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## HAPTIC GUIDANCES INCREASE THE VISUO-MANUAL TRACKING OF JAPANESE AND ARABIC LETTERS

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Poster

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### Abstract

Haptic guidance by a force feedback device is a technology which provides additional proprioceptive cues during visuo-motor learning tasks. The effects of two types of haptic guidance - control in position (HGP) or in force (HGF) – on visuo-manual tracking (“following”) of trajectories are still under debate. Three training techniques of haptic guidance (HGP, HGF or NHG control condition without haptic guidance) were evaluated. Movements produced by adults were assessed in terms of shapes (dynamic time warping) and kinematics criteria (number of velocity peaks and mean velocity) before and after the training sessions. Trajectories consisted of two Arabic and two Japanese-inspired letters. Results revealed both types of haptic guidance do not influence the shape quality, mainly guided by visual feedbacks. Moreover, the use of HGF globally improves the fluidity of the four movements while no significant improvement was found for HGP or NHG.. These results suggest that learned information for this specific motor activity could be stored as internal inverse model and encoded in force coordinates.



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