Touch and Feel: Exploring Interpersonal Touch and Its Influence on Material Pleasantness

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Introduction

Interpersonal touch is a fundamental aspect of human interaction, profoundly influencing emotions, relationships, and perceptions. Yet the question remains: How does this intimate form of contact affect our aesthetic appraisal of material surfaces? While the emotional and psychological benefits of interpersonal touch are well-documented, its influence on aesthetic judgments of materials' surfaces remains relatively unexplored. Our study seeks to investigate this intriguing subject by examining the interplay between interpersonal touch and the pleasantness ratings of 2D materials' surfaces varying in roughness levels

H1: materials are perceived more pleasant in the friend condition (experimental group EG) than in the alone condition (control group CG)

H2: higher comfort with interpersonal touch (CIT) positively correlates with higher pleasantness ratings in the EG

H3: closer relationships are positively associated with higher pleasantness ratings in the friend condition.

Experiment set up for EG:

Methodology

- Between-subjects design
- 24 participants (Ages 19–36, M = 22.42, SD = 4,49)
- Five sandpaper samples with different grains (K0040, K0120, K0240, K0600, K1200)

Measures:

- Tactile Evaluation Task (10-point Likert scale for material pleasantness)
- Comfort with Interpersonal Touch (CIT)
- Inclusion of Self and Others (IOS) scale

Procedure:

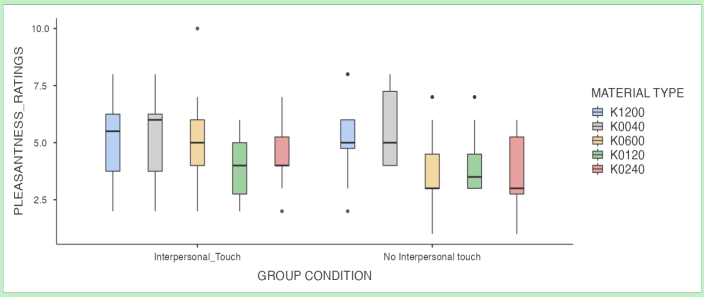
Controlled and standardized procedure to evaluate the perception of tactile stimuli:

- Experimental Group (EG) accompanied by a friend during the task
- Control Group (CG) completed the task alone

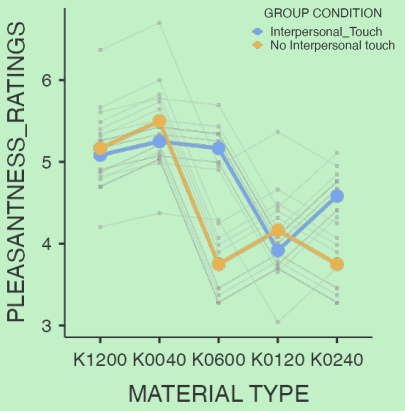
EG Group:

Participants were randomly assigned to one of two roles: active participant (Person A) or supporter (Person B), by drawing cards. Person A evaluated the materials while holding hands with Person B, seated side-by-side with both hands resting on the table.
Participants explored five materials inside the haptic box for 30 seconds each and rated their pleasantness on a 10-point Likert scale (1 = "highly unpleasant," 10 = "highly pleasant"). Ratings were given verbally and recorded by the experimenter.

Results



- Correlation analysis aimed to investigate the linear relationships between Comfort with Interpersonal Touch (CIT), Inclusion of Other in the Self (IOS) scores, and pleasantness ratings of 2D material surfaces suggested no significant relationships between these variables.



- Linear mixed model analysis (MLM), to assess effect of interpersonal touch on pleasantness ratings of 2D materials:

  No significant effect on the pleasantness ratings (b=-0.33, a t (22) -0.82, p =0.42); The analysis showed that fixed factors explained 12% of the variance in ratings (marginal R^2 = 0.12), and the total model effects accounted for 24% of the variance (conditional R^2 = 0.24).

  Material type significantly influenced ratings, particularly coarser materials which were rated as less pleasant. Specifically, sandpaper K0240 (b=-0.958, t(88)=-1.99, p=0.05) and sandpaper K0120 (b=-1.083, a t(88)= -2.25, p=0.03).

  H1, H2, H3 not confirmed.

Discussion

Prior research has highlighted the positive influence of interpersonal touch on human behaviour and decision-making. However, our findings reveal that interpersonal touch did not significantly affect the pleasantness ratings of 2D materials. This outcome may be attributed to the specific nature of the touch involved—friendship-based rather than romantic, which is more commonly studied—or possibly due to the limited sample size used in this study. This suggests that the effect of interpersonal touch on material perception might be context or relationship specific.

Importantly, our results indicate that material type influences perceptions of pleasantness, with variations across different materials clearly observable. Specifically, materials such as sandpaper with a K0120, K0240 grains were associated with the most pronounced negative impacts on pleasantness ratings.

- These findings underline the importance of materials sensory, aesthetic perception in haptic studies and provide a foundation for future research to explore how different contexts of interpersonal touch could influence these perceptions. Future studies should consider using a larger sample size to enhance the generalizability of the findings, and to expand the types of social interactions examined—such as including supportive verbal expressions or more varied forms of physical touch like stroking the arm or a hand on the shoulder.

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