Effects of stimulus energy on the attentional blink
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**Effects of stimulus energy on the attentional blink**

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**Background**

- The attentional blink effect is commonly attributed to high level visual processes.
- Newer evidence suggests that low level processes contribute to the blink.

How does changes in stimulus energy of all elements in the RSVP affect the AB?

**Experiment 1**

Task: Standard attentional blink task.

Stimuli: Digit-targets amongst letter-distractors in high contrast RSVP.

Timing: SOA of 100 ms in all trials.

Two conditions

1. No ISI condition: Exposure duration is 100 ms.
2. ISI condition: Exposure duration is 30 ms and ISI is 70 ms.

**Experiment 2**

Task: Standard attentional blink task.

Stimuli: Digit-targets amongst letter-distractors in RSVP.

Timing: Exposure duration and SOA is 100 ms in all trials.

Two conditions

1. High contrast condition: Black on white ($C_w = 0.99$).
2. Low contrast condition: Dark grey on light grey ($C_w = 0.27$).

**Results**

1. Blink magnitude increases with decreased exposure duration.
2. Blink magnitude increases with decreased contrast.

∴ Blink magnitude increases with decreased stimulus energy.

**Conclusion**

1. Blink magnitude increases with decreased exposure duration.
2. Blink magnitude increases with decreased contrast.
   - Blink magnitude increases with decreased stimulus energy.

**Analysis**

- Blink magnitude ($AB_{mag}$) was calculated by dividing the area above mean $p(T2|T1)$ with the maximum possible blink area.
- Repeated measures ANOVAs of arcsin[$p(T2|T1)$] revealed a significant main effect of lag in both experiments ($p < 0.001$).
- Main effects of condition were also significant in both experiments:
  - **Experiment 1 (ISI):** $p = 0.029$
  - **Experiment 2 (Contrast):** $p = 0.038$

**References**