

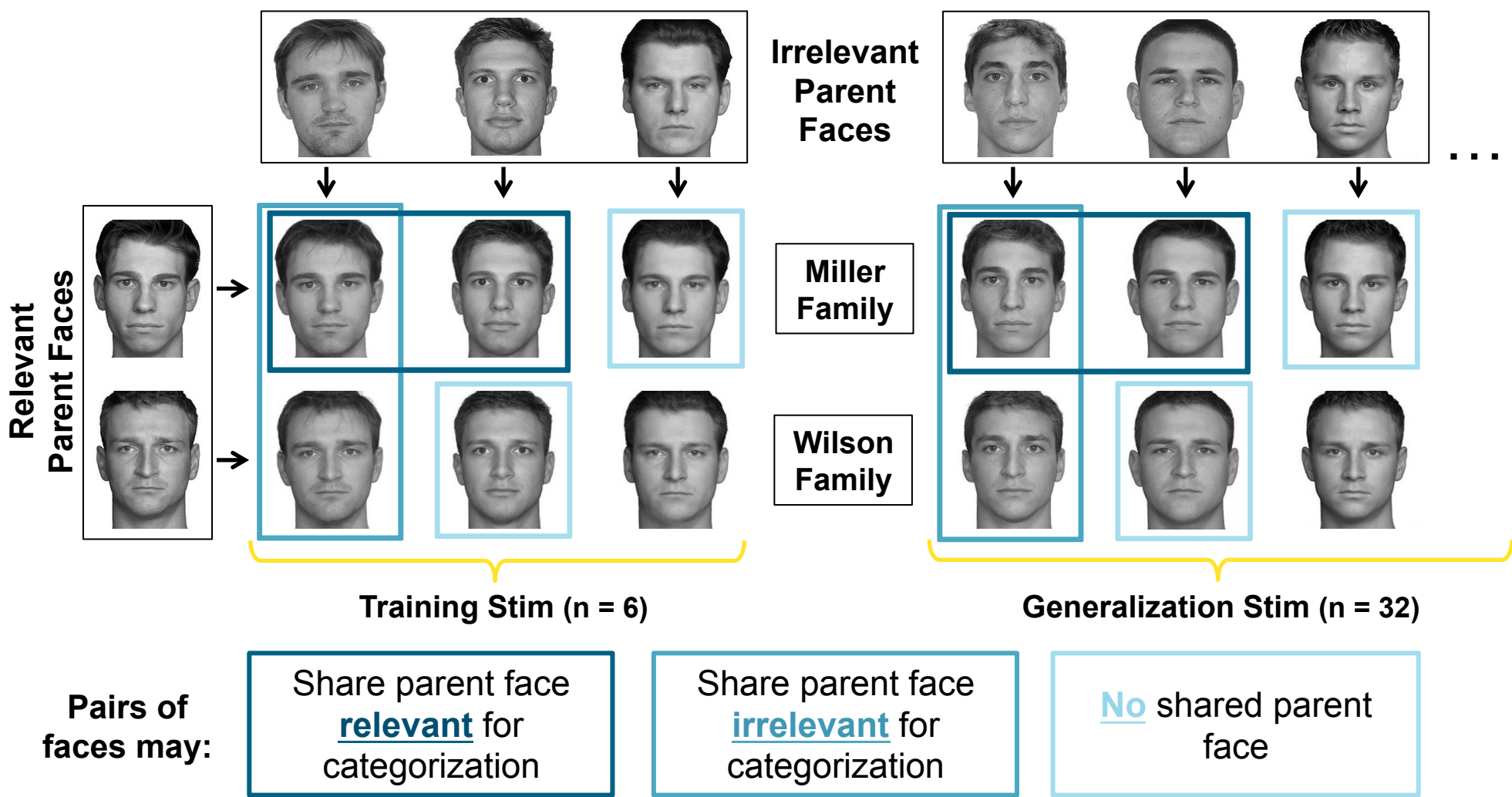
Introduction

- Learning about category membership of objects has been shown to:
 - Increase perceived similarity of items within the same category^{1,2}
 - Decrease perceived similarity of items from different categories¹
- Few studies investigated changes in face perception following category learning, and utilized artificial faces that differed on specified features³.
- Exploring how category learning changes perceived similarity of naturalistic faces may help us understand how group membership influences perception of individuals.

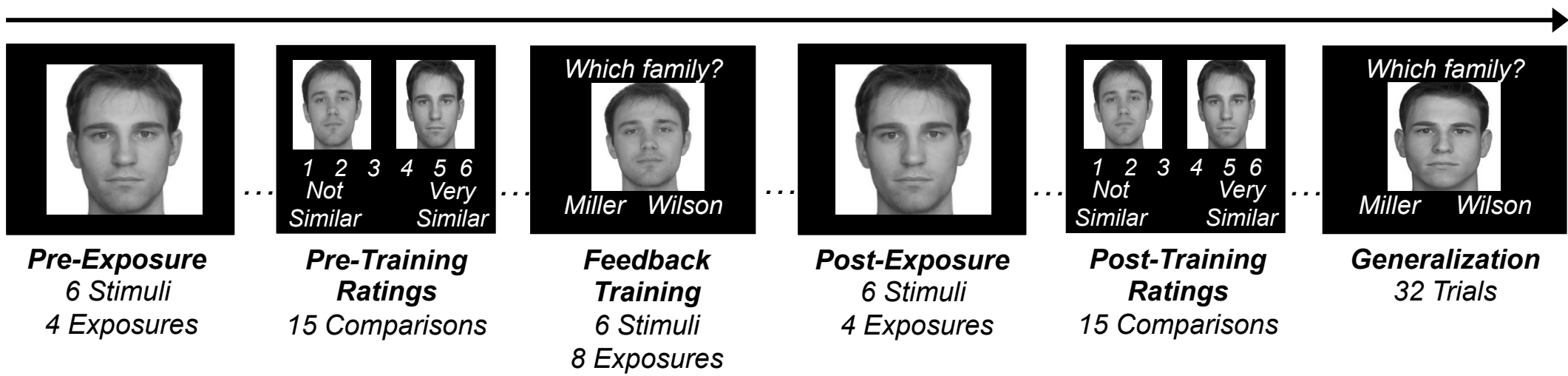
Does category learning change how we perceive the similarity of naturalistic faces?

Methods

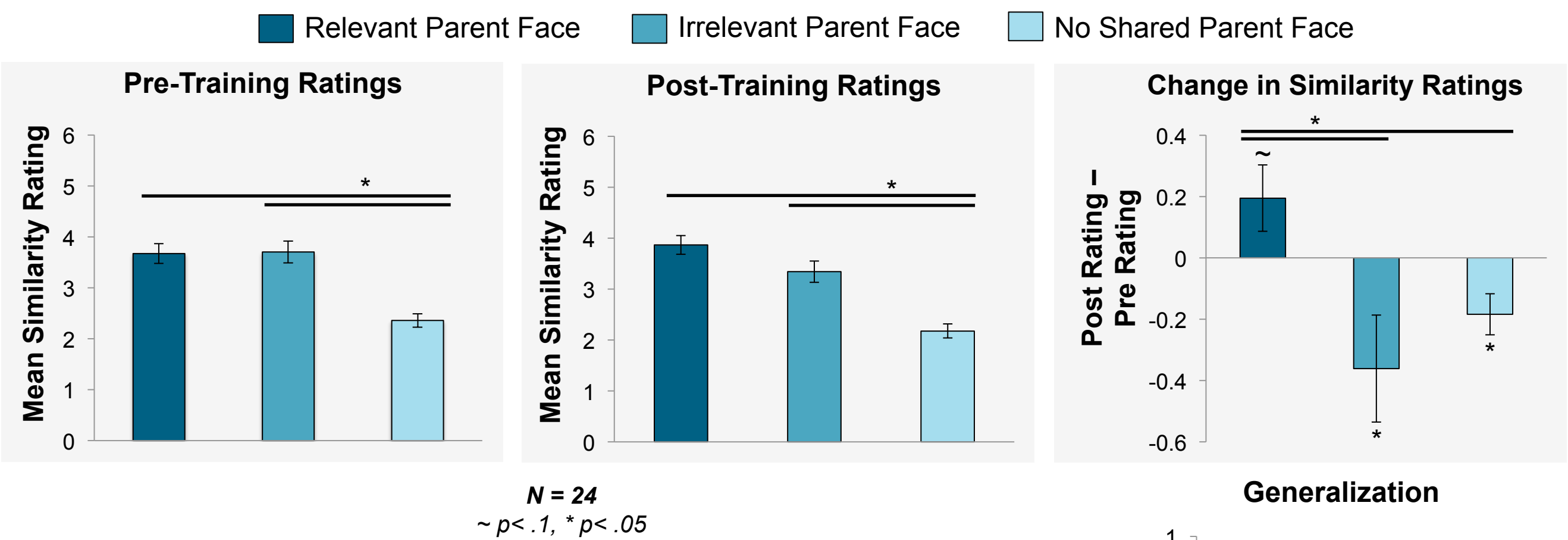
- 30 subjects were recruited, 6 were excluded for poor category learning performance
- Face-blend stimuli** were 50/50 blends of one face **relevant** and one **irrelevant** for family membership



EXPERIMENTAL PROCEDURE

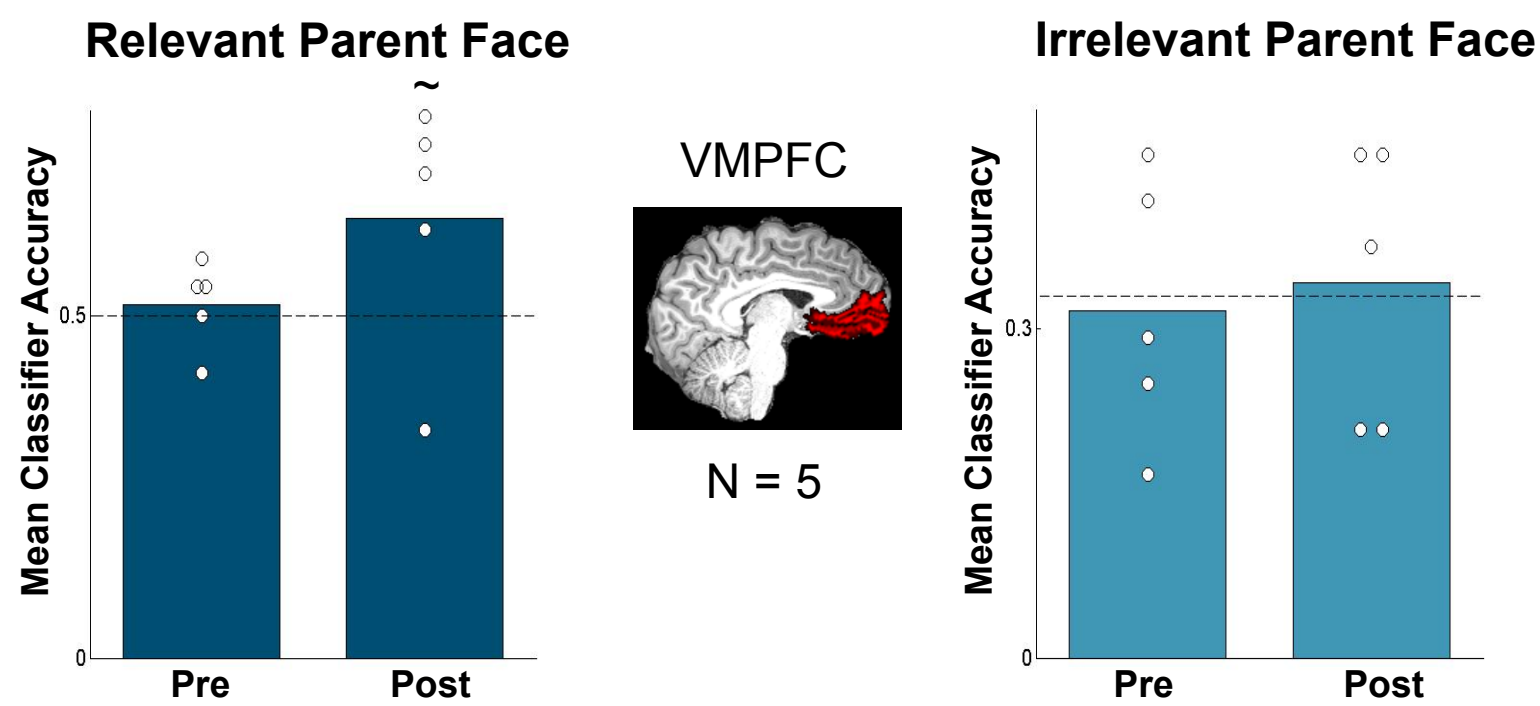


Behavioral Results



- Prior to learning**, faces that share a parent face are perceived as similar to one another.
- After learning**, perceived similarity of faces within and across category boundaries changes

Preliminary MVPA in Ventromedial Prefrontal Cortex



Conclusions

- Learning category membership increased perceived similarity of faces within a category and decreased perceived similarity of faces from different categories.
- Preliminary fMRI data suggest that neural patterns representing individual faces in VMPFC are altered after category learning to reflect category membership.

References

¹ Goldstone, R. (1994). Journal of Experimental Psychology: General, 123(2), 178–200.

² Clarke, A., Pell, P. J., Ranganath, C., & Tyler, L. K. (2016). Journal of Cognitive Neuroscience, 28(7), 1010–1023.

³ Goldstone, R. I. & Steyvers, M. (2001). Journal of Experimental Psychology: General, 130(1), 116–139.