Do expert searchers remember what they have seen?
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Question:
Does visual expertise improve visual recognition memory?

Background:
Previous research has shown that humans have a massive and robust ability to recognize objects and scenes that they have seen before (e.g. Brady, Konkle, Alvarez, and Oliva, 2008). We investigated:

> Do expert searchers have better visual memory than naives?
> Is this effect limited to images from their domain of expertise?

Stimuli:
- Objects:
- Scenes:
- Micrographs
- or
- Mammograms

Experiment:

> 4 groups of participants (cytologists, radiologists, and 2 medically untrained control groups)
> Each group saw 3 stimulus sets: objects, indoor scenes, and medical images (cervical micrographs for cytologists and mammograms for radiologists)
> Each of the 3 stimulus sets had 2 phases:
  - Study Phase: 72 images presented for 3 seconds and participants told to memorize the images
  - Test Phase: 72 images, of which 36 were new and 36 of which had been previously seen in the study phase
> Participants labeled images in 'Test Phase' as "new" or "old"

Discussions:

> Experts do have better memory than non-experts for images in their domain
- BUT that memory is not very good (d' = 0.86 for Radiologists and d' = 0.66 for Cytologists.)
> Experts' memory for scenes and objects is much better than their memory for images in their domain
- BUT that memory is no better than the memory of non-experts for those stimuli.

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