# Affective experiences predict interoception and personality



Aureen DSouza<sup>1\*</sup>, Ignacio Rebollo<sup>1,2\*</sup>, Angela Lazova<sup>1</sup>, Xi Yuan<sup>1</sup>, Soyoung Q. Park<sup>1,2,3,4</sup>



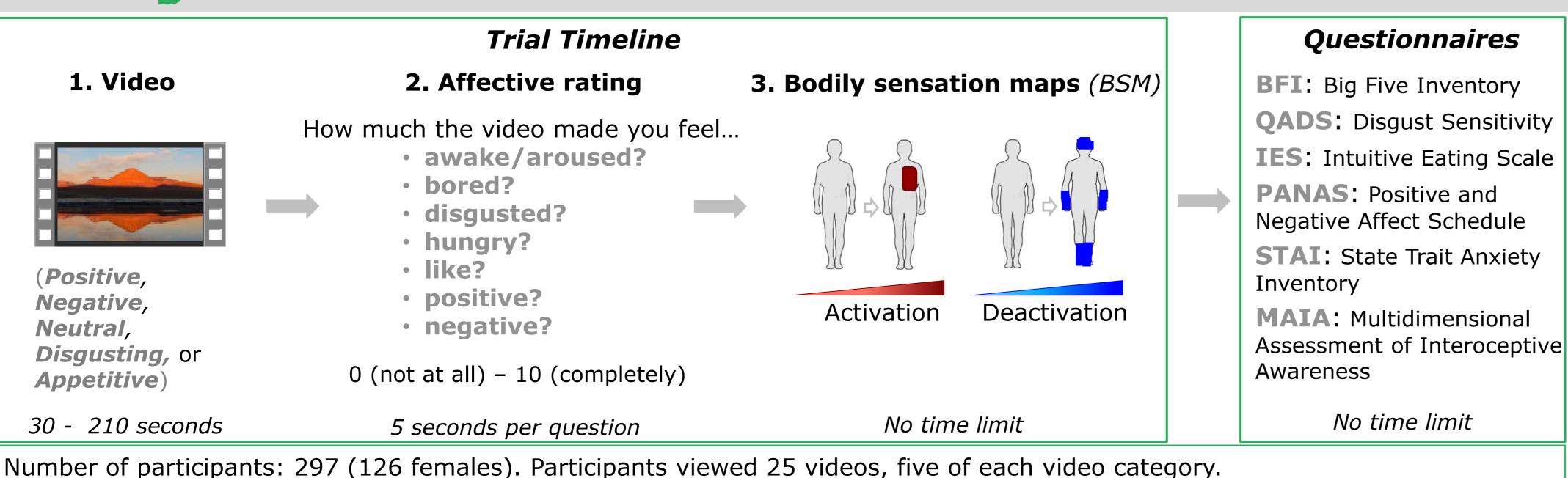
## Background

- Emotional stimuli trigger changes in affect accompanied by changes in bodily sensations  $^{1,2}$ , which differ among people.
- Constructivist theories underly the importance of exploring inter-individual variability in these responses across different dimensions (valence, arousal, etc). 3
- Traits like personality, interoception, anxiety could, therefore, be an important driver of inter-individual variability.

#### Goal

- Predict traits from subjective reports of affective experience, by exploring inter-individual variability in responses to different emotional stimuli.
- Uncover the hidden structure of the correlation of traits that systematically influence affective experience.

# Design

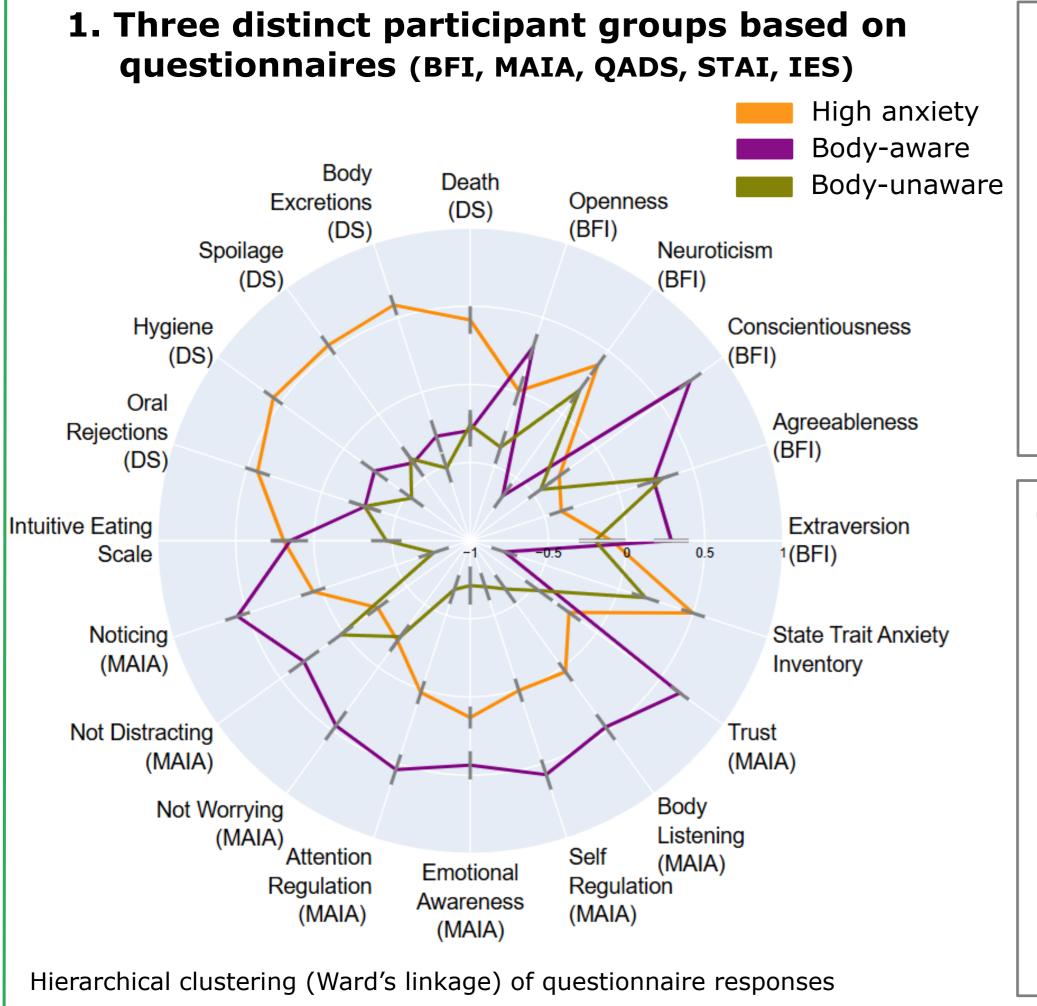


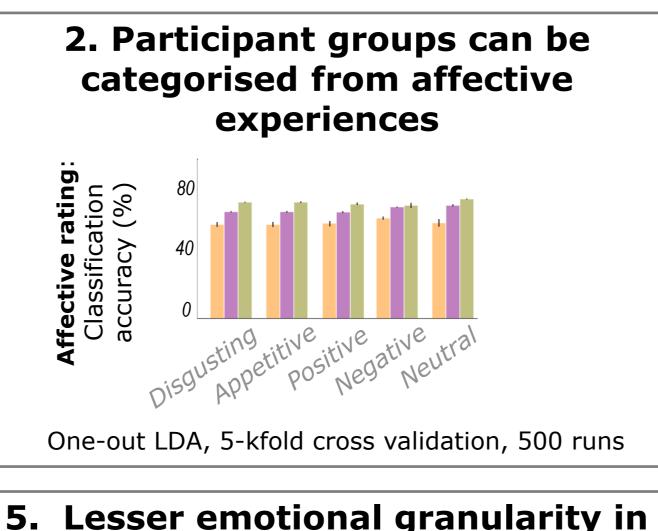
#### Validation of the paradigm-Neutral Negative hunger -- Positive Disgusting Appetitive Activation **BSMs** for each video Mean rating for each **affective** category displaying t-stats (p<0.05, rating and video category FDR corrected)

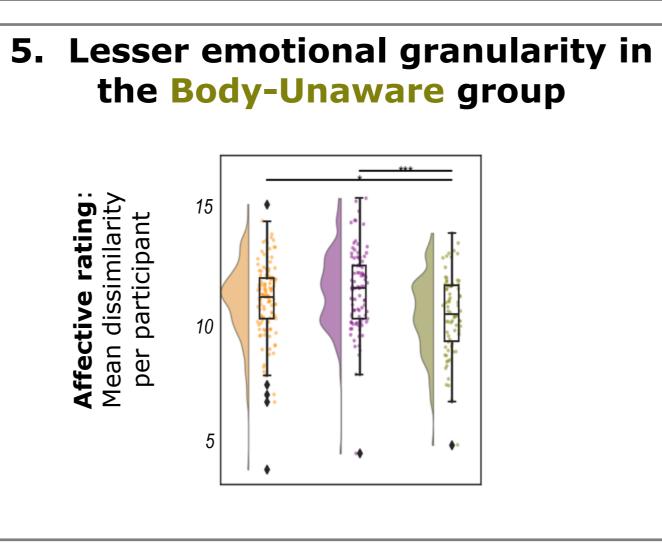
Distinct responses for different emotional stimuli

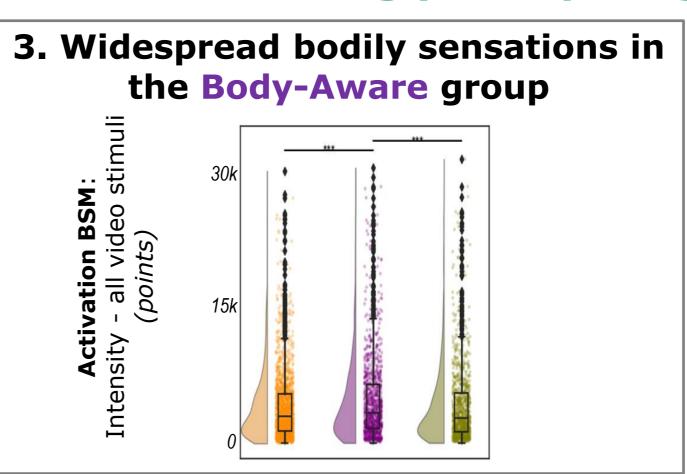
#### Results

#### A. Differences in affective ratings and bodily sensations among participant groups



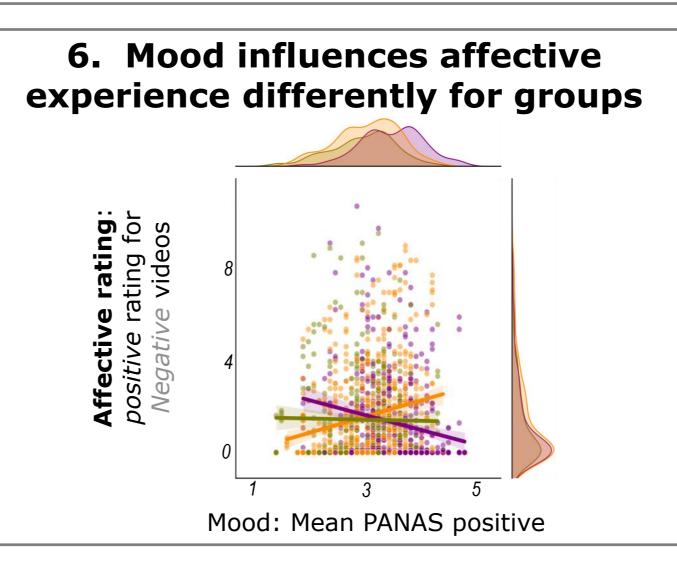


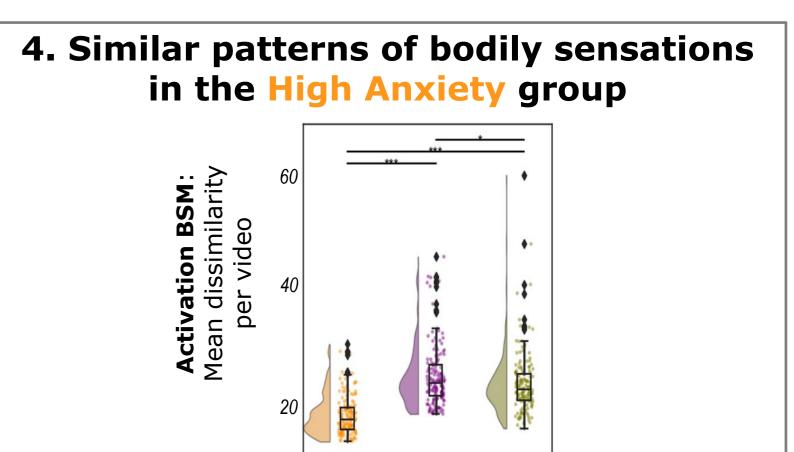


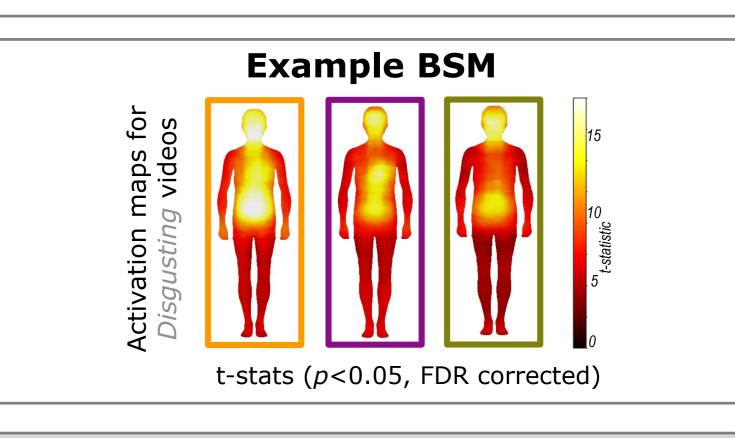


Questionnaires

No time limit



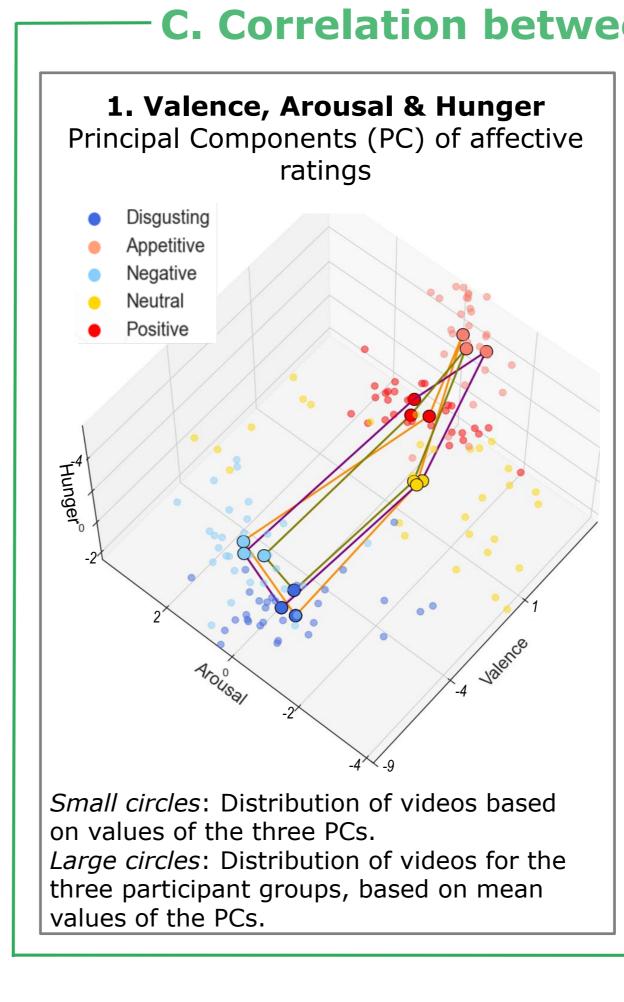


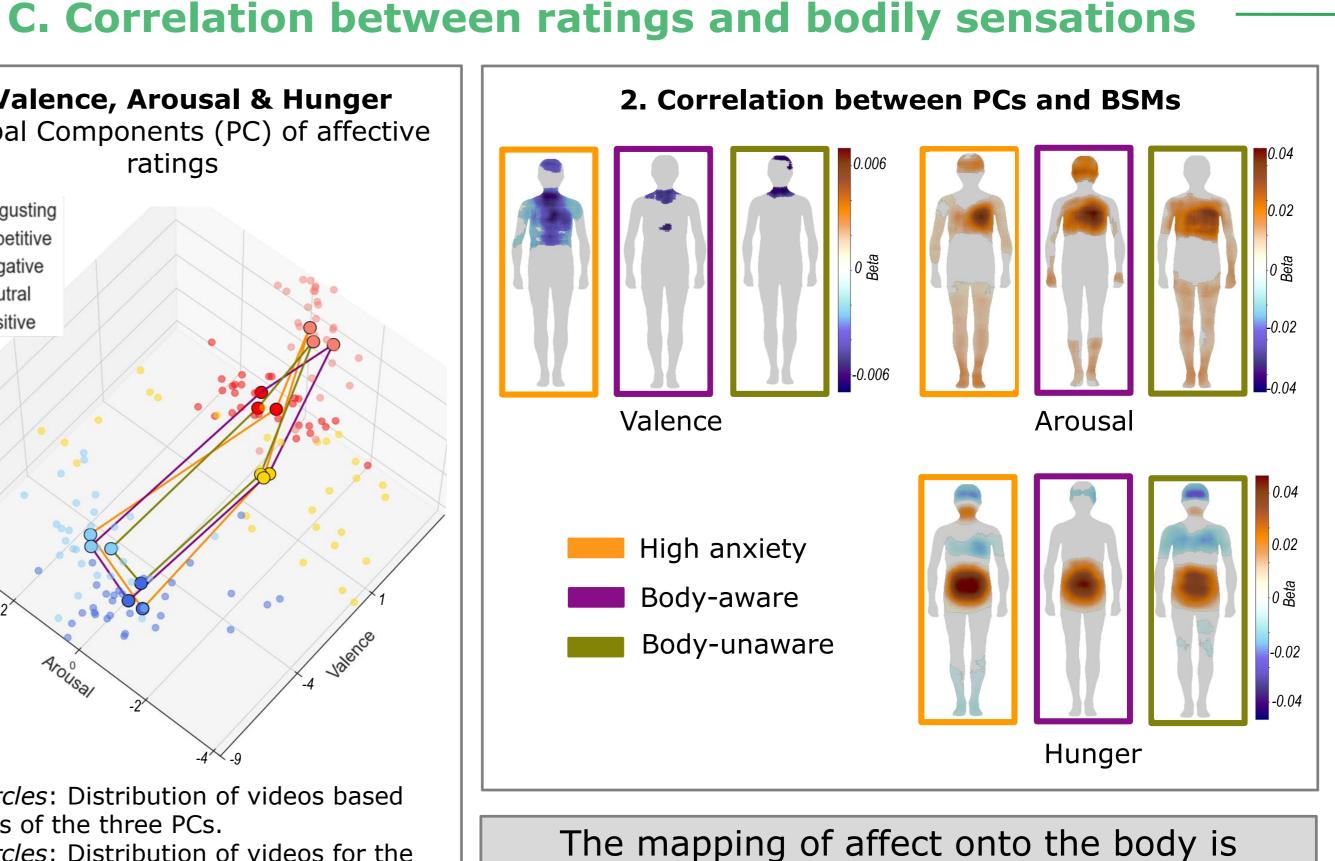


Inter individual variability in affective experience can predict traits.

#### 1. Correlation between questionnaire responses 2. Predicting ratings from questionnaires Neuroticism(BFI OralRejections(DS) Death(DS) **E.g.:** Neuroticism(BFI) Conscientiousness(BFI) motionalAwareness(MAIA Extraversion(BFI BodvListening(MA**I**A Hygiene(DS) BodyExcretions(DS Predicting disgust rating Hygiene(DS) of Disgusting OralRejections(DS IntuitiveEatingScale videos. Coefficients of Elastic-net regression displayed. BodyListening(MAIA 3. Correlation between BSM and questionnaires Activity(PANAS Correlation of activation BSMs of *Positive* videos and A systematic combination of traits explains variability questionnaires using Canonical in affective experiences for different emotional Correlation stimuli. Analysis<sup>4</sup>.

**B.** Systematic combination of traits





different across participant groups.

# Conclusion

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- Inter-individual variability in affective experience is systematically linked to interoception, personality and mood, emphasizing the embodied nature of emotions.
- Potential implications for understanding emotional experiences and their association with personality traits, extending to clinical populations.

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#### **Affiliations**

- 1. Department of Decision Neuroscience and Nutrition, German Institute of Human Nutrition (DIfE), Potsdam-Rehbrücke
- 2. Charité Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Neuroscience
- 3. German Center for Diabetes Research (DZD), Munich-Neuherberg
- Bundesministerium für Bildung und Forschung

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### Contact

aureen.dsouza@dife.de ignacio.rebollo@dife.de

1. Nummenmaa et al., 2018 2. Volynets et al., 2020 3. Barrett et al., 2018 4. Mihalik et al., 2022

References

Research Center, Berlin

4. Charité - Universitätsmedizin Berlin, Einstein Center for Neurosciences Berlin,