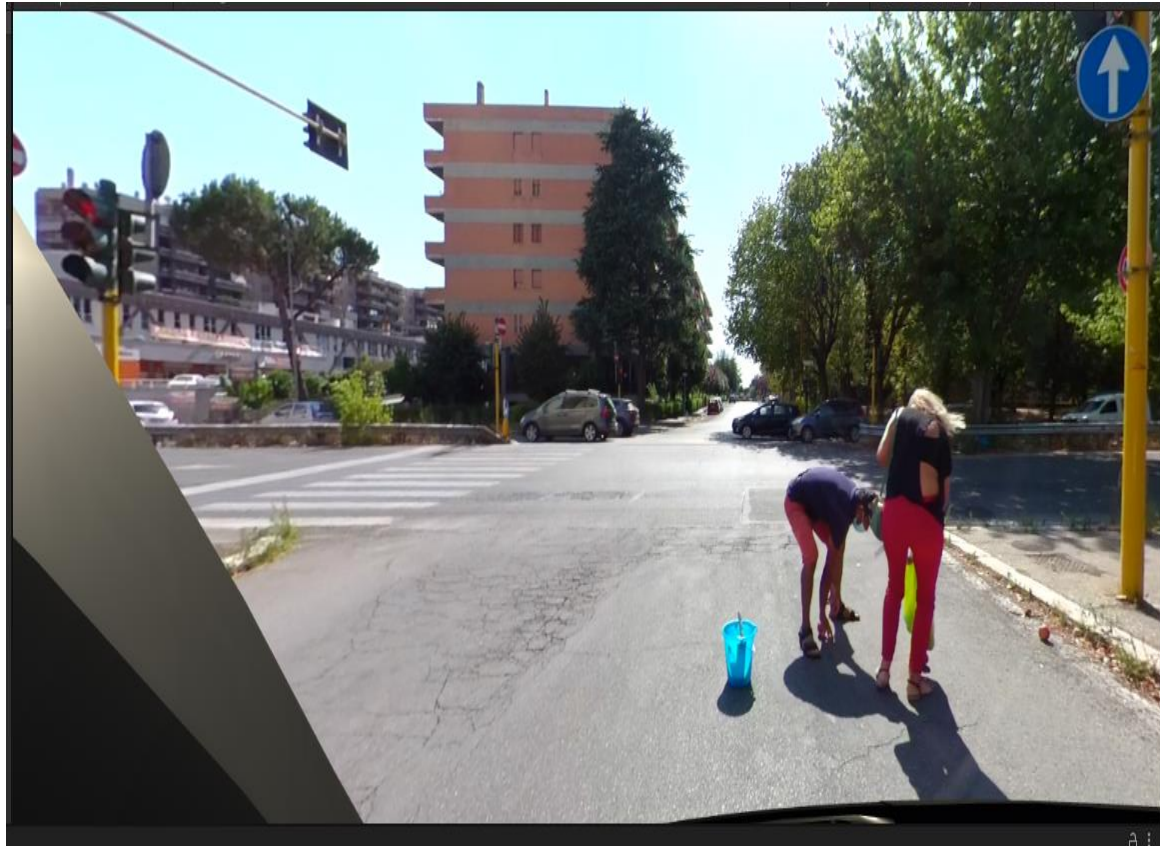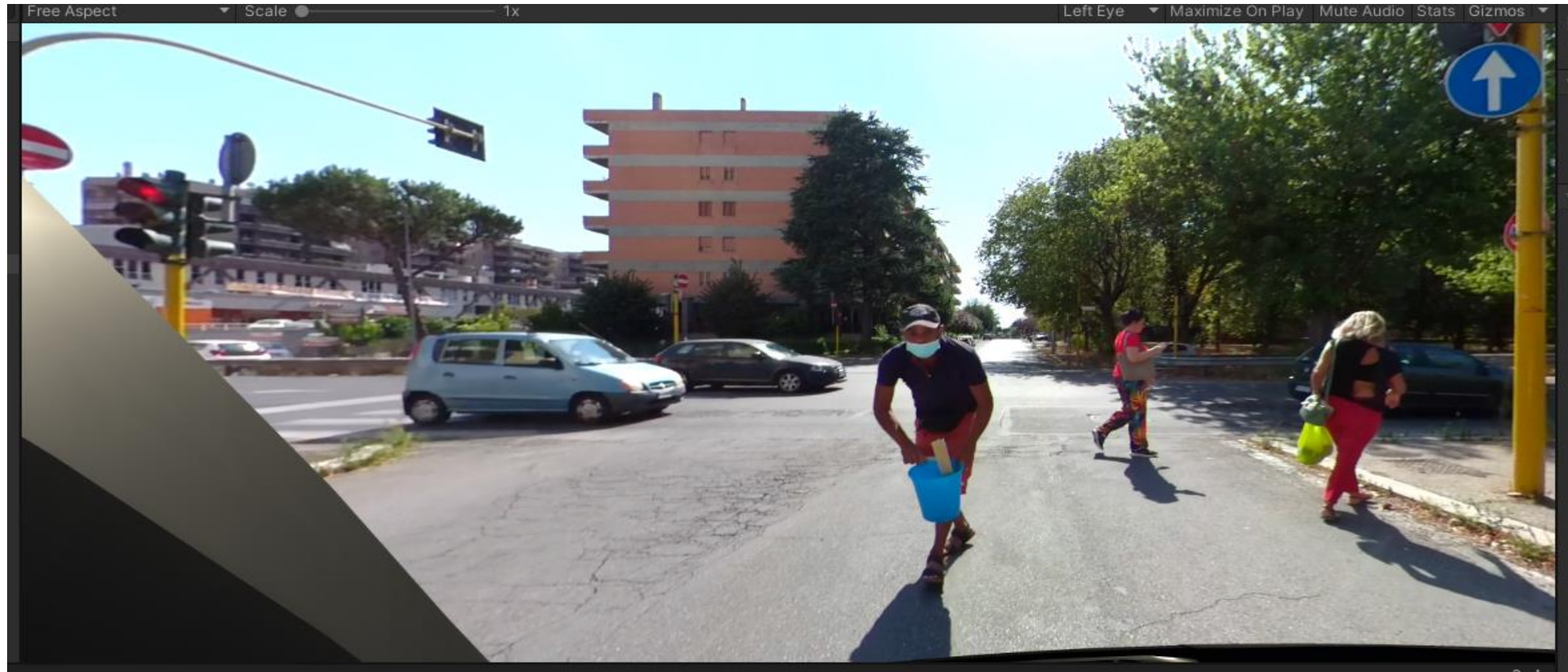
Group 1 – Prosocial
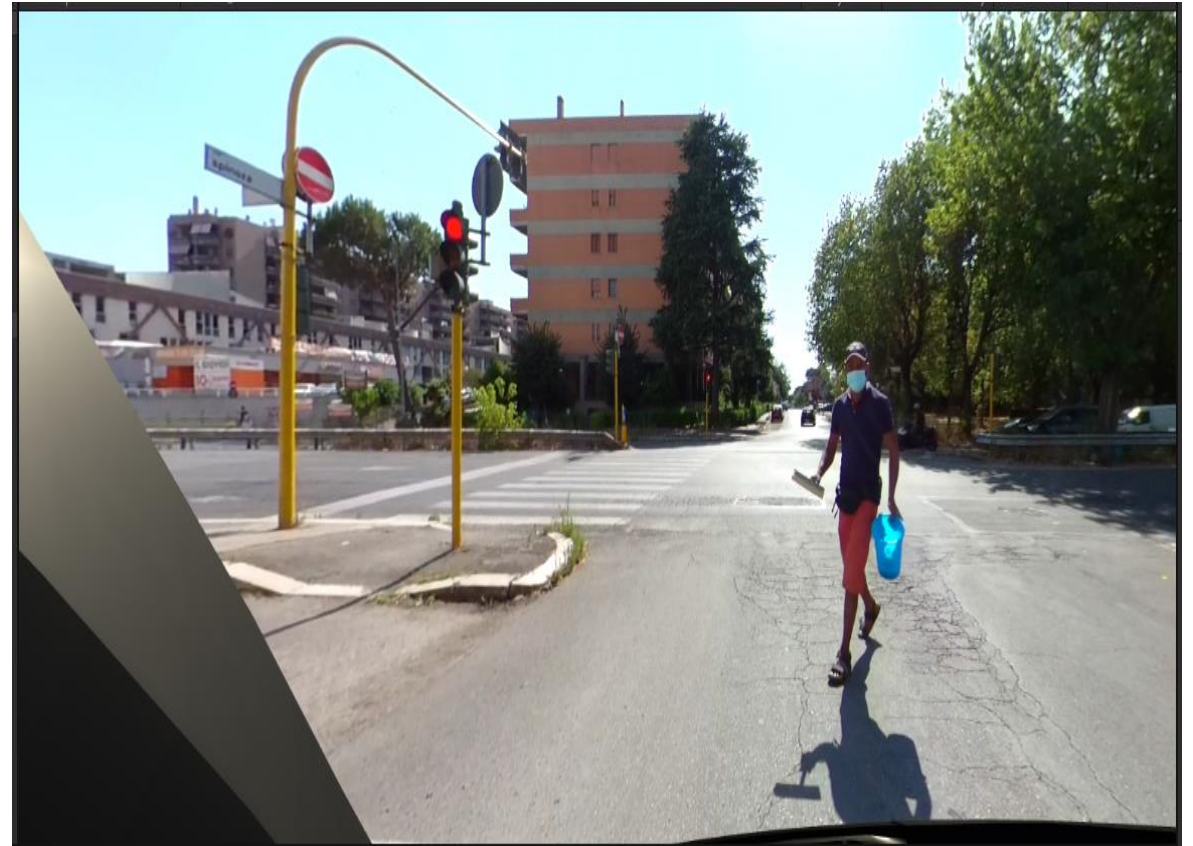
# Group 1 – Prosocial

Group 2 – neutral

Group 2 – neutral

Results – preliminary analysis

➢ Positive attitudes: No statistically significant difference between participants in the prosocial group ($M = 4.87$, $SD = 0.69$) and in neutral group ($M = 4.80$, $SD = 0.68$) condition $t(202) = .80$, $p = .423$.

➢ Negative attitudes: No statistically significant difference between participants in the prosocial group ($M = 1.70$, $SD = 0.44$) and in neutral group ($M = 1.74$, $SD = 0.49$) conditions $t(202) = -.60$, $p = .549$.

➢ ……. Participants were successfully randomly balanced in the two groups.
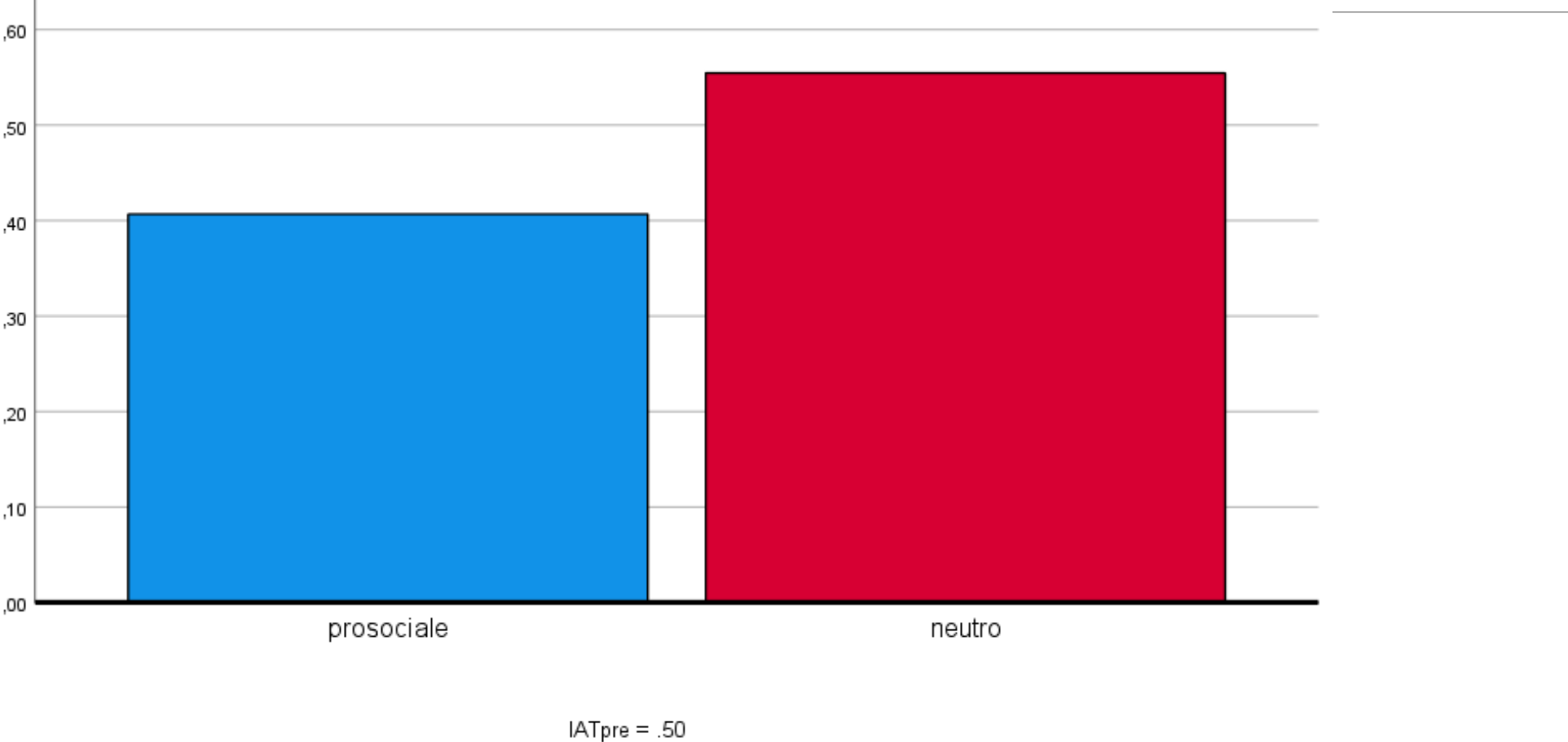
Results – implicit racial bias
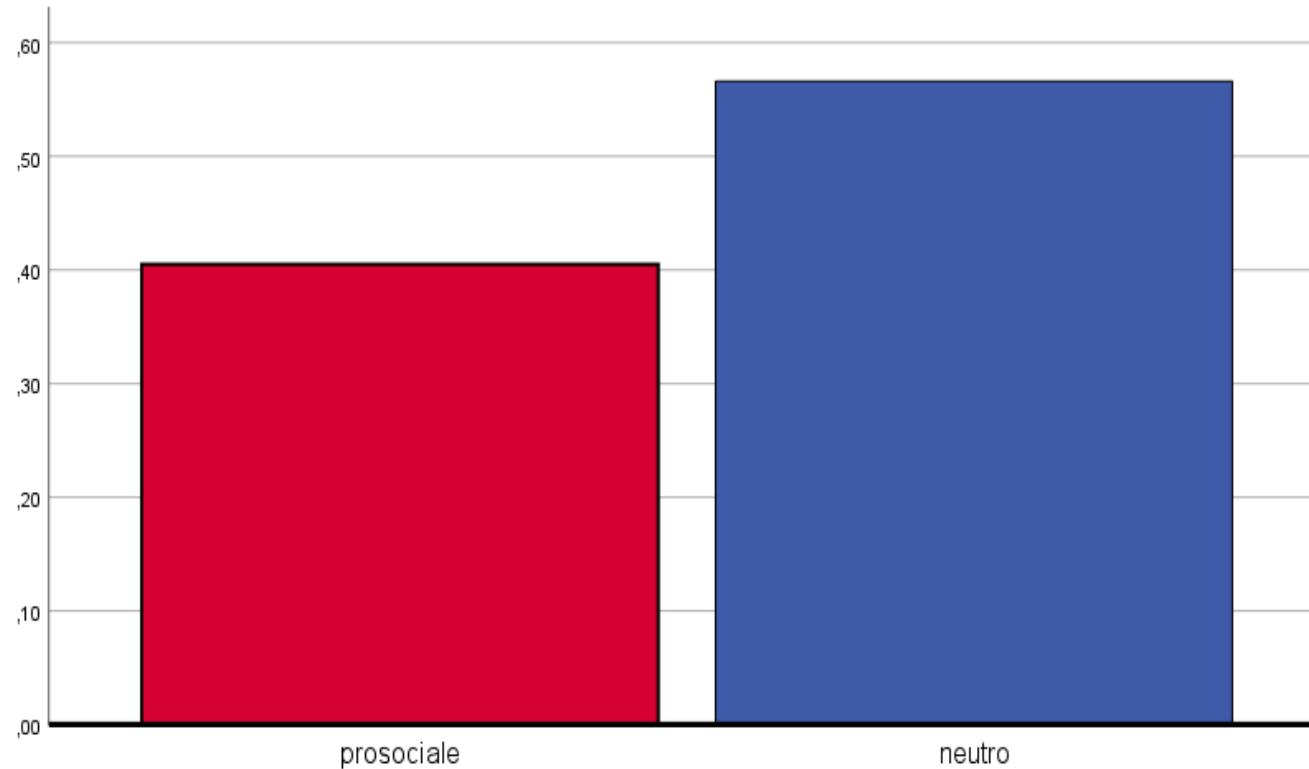
prosocial condition ($M = .41$, $SD = 0.04$) reported lower levels of implicit prejudice as compared to participants in the neutral condition ($M = .56$, $SD = 0.05$); $F(1, 198) = 5.93$, $p = .016$, $\eta^2 = .03$

Participants in the prosocial condition ($M = .41$, $SD = 0.04$) reported lower levels of implicit prejudice as compared to participants in the neutral condition ($M = .55$, $SD = 0.05$); $F(1, 192) = 5.38$, $p = .021$, $\eta^2 = .03$, accounting for the significant effect of implicit prejudice before the intervention $F(1, 192) = 23.20$, $p < .001$, $\eta^2 = .11$


IATpre = .50

Results – implicit racial bias

➢ The level of IAT before the intervention ($M = .50$, $SD = .30$) significantly differed from the level of IAT post intervention ($M = .44$, $SD = .34$), $t(201) = 2.12$, $p = .04$.

➢ Prosocial condition: significant difference in IAT before ($M = .49$, $SD = .31$) and after ($M = .41$, $SD = .33$) the intervention $t(106) = 2.20$, $p = .03$.

➢ Neutral condition: No significant difference before ($M = .51$, $SD = .29$) and after ($M = .49$, $SD = .35$) the intervention $t(94) = 0.73$, $p = .47$

Results - Behavioural intentions toward the window cleaner after virtual reality immersion
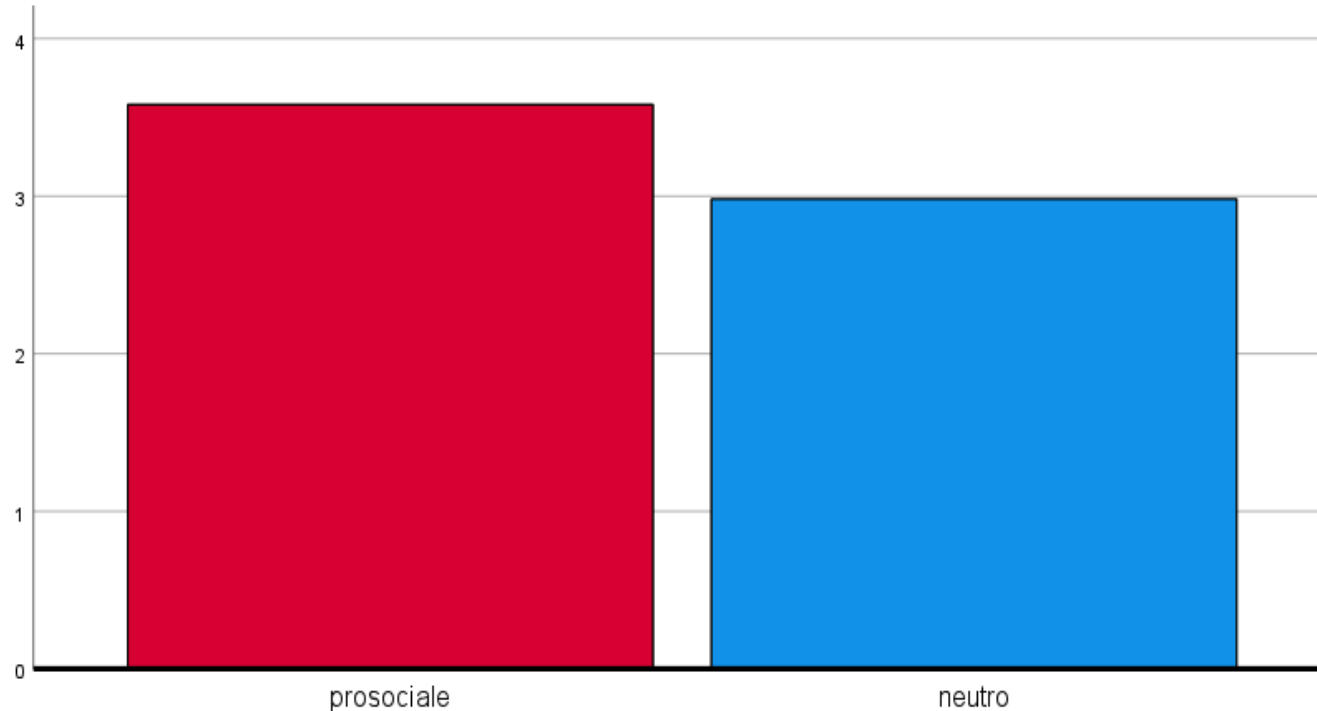
Participants in the pro-social condition ($M = 3.57$, $SD = 0.17$) reported higher level of willingness to allow the window cleaner to clean their car window as compared to participants in the neutral condition ($M = 3.00$, $SD = 0.17$); $F(1, 204) = 5.93$, $p = .02$, $\eta^2 = .03$.

Results - Negative emotions toward immigrants after virtual reality immersion
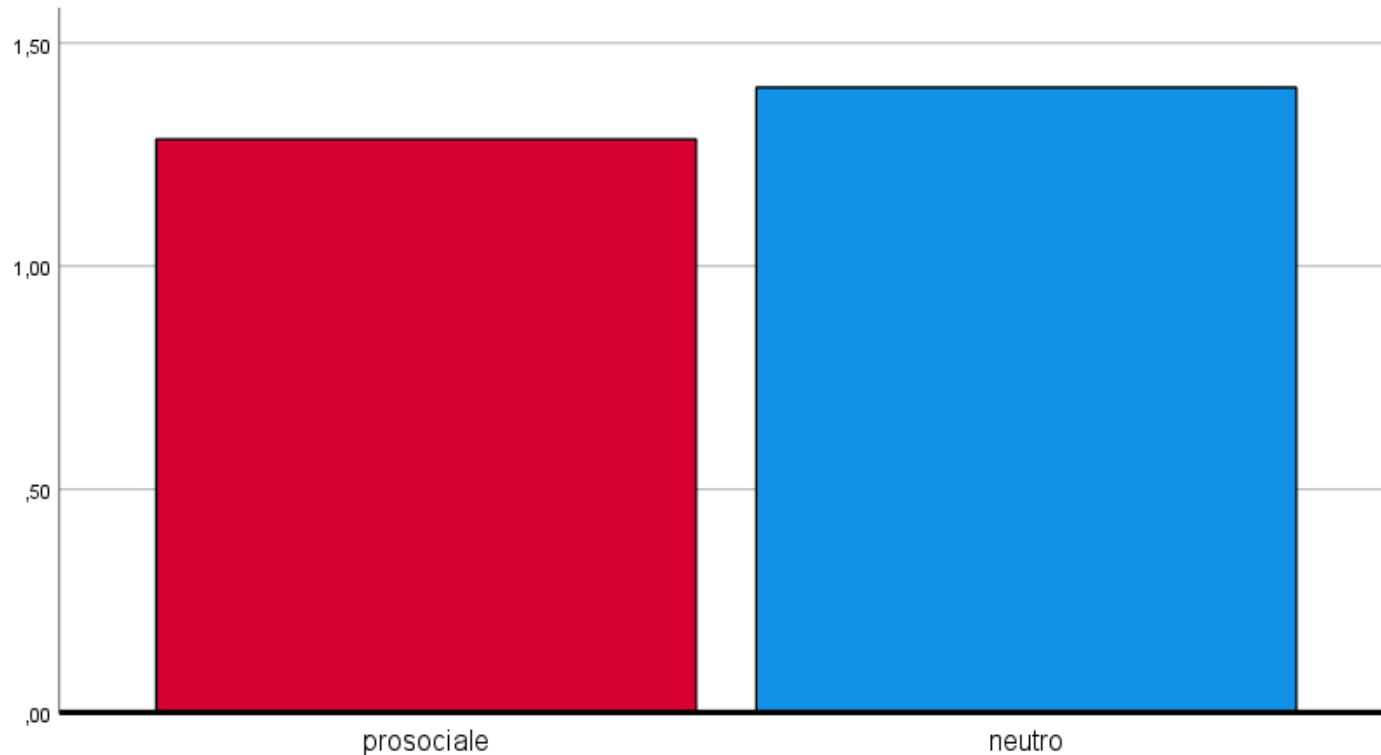
Results reveal that participants in the pro-social condition had lower level of negative emotions ($M = 1.29$, $SD = 0.04$) as compared to those in the neutral condition ($M = 1.39$, $SD = 0.04$); $F(1, 203) = 4.06$, $p = .04$, $\eta^2 = .02$)

Study 1b: Virtual Reality and attitudes toward asylum seekers in Italy

Aim: investigate whether the perspective taking of refugee through embodiment could influence the implicit prejudice racial bias.

Participants: 126 participants from the previous experiment took part in the second experiment

Measure: Implicit racial bias – IAT

Experimental design

➢Perspective taking: The VR experience reproduce the scenario in which a refugee is interrogated by an immigration officer regarding his/her background to test if he could be accepted as a refugee in Italy.

➢Participants are provided with information about the avatar they will embody

➢Participant will embody avatar looking like a refugee coming from Africa vs. Ukraine.

African Avatar

Ukrainian Avatar

Results

➢The level of IAT before the intervention (M = .48, SD = .28) significantly differed from the level of IAT post intervention (M = .39, SD = .35), $t(115)$ = 2.75, p = .007.

➢Ukrainian group: no significant difference before (M = .46, SD = .31) and after (M = .40, SD = .32), $t(58)$ = 1,32, p = .192.

➢Black group: significant difference before (M = .50, SD = .26) and after (M = .38, SD = .39), $t(65)$ = 2.51, p = .015

Discussion

Implicit racial Prejudice and negative emotion in members of the majority (white) group toward black person is lower in contact situation in which within the interaction the black person behave in a prosocial way as compared to the simple interaction.

Perspective taking of a refugee through the embodiment of a dark-skin avatar is related to reduction in implicit racial prejudice

Grazie per l'attenzione!