



Discriminating between different levels of pain of Black and White faces

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Background

It has been suggested that racial disparities in pain care might in part be led by a perceptual bias. Studies have revealed that pain facial expressions are harder to detect on Black than on White faces (Mende-Siedlecki et al., 2019, 2021, 2022). However, the tasks used in those studies did not allow to disentangle whether this bias was perceptual or decisional in nature. Moreover, the impact of face race on performance when discriminating between pain facial expressions of different intensities remains unknown.

Method

- 44 White participants; 240 trials per participant;
- 2-IFC task discriminating between different intensities of pain facial expressions with own-race (White) and other-race (Black) faces.
- 4 avatars were created (2 genders x 2 races) and used to create seven intensities of pain facial expressions using morphing.

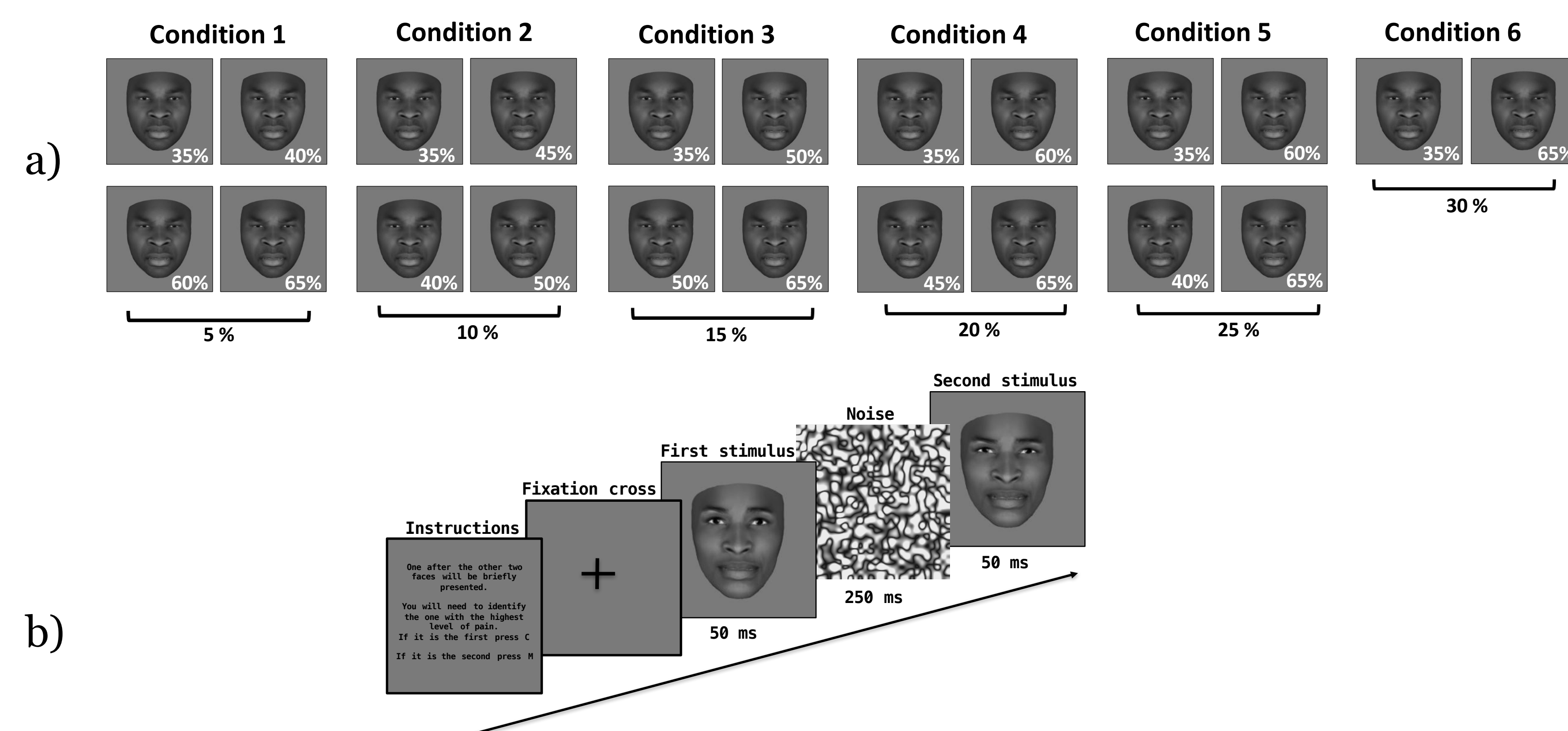


Figure 1. a) Example of stimuli in the six conditions of pain intensity differences from a 5% difference to a 30% difference; b) example of a trial.

Results

A repeated measure ANOVA (2 x 6) revealed a main effect of condition, $F(5,215)=174.73$, $p<.001$, as well as a close to significant effect of the stimulus race on performance, $F(1,43)=4.03$, $p=.051$. There was no interaction between condition and stimulus' race $F(5,215)=.135$, $p=.984$.

Curve fitting

We used curve fitting analyses to verify the point of subjective equality (PSE) of subjects when discriminating between pain intensities of Black and White faces. A paired sample t-test revealed a trend towards a higher PSE for Black ($M=3.18\pm.78$) than for White ($M=2.87\pm1.04$) faces, $t(43) = -1.939$, $p=.059$.

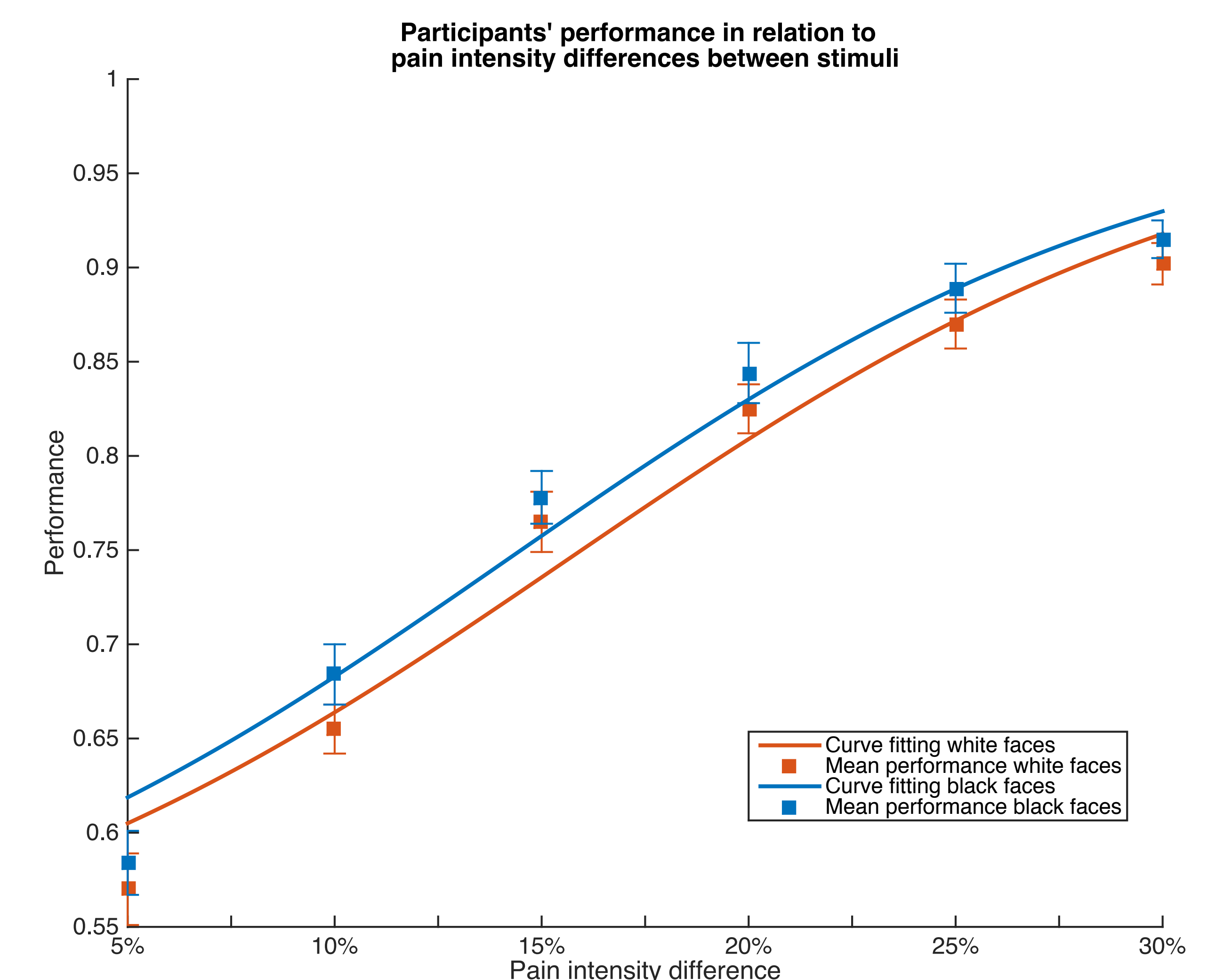


Figure 2. Curve fitting on mean performances at each pain intensity difference, for White (blue) and Black (orange) faces.

Conclusion

Results show that observers may be more sensitive when trying to discriminate between pain intensities of White faces than Black faces, but this effect remains small. Our results suggest that part of the effect previously found in tasks using a yes/no paradigm, rather than a 2-IFC task, might be due, at least in part, to a decisional bias and not only be the result of a perceptual bias.

References

- Mende-Siedlecki et al. (2019). *JEP: General*, 148(5), 863–889.
Mende-Siedlecki et al. (2021). *Emotion*, 21(5), 932–950.
Mende-Siedlecki et al. (2022). *JESP*, 101, 104315.