

Publication

Adults' spatial scaling: Evidence from the haptic domain

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 4501371**Author(s)** Szubielska, M.; Möhring, W.**Author(s) at UniBasel** [Möhring, Wenke](#) ;**Year** 2019**Title** Adults' spatial scaling: Evidence from the haptic domain**Journal** Cognitive Processing**Pages / Article-Number** 1-10**Keywords** spatial cognition, spatial scaling, mapping task, haptic perception, non-informative vision

The current study investigated adults' spatial-scaling abilities using a haptic localization task. As a first aim, we examined the strategies used to solve this haptic task. Secondly, we explored whether irrelevant visual information influenced adults' spatial-scaling performance. Thirty-two adults were asked to locate targets as presented in maps on a larger or same-sized referent space. Maps varied in size in accordance with different scaling factors (1:4, 1:2, 1:1) whereas the referent space was constant in size throughout the experimental session. The availability of irrelevant, non-informative vision was manipulated by blindfolding half of the participants prior to the experiment (condition without non-informative vision) whereas the other half was able to see their surroundings with the stimuli being hidden behind a curtain (condition with non-informative vision). Analyses with absolute errors (after correcting for reversal errors) as the dependent variable revealed a significant interaction of the scaling factor and non-informative vision condition. Adults in the blindfolded condition showed constant errors and response times irrespective of scaling factor. Such a response pattern indicates the usage of relative strategies. Adults in the curtain condition showed a linear increase of errors with higher scaling factors whereas their response times remained constant. This pattern of results supports the usage of absolute strategies or mental transformation strategies. Overall, our results indicate different scaling strategies depending on the availability of non-informative vision, highlighting the strong influence of (even irrelevant) vision on adults' haptic processing.

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