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ABSTRACT ESCAN

Title (20 words):

Categorical representation of the hand across skin types: a comparison between adulthood and ageing

Abstract (250 words):

The topographical description defines the body as a continuous map with interactions between skin regions based on their spatial adjacency within the somatotopic map (Tamè & Longo, 2023). By contrast, the categorical description represents the body by discrete body parts defined by their functional roles (De Vignemont et al., 2009; Knight et al., 2014). Evidence suggests that this latter form of representation emerges early in the developmental stage (Knight et al., 2017); however, the extent to which this representation is preserved across ageing remains unclear.

Here, we investigated whether the categorical description can account for the hand representation, considering the distinction between the skin types (glabrous skin vs. hairy skin). Participants were asked to estimate distances between two tactile stimuli applied to different regions of the hand palm and dorsum (i.e., wrist, hand, finger crease, finger). Judgment errors were compared between age groups.

Younger adults (N= 30) showed significant differences in the estimates between glabrous and hairy skin at the wrist, finger crease, and hand, but not at the finger. Preliminary data from the older adult (N = 10) indicate a tendency for larger underestimation for hairy skin across body parts, although so far no significant differences between the hand regions were observed.

Our preliminary results suggest that hand representation can be explained by the categorical description, particularly when considering the differentiation between the skin types. For older adults, there is less distinction between body parts and a trend toward a more pronounced underestimation of distances on the hairy skin.

Keywords (between 3 and 5):

Body Boundaries; Categorical Perception; Hand representation; Skin types; Ageing