U can’t touch this: Spatial topography of social touching

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Introduction

Social touching is the most intimate way of human communication.

Touching can be used for communicating positive and negative affect, and establishing and maintaining of social bonding.

Consequently, spatiotemporal patterns of touching behavior should vary across different social relationships (Dunbar, 2010), yet this hypothesis remains unexplored in humans.

Methods

Experiment 1: Participants (n = 91, all Finnish) completed an online questionnaire where they reported the reasons for touching different member of their social network.

Experiment 2: Participants (n=972) from Finland, France, Italy, and Russia first completed a questionnaire mapping their social network, and reported the strength of emotional bond with each member of the network. Relationship-specific TSMs were acquired using the on-line embodiment tool (Nummenmaa et al., 2014).

Participants were shown front and back silhouettes of a human body alongside with a word denoting a member of their social network (e.g. ‘Sister’). Participants were asked to consider carefully where this member of their social network could touch them so that it would feel natural or comfortable to them.

Subject-wise TSMs were generated for each social network member and subjected to random effects analysis with FDR-corrected mass univariate t-tests.

Gathering the data with the embBODY tool

Blank bodies

Subject-wise touch space maps

Random effects analysis and statistical inference

Results

Topographies of acceptable social touch by relationship

Reasons for social touching

Touchable body area depends on the gender of the toucher and the person being touched

Strength of emotional bond correlates with touchable body area

Conclusions

Social relationship modulates spatial patterns and reasons for social touching in a culturally universal manner.

Strength of emotional bond with an individual is associated with how much body area this person is allowed to touch.

Both males and females allow females to touch them in larger areas than men.

We propose that relationship-specific spatial patterns of social touching may be the key mechanism supporting establishing and maintenance of social bonds.

References


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