

Temporal Evolution of Rapid-Scene Visual Experience

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Background

- Visual Informativeness is influenced by :
 - Type of stimuli (lab stimuli vs natural-scene images)
 - Restriction on response options^[1]
 - Subjective confidence in rapid-scene perception is less understood

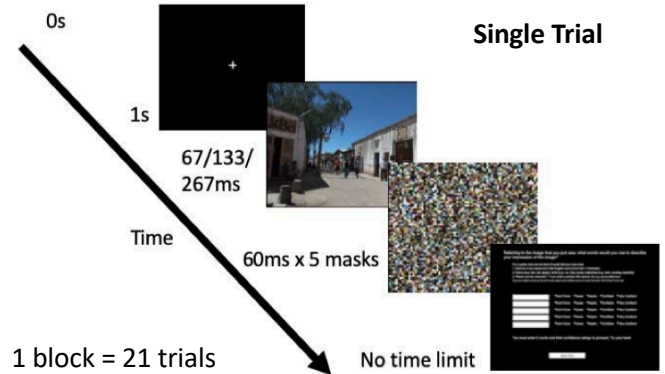
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Aim

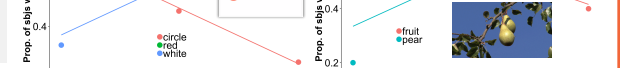
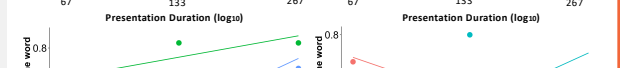
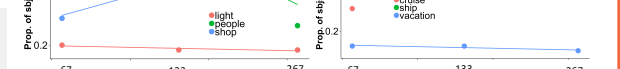
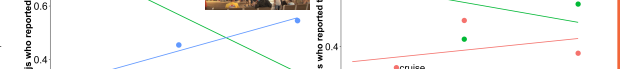
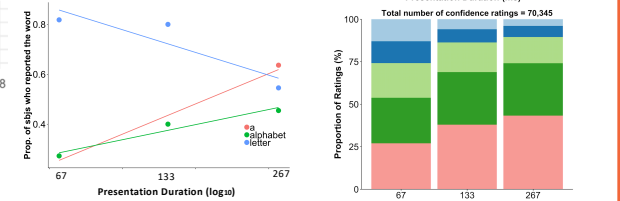
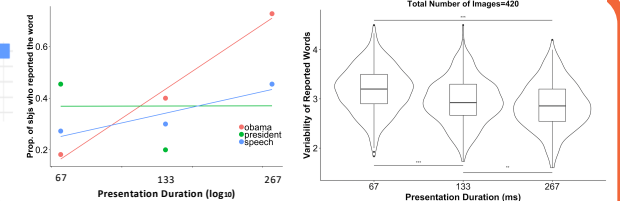
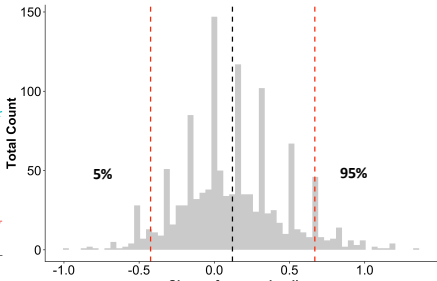
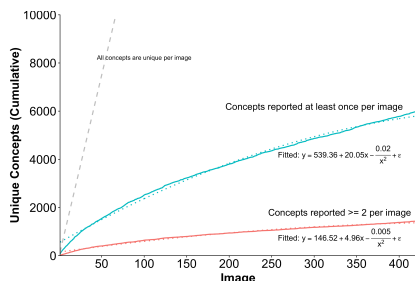
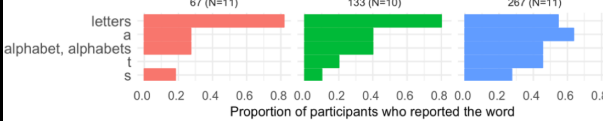
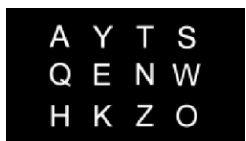
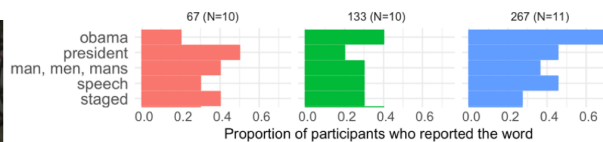
- Explore rapid-scene **visual experience** (five words for an image) and **subjective confidence** (0 – Don't know to 4 – Very confidence)
- Quantitatively examine the changes of word distributions and confidence ratings between lab stimuli and natural-scene images

Methods



- Participants:** 670 online (1 block) + 10 lab (4 blocks)
- Stimuli:** 412 naturalistic images + 8 artificial images

Result



Future Directions

- Further analysis on the word types (General or Specific)
- New experiment – Attentional requirement for word types
- Share this dataset with open AI community to improve human-like perception
- A potential screening tool for Alexithymia – participants to report emotion words that describe the image



[1] Haun, A. M., Tononi, G., Koch, C., & Tsuchiya, N. (2017). Are we underestimating the richness of visual experience? *Neuroscience of Consciousness*, 2017(1), 817–4.

[2] Nishimoto, S. (2015). CiNet VideoBlocks movie library. Unpublished dataset. (All naturalistic images used were based on this dataset)

[3] Huth, A. G., Nishimoto, S., Vu, A. T., & Gallant, J. L. (2012). A continuous semantic space describes the representation of thousands of object and action categories across the human brain. *Neuron*, 76(6), 1210–1224.



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