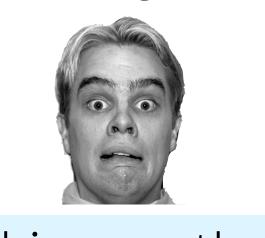
## Sex-related differences in behavioral and neural processing of facial threat cues via magnocellular and parvocellular pathways

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## Introduction

• Fear expressions combined with averted gaze clearly signal where threat resides. Fear expressions coupled with direct gaze, however, are more ambiguous [1,2].





Ambiguous threat

lear threat

• We have recently found that these threat cues show different processing biases to Magnocellular (M) and Parvocellular (P) pathways [3-5].

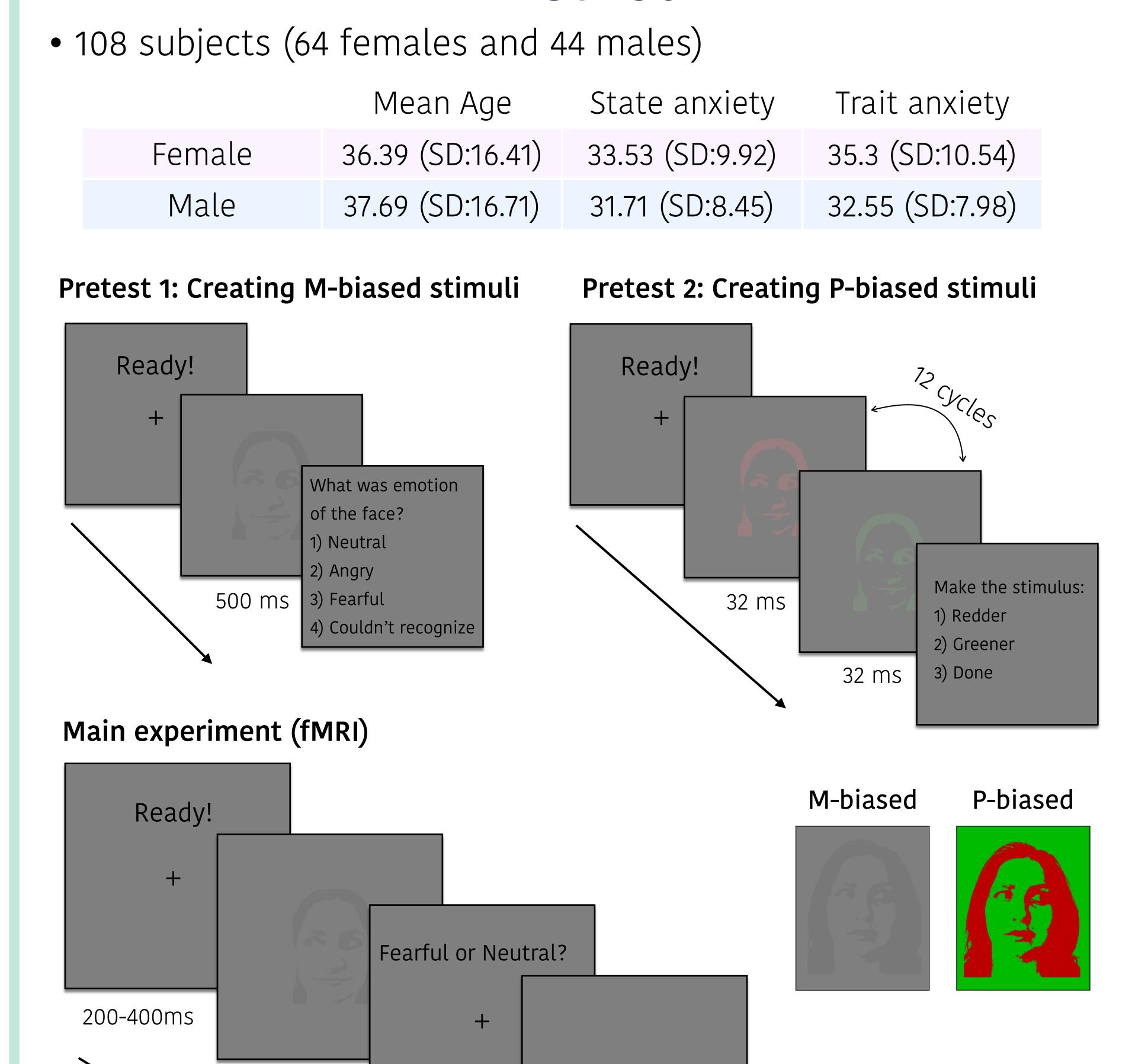
## Research question

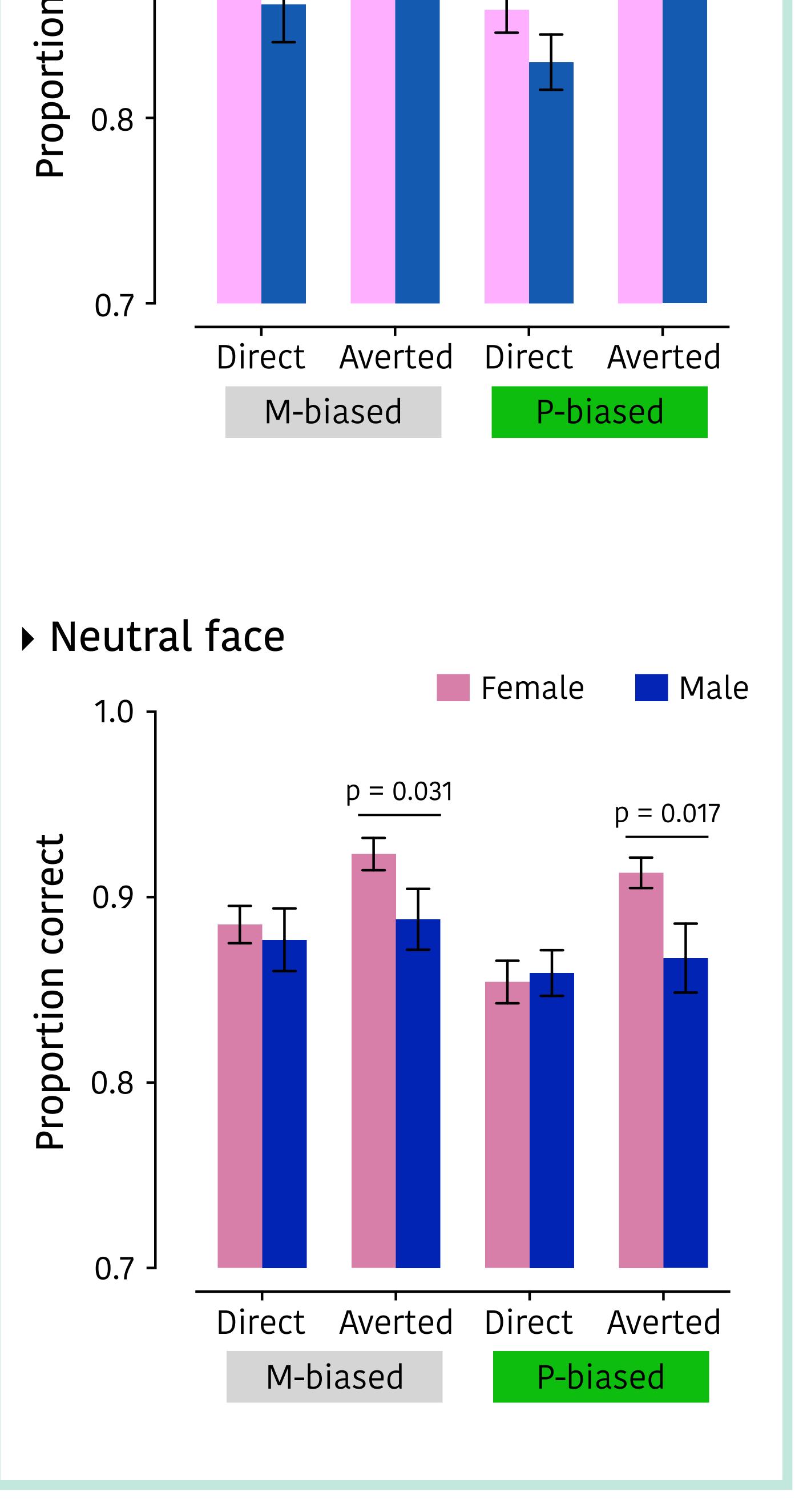
1000 ms

1100-1300 ms

How does the M and P pathway processing of facial threat cues operate differently in female vs. male observers?

## Method

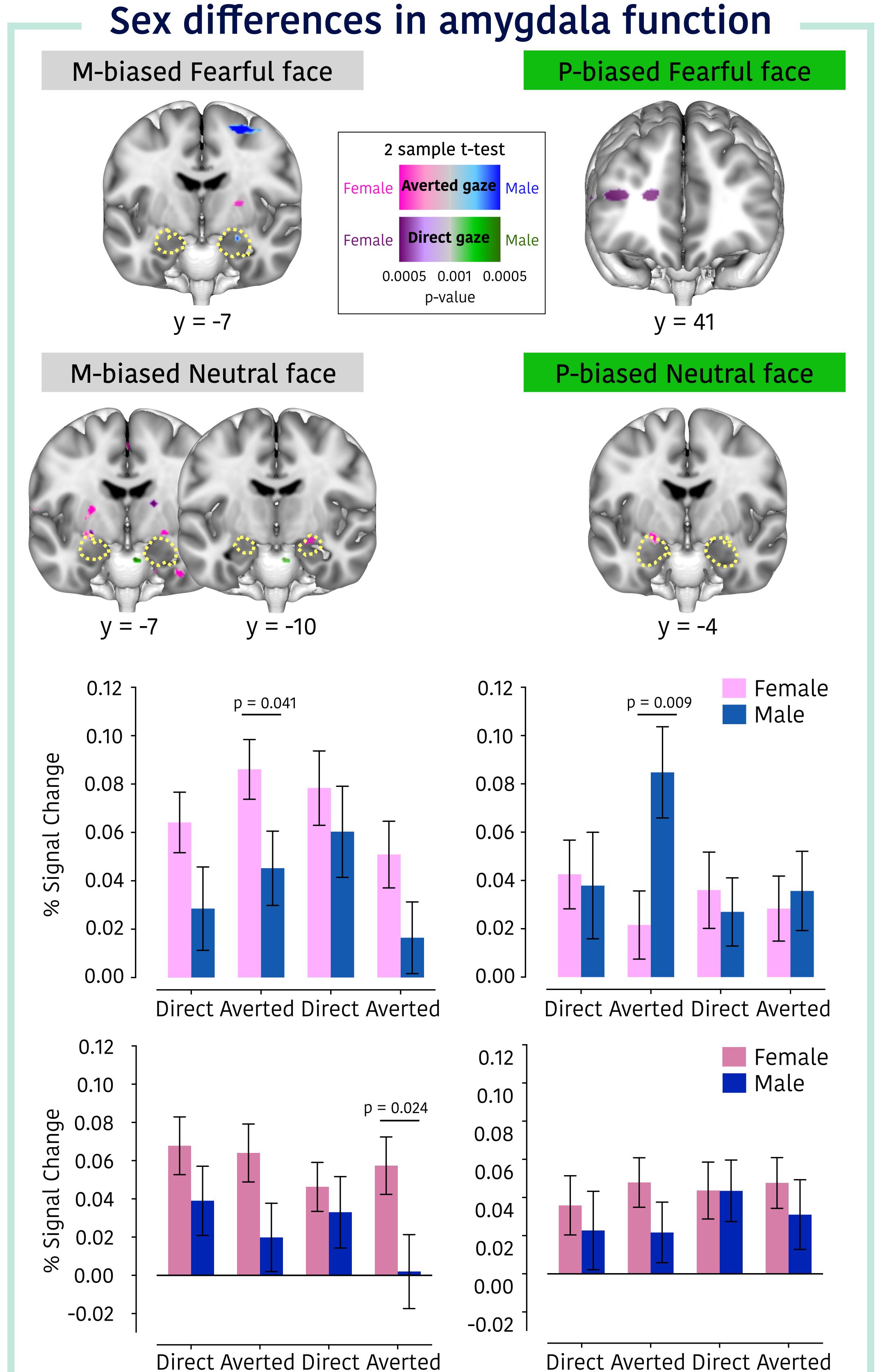


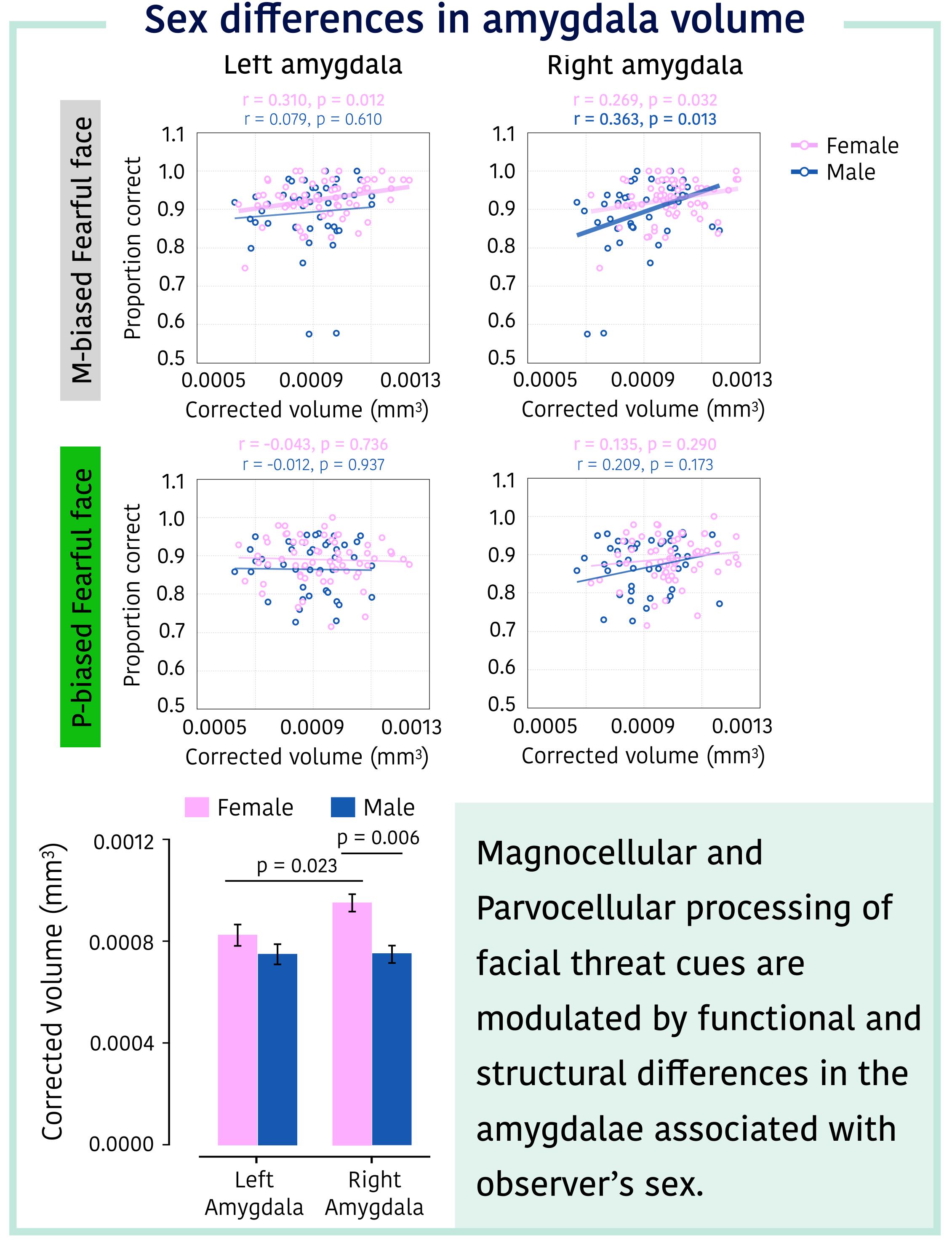


Behavioral Accuracy

Fearful face

0.9





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<u>Referer</u>

[1] Hadjikhani, N., Hoge, R., Snyder, J., & de Gelder, B. (2008). Pointing with the eyes: The role of gaze in communicating danger. Brain and Cognition, 68(1), 1–8. [2] Adams, R. B., Jr., & Kleck, R. E. (2005). Effects of Direct and Averted Gaze on the Perception of Facially Communicated Emotion. Emotion, 5(1), 3–11. [3] Cushing, C., Im, H. Y., Adams, R. B. Jr., Ward, N., Albohn, N. D., Steiner, T. G., & Kveraga, K. (2018). Neurodynamics and connectivity during facial fear perception: The role of threat exposure and signal congruity. Scientific Reports.

[4] Im, H. Y., Adams, R. B. Jr., Boshyan, J., Ward, N., Cushing, C., & Kveraga, K. (2017a). Observer's anxiety facilitates magnocellular processing of clear facial threat cues, but impairs parvocellular processing of ambiguous facial threat cues. Scientific Reports, 15151.
[5] Adams, R. B., Jr., Franklin, R. G., Kveraga, K., Ambady, N., Kleck, R. E., Whalen, P. J., & Nelson, A. J. (2012). Amygdala responses to averted vs direct gaze fear vary as

a function of presentation speed. Social Cognitive and Affective Neuroscience, 7, 568–577.