

## **Tactile suppression and visual attention: Effects on tactile discrimination performance**

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The aim was to investigate tactile discrimination performance under various active and passive conditions and explore the influence of visual information. Participants had to discriminate the direction of lateral pin strokes on their fingertip under three conditions. In one condition (“static”) only tactile stimulation was provided. In a second condition (“active”) the shear force device was mounted on a kinesthetic feedback device so that tactile stimulation was accompanied by active arm movements. In a third condition (“passive”) the arm was moved passively using the kinesthetic device while subjects performed the discrimination task. In this first experiment vision was not controlled. Therefore, to investigate the influence of vision on tactile discrimination performance participants had to perform the tactile discrimination task in the “active” condition with either direct gaze on their hand, gaze on a live image of their hand or without sight of their hand. Results show that tactile discrimination performance was higher in the “static” compared to the “active” condition. Moreover, participants performed better when they were gazing on their hand compared to the no-sight condition. We conclude that active movement impairs tactile discrimination performance. However visual spatial attention can compensate to some degree for this loss of tactile sensibility.