

Greater social cognition-related right temporal pole activation in World Trade Center Responders with PTSD: preliminary evidence

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HYPOTHESIS

PLACEHOLDER - UPDATE WITH FINAL VERSION AND REFERENCES

CONCLUSIONS

Social support is a vital protective factor following traumatic events. Social cognitive abilities facilitate maintaining a strong support network, thus behavioral & fMRI indices of social cognition might be greatest among the most resilient responders (no PTSD or other lifetime diagnoses) despite high level of WTC exposure.

Social instantiation of social cognition (as a biological factor associated with resilience to traumatic stressors), is an important area for understanding functional dysfunction in PTSD.

STUDY AND PARTICIPANTS

Visit 1

clinical assessment (SCID, CAPS-5)

Visit 2

fMRI session (task + rest)

Visit 3

other behavioral tasks

Higher-Exposed

4+ exposures, no lifetime psychopathology

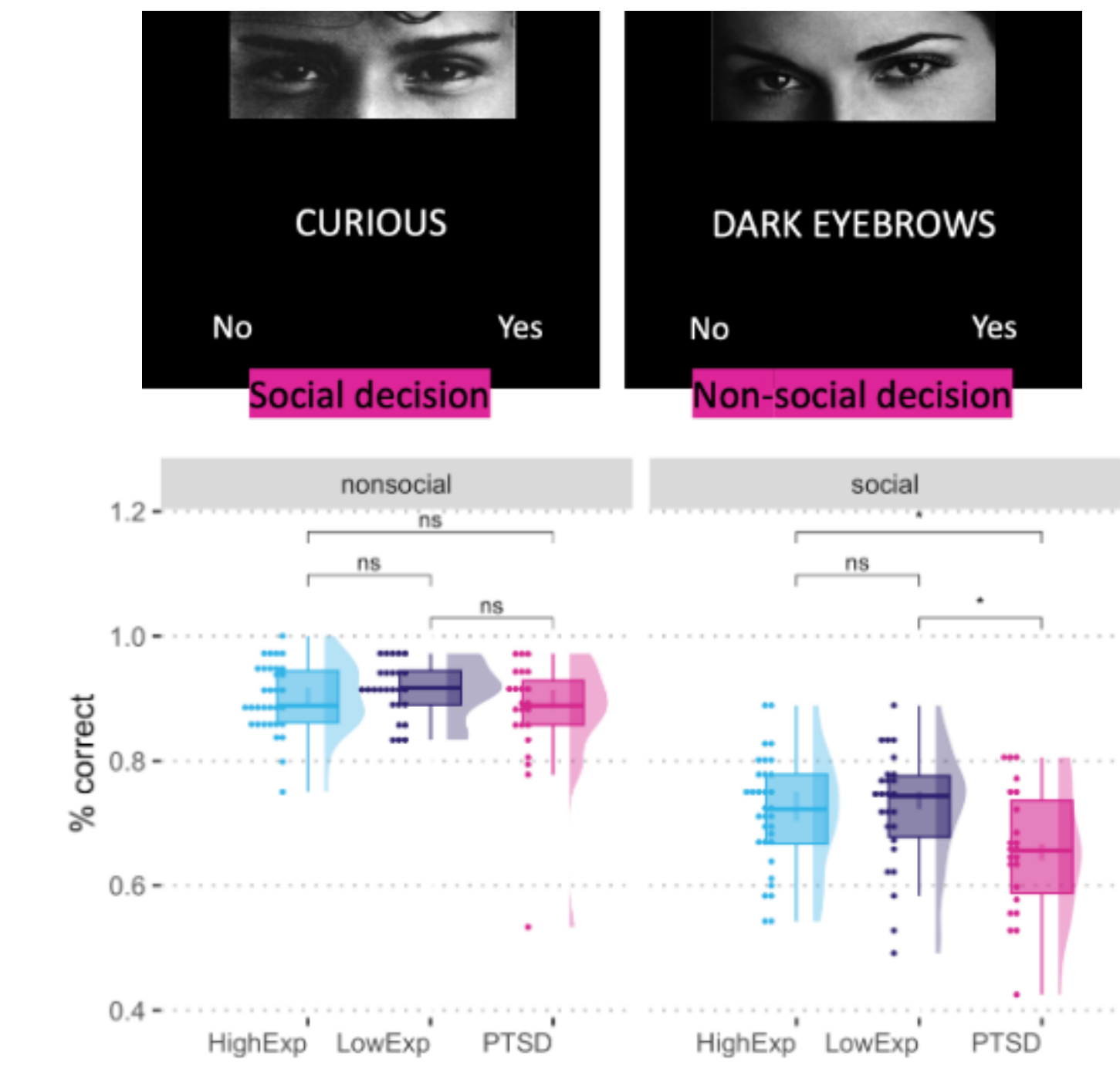
Lower-exposed

≤ 3 exposures, no lifetime psychopathology

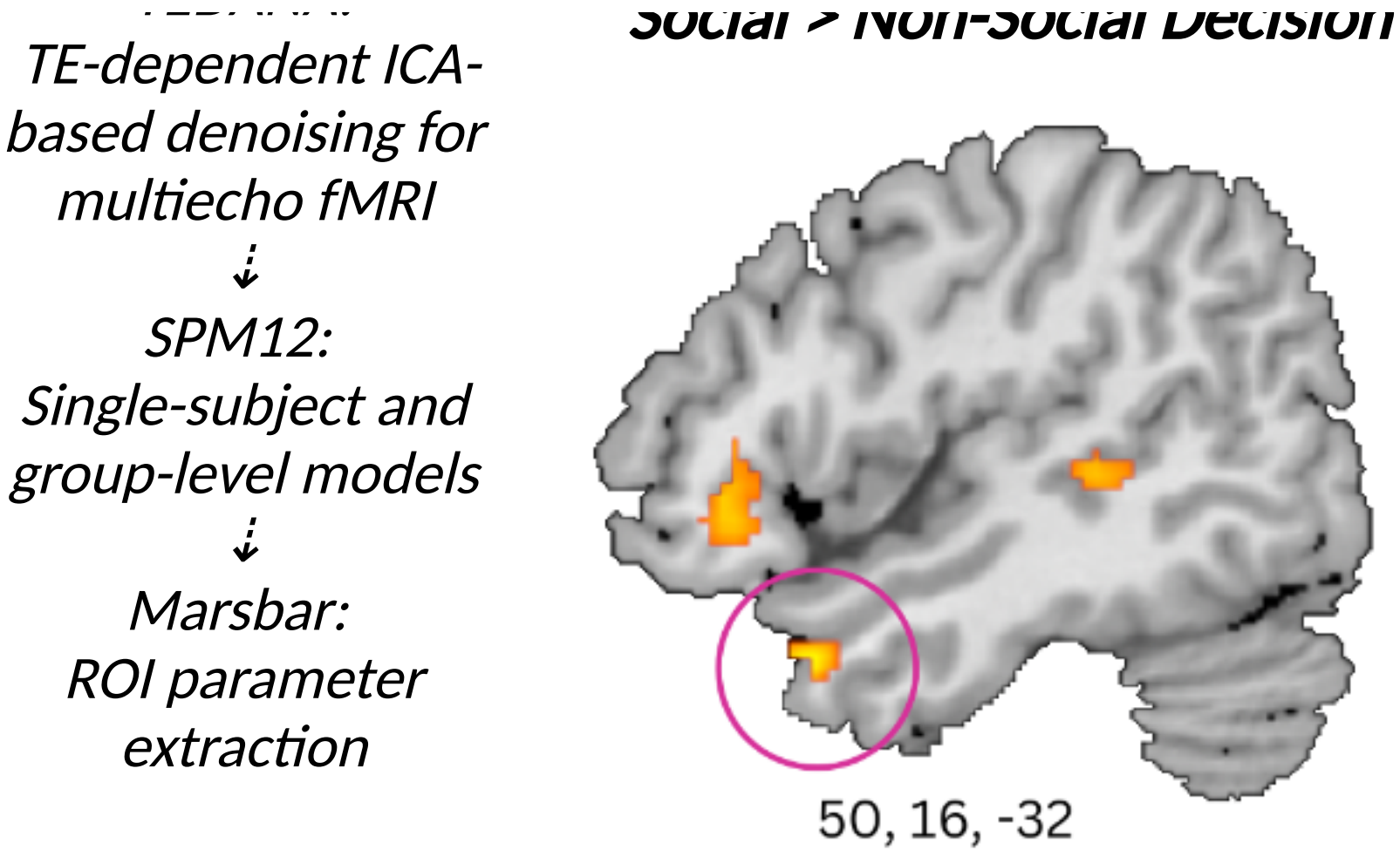
PTSD

DSM-5 criteria *WTC-related*

| | Higher-exposed CTL (N=33) | Lower-exposed CTL (N=26) | PTSD (N=23) | P-value |
|---------------------------------------|---------------------------|--------------------------|-------------------|---------|
| Traditional responder | | | | |
| Yes (e.g., police, fire, EMT) | 30 (90.9%) | 21 (80.8%) | 8 (34.8%) | <0.001 |
| No (e.g., carpenter, photojournalist) | 3 (9.1%) | 5 (19.2%) | 15 (65.2%) | |
| Sex | | | | |
| Female | 4 (12.1%) | 6 (23.1%) | 4 (17.4%) | 0.547 |
| Male | 29 (87.9%) | 20 (76.9%) | 19 (82.6%) | |
| Age | | | | |
| Mean (SD) | 54.5 (4.64) | 52.8 (6.28) | 53.0 (6.49) | 0.461 |
| Median [Min, Max] | 54.0 [42.0, 63.0] | 52.0 [41.0, 64.0] | 54.0 [41.0, 65.0] | |
| Race | | | | |
| Asian | 2 (6.1%) | 0 (0%) | 1 (4.3%) | 0.571 |
| Black | 3 (9.1%) | 1 (3.8%) | 3 (13.0%) | |
| Hispanic/Latino | 7 (21.2%) | 3 (11.5%) | 5 (21.7%) | |
| White | 21 (63.6%) | 22 (84.6%) | 14 (60.9%) | |

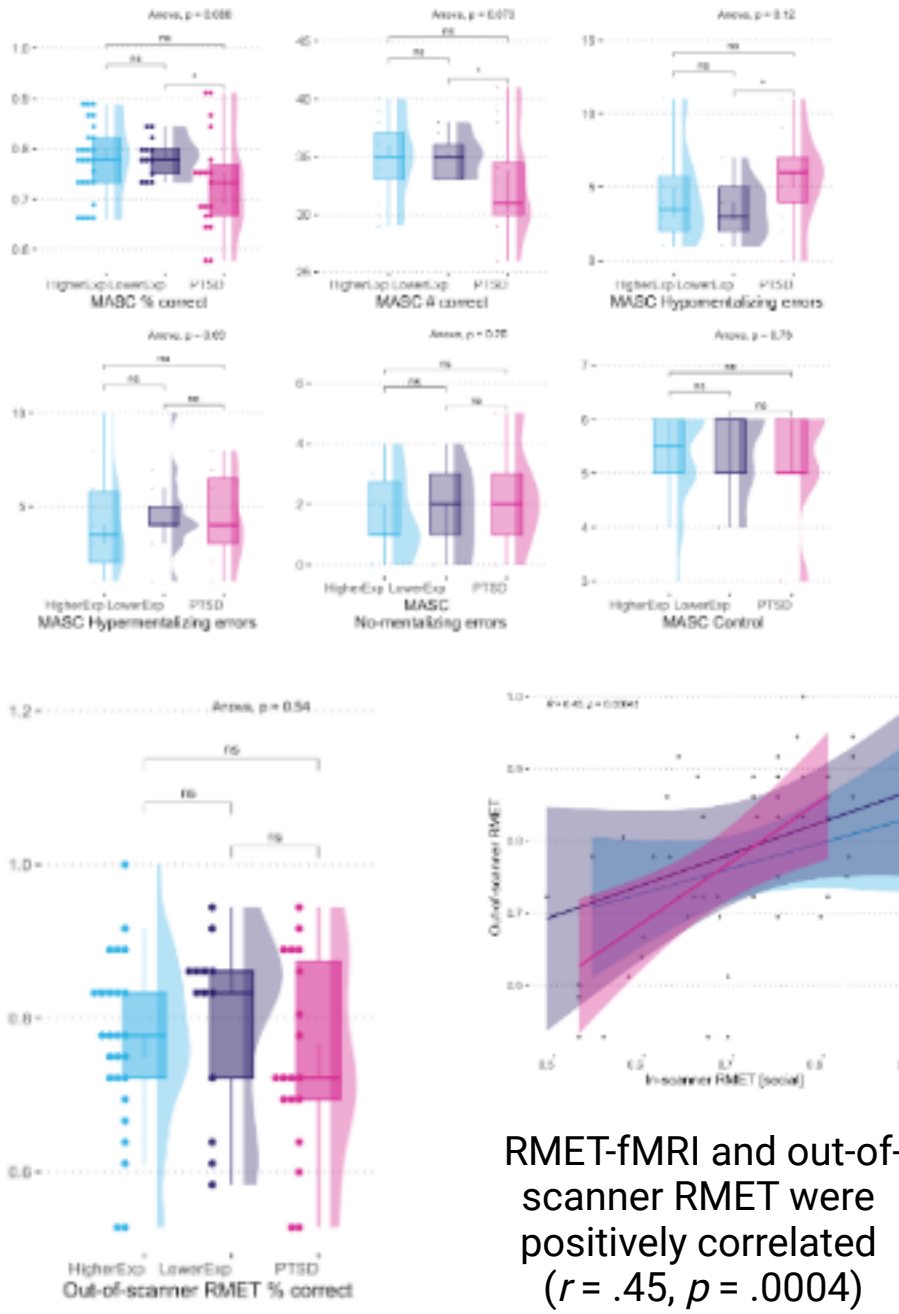


All three groups made more errors and were slower to respond on Social trials (vs. Non-social trials).

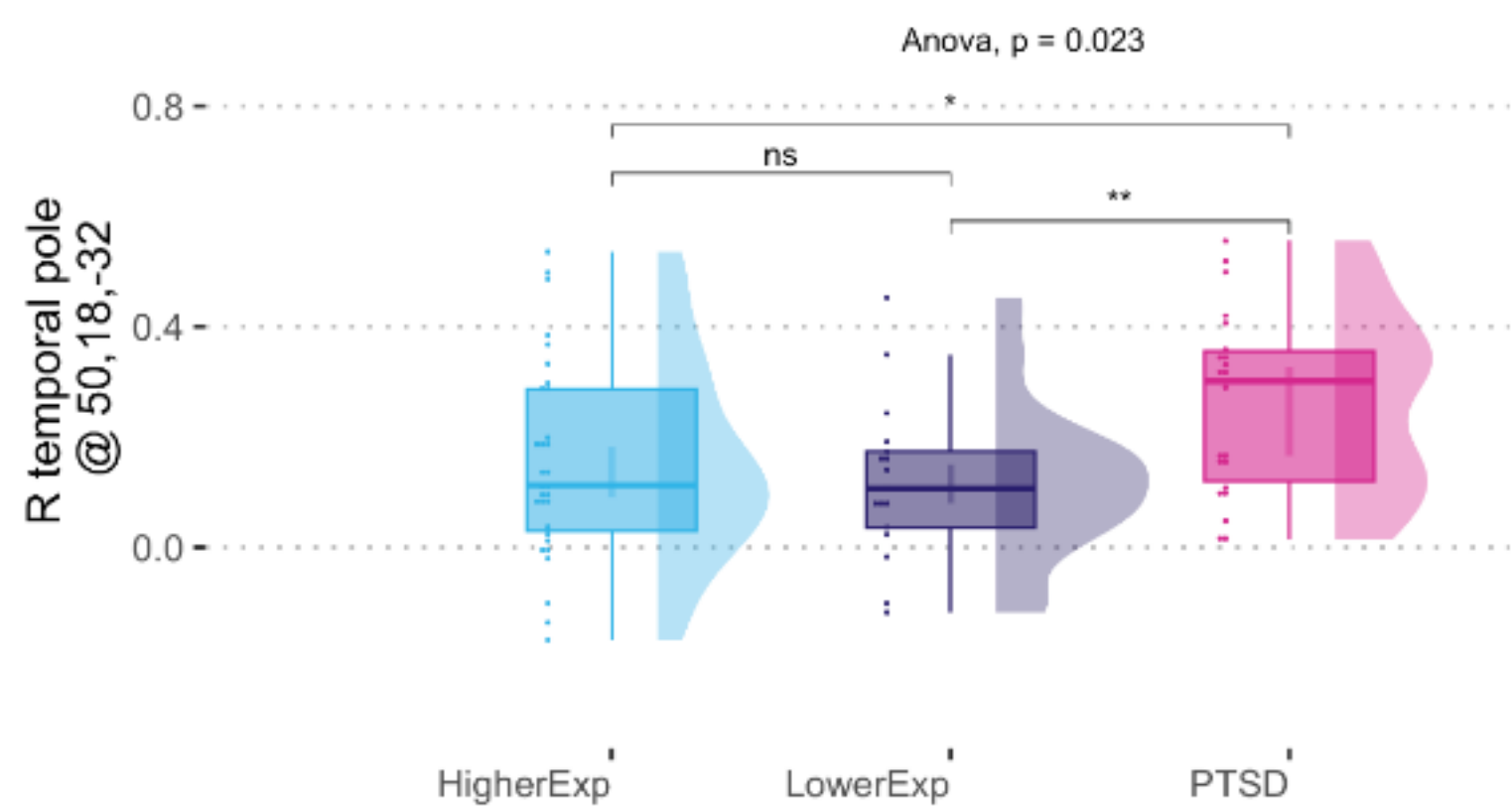


In the *Social > Non-Social* contrast, right temporal pole BOLD activation was greater in the PTSD group (vs. both higher- and lower-exposed controls).

There was no statistically significant main effect of group on the out-of-scanner social cognition tasks.



However, the PTSD group was less accurate and made more hypo-mentalizing errors on the MASC (vs. the lower-exposed group).



tbd - stats here?

fMRI SOCIAL COGNITION TASK

Reading the Mind in the Eyes (RMET-fMRI):

- Behavioral data (n = 82)
 - fMRI data (n = 70*)
 - 17 WTC-related PTSD adults
 - 33 higher-WTC exposed adults
 - 22 lower-WTC exposed adults
- *4 dropped after QC

OUT-OF-SCANNER TASKS

- Movie for the Assessment of Social Cognition (MASC; n = 60*)
 - Reading the Mind in the Eyes Task (RMET; n = 60*)
- *2 dropped after QC

FUTURE DIRECTIONS

TBD

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references & PDF →



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