

Unconscious detection of eye gaze: a Signal Detection study (#23394)

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1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?

It has been shown in the past that people have a visual perception preference for direct-gaze faces than for averted-gaze faces. This finding has been replicated when suppressing faces with continuous flash suppression, a masking technique, which has been tested by measuring detection reaction times. However, detection is a process that combines perceptual sensitivity and decision criterion.

Main questions: Are people more sensitive to direct-gaze faces than averted-gaze faces? Can previous detection-related reaction times be explained by differences in decision criterion?

Hypothesis: If previous findings are due to decision criterion, then we should find no differences in perceptual sensitivity for direct-gaze and averted-gaze faces along with a significantly more liberal decision criterion for direct-gaze faces.

3) Describe the key dependent variable(s) specifying how they will be measured.

The main dependent variables are location sensitivity (d') and gaze orientation decision criterion (C). The former is a measure of sensitivity for side detection as defined by Signal Detection Theory. The latter, a measure of bias in responses for different eye-gaze faces.

4) How many and which conditions will participants be assigned to?

There will be 28 within-subject conditions divided into 3 factors: face orientation (upright or inverted), gaze orientation (direct or averted), and predefined exposure times (7).

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

1. Independent repeated-measures ANOVAs will be run to analyse (1) location sensitivity (d'), gaze orientation sensitivity (d'), response bias, and eye gaze orientation criterion (C).
2. Bayes factors will be estimated whenever null effects are found in order to test whether the data is better explained by the null hypothesis model or the alternative hypothesis model.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

1. Participants whose responses are random will be excluded, i.e. whenever there is no significant effect of exposure time for location sensitivity.
2. Participants who present more than 10% than no-response trials.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We aim for a sample size of 32 participants per experiment.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

Nothing else to pre-register.