Expected visibility

Maya Schipper1 & Matan Mazor1

1 University of Oxford

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### Participants.

216 participants took part in the letter-detection task. Participants were excluded if their accuracy fell below 50% (0 participants). We also excluded participants if they had extremely fast (0 participants) or slow (2 participants) reaction times in this task (below 100 milliseconds or above 7 seconds in more than 25% of the trials). Trials with reaction times below 100 milliseconds (0.00 of all trials) or above 7 seconds (0.01 of all trials) were excluded from the reaction time analysis.

### Hypotheses.

This study is designed to test whether expected visibility impacts participants’ decisions about presence and absence.

*Hypothesis 1 (PRESENCE/ABSENCE RESPONSE TIME)*: We tested the null hypothesis that response times are similar for target-present and target-absent responses, aiming to replicate the finding that decisions about the target-absence are slower than decisions about target-presence (Mazor, Moran, & Fleming, 2021).

We performed paired t-test on the following individual-level contrast from correct trials: .

This revealed a significant difference in response times for target-present and target-absent responses (, 95% CI , , ), with overall slower response times for decisions about absence.

*Hypothesis 2 (SIZE EFFECT ON REACTION TIME IN PRESENCE)*: We tested the null hypothesis that target-present response times are similar when the display is big and small.

We performed a paired t-test on the following individual-level contrast from correct trials: where P stands for present.

This revealed a significant difference in response times between big and small stimuli in target-present decisions (, 95% CI , , ), with slower response times for big stimuli.

*Hypothesis 3 (SIZE EFFECT ON REACTION TIME IN ABSENCE)*: We tested the null hypothesis that target-absent response times are similar when the display is big and small.

We performed a paired t-test on the following individual-level contrast from correct trials: where A stands for absent.

This revealed a null effect of stimulus size on response time in target-absent decisions (, 95% CI , , ), with a small but insignificant increase in response times for small stimuli.

*Hypothesis 4 (SIZE RESPONSE INTERACTION ON REACTION TIME)*: We tested the null hypothesis that the effect of stimulus size on reaction time is similar in target-absent and target-present responses.

We performed a group-level t-test on a subject-level contrast in correct trials only: where P and A stand for present and absent respectively.

This revealed a significant interaction between stimulus size and target presence (, 95% CI , , ).

*Hypothesis 5 (SENSITIVITY)*: We tested the null hypothesis that perceptual sensitivity (measured as ) is equal as a function of the size of the stimulus. To allow the extraction of d’ for participants who committed no false-alarms or misses, we added 0.5 to miss, hit, false-alarm and correct rejection counts (Snodgrass & Corwin, 1988).

We performed a paired t-test on the following subject-level contrast: .

We found a significant effect of stimulus size on (, 95% CI , , ), with increased sensitivity for small stimuli.

*Hypothesis 6 (CRITERION)*: We tested the null hypothesis that decision criterion (measured as ) is unaffected by the size of the display. To allow the extraction of a decision criterion for participants who committed no false-alarms or misses, we added 0.5 to miss, hit, false-alarm and correct rejection counts (Snodgrass & Corwin, 1988).

We performed a paired t-test on the following subject-level contrast: .

We found a significantly more conservative criterion for big stimuli (, 95% CI , , ).

*Hypothesis 7 (PRESENCE/ABSENCE CONFIDENCE RATINGS)*: We tested the null hypothesis that confidence ratings are similar for target-present and target-absent responses, aiming to replicate the finding that subjective confidence levels are lower for decisions about absence than decisions about presence (Mazor et al., 2021).

We performed a paired t-test on the the following subject-level contrast from correct trials:

This revealed a significant difference in confidence ratings for decisions about presence and absence (, 95% CI , , ), with higher confidence ratings for present responses.

*Hypothesis 8 (SIZE EFFECT ON CONFIDENCE IN PRESENCE)*: We tested the null hypothesis that target-present confidence ratings are similar when the stimulus is small or big.

We performed a paired t-test on the following individual-level contrast from correct trials: where P stands for present.

This revealed a significant difference in confidence ratings for big and small stimuli in target-present responses (, 95% CI , , ), with higher confidence ratings for small stimuli.

*Hypothesis 9 (SIZE EFFECT ON CONFIDENCE IN ABSENCE)*: We tested the null hypothesis that target-absent confidence ratings are similar when the stimulus is small or big.

We performed a paired t-test on the following individual-level contrast from correct trials: where A stands for absent.

This revealed a significant effect of stimulus size on confidence ratings in target-absent responses (, 95% CI , , ), with higher confidence ratings for big stimuli.

*Hypothesis 10 (SIZE RESPONSE INTERACTION ON CONFIDENCE)*: We tested the null hypothesis that the effect of stimulus size on confidence ratings is similar in target-present and target-absent responses.

We performed a group-level t-test on a subject-level contrast in correct trials only: where P and A stand for present and absent respectively.

This revealed a significant interaction effect between stimulus size and target presence on subjective confidence levels (, 95% CI , , ).

## References

Mazor, M., Moran, R., & Fleming, S. M. (2021). Metacognitive asymmetries in visual perception. *Neuroscience of Consciousness*, *2021*(2).

Snodgrass, J. G., & Corwin, J. (1988). Pragmatics of measuring recognition memory: Applications to dementia and amnesia. *Journal of Experimental Psychology: General*, *117*(1), 34–50. <https://doi.org/10.1037/0096-3445.117.1.34>