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Spatial S-R compatibility with two-finger choice reactions

G Heister, W H Ehrenstein ¶, P Schroeder-Heister # (Psychologisches lnstitut, Universität Tübingen, D-7400 Tübingen, FRG; ¶ lnstitut für Arbeitsphysiologie, Universität Dortmund, Ardeystrasse 67, D-4600 Dortmund 1, FRG; # Fachgruppe Philosophie, Universität Konstanz, Konstanz, FRG)

Spatial stimulus-response (S-R) compatibility usually refers to the fact that choice reactions are shorter when the spatial position (left, right) is the same for the visual stimulus and the responding hand. We studied whether spatial S-R compatibility also obtains when choice reactions are made with two fingers of the same hand. Eight right-handed subjects reacted as quickly as possible to a 100 ms flash of light that was presented 5 deg to the left or right of a fixation point. Using the index and middle fingers of their left or right hand, subjects pressed either the spatially-same (compatible) key or the spatially-different (incompatible) key. In condition A the subjects' palms faced down; in condition B the palms faced up so that the spatial order of the fingers was reversed. Strong S-R compatibility was found in both conditions: responses were always faster when finger and light were on the same side. Compatible reaction times were shorter than incompatible by 52 ms in condition A and by 61 ms in condition B. The results suggest a coding hypothesis of spatial S-R compatibility (Wallace, 1971 *Journal of Experimental Psychology* **88** 354; Umiltà and Nicoletti, 1985 *Attention and Performance XI* Lawrence Erlbaum, Hillsdale, NJ).