How blind is inattentional blindness in Mixed Hybrid Search?

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Introduction:
In Visual Search, you look for a target among distractors. In Hybrid Search, you look for several targets. In Mixed Hybrid Search, you look for some specific items (e.g., this fridge, that book) and some categories of items (e.g., any animal, any car).

In Mixed Hybrid Search, Os are much more likely to miss categorical targets than specific targets. (Wolfe, Soce, & Schill, 2017)

Do Os actually know something about those missed categorical targets? Is there hidden, partial knowledge?

Methods: "Look for any animal, any car, and for these specific items (picture)"

**First, Search**

Respond

**Search Performance**

% Error

<table>
<thead>
<tr>
<th>% Error</th>
<th>0</th>
<th>0.2</th>
<th>0.4</th>
<th>0.6</th>
<th>0.8</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categorical</td>
<td>0.1</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1</td>
</tr>
<tr>
<td>Specific</td>
<td>0.1</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1</td>
</tr>
</tbody>
</table>

Awarness Response (%)

<table>
<thead>
<tr>
<th>Awarness Response (%)</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Target Absent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Target Present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0.2</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Ib hits following 'no' awareness when 1 item missed during search

Ib hits following 'yes' awareness when 1 item missed during search

AVERAGE CONFIDENCE

**Conclusion:**
Participants perform above chance when identifying a missed categorical item, even when they are 'sure' they did not miss anything during the search!

**WHAT IS GOING ON?**

Some categorical targets may be missed when Os give up on processing them, even though they have been attended.

Os seem to have access to some partial information that was accumulating. They can use that information to beat chance on the 2AFC questions.

Most specific item misses probably occur when, by chance, Os fail to attend to the target. No attention, no partial information, and, thus, no ability to beat chance.


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Design:
- 50% target absent
- 40% 1-target
- 10% 2-target
- 20% categorical targets
- 80% specific targets

2AFC Question Task

Questioned about Categorical misses

19 of 25 Os produced more than 50% correct 2AFC answers p < 0.008

Questioned about specific misses

15 of 23 Os produced more than 50% correct 2AFC answers p < 0.11

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