

Effect of transcranial direct current stimulation (tDCS) on the feeling of social exclusion: influence of the romantic partner's face

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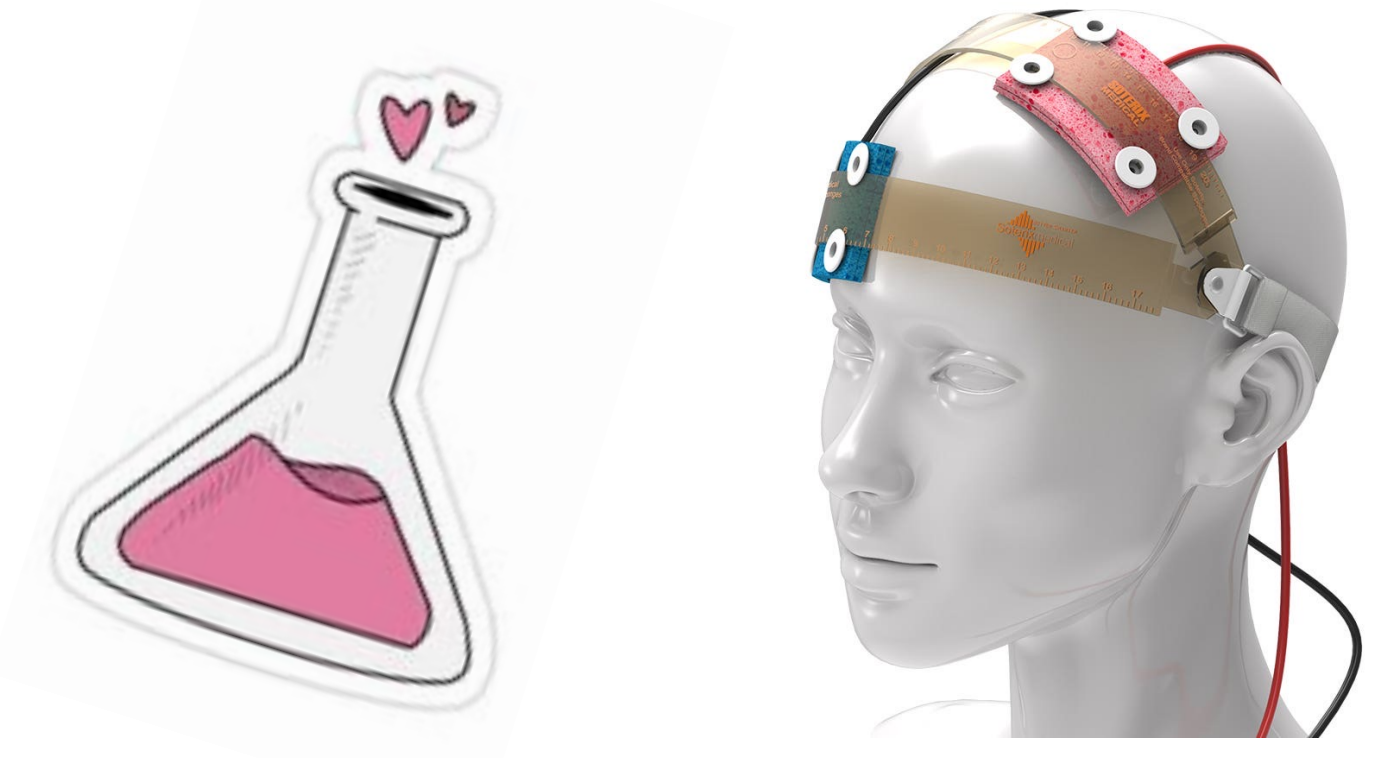
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BACKGROUND

Social pain has been shown to be malleable by a few variables, notably *social support of close others* and *tDCS stimulation*.

→ Both effects might be related to level of activation of the anterior cingulate cortex (ACC), by regulation from the right ventrolateral prefrontal cortex (rVLPFC).¹

- Some studies reveal that *social support from a romantic partner* is more efficient than from anyone else to diminish pain feelings. Seeing their picture could induce a reduction of social pain.³
- Some evidence suggest that *anodic tDCS stimulation* of rVLPFC causes analgesia of social pain.⁴



OBJECTIVE

Investigate the **combination** of the effects of tDCS and the romantic partner's picture on **social pain**.

METHODS

- 40 'in love' participants (27 ♀ ; M = 23.40 + 6.06 years).
- The *cyberball* task was used to induce social pain while the participants:

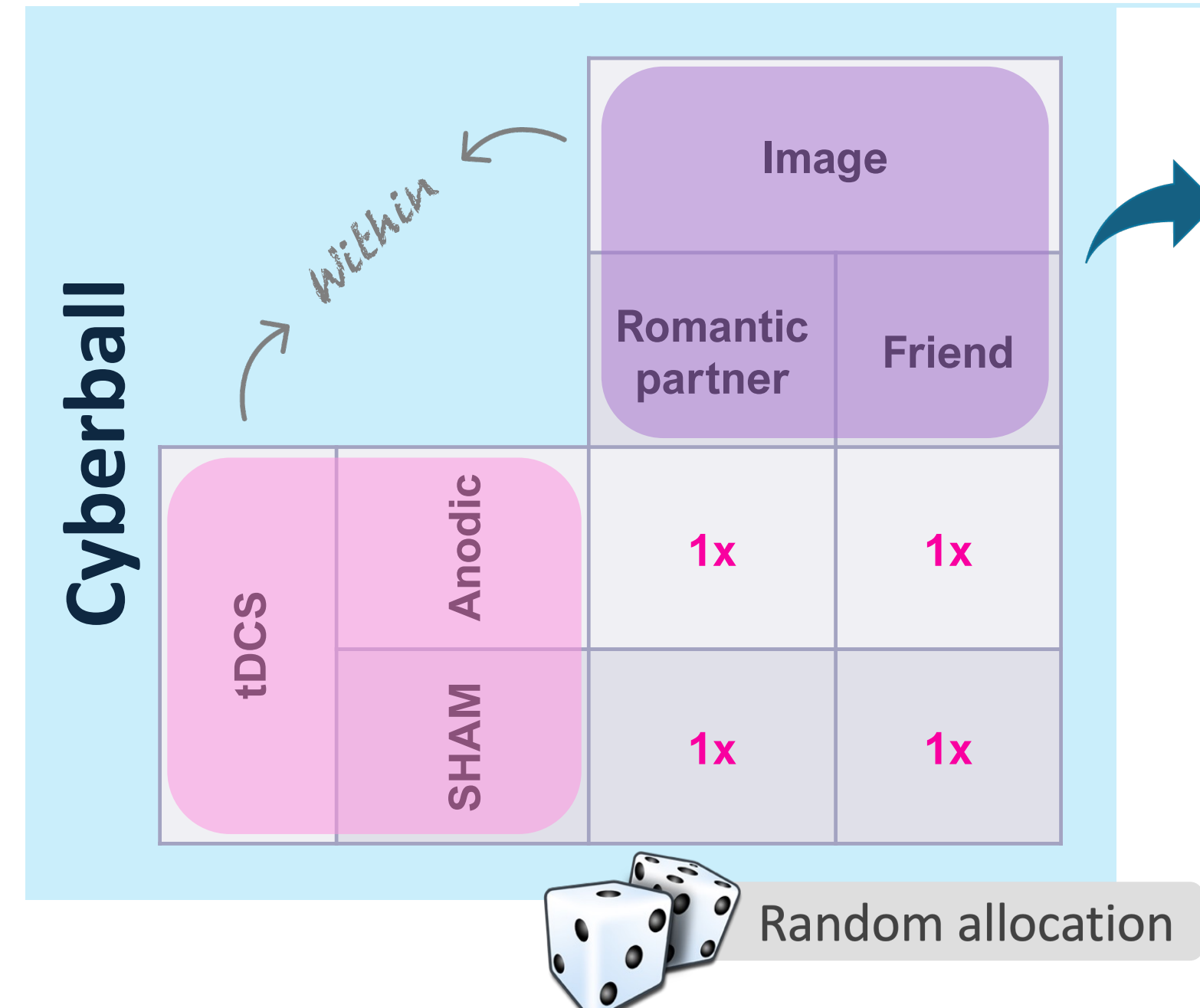
- Viewed an image of:
 - Their romantic partner
 - Their closest friend
 - *Same sex as the romantic partner.*

- Received tDCS stimulation (administered 1 week apart):
 - Anodic
 - SHAM



Stimulated area = **rVLPFC**
→ Anode: F6
→ Cathode: Fp1

PROCEDURE

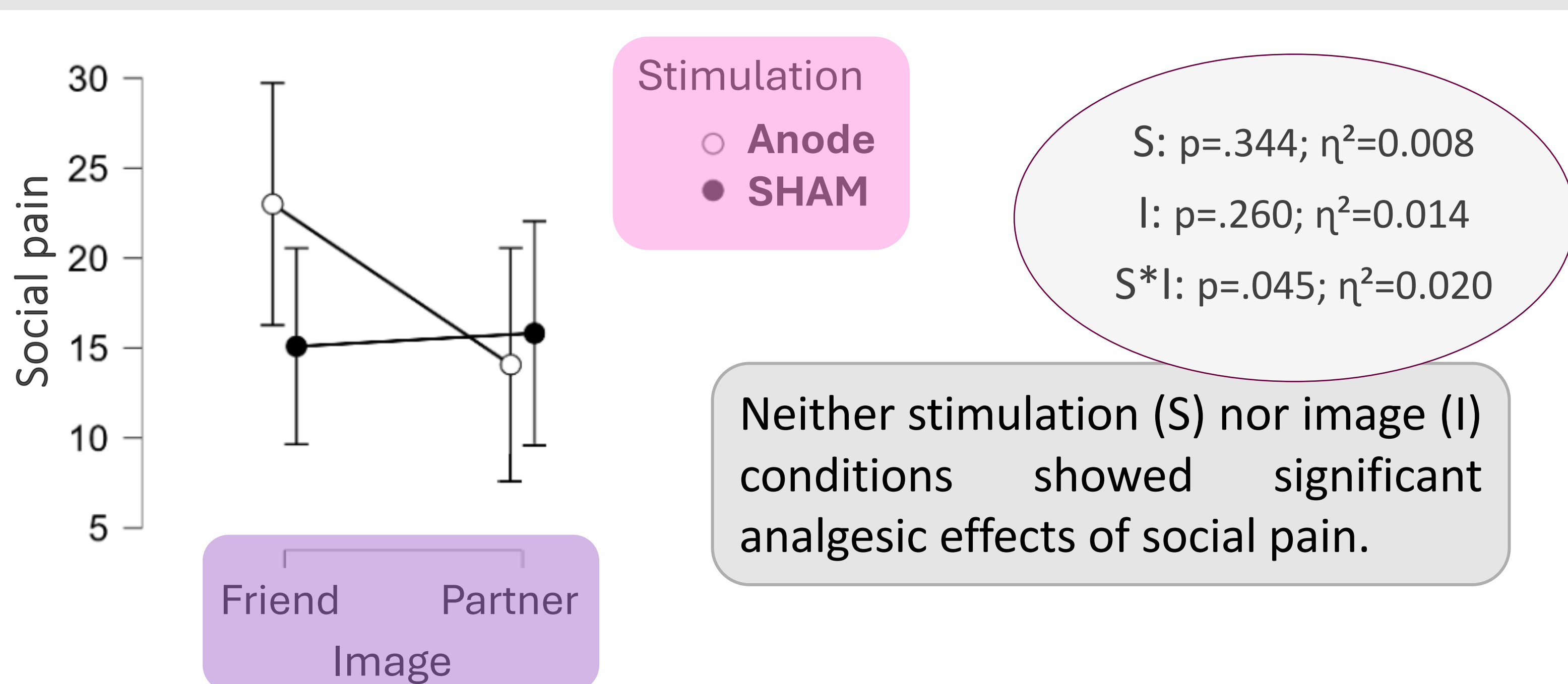


Each participant viewed both friend's then partner's pictures (*within*) in sham then active tDCS (*within*), each in a counterbalanced order.

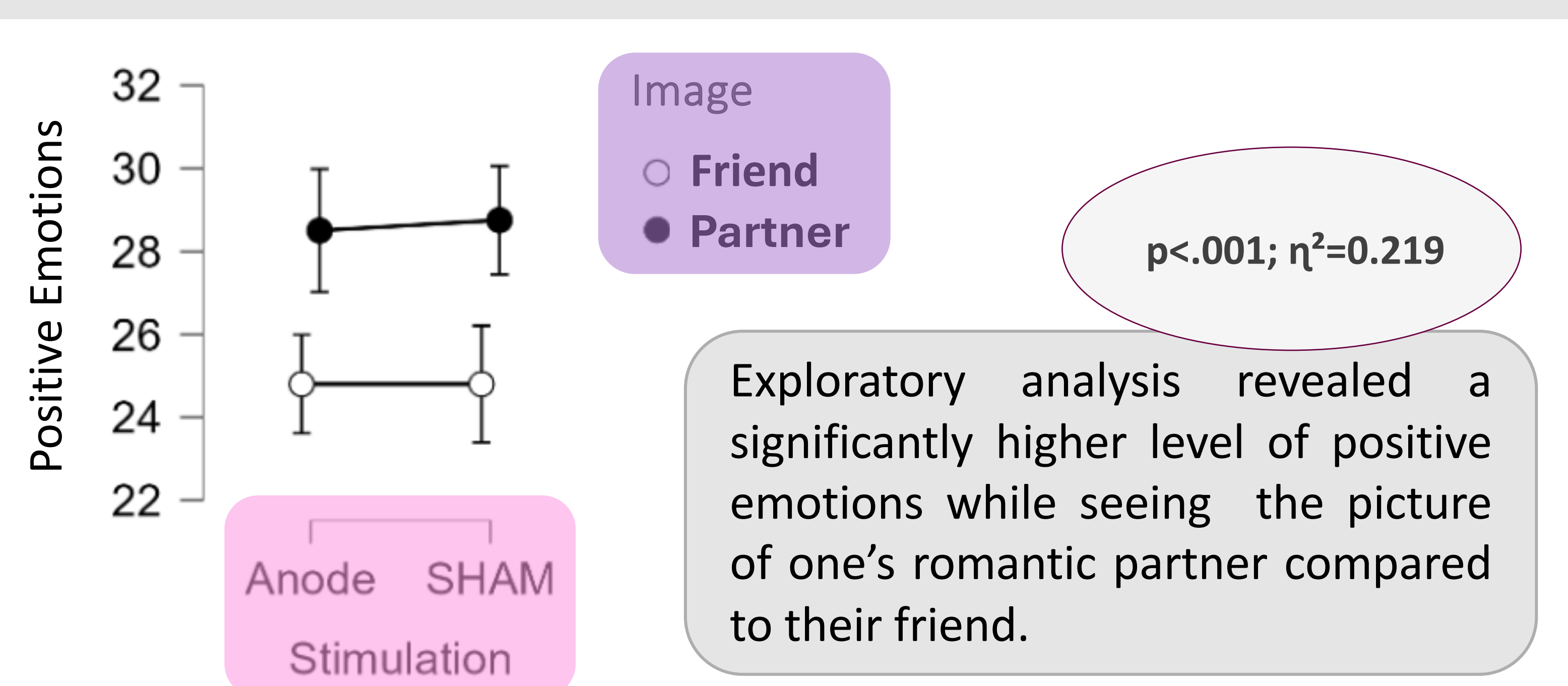
- **Social pain** (VD) was assessed after **each condition** by a VAS (0-100) of the level of **discomfort/suffering** experienced during the game.
- **Emotions** were assessed with the PANAS.

RESULTS

#1 SOCIAL PAIN



#2 POSITIVE EMOTIONS



CONCLUSIONS

The present results didn't support previous findings of **analgesic effects on social pain**:

- No effect of *partner's picture*
- No effect of *rVLPFC tDCS*.

Seeing a romantic partner's picture might induce more positive feelings during social aversive situation.

→ Offers insight on the **contribution of love in emotional experience**.

REFERENCES

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