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Authors

Patton, Katarina
Chinn, Lisa K
Lockman, Jeffrey J

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Spatial organization of tactile localization in adults

Katarina Patton

Tulane University, New Orleans, Louisiana, United States

Lisa Chinn

University of Houston, Houston, Texas, United States

Jeffrey Lockman

Tulane University, New Orleans, Louisiana, United States

Abstract

Reaching to targets on the body is an important adaptive behavior, but little is known about how such reaching is spatially organized. Here, we tested right-handed adults ($n = 25$) in a tactile localization task. A vibrotactile target was placed, one at a time, at 15 different sites on the face: six pairs of corresponding sites on the left/right sides of the face (forehead to mouth region) and three midline sites (chin, mouth, forehead). Participants reached more with the right hand to right-side face targets (134/148 right hand reaches to right-side trials) than to left-side targets (70/152 right hand reaches to left-side trials, $\chi^2(1) = 39.56$, $p < .001$). For midline target locations, right-hand reaching dominated (65/75 trials, $p < .001$). Results are discussed in relation to how tactile localization is jointly influenced by the body's spatial structure and hand dominance.