

Attending to individual size modulates mean size computation

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“Selective attention to individual size modulates mean size representation through two different mechanisms.”

Research Question

How selective attention modulates mean size representation?

① Weighted Average

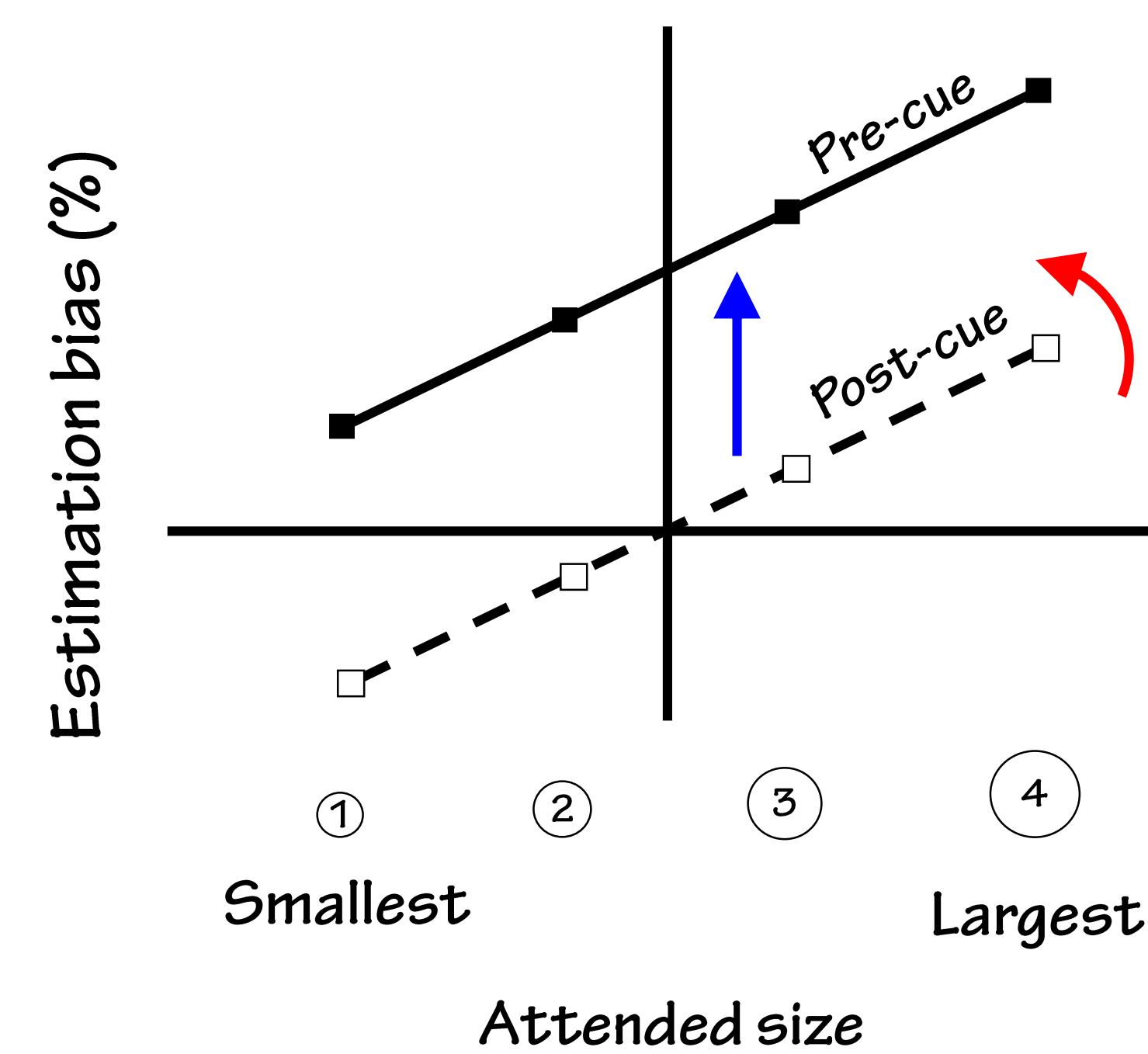
Selective attention increases the contribution of an individual item during mean size computation.

→ Increased slope

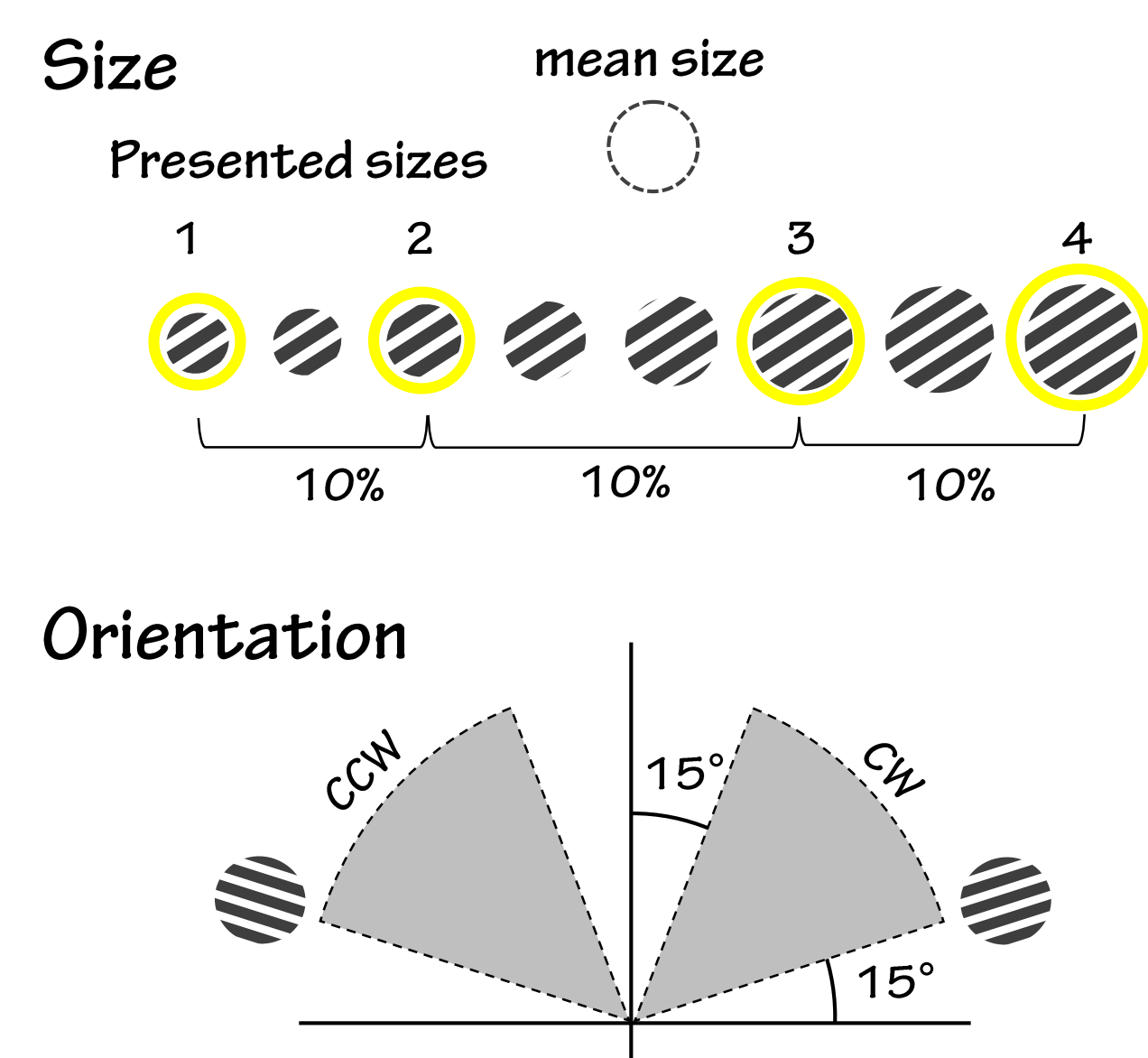
② Perceptual enlargement

Selective attention increases apparent size of attended item.

→ Increased Intercept

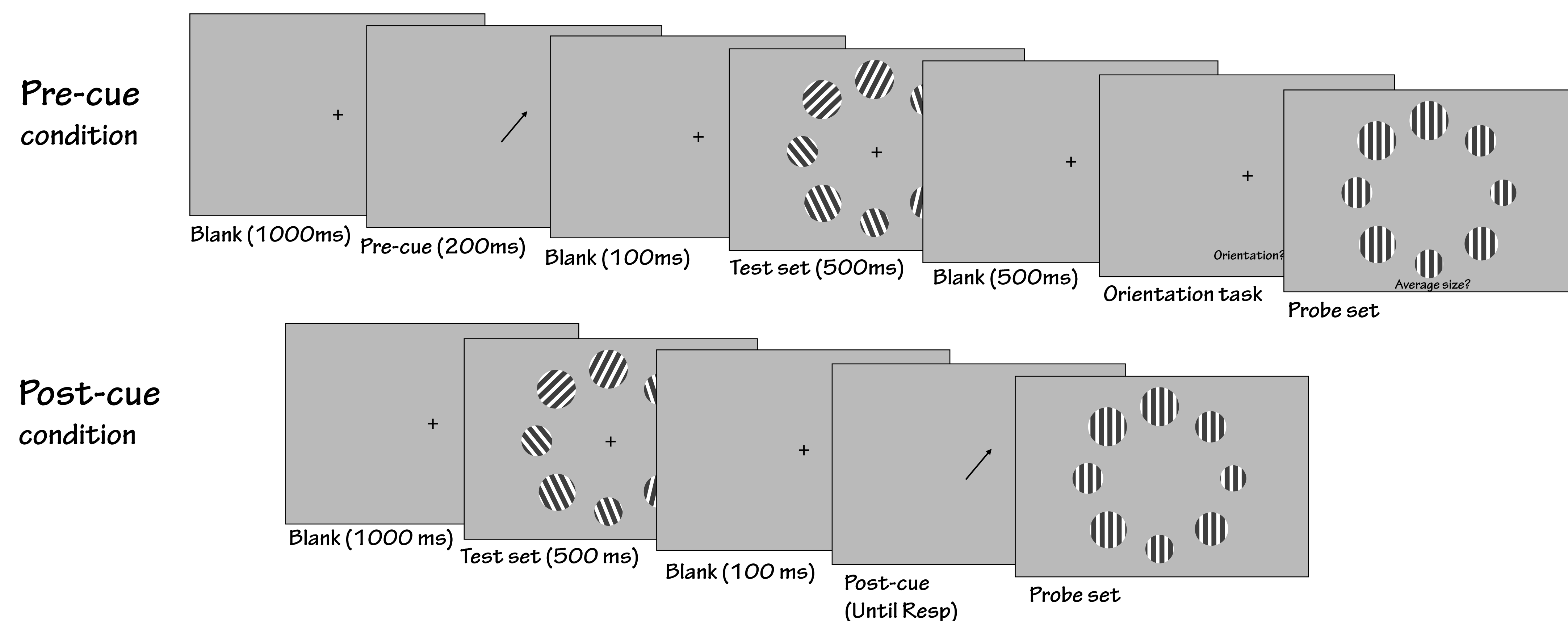


Method



- Stimuli: 8 gratings
- Tasks
 - Mean size estimation task: Adjustment method
 - Individual Orientation task: 2AFC (CW / CCW)
- 2 X 4 within subject design
 - Cueing condition (2) : temporal location of attention
 - Size condition (4) : size of attended grating

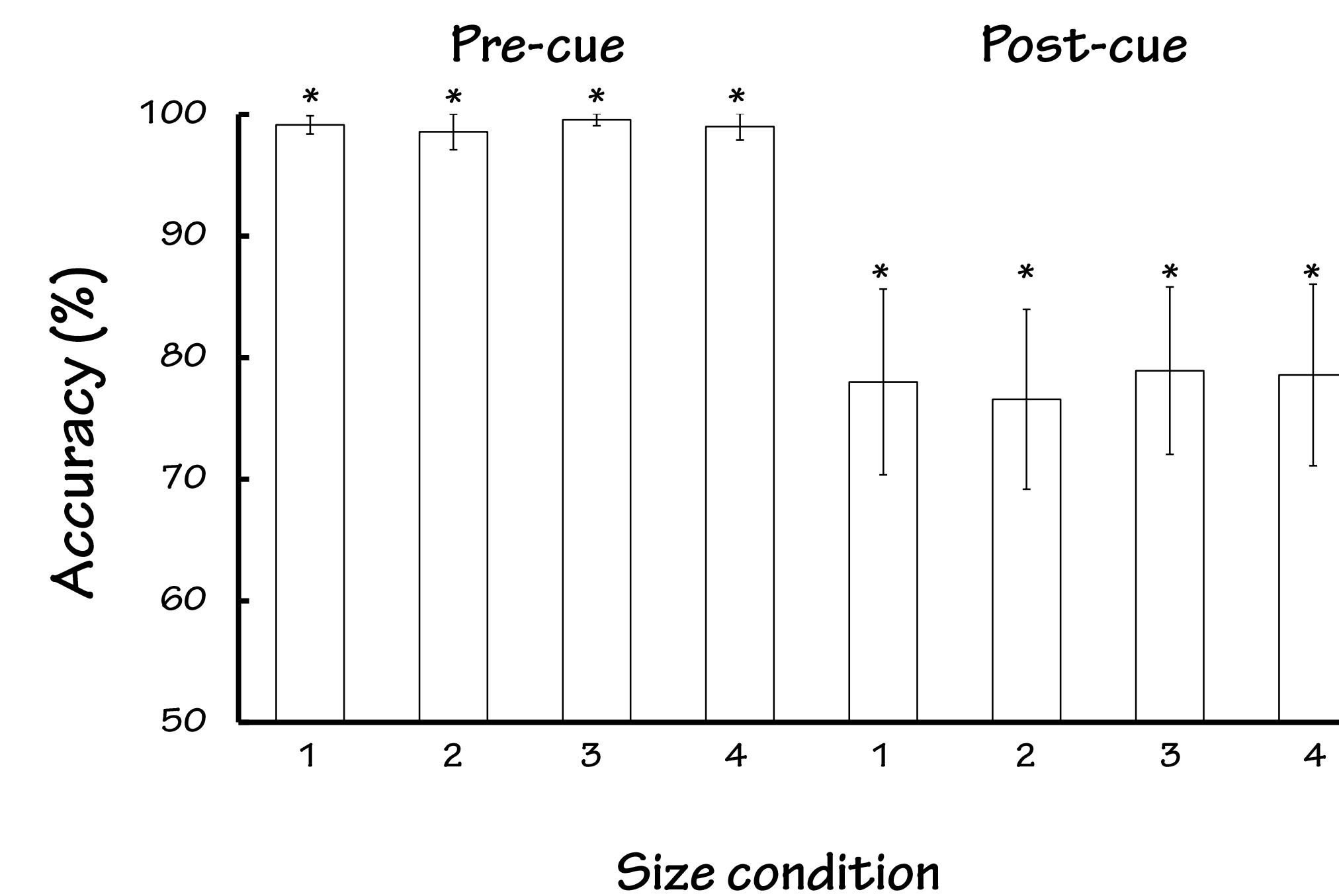
Procedure



Result (n=14)

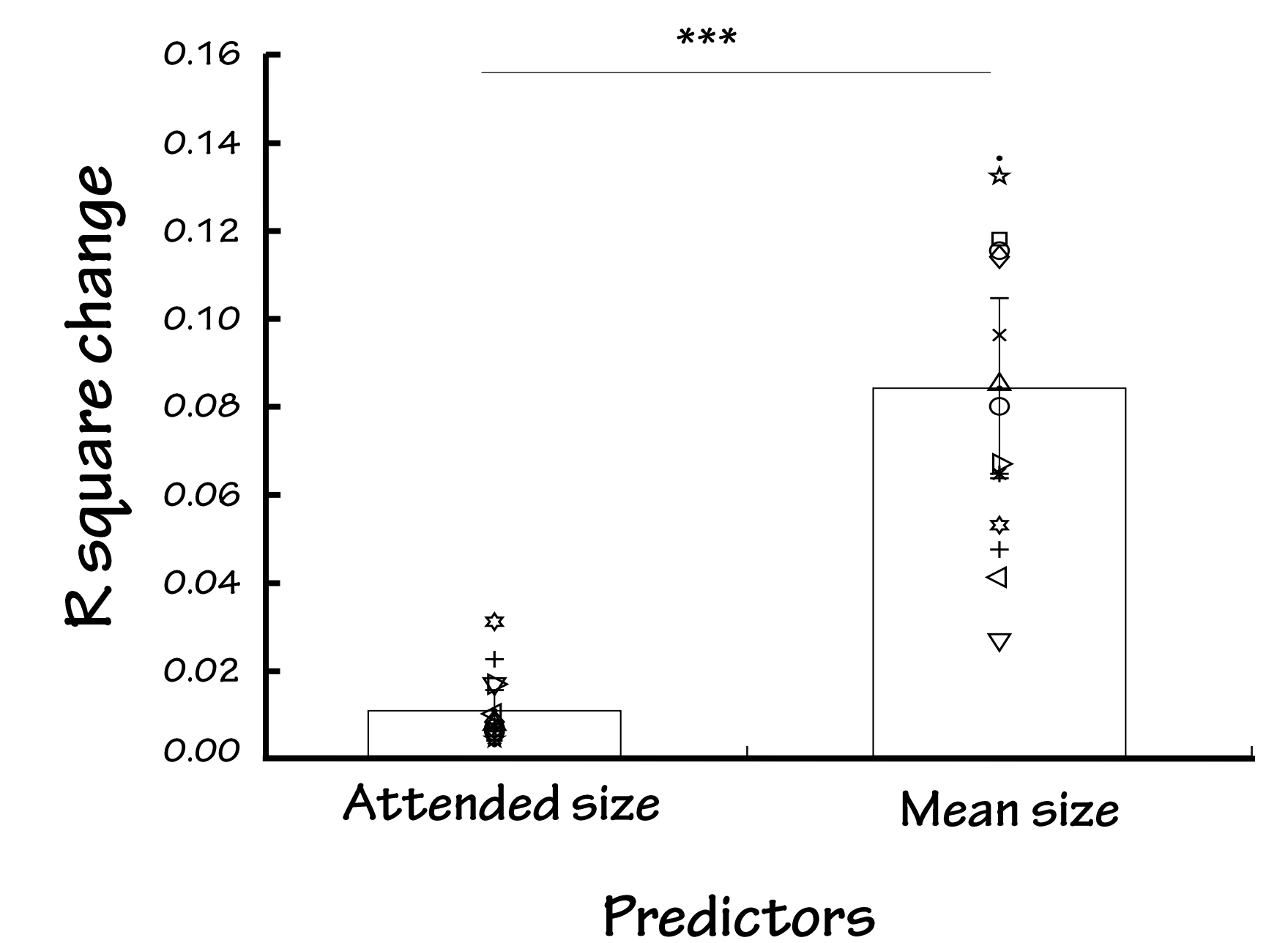
① Orientation task result

Selective attention was directed to an individual item as intended.

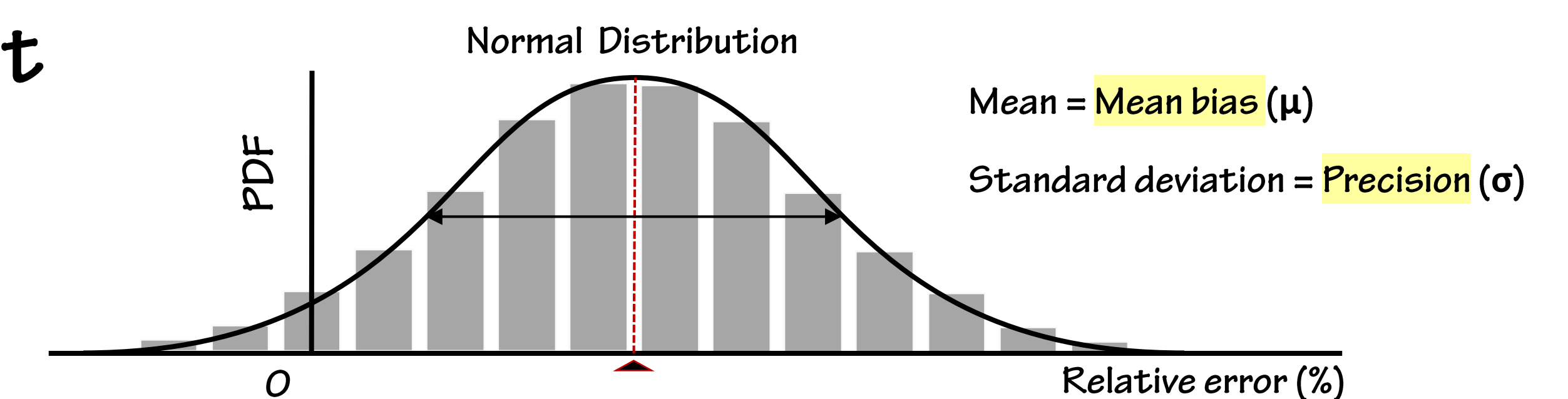


② Mean size vs. Attended Size

Participants reported mean size of a set, not the size of the attended item.

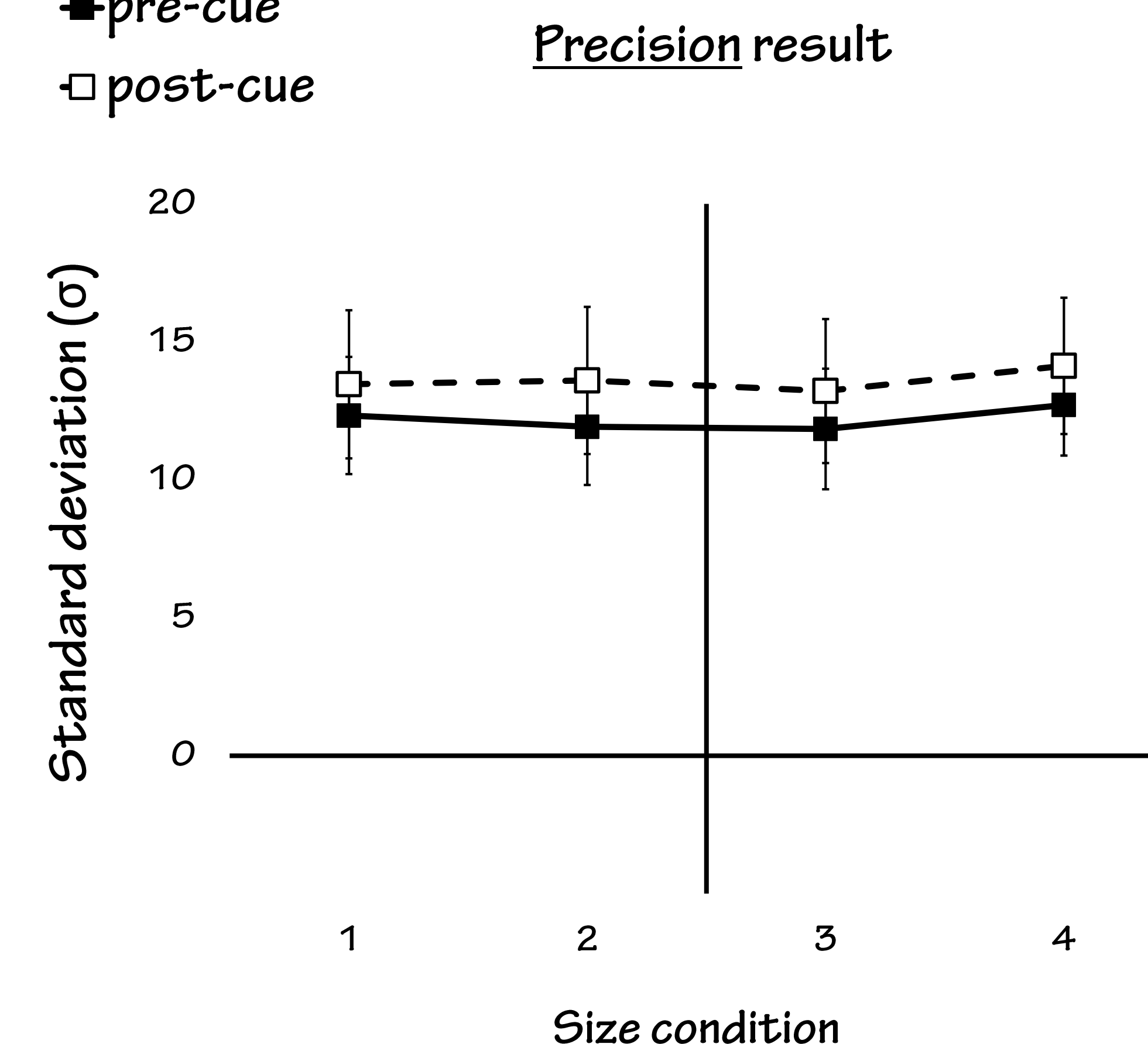


③ Mean size result



Selective attention did not change the precision of mean size estimation.

■ pre-cue
□ post-cue



Selective attention changed the weight and appearance of the attended item.

■ pre-cue
□ post-cue

