Social touch is relationship-specific for children and adults

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Social touching is very relationship-specific

The colours in the labels indicate the sex of the toucher, e.g. Female Cousin, Male Cousin. Colouring of the bodies shows FDR-thresholded T-scores.

Suvilehto et al. (2015). Topography of social touching depends on emotional bonds between humans. *PNAS*
Methods

On-line data collection with the emBODY tool

Total N = 1312 from four European cultures
- 545 British, 194 Finnish, 111 French, and 426 Italian

Three categories of children
- own child (N = 300)
- an under elementary school aged girl/boy you know but who is not your own child (Ns 820 and 793 respectively)
- under elementary school aged girl/boy who you do not know (N 1312 for both)

Three categories of adults
- Partner, m/f acquaintance, m/f stranger
Topographies of acceptable touch
Adults and young children

Under school-aged child (age range approx. 0-6, depending on country)

Adult, approximately the same age as the subject
The age of one’s own child has little impact on touch allowances. 

$r$ within range $[-0.2, 0.16]$
Touchability and emotional bond
Connection between bond & TI exists in both adults and children

![Graph showing the connection between emotional bond and touchability index. The graph compares data for females and males across different countries: EN, FI, FR, IT. The x-axis represents emotional bond, while the y-axis represents touchability index. The data points are color-coded by country, with EN in red, FI in green, FR in blue, and IT in purple. The graph indicates a positive correlation between emotional bond and touchability index for both adults and children.](image-url)
Sex effects
Sex effects are different when being touched by adult vs child

Subjects

Adults

Relationship

Partner
Woman acq.
Man acq.
Woman stranger
Man stranger

TI
sex
female sub
male sub
The sex of the toucher modulate TI for adults

Adults

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Partner</th>
<th>Acq.</th>
<th>Stranger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touchers</td>
<td>Woman</td>
<td>Man</td>
<td>Stranger</td>
</tr>
<tr>
<td>Sex of Subject</td>
<td>female</td>
<td>male</td>
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Children

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*** indicates p < 0.001 in two-sample t-test, Holm-Bonferroni corrected
Sex effects are different when being touched by adult vs child
The sex of the subject impacts TI for children

*** indicates p < 0.001 in two-sample t-test, Holm-Bonferroni corrected
Bonus: heritability
TI for mother explains TI for child

F(1, 323) = 450.2, p-value: < 2.2e-16
Adjusted R-squared: 0.581
Conclusion

• Touch allowances for children are relationship-specific
• The baseline touchability is higher in children than in adults, but slope is more gradual
• The sex effects are different when being touched by adult or child
  • We modulate touch allowances based on the sex of the adult toucher
  • Males and females have different touch allowances for children
Acknowledgements
Robin Dunbar
Enrico Glerean
Riitta Hari
Lauri Nummenmaa

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Slides will be available at http://users.aalto.fi/~jtsuvile

Picture from Richald Renaldi’s Touching strangers project
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Extra figures
Touchability Index and emotional bond for own child (unaveraged data)
Touchability Index and age of child for own child (unaveraged data)
Touchability Index and age of child for own child (unaveraged data)

Sex of the child
- female
- male
Touchability Index and age of parent for own child (unaveraged data)
Touchability towards father and child

\[ F(1,232) = 269.7, \ p\text{-value: } < 2.2\times10^{-16} \]
Adjusted R-squared: 0.5356

Correlation between touchability for mom and touchability for dad
\[ r = 0.8243247 \]

for comparison, correlation between touchability for own child and a female acquaintance
\[ r = 0.4948146, \]
Adjusted R-squared: 0.2431