**The low-prevalence effect is due to failures of attention, not premature search termination or motor errors: Evidence from passive search and eye-movements.**

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Infrequently encountered targets are missed disproportionately often. This low prevalence effect (LPE) is a robust problem with significant societal consquences (Wolfe et al., 2007). Fleck & Mitroff (2007) suggested that the LPE might reflect premature search termination or response errors. Alternative models argue that prevalence influences observers' decision-making criteria and quitting thresholds. In four experiments with nearly 400 participants, we examined the LPE using standard visual search (with eye-tracking), and two variants of a passive RSVP task. In the RSVP task, sequences of stimuli with or without a target are presented to observers who respond present/absent after the sequence ends (following Hout & Goldinger, 2010). In all experiments, people looked for two target categories simultaneously. The low-prevalence target appeared much less often than its counterpart, while overall target prevalence was 50% in all conditions. In some conditions, people searched for the categories "teddy bear" and "butterfly" among other real-world objects. In other conditions, people searched for specific bears or butterflies among distractors from the same two categories. Results: 1) In standard search, we found an RT benefit for high-prevalence targets. They were found more quickly than low-prevalence targets; 2) In passive RSVP search, the LPE persisted, even though participants never had to terminate search on their own (responses were made following presentation of the entire stream); 3) Eye-tracking analyses showed that fast RTs to the high-prevalence item were explained by better attentional guidance, as indicated by scan-path ratios, and faster perceptual decision-making (indexed by post-fixation RTs); and 4) Even when people look directly at low-prevalence targets, they failed to report them on between 12% and 29% of trials (depending on the experiment). These results strongly argue for an attentional account of the LPE. Low-prevalence misses appear to represent failures of attention, rather than early search termination or motor errors.