

Supplementary table 1: Data from exit questionnaire on imagery strategies

|                                 | Quality of imagery (0-10) |      | Tactile sensation (0-10) |      | % of time imagery worked |      | Description of imagery   |  |
|---------------------------------|---------------------------|------|--------------------------|------|--------------------------|------|--|--|
| Subject                         | hand                      | foot | hand                     | foot | hand                     | foot | hand   | foot   |
| S01                             | 7                         | 6    | 3                        | 2    | 79                       | 64   | Warm touch remembered from real touch  | Same as hand but translated to foot  |
| S05                             | 7                         | 7    | 8                        | 8    | *                        | *    | I tried to imagine touch   | I tried to imagine touch   |
| S07                             | 7                         | 6    | 2                        | 3    | *                        | *    | I mostly directed attention to the respective spot and tried to imagine the sensation  | I mostly directed attention to the respective spot and tried to imagine the sensation  |
| S04                             | 6                         | 6    | 4                        | 5    | *                        | *    | I tried to imagine stimulation from the piezo stimulator during the imagination  | I tried to imagine stimulation from the piezo stimulator during the imagination  |
| S03                             | 8                         | 7    | 8                        | 6    | 70                       | 80   | Hot feeling across the hand  | Hot feeling across the foot  |
| S06                             | 7                         | 7    | 5                        | 5    | *                        | *    | My strategy was to imagine pinpricks similar to the piezo stimulation on my hand and foot (although this was more difficult on the foot) | My strategy was to imagine pinpricks similar to the piezo stimulation on my hand and foot (although this was more difficult on the foot) |
| S02                             | 7                         | 7    | 7                        | 7    | 75                       | 75   | Imagine like warm water flowing all around my hand   | Imagine like warm water flowing all around foot  |
| S09                             | 6                         | 7    | 4                        | 3    | 69                       | 58   | Paint-brush on top of hand stroking each finger one at a time, starting from lateral side moving medially                                | Paint-brush stroke on soleof foot-starting from lateral side moving up and down towards medial side                                      |
| S08                             | 8                         | 6    | 8                        | 6    | 94                       | 84   | heat (mainly in the palm of my hand)   | heat (mainly in the middle part of the sole of foot)   |
| S10                             | 6                         | 7    | 4                        | 4    | 98                       | 98   | I imagined being massaged with strong circular thumb finger movement on the inner side of my palm.                                       | I imagined being massaged with strong circular thumb finger movement on the inner (soft) side of my foot.                                |
| * data missing due to a mistake |                           |      |                          |      |                          |      |  |  |

Supplementary table 2: Number of functional voxels for each anatomical region and probability level.

| Supplementary Table 2   |       |      |
|---|-------|------|
| <i>Number of functional voxels for each anatomical region and probability level</i> |       |      |
| Area  |       |      |
| Probability Level (%)   | S1    | S2   |
| 100   | 451   | 5    |
| 90  | 1031  | 169  |
| 80  | 1701  | 500  |
| 70  | 2556  | 917  |
| 60  | 3721  | 1444 |
| 50  | 4986  | 2124 |
| 40  | 6373  | 2816 |
| 30  | 8232  | 3673 |
| 20  | 10638 | 5011 |
| 10  | 14543 | 7254 |

Supplementary table 3: Average decoding accuracy for each anatomical region and probability level based on cross validation with N-1 training runs and 1 test run.

| Supplementary Table 3  |      |      |  |
|--|------|------|--|
| Average decoding accuracy for each anatomical region and probability level based on crossvalidation with N-1 training runs and 1 test run. |      |      |  |
| Areas  |      |      |  |
| Probability Level (%)  | S1   | S2   |  |
| 100  | 0.67 | 0.51 |  |
| 90   | 0.73 | 0.60 |  |
| 80   | 0.74 | 0.64 |  |
| 70   | 0.76 | 0.66 |  |
| 60   | 0.78 | 0.69 |  |
| 50   | 0.80 | 0.70 |  |
| 40   | 0.81 | 0.71 |  |
| 30   | 0.81 | 0.73 |  |
| 20   | 0.82 | 0.73 |  |
| 10   | 0.82 | 0.73 |  |