

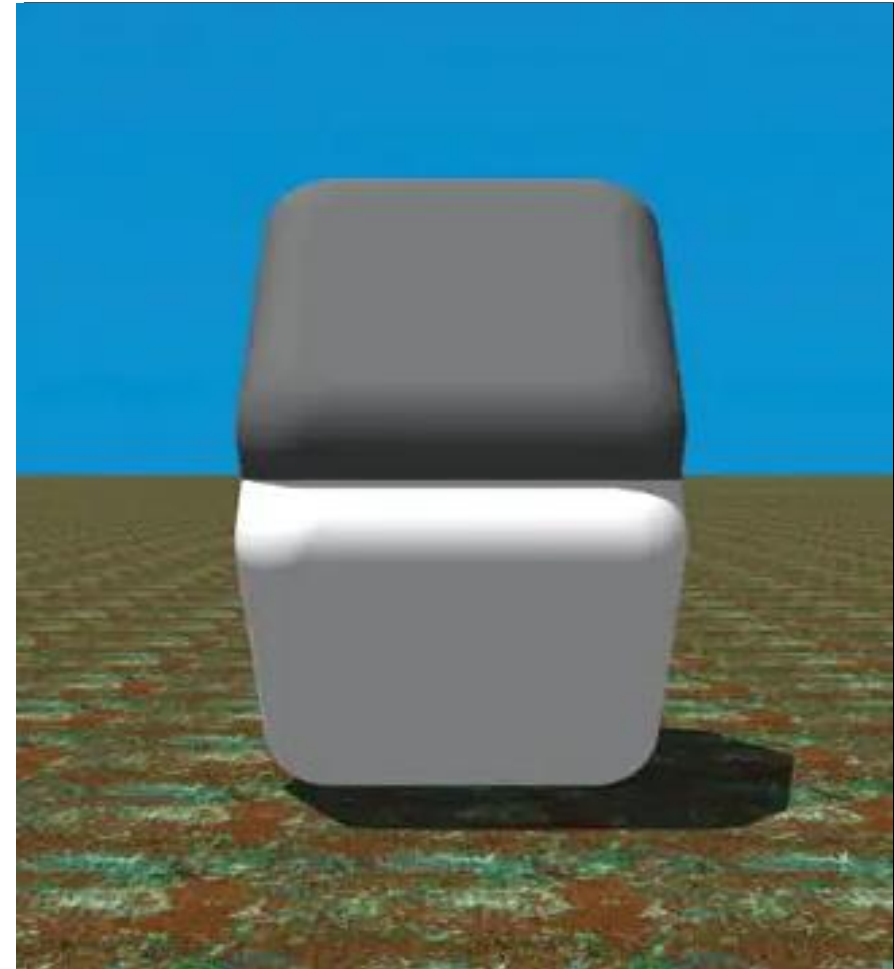
# Pupil response to visual illusion

A decorative graphic consisting of ten semi-transparent blue circles arranged in a circular pattern on the right side of the slide. The circles are of varying shades of blue, from light to dark, and are slightly overlapping.

Camilla Caponi  
University of Florence

# Visual illusions

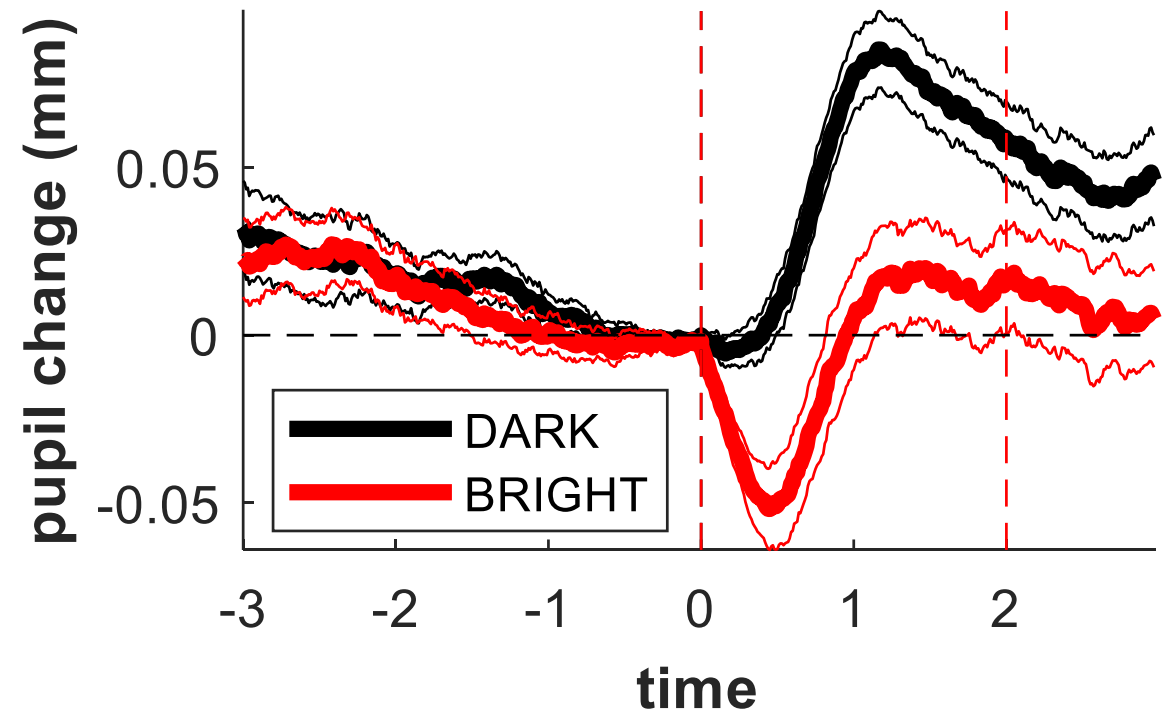
Our perceptual experience is influenced both by **incoming sensory information** and **prior knowledge** about the world.



# Pupil response

The pupillary light reflex (PLR) controls the diameter of the pupil in response to the intensity of the environment lighting.

- **Miosis**
- **Mydriasis**

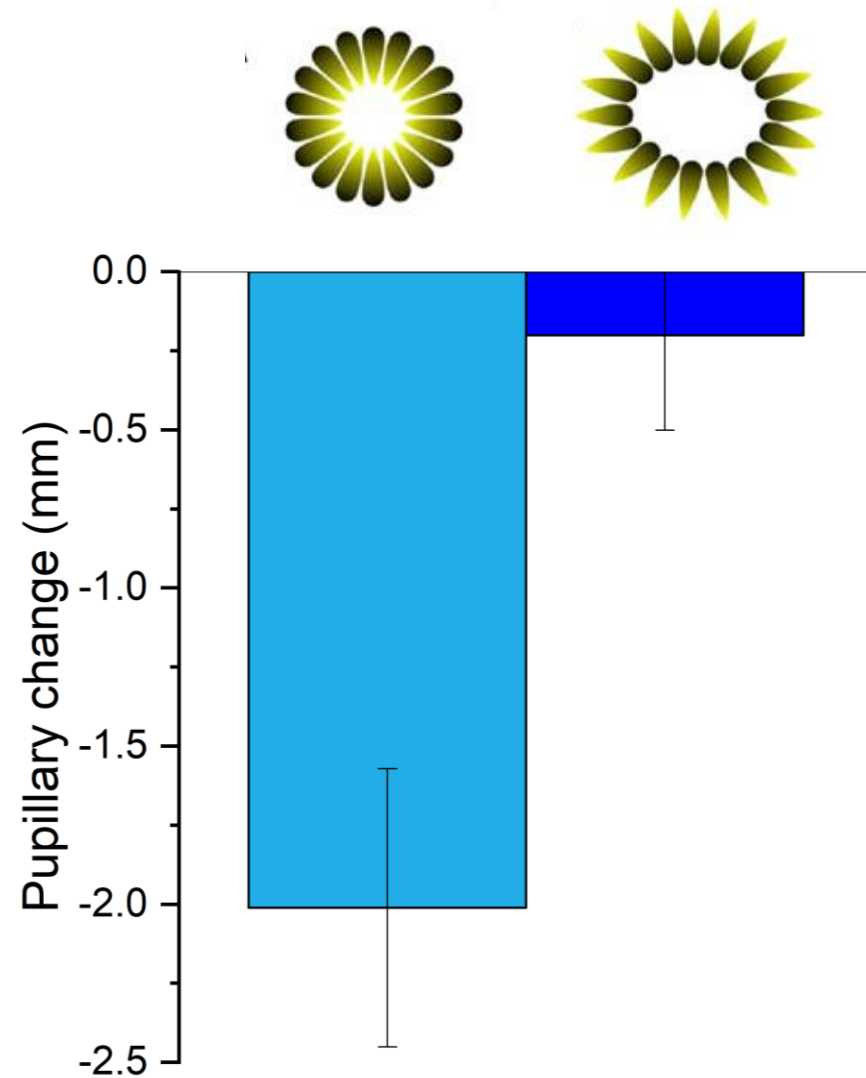


# Brightness illusion

A



B

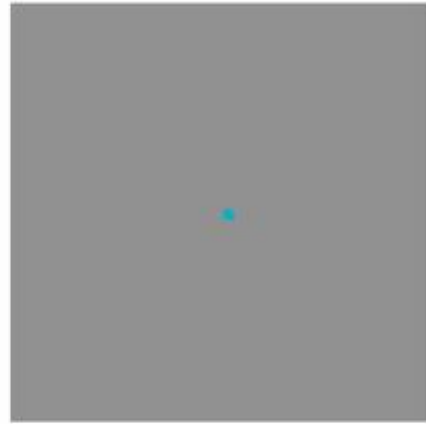


# Prior experience



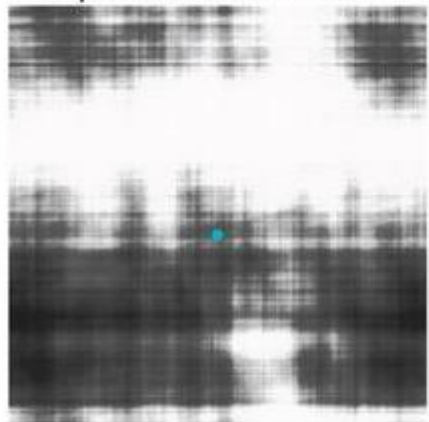
A

SUN



B

mean luminance



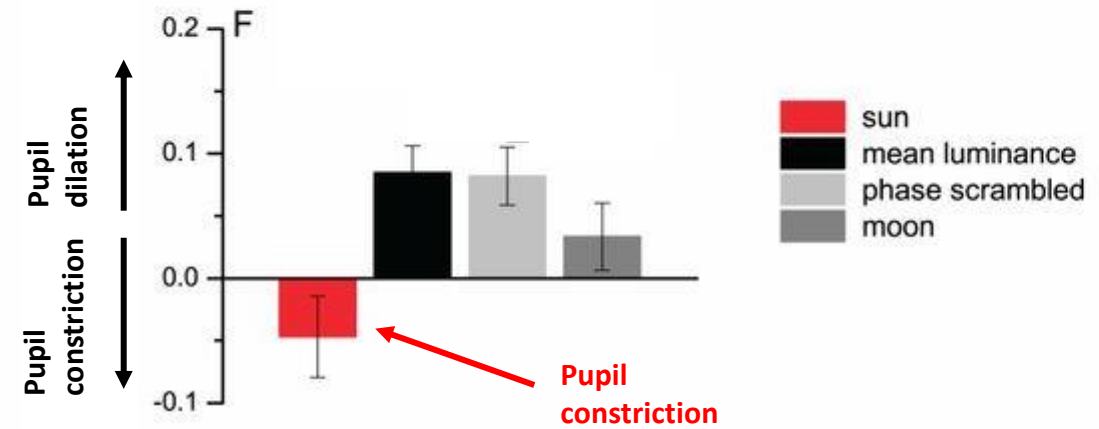
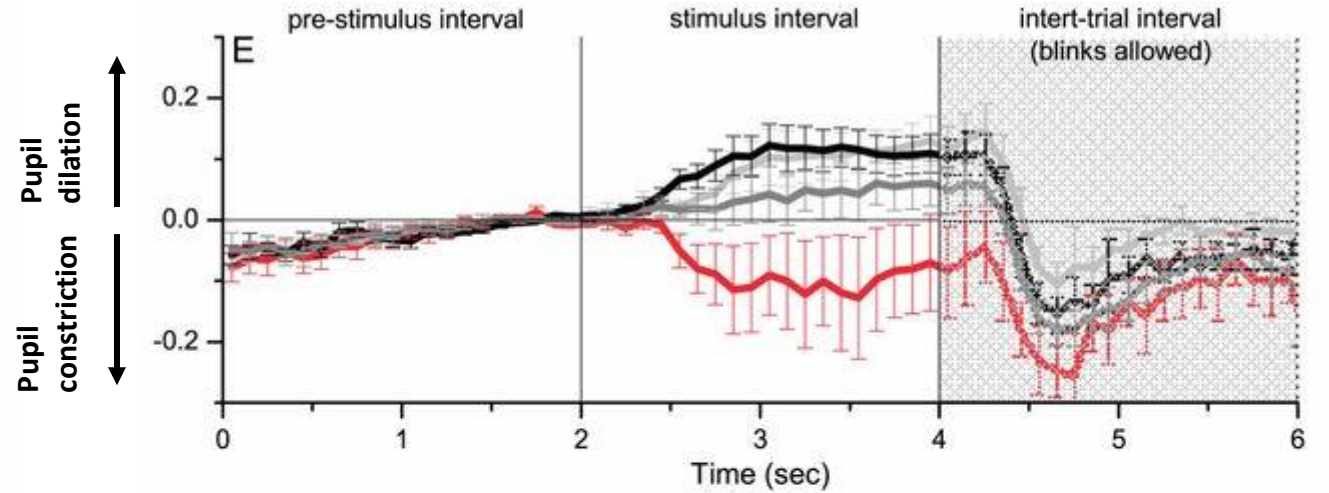
C

phase scrambled

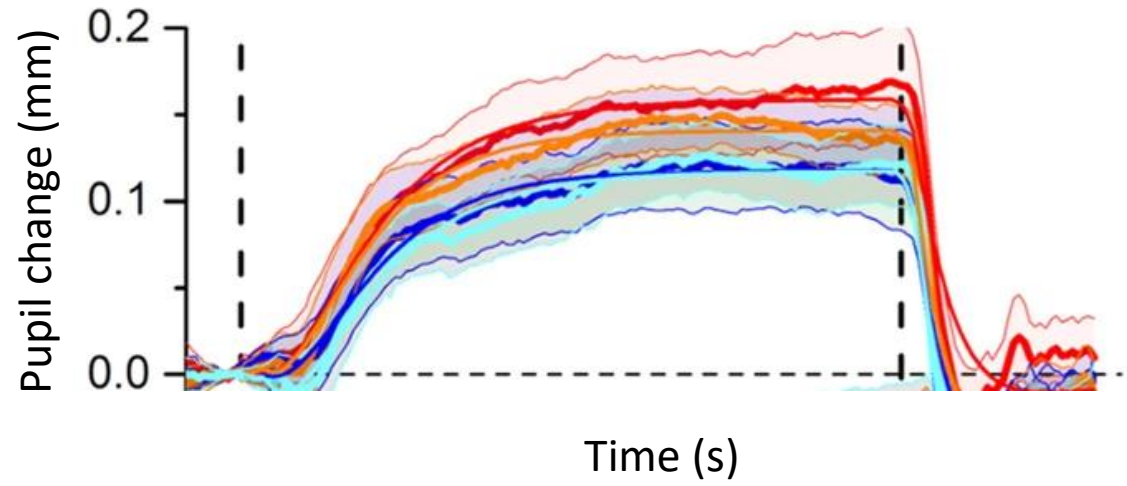
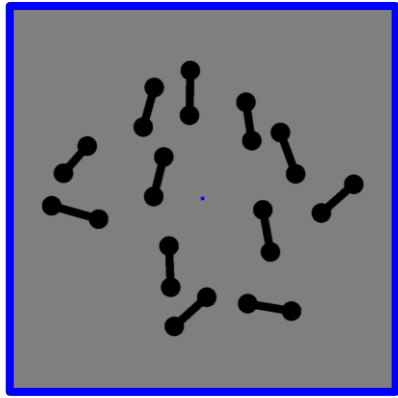
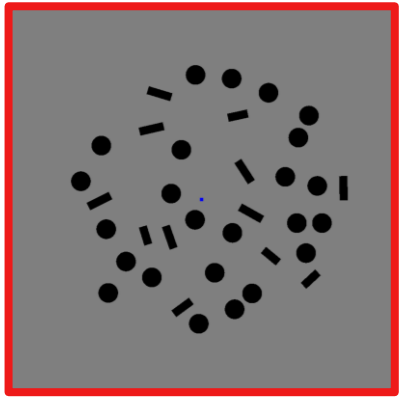


D

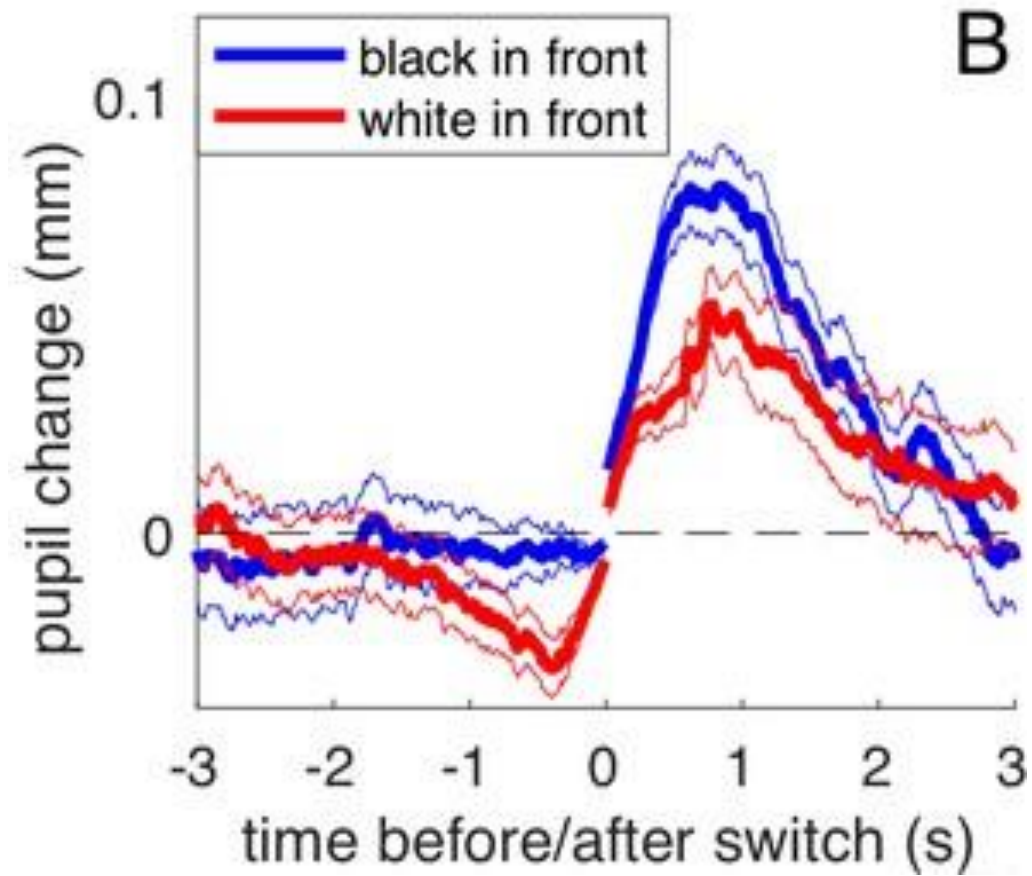
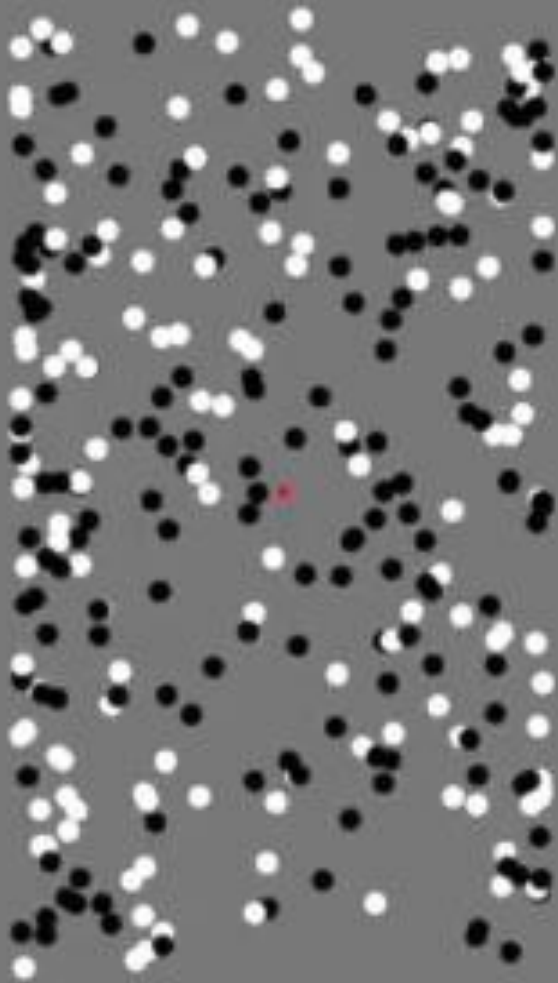
moon



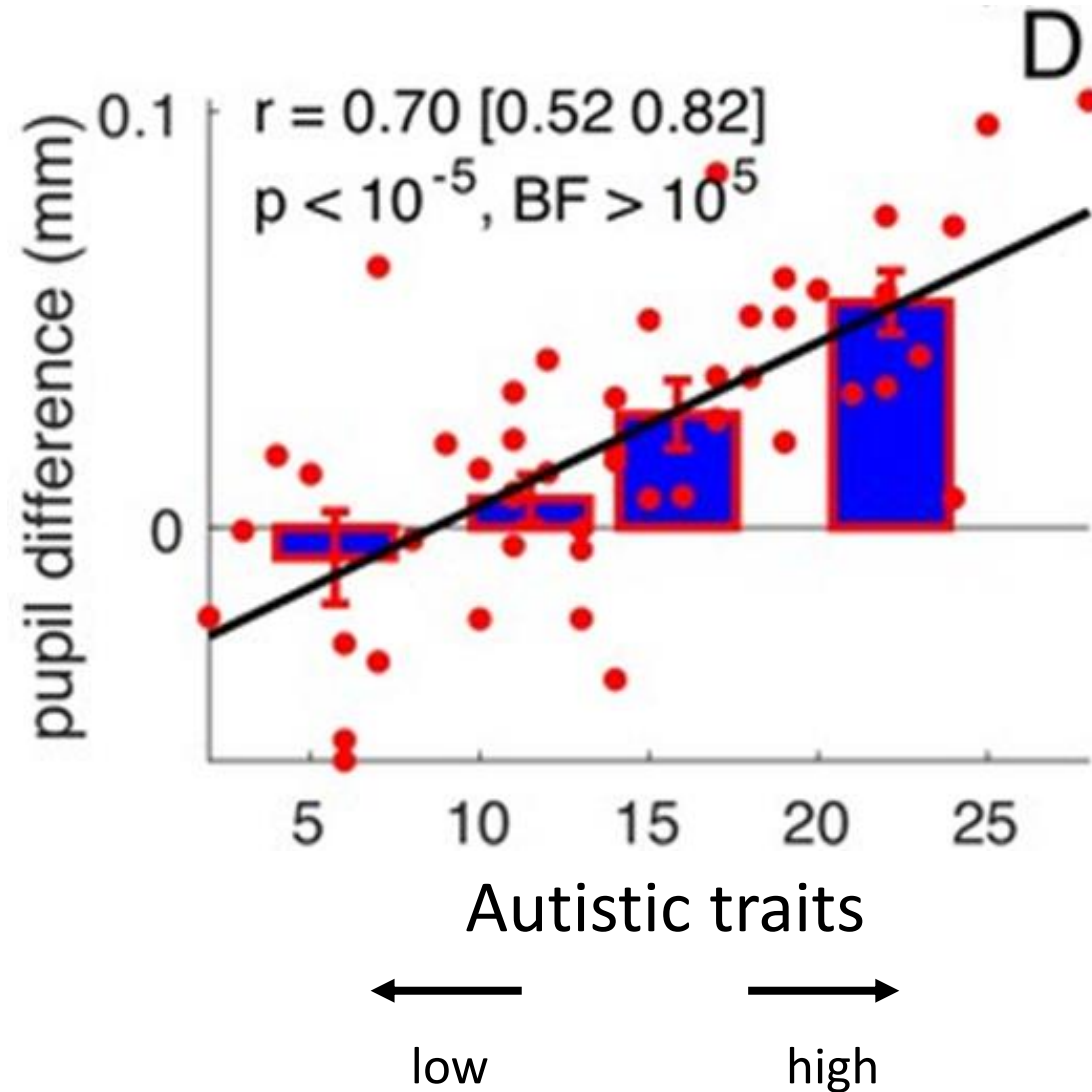
# Numerosity illusion



# Pupil response



# Inter individual variability in pupil response





# Conclusion

- Pupillometry is a reliable, easy, fast and objective tool to investigate perceptual mechanism.
- Pupil measurement tracks interindividual differences