

The missing mitt: Underestimation of hand perception in elite baseball players

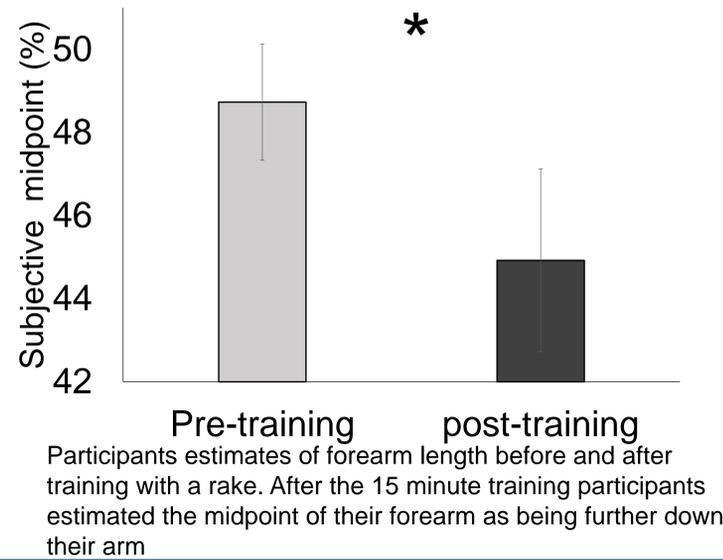
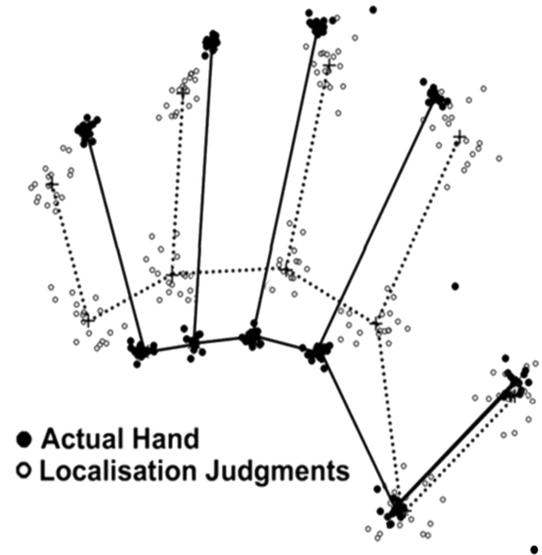
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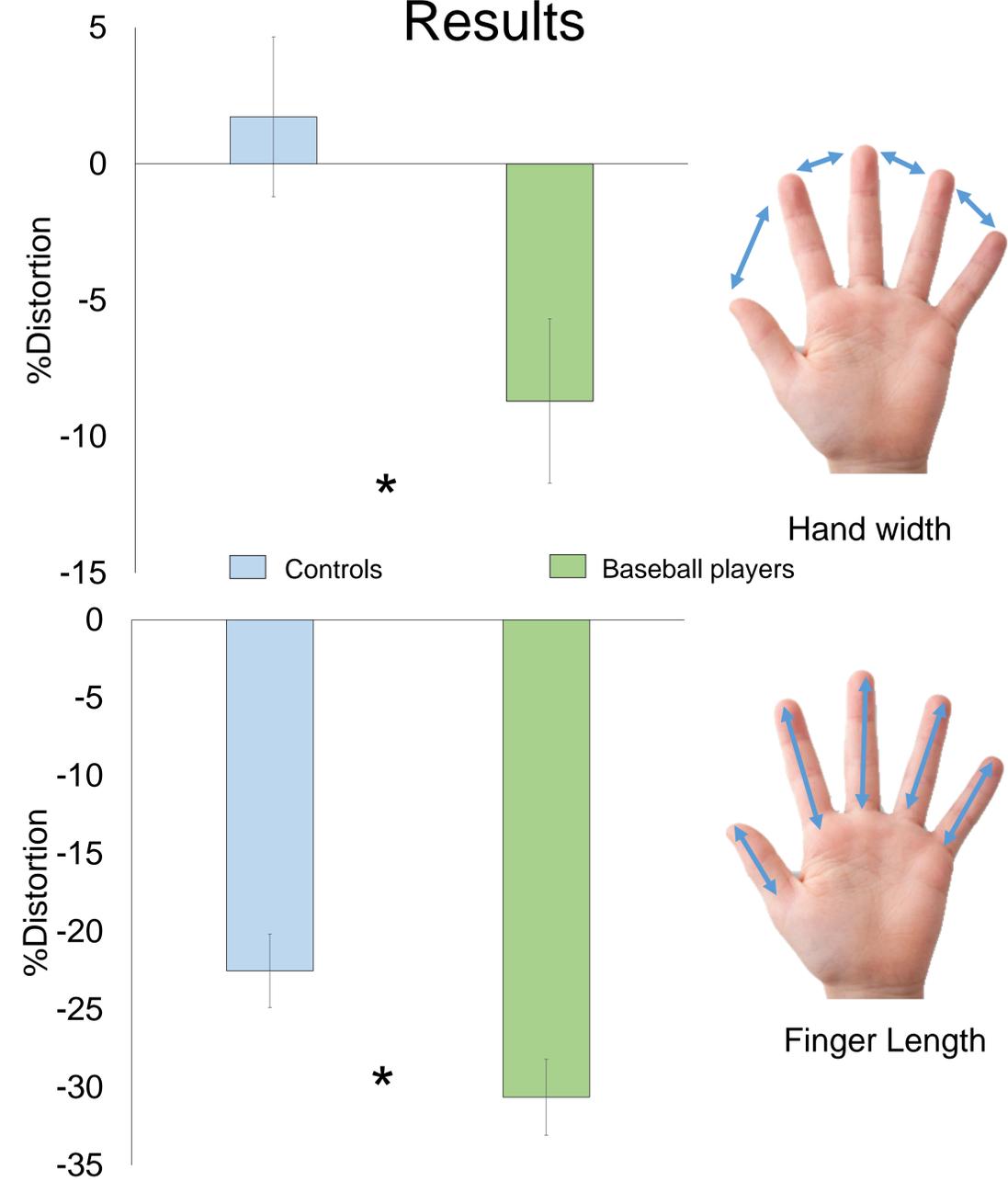
Longo and Haggard, 2010¹

Introduction

Sposito et al., 2012²



Results



Research question:

Does glove use by baseball players affect hand perception?

Hypothesis: Baseball players will have different hand perception because it has been shown that body perception is altered by tool use.
 Predictions: Baseball players will overestimate the size of their glove hands (as if their hand was the glove).

Methods



Non-occluded hand condition



Occluded hand condition



17 Elite male baseball players



18 male controls

Discussion

Our hypothesis was supported as baseball players had significantly different hand maps than our male control group. Contrary to our prediction, however, the baseball players underestimated hand size of both their hands when compared to the male controls. Perhaps the years of glove use results in a perception that their hands are smaller than in reality, when they are not wearing their glove.
 Conclusion: The baseball players hand perception was altered as a result of glove use. This confirms that these sensory maps are plastic and altered by tool use.

¹ Longo, M. R., & Haggard, P. (2010). An implicit body representation underlying human position sense. *Proc Natl Acad Sci U S A*, 107(26), 11727-11732. doi:10.1073/pnas.1003483107
² Sposito, A., Bolognini, N., Vallar, G., & Maravita, A. (2012). Extension of perceived arm length following tool-use: clues to plasticity of body metrics. *Neuropsychologia*, 50(9), 2187-2194. doi:10.1016/j.neuropsychologia.2012.05.022