CATEGORICAL TEMPLATES: TYPICAL CATEGORY MEMBERS ARE FOUND AND IDENTIFIED QUICKLY DURING WORD-CUED SEARCH

ARRYN ROBBINS & MICHAEL C. HOUT
PICTURE- CUED SEARCH VS CATEGORICAL SEARCH

Find the following:

Guided by features in VWM template

Find the following:

VEHICLE

Guided by...?
Please search for the following:

BIRD

Indicate if the target is PRESENT or ABSENT

(raise your hand if you find one)
Please search for the following:

**BIRD**

Indicate if the target is **PRESENT** or **ABSENT**

(raise your hand if you find one)
WERE YOU FOOLED?
Through experience, we gain a sense of what an average/typical member of a category looks like

- Which of the dogs is most typical?

Typicality does indeed influence search and guidance (Maxfield, Stradler, & Zelinsky, 2014)
EXPERIMENT 1

Does typicality affect all levels of the categorization hierarchy equally?

- How does the level of categorization for distractors influence search?

VS targets are identified more quickly (Maxfield & Zelinsky, 2012)

Guidance best for subordinate cues

More shared features

More inclusive

Superordinate

- Clothing

Basic

- Pants, shirt, socks, hat, jacket

Subordinate

- Cargo, jeans, khakis
STEP 1: TYPICALITY RATINGS

CLOTHING

1) PANTS
2) SHIRTS
3) JACKETS
4) SHOES
5) HATS

PANTS
SHOES
HATS
JACKETS
SHIRTS
SEARCH PROCEDURE

SHIRT

ENTER NUMBER

1 2 3 4 5
TRIAL CONDITIONS

Superordinate

CLOTHING

Distractors from other super

Basic Across

PANTS

Distractors from other super

Basic Within

PANTS

Distractors from same super
EXP. 1 RESULTS

Typicality influenced search performance
- For the superordinate condition only

Basic across trials yielded fastest performance
- Specific cue, less overlap of features

Basic Within yielded slowest
- Most overlap of features
- Interference from similar features
**EXPERIMENT 2: GUIDANCE**

- Using eye tracking, we can observe how certain features draw eyes (attention)
- Same procedure, but with eye tracking and new typicality measure using RT.
  1. “Are PANTS a member of CLOTHING?”
  2. Fastest responses would be most typical
EXP. 2 BEHAVIORAL RESULTS

- Implicit Ranking (RTs in msec)
  - Superordinate
  - Basic (Within)
  - Basic (Across)

CLOTHING
1) PANTS
2) SHOES
3) HATS
4) JACKETS
5) SHIRTS

Are PANTS a member of CLOTHING?
# RESULTS SUMMARY

Does typicality affect...

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>RT</th>
<th>Time to Fixate</th>
<th>Time to Press</th>
<th># Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Within</td>
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EXP. 2 EYE TRACKING RESULTS

Overt Ranking

Implicit Ranking (RTs in msec)
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**# VISITS BEFORE TARGET**

- **Implicit Ranking (RTs in msec)**
- **Superordinate**
- **Basic (Within)**
- **Basic (Across)**

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**Overt Ranking**

**Pre-target Visitations**

**Implicit Ranking (RTs in msec)**
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CONCLUSIONS

When targets differ greatly from distractors (super cue, super level distractors), typicality matters.

CLOTHING
THANKS!

Alexis Lopez & Garret Bennett
Collaborative Visual Search, OPAM Poster #34

Adam Underwood
Prospective memory, Friday evening posters, #3085