

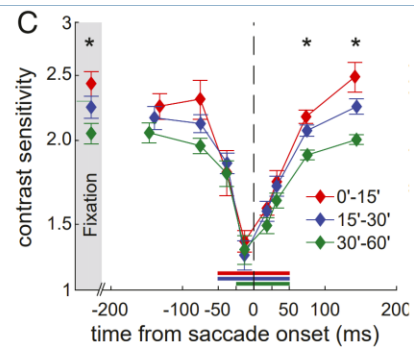
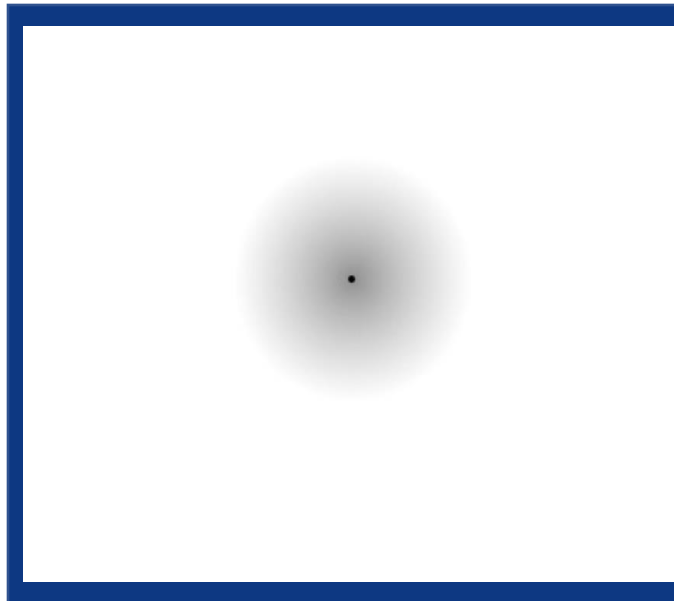
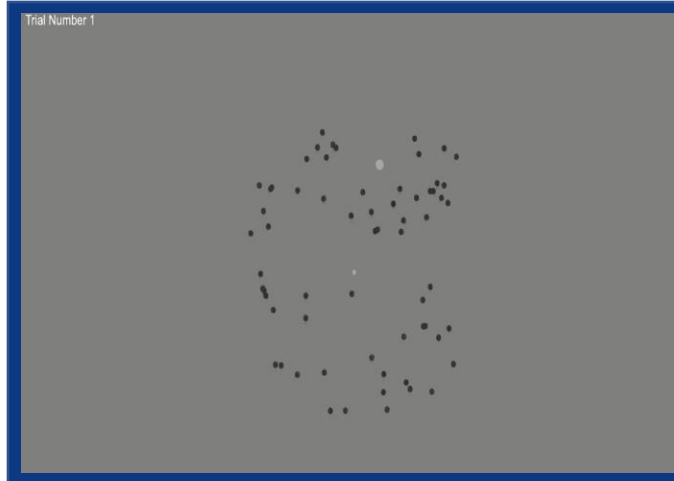


The Role of Saccadic Suppression in Target Visibility During MIB

Charlotte Allaire, Bri Lavelle, Ella Berg, Robert LeMay, Aidan Dun
Rebecca White and William Stine, Faculty Advisor
Department of Psychology, University of New Hampshire

Introduction

- Motion Induced Blindness (MIB): is the psychology of motion where a target vanishes when presented with global changes
- Troxler fading is the phenomenon when an individual fixates on a point, and a stationary background fades away.
- Psychophysical Threshold: is the minimum amount of intensity needed for eyes to perceive the target
- Saccades: are rapid eye movements between points, that negate the effects of MIB through saccadic suppression.



Methods

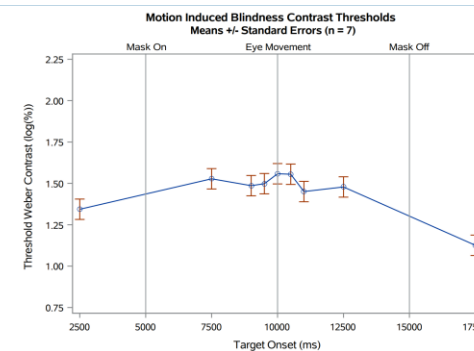
- Seven participants
- Forced Choice Trial
- Conducted in a dark room, participants need to wait 5 minutes for eyes to adapt to dark room before doing experiment
- Viewed multiple MIB trials
 - 3 stages/points in time
- Test threshold by showing a target in 1 of 4 corners. Participant needs to identify correct positioning of target.

Conclusion

- High contrasts indicate more inhibition. Contrary to low contrasts which indicate less inhibition.
- Results show large variation between participants
- Individual differences could be due to erratic eye movements between different participants.
- Further research will include eye tracking

Results

Mean data from MIB Suppression -
 $(F(5,48)=4.93, C-M \hat{\epsilon}=0.5395 C-M \text{ adj } p\text{-value} = 0.0037, \text{partial } \omega^2 = 0.3329$



References

- Volkman, F.C. & Schick, Amy, M. L. et. al. (1968) "Time Course of Visual Inhibition during Voluntary Saccades"
- Bonneh YS, Donner TH, Cooperman A, Heeger DJ, Sagi D (2014) Motion-Induced Blindness and Troxler Fading; Common and Different Mechanisms
- Intoy, J., Mostofi, N., & Rucci, M. (2021). Fast and nonuniform dynamics of perisaccadic vision in the central fovea. *Proceedings of the National Academy of Sciences*, 118(37),