## Supplementary Material

## 1 APPENDIX: BACKGROUND QUESTIONNAIRE

Q1 What is your age?

- Under 18
- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 or older

Q2 What is your gender?

- Female
- Male
- Other:
- Prefer not to answer

Q3 What is your dominant hand?

- Left
- Mostly left
- About equal
- Mostly right
- Right

Q4 Which of the following categories best describes your race/ethnicity?

- American Indian or Alaskan Native
- Black, Afro-Caribbean or African American
- East Asian
- Hispanic or Latino
- Middle Eastern or Arab
- Native Hawaiian or Other Pacific Islander
- South Asian or Indian
- White
- Other:
- Prefer not to answer

Q5 What field best describes your educational background?

- Design, Arts, Entertainment and Recreation
- Software Engineer
- Human Resources
- Hardware Engineer
- Social Science
- Finance, Insurance or Legal Services
- Perception, Cognition, and UIUX
- Operations
- Product oriented
- Other:

Q6 Which of the following best describes your work experience in an AR/VR related field?

- Less than 2 years
- Between 2 and 5 years
- Between 5 and 10 years
- More than 10 years
- Zero (I have never worked in an AI/AR related field)

Q7 How familiar are you with Virtual Reality (VR)?

- Never or rarely use VR
- Used VR several times
- Use VR semi regularly
- Regular VR user
- Heavy user of VR

Q8 When it comes to technology, what best describes you?

- I am skeptical of new technologies and use them only when I have to
- I am usually one of the last people I know to use new technologies
- I usually use new technologies when most people I know do
- I like new technologies and use them before most people I know
- I love new technologies and am among the first to experiment with and use them


## Q9-Q10-Q11 Please rate the following statements:

|  | Strongly <br> agree | Somewhat <br> agree | Neither <br> agree nor <br> disagree | Somewhat <br> disagree | Strongly <br> disagree |
| :--- | :--- | :--- | :--- | :--- | :--- |
| I do not mind being the <br> center of attention | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I feel comfortable <br> around people | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I am the life of the party | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I start conversations | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I talk to a lot of different <br> people at parties | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |


|  | Strongly <br> agree | Somewhat <br> agree | Neither <br> agree nor <br> disagree | Somewhat <br> disagree | Strongly <br> disagree |
| :--- | :--- | :--- | :--- | :--- | :--- |
| I am interested in people | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I sympathize with <br> others' feelings | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I have a soft heart | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I take time out for others | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I feel others' emotions | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I make people feel at <br> ease | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |


|  | Strongly <br> agree | Somewhat <br> agree | Neither <br> agree nor <br> disagree | Somewhat <br> disagree | Strongly <br> disagree |
| :--- | :--- | :--- | :--- | :--- | :--- |
| I consider myself to be <br> a more "touchy" person <br> than most of my friends | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I feel more comfortable <br> initiating touch than <br> most | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| When talking to people, | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| I often touch their arm |  |  |  |  |  |$\quad$| $\square$ |
| :--- |
| I do not mind if <br> someone touches my <br> arm |
| $\square$ |

Q12 This is the last question, please write below if you have any comments regarding this questionnaire: $\qquad$

## 2 APPENDIX: USER STUDY 1

### 2.1 Participants' background



Figure S1. Results of the participants background questionnaire for the first user study

### 2.2 Confidence and realism mean and standard deviation per cluster



Figure S2. Confidence and realism mean and standard deviation per cluster

### 2.3 Data analysis - Correlation

| Correlation Matrix |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | -0.51 | 0,19 | 0.16 | $00^{\circ} 03$ | 0.23 | -0.28 | -0.18 | 0.288. | 0,3i | $0 \% 39^{\circ}$ | 0.60\% |
|  |  |  |  | - | $\square^{\circ}$ | $\square^{\circ}$ | - 0.17 | - . | $\bigcirc$ | $\bigcirc{ }^{\circ}$ |  |  |
|  |  |  | -0.38 | -0.22 | -0.40 | -0.32 | $\bigcirc$ | 20.15 | -0.37 | 0:29 | $0.17{ }^{\circ}$ | $20: 81$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.17 | -0.38 |  | $0.24^{\circ}$ | 0\%01 | 0.14 | 0:18 | 0.43 ${ }^{\circ}$ | -0,33 | -0.25 | -0.24 | 0.47 |
|  |  |  |  |  |  | : ${ }^{\circ}$ | $\cdots$ | $\because$ | \% | $\because$ | 00\% |  |
|  | 0.16 | -0.22 | $0.21{ }^{\circ}$ |  | 0.37 . | 0.59 | $\bigcirc$ | $\stackrel{0}{\circ} 0.21$ | $\bigcirc$ | ${ }^{0.26}$ | $\bigcirc$ | $0.410^{\circ}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.03 | -0.40 | 0.01 | $0.3{ }^{\circ}$ |  | 0.44 | -0.27 | -0.00 | 0.03 | 0.0% | -0.28 | 0.28 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.23 | -0.32 | 0.14 | 0.59. | 0.44 . |  | -0.46 | 0.52 | -0.36 | 0.04 | -0.31 | 0.62 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 8-0.288 | -0.17 | 0\%18. | -0.25 | -0.27 | -0.46 |  | 0:444* | $0.97^{\circ}$ | 20.10 | 0.04. | 80,09 |
|  | -0.48 | -0.15 | 0813 ${ }^{\circ}$ | -0.21 | 0;00 | -0.52 | 0.449 |  | 0.39 | 0.15 | $0.300^{\circ}$ | -0\%28 |
|  | $\bigcirc$ |  | $\bigcirc$ |  |  |  |  |  |  |  |  |  |
|  | ${ }^{0.288}$ | -0. 37 | -0.33 | -0.49 | $00^{0} 03$ | -0.36 | 0.073 ${ }^{\circ}$ | $0.39^{\circ}$ |  | -0.27 | 0.27 | $\bigcirc$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $0: 21 .$ | $9.218$ | $-0.25$ | 0.26 | $0,07$ | 0.04 | $-0,10$ | 0.45. | -0.27 |  | 0.43 | ${ }_{80} 0_{8} 03$ |
|  | $0.24$ | 9.170 | $\circ-24$ | $-0.49$ | $-0.28$ | $-0.31$ | $0,04$ | $0.30^{\circ}$ | 0.27. | $0.43$ |  | $\bigcirc 0,24$ |
|  | $0.60^{\circ}$ | -0.81 | $0.47$ | $0.41^{\circ}$ | 0:28. | $0.62$ | $-0.09$ | $-0: 28$ | -0.01 | -0.03 | -0.24 |  |
| $\begin{array}{cc} 468 & 1 \\ \text { Age } & \text { Gen } \end{array}$ |  |  | $05100$ Educ | $0123$ | $\begin{array}{lc} 2 & 4 \\ \text { Techy } \end{array}$ | $\begin{aligned} & 234 \\ & \text { VR } \end{aligned}$ | $\begin{gathered} 234 \\ \text { Extra } \end{gathered}$ | $23$ | $\stackrel{3}{\text { Touch }}$ | 507090 Conf | $\begin{aligned} & 305070 \\ & \text { Real } \end{aligned}$ | $\begin{gathered} 2 \\ 0 \\ \text { GloSi } \end{gathered}$ |

Figure S3. Results of the correlation analysis between the participants' background, their confidence and realism rating, and their glove size


Figure S4. Results of the correlation analysis between the participants' background, their confidence and realism rating, their sliders values for high five, and their glove size


Figure S5. Results of the correlation analysis between the participants' background, their confidence and realism rating, their sliders values for asking for attention, and their glove size


Figure S6. Results of the correlation analysis between the participants' background, their confidence and realism rating, their sliders values for caress, and their glove size

|  | Handshake |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 0.44** | 0:07\% | \% ${ }^{\circ} \mathrm{O} .10$ | 0.0.4 $4^{\circ}$ | $0.47{ }^{8}$ | 0.34i ${ }^{\circ}$ | 0814 ${ }^{\circ}{ }^{\circ}{ }^{\circ}$ | $0.04{ }^{\circ}{ }^{\circ}$ | -0.220 | 0. 25. | -0.099 ${ }^{\circ}$ |
| $\text { OV } 2.5$ | $0.44 \%^{8}$ |  | 0.39 | $0,15^{\circ}$ | 0.30\% | $\cdot 0.08^{\circ}$ | $0.46^{\circ}$ | $0.16^{\circ}$ | $-0^{\circ} 30^{\circ}$ | ${ }^{\circ}-0.30^{\circ}$ | $0^{\circ} .211^{\circ}$ | -0.2.28 |
| $\begin{aligned} & \mathrm{C}_{3} \\ & \mathrm{O} \\ & 1 \end{aligned}$ | $0.07 \%$ | 0.39. |  | ${ }^{20.27}$ | 0.2700 | ${ }^{20.00}$ | $-0.32$ | 0.10 | 0,1900 | 0.10 | $0.111^{\circ} 0^{\circ}$ | -0.018 |
| $\begin{aligned} & 180 \\ & \hline 060 \\ & \hline 040 \end{aligned}$ | $\begin{array}{\|c\|} \hline \therefore 0.10 \\ \hline 0 . \\ \hline \end{array}$ | 0.15\% | $-0.27$ |  | $0.433^{\circ 8}$ | $0.03$ | $0.29 \%$ | $\begin{gathered} -0.04^{\circ} \\ \vdots \\ \hline \end{gathered}$ | $0.14 \circ$ | $0.080_{\circ}^{\circ}$ | $0.150^{\circ 0}$ | -0.03 |
| $\begin{array}{r} \widetilde{\widetilde{\prime}} 60 \\ \mathbb{\otimes} 40 \\ \widetilde{\sim} 20 \end{array}$ | 0.0.40 ${ }^{\circ}{ }^{\circ}$ | 0.30ㅇ․ | 0.27 . | $0.43 \%$ |  | -0.38 | $0.01^{\circ}{ }^{\circ}$ | $0.06{ }^{\circ}$ | -0i10 ${ }^{\circ}$ | -0.1\% | $0.45{ }^{\circ} \mathrm{\circ}$ | $-0.24{ }^{\circ}$ |
|  | 0.47\% ${ }^{\text {a }}$ | -0.008 | $\bigcirc 0$ | $0.03^{\circ} \circ$ | $\begin{gathered} -0.38 \\ 0 . \\ \hline \end{gathered}$ |  | $0.43{ }_{8}$ | $0.40{ }^{\circ}$ | 0,64* ${ }^{\text {aco }}$ | $0.35^{\text {\% }}$ | $0_{8}^{\circ} 22^{\circ}$ | 0.17: |
| ¢ 100 | $0.344^{\circ}{ }^{\circ}$ | $0^{0.16 .}$ | -0.32 | 0.29\%- | $0.01{ }^{\circ}$ | 0.43\% |  | $0.52^{\circ \infty}$ | $0.11^{\circ 0}$ | ${ }^{0.08}{ }^{\text {¢ }}$ | -0.36 ${ }^{\circ}$ | 0.16 - |
|  | 0.14\% | 0.16 - | 0.10 | -0.0.04 ${ }^{\circ}$ | Q.06. ${ }^{\circ}$ |  | $0.522^{8}$ |  | $0.50 \%$ | 0.19\% ${ }^{\circ}$ | -0.01. | -0.088 |
| $\begin{array}{lr} \text { તi } & 100 \\ \text { © } & 50 \\ & 0 \end{array}$ | 0.848 $4^{\circ}{ }^{\circ}{ }^{\circ}$ | ${ }^{-0.30} 0^{\circ}$ | 0.198 | $0.144_{8}^{\circ}$ | ${ }^{-0.10} 0^{\circ} 0^{\circ}$ : | 0.64. ${ }^{8}{ }^{8}$ | $0.11{ }^{\circ}{ }^{\circ}$ | 0.508:- |  | 0.75\% | $-0.14{ }^{\circ}$ | $-0.03^{\circ}$ |
|  | $-0.22{ }^{\circ}$ | ${ }^{-0.30} 0^{\circ}$ | $0.10$ | $0.08^{\circ}{ }^{\circ}$ | $-0.17^{\circ}$ | $0.35^{\circ}$ | $\mathbf{0 . 0 8}{ }_{8}^{8}$ | $0.19^{8}$ | $\mathbf{0 . 7 5 \%}$ |  | 4 | $-{ }^{-0.188}$ |
|  | 0.25 ${ }^{5}$ | 0.29 ${ }^{\circ}$ | 0.181 ${ }^{\circ}$ | $0.155^{8}$ | $0.45 \%$ | -0.26 | -0.36 | $-0.001$ | -0.14 ${ }^{\circ}$ | $-0.64$ |  | -0.0⒏8 |
| $\begin{array}{ll} 0 \\ \hline 0 \\ \hline \end{array}$ | $-0.09 .$ | -0.28. | -0.01. | -0.03. | $-0.24$ | $0.17^{\circ}$ | $0.16^{\circ}$ | $-0.08$ | $-0.03^{\circ}$ | $-0.18$ | $-0.08$ |  |
|  | 23.5 <br> Extra | Agrea | $\begin{gathered} 2 \\ \text { Touch } \end{gathered}$ | 40608020 <br> Conf | 2060 <br> Real | $\begin{aligned} & 0 \quad 100 \\ & \text { HS1.2 } \end{aligned}$ | $\begin{aligned} & 501000 \\ & \text { HS1.3 } \end{aligned}$ | $\begin{aligned} & 100 \\ & \mathrm{HS} 1.4 \end{aligned}$ | $\begin{aligned} & 100 \\ & \mathrm{HS} 2.2 \end{aligned}$ | $\begin{gathered} 80 \\ \text { HS2.3 } \end{gathered}$ | $\begin{aligned} & 0 \quad 600 \\ & \text { HS2.4 } \end{aligned}$ | $\begin{array}{r} 0123 \\ \text { GloSi } \end{array}$ |

Figure S7. Results of the correlation analysis between the participants' background, their confidence and realism rating, their sliders values for handshake, and their glove size

| Heartbeat |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $0.07^{\circ}$ | $\begin{gathered} -0.10 \\ \hdashline \therefore \\ \circ \end{gathered}$ | $0.04$ | 0.56 | $\begin{gathered} 0.45 \\ 8.0 \end{gathered}$ | $\mathrm{O}_{8}^{13}$ | $-0.05$ | -0:47 | $0.31$ | $\begin{array}{ll} 0009 \\ \hdashline: 80 \end{array}$ |
|  | $0,44$ |  |  | $\begin{aligned} & 0.15 \\ & 0.15 \\ & \hline \end{aligned}$ | $0,30^{\circ}$ | $\begin{aligned} & 0.54 .0 \\ & 80 \end{aligned}$ | $-0.51$ | -0.36 | $0.52$ | $\because 0.50$ | $0.05$ | ${ }_{8}^{-0} 8.28$ |
|  | $0.07^{\circ}$ |  |  |  | $\begin{aligned} & 0.27 \\ & 8.20 \% \\ & \hline 0 \end{aligned}$ | $0 \%$ | $\therefore 0.24$ | $-0.09$ | $0.42$ | -0.35 | 0.00 | 801 |
|  | $-0.10$ |  |  |  |  | 0.1 |  | $\begin{array}{\|c\|} \hline 0 ; 17_{8} \\ \hline: \\ \hline \end{array}$ | $\frac{0.17}{0}$ | $-0.19$ |  | $03$ |
|  | $0.04$ |  |  |  |  | $0,2$ | $4$ | 7! | 0 | $36$ | 0.22 | 24 |
|  | $0.56$ | $0.54$ | $0.38$ | $0.15$ | $\frac{0.26}{88 \theta^{8}}$ |  |  |  | $-0.08$ | $35$ | ${ }_{8}^{20.20}$ | $0.09$ |
|  | $-0: 45$ | $\therefore 0,51$ | $-0.24$ | $0.48$ | $\begin{array}{r} \circ 0.34 \\ 0.38^{\circ} \end{array}$ | $-0.48$ |  |  | 0.08. |  | $0.27$ | 0.00 |
|  | 0:13 | $\stackrel{20.36}{0.00}$ | -0.09 | 0.17 | $0.17{ }^{\circ}$ | 0.4 | $-0.32$ |  | -0.5 | $-0: 40$ | $\stackrel{0.16}{ }$ | 0.20 |
|  | $-0.05$ | $0.52$ | $0.42$ | 0.17 | $0,47$ | -0.08 | 0.08 | -0 |  | ${ }^{0.20 .20}$ | 0.3 | (0\%55 |
|  | $\because 0.47$ | $\begin{aligned} & \because 0,50 \\ & \hdashline 0_{0} \\ & 0 \end{aligned}$ | $-0.35$ | $\begin{array}{r} 0.19 \\ \hline-0 \\ \hline \end{array}$ | $\begin{gathered} -0.36 \\ 8^{2 \circ \circ} 0 \end{gathered}$ | -0.65 |  | $-0.40$ |  |  | $0.07$ | -0.22 <br> 0.8 <br> 8.8 <br> 0.42 |
|  | 0.3 | 0.05 | 0.00 | $0-0.27$ | 0.22. | -0.20 | -0.27 | -0.16 | 0.31 | 0.07. |  | 0.42 |
|  | $\bigcirc \infty$ 。 | - 0 |  |  |  |  |  |  |  |  |  |  |
|  | -0.09 | -0:28 | -0:01. | $\bigcirc 0.03$ | 20.24 | 0.09 | $0=00$ 。 | 0.20 | -0.55 | -0.22 | $\div 0.42$ |  |
|  | 23423234501204060060061000 Extra Agrea Touch Conf Real HB1.2 HB1.3 HB1.4 HB2.2 HB2.3 HB2.4 GloSi |  |  |  |  |  |  |  |  |  |  |  |

Figure S8. Results of the correlation analysis between the participants' background, their confidence and realism rating, their sliders values for heartbeat, and their glove size

## 3 APPENDIX: USER STUDY 2

### 3.1 Participants' background



Figure S9. Results of the participants background questionnaire for the second user study

### 3.2 Tables of full dataset



Figure S10. Confusion table presenting the recognition rate of the emotional content of the social touch with the true class, the 18 haptic patterns, in the $y$-axis and the predicted class, the ten scenarios, in the x -axis. The cells outlined in grey highlight the correct social touch selection and the one in black, the correct social touch and scenario selection.


Figure S11. Confusion table presenting the participants' confidence rating in (a) their social touch selection, and (b) their scenario selection. The cells outlined in black highlight the correct selections

|  | highfive1 | 65.7 | 12.3 | 0.0 | 0.0 | 8.9 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | highfive2a | 30.3 | 53.7 | 9.9 | 8.5 | 3.1 | 12.1 | 0.0 | 0.0 | 0.0 | 0.0 |
|  | highfive2b | 50.0 | 47.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 |
|  | handshakela | 0.0 | 0.0 | 20.8 | 15.2 | 0.0 | 0.0 | 6.9 | 6.5 | 15.3 | 38．3－ |
|  | handshakelb | 0.0 | 0.0 | 22.4 | 24.2 | 0.0 | 0.0 | 0.6 | 0.0 | 19.5 | 21.0 |
|  | handshake2a | 0.0 | 0.0 | 8.2 | 23.5 | 0.0 | 6.4 | 4.2 | 4.6 | 22.1 | 2.6 |
|  | handshake2b | 0.0 | 0.0 | 36.3 | 10.7 | 0.0 | 0.0 | 5.0 | 1.7 | 5.9 | 22.8 |
| \％ | caress1a | 0.0 | 0.0 | 5.1 | 0.0 | 60.3 | 58.0 | 0.0 | 9.1 | 0.0 | 0.0 |
| ご | caress 1 b | 0.0 | 0.0 | 4.7 | 0.0 | 41.8 | 54.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| $\cong$ | caress2a | 3.5 | 0.0 | 3.5 | 0.0 | 47.4 | 57.2 | 0.0 | 8.7 | 0.0 | 0.0 |
| $\stackrel{\square}{\square}$ | caress2b | 0.0 | 0.0 | 0.0 | 2.8 | 52.7 | 63.0 | 0.0 | 6.9 | 0.0 | 0.0 |
|  | attention 1 | 0.0 | 0.0 | 9.4 | 13.8 | 0.0 | 0.0 | 54.1 | 1.7 | 0.0 | 14.0 |
|  | attention2a | 0.0 | 8.3 | 4.1 | 8.5 | 0.0 | 13.7 | 0.0 | 29.1 | 0.0 | 0.0 |
|  | attention 2 b | 0.0 | 0.0 | 10.3 | 13.5 | 4.7 | 9.1 | 5.5 | 31.6 | 15.3 | 8.2 |
|  | heartbeatla | 0.0 | 0.0 | 0.0 | 11.0 | 0.0 | 5.6 | 15.6 | 22.2 | 34.4 | 5.5 |
|  | heartbeatlb | 0.0 | 0.0 | 0.0 | 0.0 | 19.8 | 13.9 | 0.0 | 19.4 | 34.0 | 25.2 |
|  | heartbeat 2 a | 0.0 | 0.0 | 3.2 | 7.8 | 0.5 | 0.8 | 35.7 | 8.9 | 7.2 | 24. |
|  | heartbeat2b | 0.0 | 0.0 | 0.0 | 8.5 | 4.1 | 12.7 | 16.1 | 7.0 | 10.4 | 45.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |

Figure S12．Confusion table presenting the results of the realism rating．The cells outlined in grey highlight the correct social touch selection and the one in black，the correct social touch and scenario selection

## 3．3 Data analysis

|  | Correlation Matrix |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 0：04 | －0．07 | 0.42 | 0.10 | $0.03{ }^{\circ}$ | 0.82 | 0.51 | 0.01 | －0：46 | －0．19 |
|  |  |  | $\bigcirc$ | － | $\therefore$ 。 | $\because$ |  | \％oos | $\bigcirc 0.0$ | $\cdots$ |  |
|  | 0．0⒋ |  | $\bigcirc$ | －0．32 | －0．31 | －0．15 | －0．15 | －0．0아 | －0．46 | －0．33 | －0．25 |
|  |  |  |  |  |  |  |  |  |  | 0 |  |
| $\bigcirc$ | －0．07 | －0．03 |  | －0．18 | 0.19 | 0.24 | 0.13 | －0．23 | $-0.41$ | 0.09 | 0.24 |
| 碳 2 | \％ |  | 1 | 8 |  |  |  |  |  |  |  |
| $\stackrel{\circ}{\circ}$ | 0.12 | －0．32 | －0．18 |  | 0.00 | 0.24 | 0.12 | 0.41 | 0.52 | 0.41 | 0.41 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 릉 4 | 0．10． | －0．31 | 0．19。 | 0.00 |  | 0.03 | 0.19 | 0.23 | 0.08 | 0.34 | 0.51 |
| $\vdash^{-2}$ |  |  |  | ： |  |  |  |  |  |  |  |
| ${ }^{6} 4$ | Q．03 ${ }^{\circ}$ | －0．15 | 0.24 | 0.24 | 0.03 |  | 0.38 | 0．89 | －0．02 | 0，20． | 0.13 |
|  | ：${ }^{\circ}$ | ¿ | － | － | $\cdots$ |  |  | $\because \cdot$ | $\cdots$ \％ |  |  |
| 皆4 | 0.82 | －0．15 | 0.13 。 | 0.12 | 0.19 | 0，38． |  | 0.74 | －0．18． | －0．28 | －0．06 |
| ¢ 2 |  |  |  |  |  |  |  |  |  |  |  |
|  | 0.51 | －0．07 | －0．23 | 0.41 | 0.23 | 0.19 |  |  | －0．09 | 0.08 | 0.15 |
|  | 0．9\％ | ${ }_{88}^{88}$ | $\bigcirc$ | \％ | $\bigcirc 0^{\circ}$ | $\bigcirc 0^{\circ} 0^{80}$ |  |  |  | 0 |  |
| $\stackrel{1}{0} 4$ | 0.01 | －0．46 | －0，41 | 0.52 | 0.08 。 | －0．02 | －0．18 | －0．09 |  | 0.12 | 0.14 |
| －1 | $\square^{\circ} 0^{8}$ | $\therefore$ ： | $\cdots:$ |  | ${ }^{\circ}{ }^{\circ}$ | $80^{80}$ |  |  |  | \％\％ | ， |
|  | －0．46 | －0．33 |  | 0.41 |  | 0.20 | －0．28 | 0.01 | 0．12。 |  | 0．90 |
| ¢ 20 |  |  | － | $\begin{array}{r} 9 \\ \hline 8 \end{array}$ |  |  | $\because{ }^{\circ} \mathrm{O}$ |  |  |  |  |
| ¢ 60 $\leftarrow 40$ | －0．19 | －0．25 | 0．24 | 0.41 | 0.51 | ${ }_{0}^{0.18}$ | －0．06 | 0：15． | 0.14. | 0.90 |  |
| ¢ 20 | ， | $\because$ | $\bigcirc 8$ | － |  | － | ： | ${ }^{\circ 0^{\circ}}$ |  |  |  |
|  |  | 024 | 2610 | 1 | 246 | 246 | 246 | 24 | 24 | 2040 | 204060 |
|  | Age | Gende | Educ | AXRe | Techy | VR | Extra | Agrea | Touch | Sce s | ST sc |

Figure S13．Results of the correlation analysis between the participants＇background，and their social touch and scenario selection correctness

(e)



Figure S14. Spearman's rank correlation analysis results between (a) the recognition rate (RR) and the confidence in the social touch selection (CST), (b) the RR and the confidence in the scenario selection (CSc), (c ) the RR and the realism rating (REAL), (d) the CST and the CSc, (e) the CST and the REAL, and (f) the CSc and the REAL

Spearman's rank correlation analysis demonstrated a highly significant correlation between recognition rates and the following participant ratings: confidence in the social touch selection, confidence in the scenario selection, and realism (see Fig. $\mathbf{S 1 4}$ and Table S1).

Table S1. Results of the correlation between recognition rates and the following participant ratings: confidence in the social touch selection, confidence in the scenario selection, and realism

| Recognition rate and confidence in social touch | $\mathrm{r}(8)=0.98$ | $\mathrm{p}<0.001$ |
| :--- | :--- | :--- |
| Recognition rate and confidence scenario | $\mathrm{r}(8)=0.99$ | $\mathrm{p}<0.001$ |
| Recognition rate and Realism | $\mathrm{r}(8)=0.98$ | $\mathrm{p}<0.001$ |
| Confidence social touch and confidence scenario | $\mathrm{r}(8)=0.99$ | $\mathrm{p}<0.001$ |
| Confidence social touch and Realism | $\mathrm{r}(8)=0.99$ | $\mathrm{p}<0.001$ |
| Confidence scenario and Realism | $\mathrm{r}(8)=0.99$ | $\mathrm{p}<0.001$ |

