

Exploring the role of attraction and familiarity on the autonomic pupillary response.

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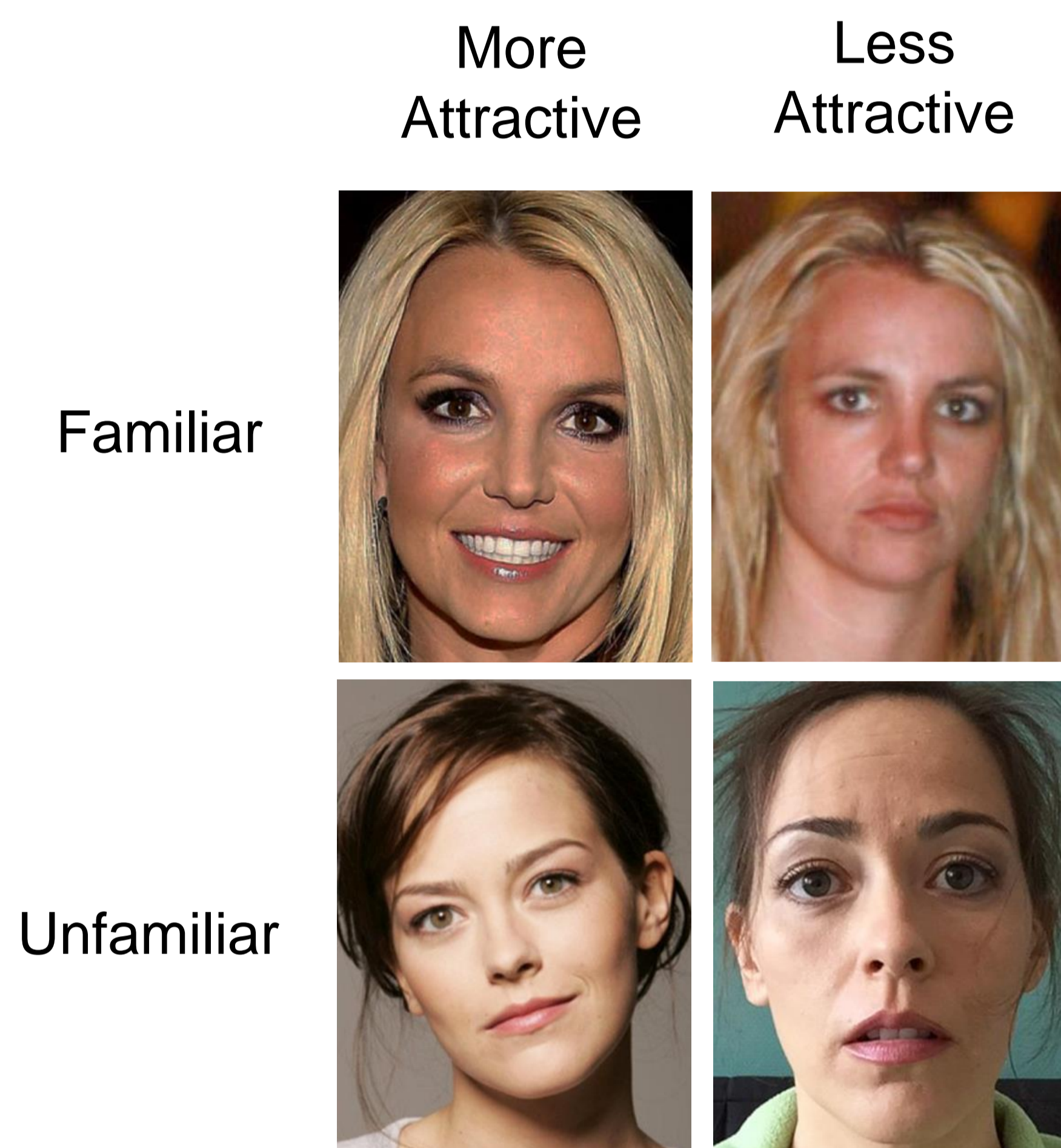
Introduction and Aims

- Pupillary responses have been touted as an effective autonomic measure of sexual attraction, with evidence showing results congruent with sexual orientation (Hess, Seltzer & Shlien, 1965), and age preference (Attard-Johnson, Bindemann and Ó Ciardha, 2016).
- However, it remains unknown how other factors known to influence this response, such as familiarity (Kafkas & Montaldi, 2015), may interact. This project aims to explore the potentiality of interaction between such factors.
- Furthermore, we aim to analyse the manipulability of this measure when used to investigate attraction – can factors such as experimenter conduct or intentional attention misdirection lead to diminished pupillary responses?

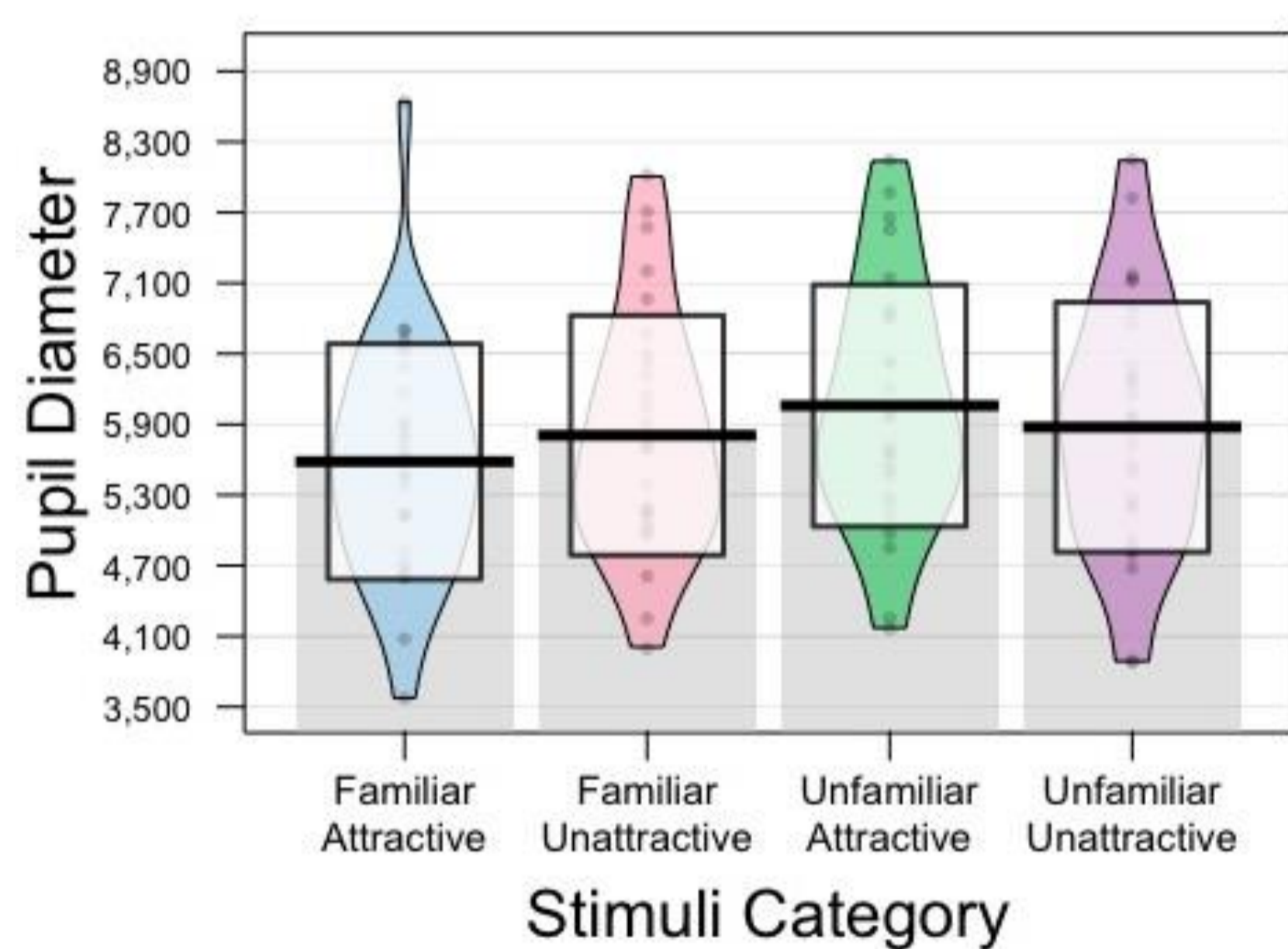
Faces

Method

- 30 heterosexual male participants.
- Facial images of 20 identities.
- 10 British and 10 German.
- One **more attractive** and one **less attractive** image per identity.



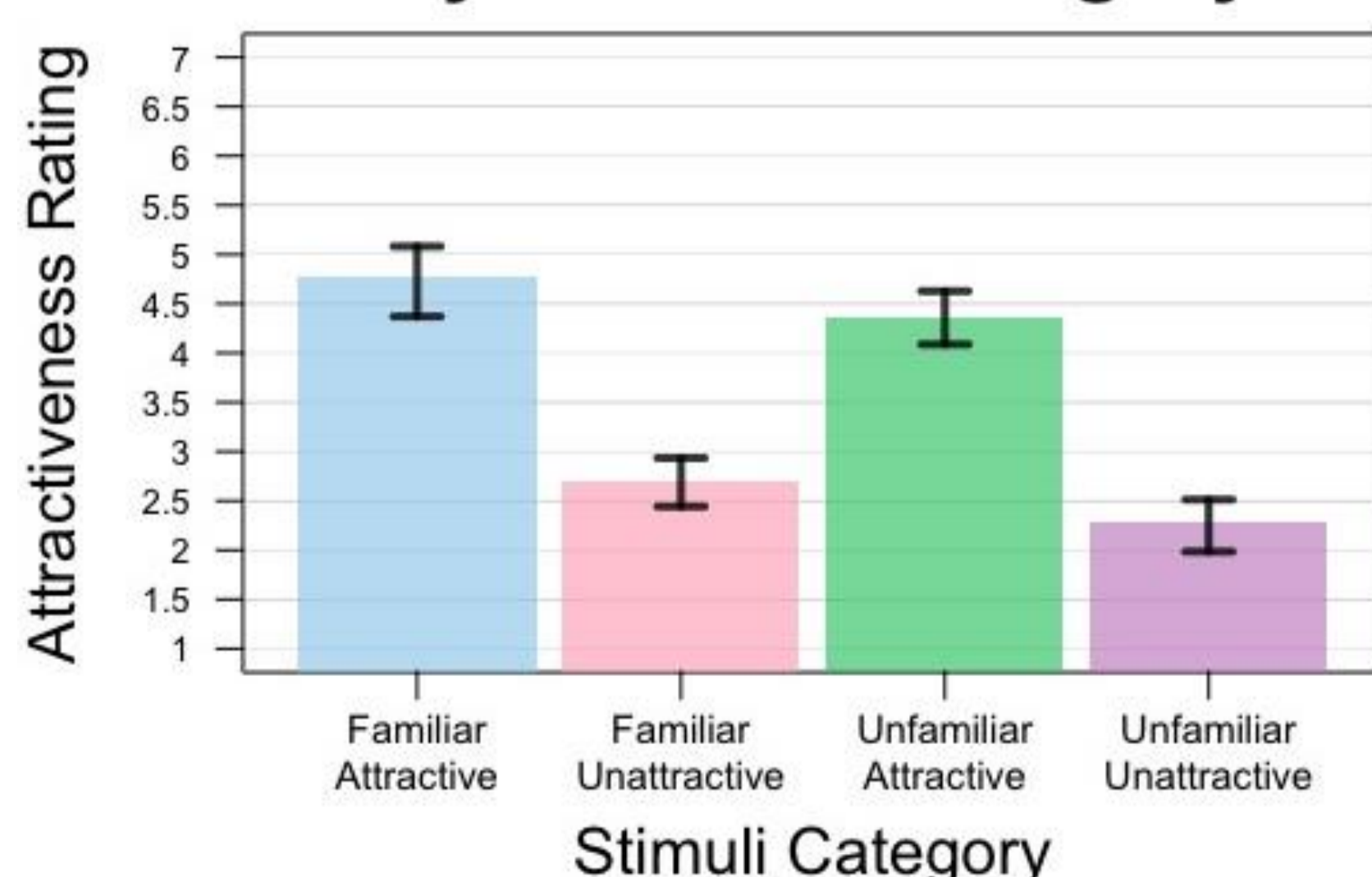
Pupil size by stimulus category



Unexpectedly, unfamiliar faces elicited higher pupil dilation than familiar. However, no significant difference present for attractiveness or interaction between these factors.

Attractiveness: $F(1,28) = 0.05, p = .83$, **Familiarity:** $F(1,28) = 8.35, p = .007$, **Interaction:** $F(1,28) = 3.74, p = .06$.

Attractiveness rating by stimulus category



As expected, the familiar and more attractive categories were considered more attractive than the other categories.

Attractiveness: $F(1,28) = 252.59, p < .001$, **Familiarity:** $F(1,28) = 25.53, p < .001$, **Interaction:** $F(1,28) = 0.002, p = .97$

Full Body

Method

- 21 heterosexual male participants thus far.
- Full body images of 20 identities.
- 10 British and 10 Australian.
- One **swimwear** and one **casual** image per identity.
- Stimuli categories chosen to promote **sexual attraction**.



Expected results

- If **sexual attraction** is the key, results should show larger pupil dilation for the beach stimuli.
- If this is the case, this may be due to increased attention towards sexually appealing content, accounting for absence of expected results when using face stimuli.

Regions of Interest

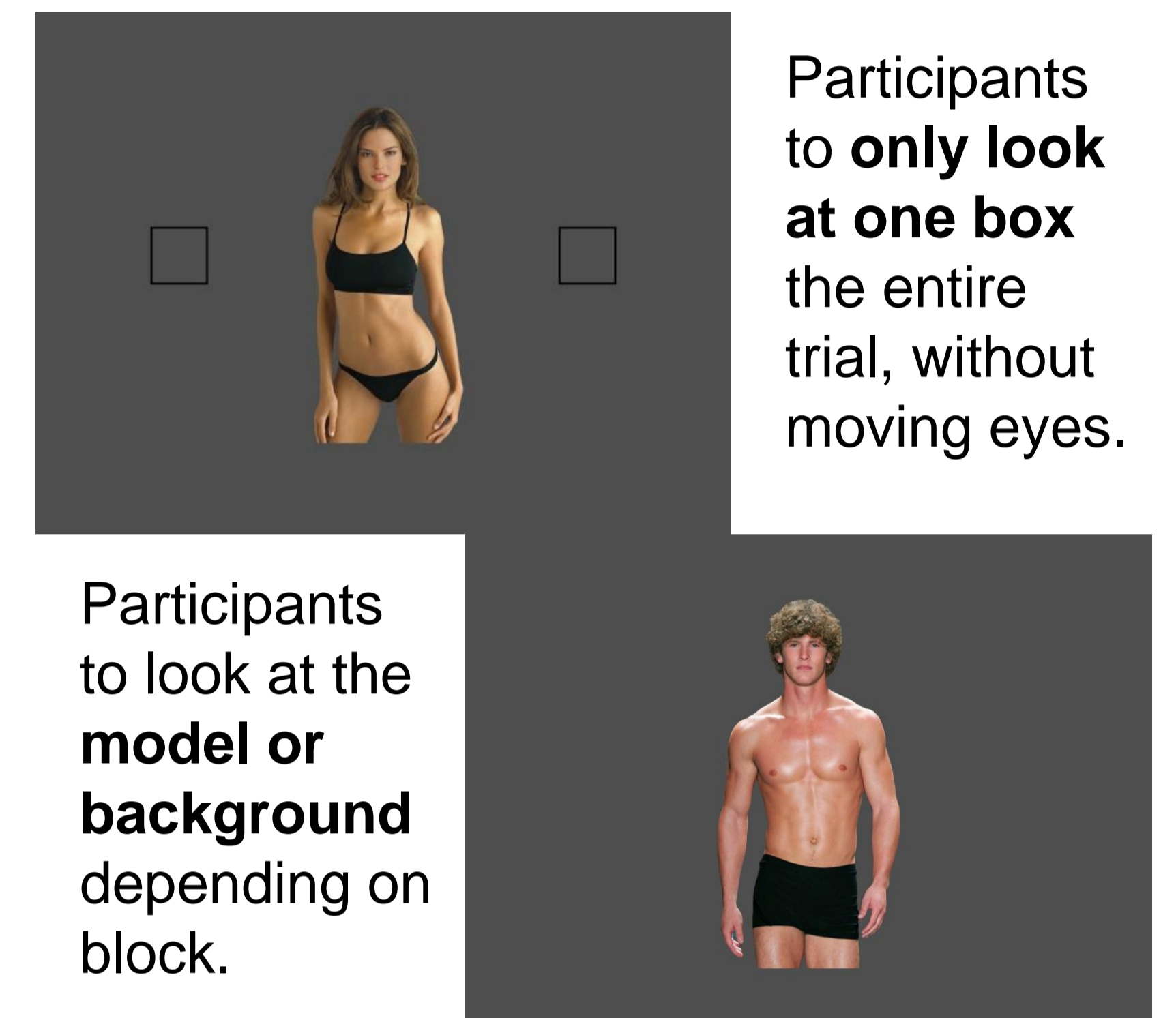


Intentional Manipulation

Method

- 22 male participant thus far.
- 40 full body images collected from a **forensic database**.
- 20 male and 20 female (10 of each have boxes to the left and right of the model).
- **Attractiveness and pupil response have previously been investigated utilizing these stimuli.**

Intentional Manipulation Cont.



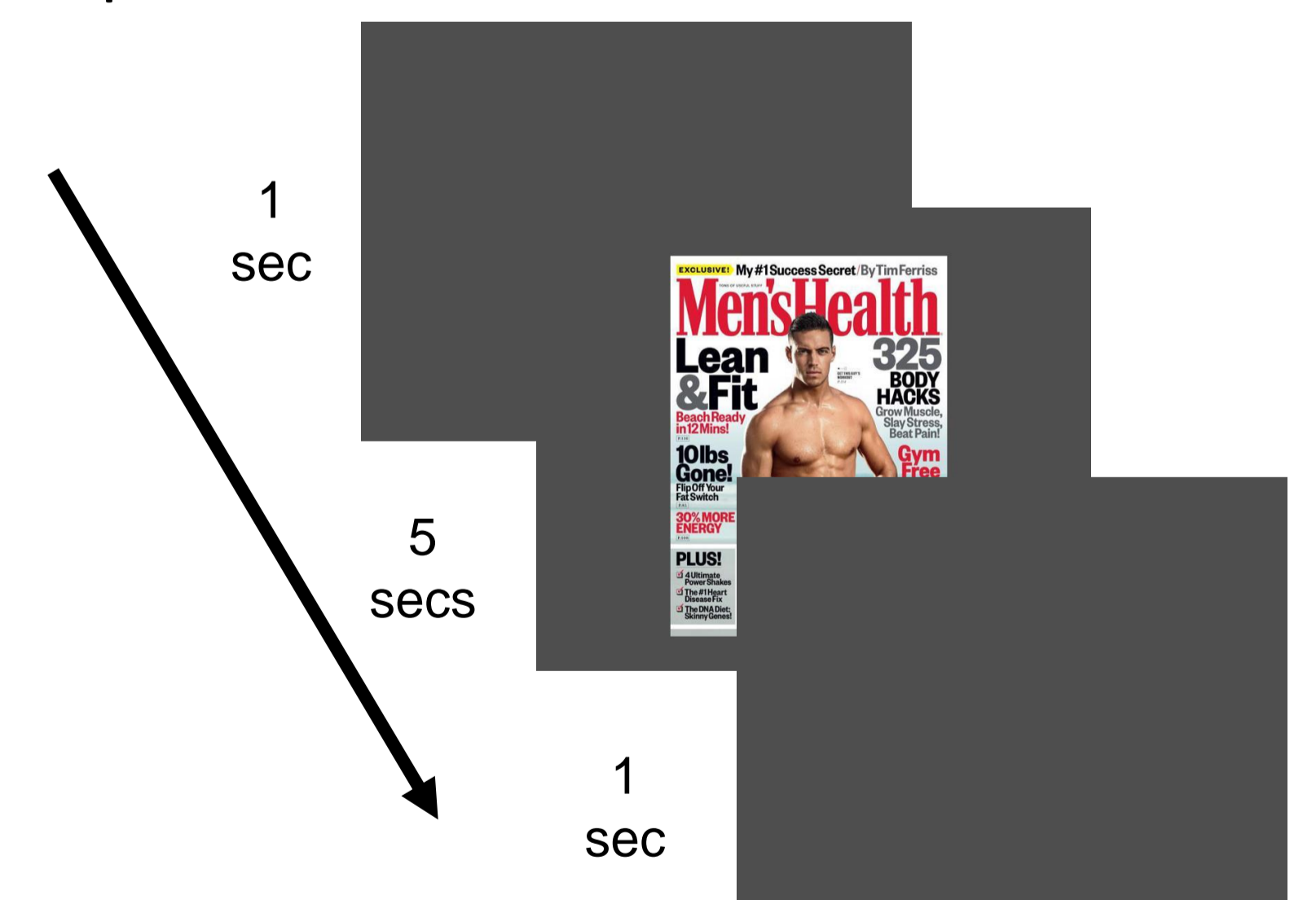
Expected results

- If stimuli presented in the periphery are able to affect pupil size, we would expect comparable pupil diameter across blocks.
- If direct attention is required – pupil size should be highest when viewing the stimuli models.
- Currently unknown which direction to expect.

Being Watched

Method

- 18 male participants thus far.
- Images of 20 identities, collected from Men's and Women's health magazines.
- One free viewing block presented with experimenter in room, one without.



Expected results

- Less attention to sexual content expected with experimenter present.
- If attention to these areas elicits pupil dilation, higher pupil size is expected when experimenter is absent.

References

1. Hess, E. H., Seltzer, A. L., & Shlien, J. M. (1965). Pupil response of heterosexual and homosexual males to pictures of men and women: A pilot study. *Journal of Abnormal Psychology, 70*(3), 165-168. doi: 10.1037/h0021978
2. Attard-Johnson, J., Bindemann, M., & Ó Ciardha, C. (2016). Pupillary response as an age-specific measure of sexual interest. *Archives of Sexual Behaviour, 45*(4), 855-870. doi: 10.1007/s10508-015-0681-3
3. Kafkas, A., & Montaldi, D. (2015). The pupillary response discriminates between subjective and objective familiarity and novelty. *Psychophysiology, 52*(10), 1305-1316. doi: 10.1111/psyp.12471