

## **Cueing vs. Distracting Effects of Attentional Orienting on Auditory Spatial Discrimination**

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A previous study examining whether directing automatic attention affects listeners' performance in a fine-grained auditory spatial discrimination task found a predominantly distracting effect of invalid cues compared to the enhancing effect of the valid cues (Kopco and Sebena, 2020, Cognitive Neuroscience Society Poster D1). In that study, identical buzz sounds were used for both cues and targets. Here, a follow-up experiment investigated whether the distracting effect was mainly due to the cue-target similarity, or whether it was driven by interference caused by the large spatial shifts from the cue to the target. A setup similar to the previous study was used, except that 1) cue type varied (same as target or different), 2) cue/target stimuli could come from 3 locations in a left-right symmetrical spatial setup, and 3) blocks of trials kept the cue type either fixed or random. Ten participants performed a task that involved judging the direction of an auditory target's spatial shift following either a valid or invalid auditory cue, while maintaining the gaze fixation at a central location. The results revealed that: 1) participants performed better with valid vs. invalid cues; 2) responses were biased away from the gaze fixation point as well as away from the cue; 3) cue type and blocking had a small effect on performance. Overall, these results are consistent with interference of preceding stimulus location, rather than target-cue similarity, driving automatic attentional orienting in spatial auditory discrimination. [Work supported by EU Horizon Europe HORIZON-MSCA-2022-SE-01 grant N° 101129903 and APVV-23-0054]