Attention to fire

Caroline Myers, Chaz Firestone, Justin Halberda
Johns Hopkins University

Johns Hopkins University

The Vision & Cognition Lab

Vision Sciences Group

Significance

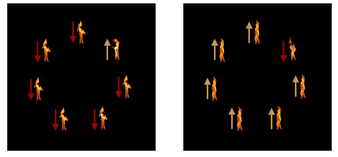
- Taming fire: Unique to hominids
- Socially, historically, practically significant

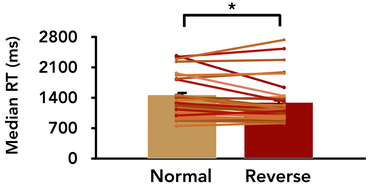
Is visual perception sensitive to the features that characterize burning fire?

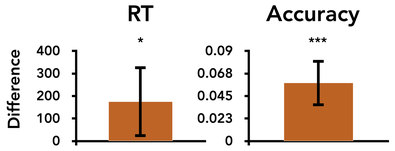
Exp 1: Fire guides search

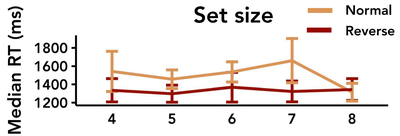
"Is one fire burning differently than the rest?"

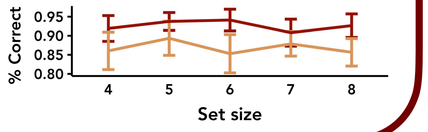
Target fire







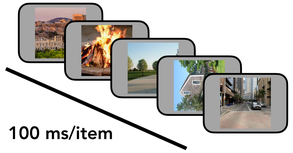




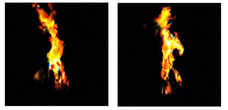
Features?

Color

Motion



Texture



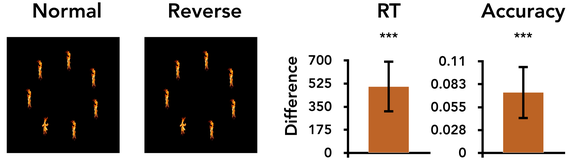
Conclusion

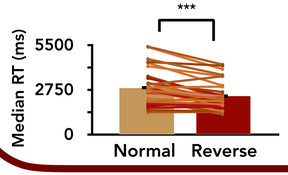
- Search asymmetries present for naturalistic burning fire
- Rotating fire eliminates asymmetry
- Largest effects observed for fire, relative to other (tested) naturalistic stimuli
- Up next: featural contributions (color, texture, motion)

Evidence for distinct perceptual representations of fire!

Exps. 2-5: Global motion, low-level features, other natural stimuli

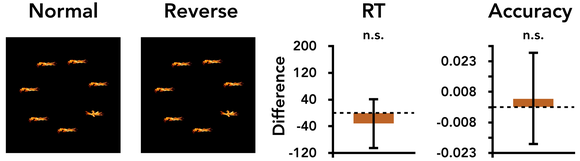
E2: Asynchronous

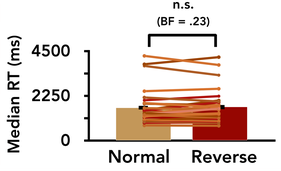




Search asymmetry for asynchronously burning fire

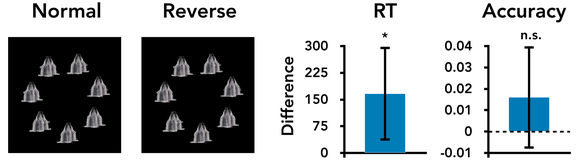
E3: Rotated

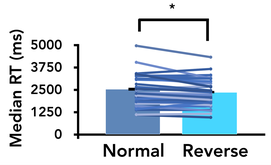




NO asymmetry for rotated fire!

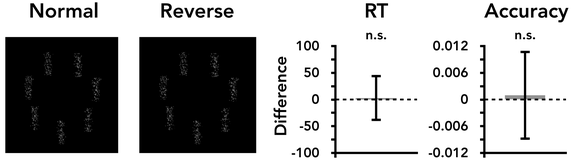
E4: Water

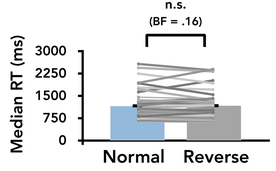




Moderate asymmetry for water

E5: Bubbles





NO asymmetry for bubbles