Abstract

Presenting distracter stimuli during a timing stimulus typically shortens the perceived duration of that stimulus, whilst expectations to upcoming interferences are believed to produce the opposite effect. The present study examined the role of distracters and subjective expectations on duration perception. In three experiments, distracter stimuli appeared in positions peripheral to the timing signal on half of the trials, but participants were instructed to maintain fixation on the timing stimulus and their eye positions were monitored using an eye-tracker. In Experiment 1, participants were instructed to ignore the distracters and in Experiment 2, participants were required to count the distracters. In both experiments, trials with distracters were judged as longer than equivalent duration trials without distracters. A third experiment, in which a cue indicated whether or not the subsequent trial would include distracters, removed the differences previously found between the distracter and no-distracter conditions. Taken together, these results suggest that the influence of distracter stimuli on timing is determined by whether the task permits covert or overt shifts of attention. When attention is shifted covertly, and the presence of distracter stimuli during a trial is uncertain, participants allocate attention to distracter detection with the result that perceived duration is shorter on trials in which distracters are absent. Moreover, the results suggest that previous findings of a detrimental influence of distracters on perceived duration may have been partially determined by factors such as location of distracters and overt attention shifts (i.e., eye movements).