

# Word superiority in visual search for multiple possible targets



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## Background

Traditional visual search: One possible target, multiple nontargets

Current task: Multiple possible targets, multiple nontargets

Previous findings: Multiple-target search is much harder than single-target search!

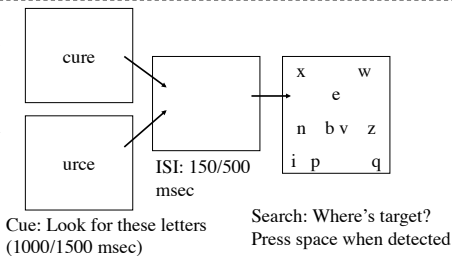
## Experiments 1 & 2

Question: Is there a Word Superiority Effect in searching for multiple letter targets?

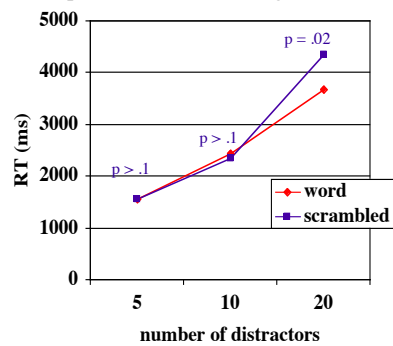
**Task:** Multiple possible targets are letters

**Procedure:**

Four (Exp1) or Six (Exp2) letters were cued  
On the search display, only one of the cued letters was present

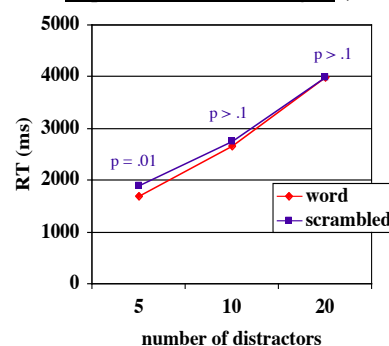


Experiment 1: 4 cued targets (N = 18)



Search slope significantly shallower in word than scrambled

Experiment 2: 6 cued targets (N = 17)



Search slopes not different

So: Word Superiority Effect for short but not long words

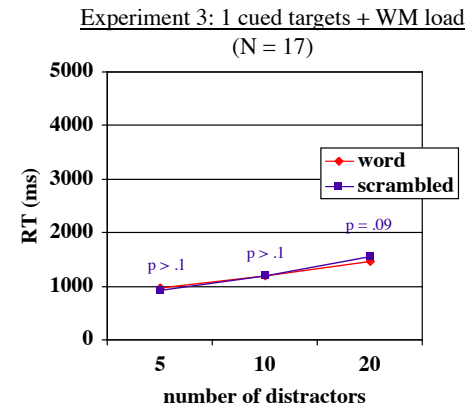
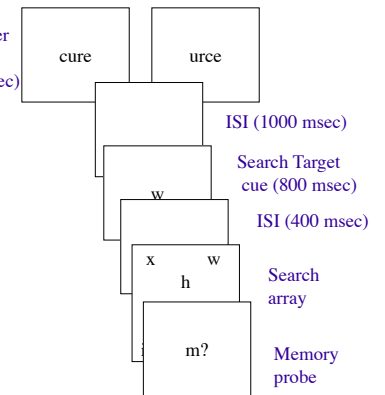
## Experiment 3

Question: Was the Word Superiority Effect due to differences in working memory load?

**Task:** Dual task - search under WM load

Search for *one* letter while remembering a word or a scrambled word in working memory

Remember Letters (1500 msec)



So: Search is mildly affected by Different WM load

Word superiority effect in Exp1 Not fully accounted for by WM Load differences

## Summary

- Searching for multiple possible targets is sometimes modulated by chunking of the targets into a word
- Word superiority effect dissipates for long words
- Not fully accounted for by differences in WM load

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