What affects visual search speed?

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Feature vs. Conjunction Searches

Feature Search

- Single feature
    - Parallel processing
    - Search speed independent with number of distractors

Conjunction Search

- Multiple features
    - Binding Problem (requires serial processing)
    - Search speed increases with number of distractors

L-Tyrosine (Very Important Amino Acid)

- Metabolized into dopamine and norepinephrine
    - Raises overall supply of these neurotransmitters
    - Effects begin after 30 minutes and peak 1-2 hours later

- Dopamine linked to motivation, attention, and reward
- Norepinephrine increases energy, attention and memory
- L-Tyrosine considered a stimulant

- Prediction: L-Tyrosine enables faster completion of binding Problem

Methods

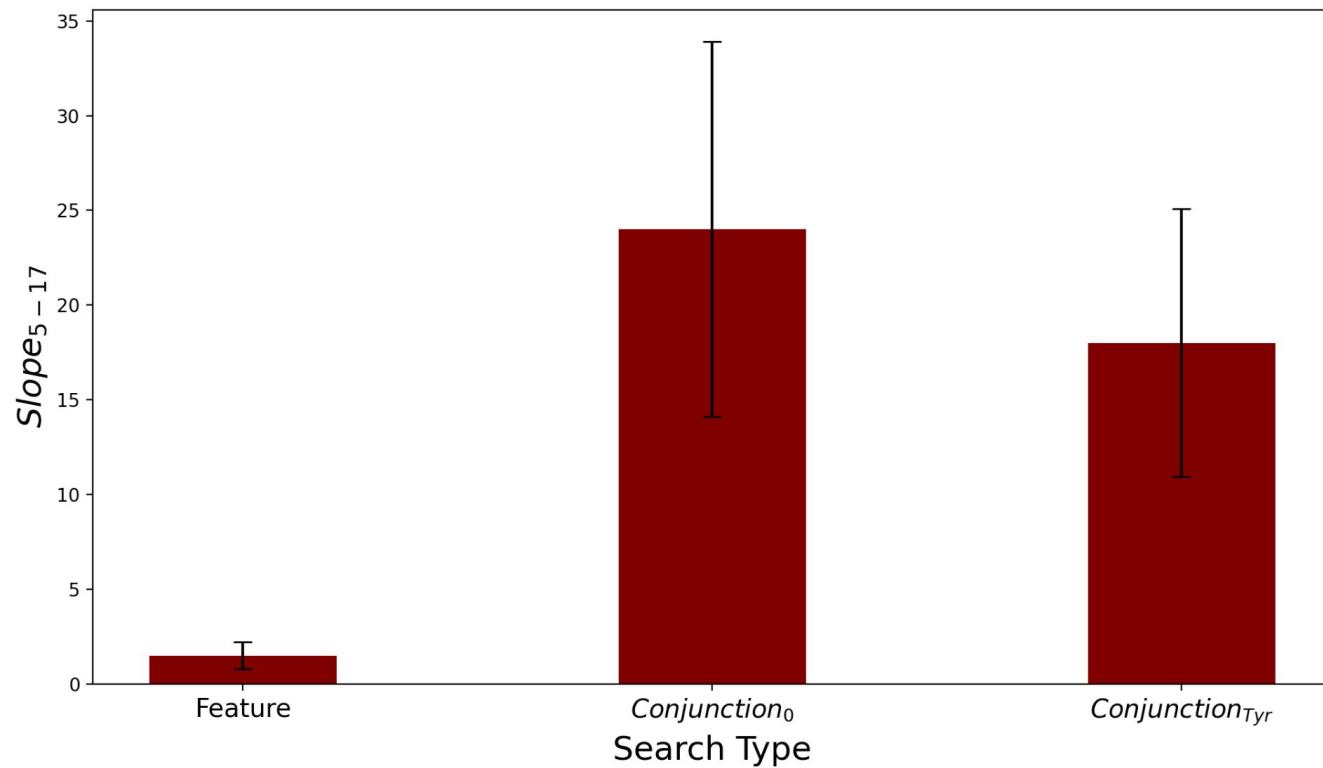Search Task: determine if the vertically oriented rectangle is red or blue

Stimuli

- Target: small, vertically oriented and colored rectangle
- Distractors: feature vs conjunction searches

Materials

- Same laptop and website used
- Relaxed position with laptop in lap
- 500 mg L-Tyrosine (free-from)

Results

Discussion

- Binding problem reproduced

- L-Tyrosine improved performance in the conjunction search