

Presaccadic attention improves or impairs performance by enhancing sensitivity to higher spatial frequencies

Hsin-Hung Li¹, Jasmine Pan¹ and Marisa Carrasco^{1,2}

¹ Department of Psychology, New York University, New York, New York, USA

² Center for Neural Science, New York University, New York, New York, USA

Supplementary Information

Repeated Measures Two-Way Analysis of Variance Table

| Source | <i>SS</i> | <i>df</i> | <i>MS</i> | <i>F</i> | <i>p</i> |
|-----------------------|-----------|-----------|-----------|----------|----------|
| Subjects | 0.74 | 7 | | | |
| Masking SF | 5.57 | 2 | 2.79 | 10.29 | 0.002 |
| Cue type | 0.61 | 1 | 0.61 | 2.73 | 0.143 |
| Masking SF x Cue type | 1.18 | 2 | 0.59 | 6.53 | 0.009 |
| Error | 6.62 | 35 | 0.19 | | |
| Total | 14.72 | 47 | | | |

Table S1. Experiment 1a. Presaccadic attention (constant SF target and different SF masks)

Repeated Measures Two-Way Analysis of Variance Table

| Source | <i>SS</i> | <i>df</i> | <i>MS</i> | <i>F</i> | <i>p</i> |
|-----------------------|-----------|-----------|-----------|----------|----------|
| Subjects | 2.79 | 7 | | | |
| Masking SF | 10.28 | 2 | 5.14 | 32.76 | 0.001 |
| Cue type | 0.01 | 1 | 0.01 | 0.12 | 0.742 |
| Masking SF x Cue type | 0.18 | 2 | 0.04 | 2.35 | 0.132 |
| Error | 3.02 | 35 | 0.09 | | |
| Total | 16.27 | 47 | | | |

Table S2. Experiment 1b. Covert attention (constant SF target and different SF masks)

Repeated Measures Three-Way Analysis of Variance Table

| Source | SS | df | MS | F | p |
|---|-------|----|------|-------|-------|
| Subjects | 2.50 | 6 | | | |
| Masking SF | 10.25 | 2 | 5.12 | 26.86 | 0.000 |
| Cue type | 0.00 | 1 | 0.00 | 0.01 | 0.935 |
| Attention type | 0.47 | 1 | 0.47 | 2.72 | 0.150 |
| Masking SF x Cue type | 0.45 | 2 | 0.23 | 9.53 | 0.003 |
| Masking SF x Attention type | 1.16 | 2 | 0.58 | 6.62 | 0.012 |
| Cue type x Attention type | 0.01 | 1 | 0.01 | 0.02 | 0.904 |
| Masking SF x Cue type x Attention type | 1.75 | 2 | 0.88 | 16.02 | 0.000 |
| Error | 6.10 | 66 | | | |
| Total | 22.70 | 83 | | | |

Table S3. Experiment 1. Presaccadic attention versus covert attention (constant SF target and different SF masks)

Repeated Measures Two-Way Analysis of Variance Table

| Source | <i>SS</i> | <i>df</i> | <i>MS</i> | <i>F</i> | <i>p</i> |
|-----------------------|-----------|-----------|-----------|----------|----------|
| Subjects | 9.28 | 8 | | | |
| Masking SF | 12.52 | 1 | 12.52 | 101.05 | 0.000 |
| Cue type | 0.35 | 1 | 0.35 | 1.32 | 0.285 |
| Masking SF x Cue type | 2.16 | 1 | 2.16 | 33.86 | 0.000 |
| Error | 3.62 | 24 | 0.15 | | |
| Total | 27.93 | 35 | | | |

Table S4. Experiment 2. Presaccadic attention (different SF targets and constant SF mask).