

Topics RMEP 2024

Topic 1: Arousal in virtual crowds (Agnes Kloft & Otso Haavisto; 1-2 Groups)

Does the absolute or spatial density of the room affect arousal?

Method: VR simulation with Electrodermal activity (EDA) sensing

Design: 3 rooms X 3 Interagent-distances (2, 1.5, 1m) X
2 populations (Boxes vs. people) X 10 repetitions = 180 trials
DVs are EDA (Tonic & Phasic) and subjective arousal

Sample: 20 people

Statistical test: *t*-test and ANOVA, Pearson-correlation

Status: 80% implemented (TBD by 1.3.24)

Literature:

Christou, C., Herakleous, K., Tzanavari, A., & Poullis, C. (2015, September). Psychophysiological responses to virtual crowds: implications for wearable computing. In 2015 *International Conference on Affective Computing and Intelligent Interaction (ACII)* (pp. 35-41). IEEE.

Sadeghi, S., Daziano, R., Yoon, S. Y., & Anderson, A. K. (2023). Affective experience in a virtual crowd regulates perceived travel time. *Virtual Reality*, 27(2), 1051-1061.



Topic 2: The Impact of Group Viewing on Emotional Responses to Film (Agnes Kloft; 1-2 Groups)

Prior studies:

- Emotions, like fear and happiness intensify with group attention (Shteynberg et al., 2014)
- Facial expressions of emotions align with emotional content of music (Kayser et al., 2021) and movies (Zempelin et al., 2021)

RQ: Does group viewing amplify emotional intensity compared to individual viewing?

HYP: Viewing film scenes in a group setting will...

- (1) lead to more extreme ratings of valence (pleasantness) and arousal (alertness) in subjective ratings.
- (2) lead to stronger display of emotions as measured by facial expression analysis.

TODO: Stimulus selection



Kayser, D., Egermann, H., & Barraclough, N. E. (2022). Audience facial expressions detected by automated face analysis software reflect emotions in music. *Behavior research methods*, 54(3), 1493–1507. <https://doi.org/10.3758/s13428-021-01678-3>

Shteynberg, G., Hirsh, J. B., Apfelbaum, E. P., Larsen, J. T., Galinsky, A. D., & Roese, N. J. (2014). Feeling more together: group attention intensifies emotion. *Emotion* (Washington, D.C.), 14(6), 1102–1114. <https://doi.org/10.1037/a0037697> (especially Experiment 2)

Zempelin S, Sejunaite K, Lanza C, Riepe MW (2021) Emotion induction in young and old persons on watching movie segments: Facial expressions reflect subjective ratings.

PLOS ONE 16(6): e0253378. <https://doi.org/10.1371/journal.pone.0253378>

Topic 3: Dunning-Kruger effect with Artificial Intelligence (Robin Welsch; 1-2 Groups)

Is the Dunning-Kruger effect amplified with AI-support?

Design: Replicate LSAT study in two groups

- One control group
- One group that uses chatGPT (GPT 3.5)
 - Ask participants to share their conversation

Method: Online testing via qualtrics

Status: 90% implemented

- Final changes can be done by students
 - Participant Information
 - Mental models of GPT
 - SIPAS

Sample: 20 in each group - maybe sample more online

Statistical test: *t*-test and ANOVA

Literature:

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of personality and social psychology*, 77(6), 1121.

Jansen, R. A., Rafferty, A. N., & Griffiths, T. L. (2021). A rational model of the Dunning–Kruger effect supports insensitivity to evidence in low performers. *Nature Human Behaviour*, 5(6), 756-763.

