

## **Appendix:**

### ***Exclusion due to excessive head movement***

*Prior to all statistical analyses, we evaluated the data quality by manual inspection. Six participants had to be excluded due to technical issues during data acquisition or neurological abnormalities (see paper). Afterwards, Artifact Detection tool (ART toolbox; [https://www.nitrc.org/projects/artifact\\_detect](https://www.nitrc.org/projects/artifact_detect)) was used to identify outlier volumes from the global brain activation as a function of time ( $> 3$  z-normalized SD from the mean of the time series) and excessive movement ( $> 1$  mm in any direction). Subjects with outlier scan rates  $> 15\%$  were eliminated from further analysis. Due to this criterion, one participant was eliminated from further analysis (see above).*

**Table S1. Current and past Axis I and Axis II psychopathology, nationality and mother tongue.**

| Comorbid diagnosis                        | BED              | CG               |
|---|------------------|------------------|
|   | <i>Frequency</i> | <i>Frequency</i> |
| Current comorbid affective diagnosis      |                  |                  |
| Major Depression                          | 3                | 0                |
| Dysthymia                                 | 1                | 1                |
| Current comorbid anxiety diagnosis        |                  |                  |
| Panic Disorder                            | 2                | 0                |
| Panic Disorder with Agoraphobia           | 2                | 0                |
| Posttraumatic Stress Disorder             | 2                | 0                |
| Generalized Anxiety Disorder              | 2                | 0                |
| Past affective diagnosis                  |                  |                  |
| Major Depression                          | 23               | 6                |
| Past anxiety disorders                    |                  |                  |
| Agoraphobia                               | 1                | 0                |
| Obsessive Compulsive Disorder             | 1                | 0                |
| Posttraumatic Stress Disorder             | 0                | 1                |
| Past Eating Disorders                     |                  |                  |
| Anorexia Nervosa                          | 3                | 0                |
| Bulimia Nervosa                           | 4                | 0                |
| SKID 2 Diagnosis                          |                  |                  |
| Narcissistic Personality Disorder         | 0                | 1                |
| Paranoid Personality Disorder             | 3                | 0                |
| Depressive Personality Disorder           | 2                | 0                |
| Obsessive-Compulsive Personality Disorder | 1                | 2                |
| Avoidant Personality Disorder             | 5                | 0                |
| Nationality                               |                  |                  |

|               |    |    |
|---------------|----|----|
| German        | 37 | 20 |
| Hungarian     | 1  | 0  |
| Russian       | 0  | 1  |
| Ukrainian     | 0  | 1  |
| Mother Tongue |    |    |
| German        | 37 | 19 |
| Dutch         | 0  | 1  |
| Russian       | 0  | 1  |
| Ukrainian     | 0  | 1  |
| Hungarian     | 1  | 0  |

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*Note: BED = binge eating disorder; CG = control group*

**Table S2.a Peak voxels (MNI coordinates) for EBA (right, left) and FBA (right, left) identified in the CG.**

| Right EBA |     |    | Left EBA |     |    | Right FBA |     |     | Left FBA |     |     |
|-----------|-----|----|----------|-----|----|-----------|-----|-----|----------|-----|-----|
| x         | y   | z  | x        | y   | z  | x         | y   | z   | x        | y   | z   |
| 52        | -68 | 6  | -52      | -72 | 8  |           |     |     |          |     |     |
| 52        | -72 | 8  | -48      | -68 | 12 | 42        | -60 | -14 | -42      | -64 | -14 |
| 52        | -70 | 4  | -46      | -82 | 6  | 46        | -58 | -20 | -44      | -68 | -16 |
| 48        | -74 | 12 | -42      | -76 | 10 | 40        | -44 | -18 |          |     |     |
| 58        | -64 | 4  | -52      | -70 | 10 | 44        | -48 | -18 | -42      | -38 | -20 |
| 52        | -70 | 2  | -44      | -86 | 6  | 38        | -60 | -16 |          |     |     |
| 54        | -50 | 20 | -50      | -78 | 10 | 42        | -52 | -22 | -40      | -50 | -14 |
| 50        | -72 | 24 | -44      | -76 | 22 | 42        | -48 | -18 | -46      | -52 | -22 |
| 56        | -68 | 2  | -50      | -72 | 12 | 40        | -50 | -14 | -38      | -48 | -16 |
| 52        | -74 | 2  | -54      | -68 | 12 | 40        | -48 | -14 | -46      | -64 | -18 |
| 56        | -64 | 4  | -50      | -70 | 10 | 40        | -56 | -14 | -40      | -50 | -18 |
| 50        | -64 | 14 | -48      | -74 | 10 |           |     |     |          |     |     |
| 56        | -68 | 0  | -52      | -76 | 2  | 42        | -54 | -16 | -46      | -52 | -22 |
| 52        | -64 | 18 | -46      | -80 | 6  | 38        | -60 | -10 | -40      | -58 | -14 |
| 50        | -74 | 8  | -42      | -84 | 10 | 42        | -48 | -16 | -38      | -48 | -16 |
| 42        | -56 | 14 | -44      | -84 | 12 | 40        | -58 | -18 | -42      | -58 | -16 |
| 52        | -74 | -2 | -48      | -80 | 4  | 40        | -30 | -26 |          |     |     |
| 50        | -72 | 20 | -48      | -78 | 2  | 40        | -56 | -12 | -40      | -46 | -22 |
| 40        | -56 | 20 | -40      | -68 | 18 | 46        | -50 | -20 | -44      | -46 | -20 |
| 56        | -66 | 2  | -58      | -64 | -2 | 32        | -64 | -16 | -42      | -64 | -20 |
| 54        | -70 | -2 | -50      | -70 | 10 | 38        | -48 | -14 | -42      | -50 | -22 |
| 52        | -68 | 6  | -46      | -80 | 12 | 42        | -54 | -24 | -46      | -54 | -22 |

*Note: CG = control group; EBA = extrastriate body area; FBA = fusiform body area*

**Table S2.b Peak voxels (MNI coordinates) for EBA (right, left) and FBA (right, left) identified in the BED group**

| Right EBA |     |    | Left EBA |     |    | Right FBA |     |     | Left FBA |     |     |
|-----------|-----|----|----------|-----|----|-----------|-----|-----|----------|-----|-----|
| x         | y   | z  | x        | y   | z  | x         | y   | z   | x        | y   | z   |
| 54        | -62 | 2  | -50      | -72 | 10 | 38        | -48 | -14 |          |     |     |
| 44        | -62 | 10 | -52      | -76 | 10 | 44        | -56 | -22 |          |     |     |
| 52        | -72 | 10 | -44      | -82 | 18 | 42        | -50 | -16 | -42      | -52 | -12 |
| 44        | -74 | 0  | -46      | -78 | 10 | 38        | -54 | -14 | -38      | -52 | -12 |
| 42        | -72 | 8  | -46      | -60 | 4  | 44        | -50 | -22 |          |     |     |
| 42        | -72 | -2 | -36      | -66 | 20 | 42        | -60 | -14 |          |     |     |
| 52        | -70 | 2  | -42      | -70 | 10 | 38        | -50 | -18 |          |     |     |
| 50        | -74 | 6  | -52      | -72 | 2  | 44        | -48 | -16 |          |     |     |
| 56        | -62 | 16 | -46      | -80 | 12 | 38        | -62 | -18 | -38      | -56 | -14 |
| 54        | -58 | 10 | -50      | -76 | 8  | 36        | -50 | -18 | -42      | -48 | -22 |
| 54        | -64 | 8  | -50      | -72 | 8  | 40        | -52 | -16 | -38      | -46 | -18 |
| 48        | -80 | 0  | -42      | -76 | 4  | 40        | -52 | -16 | -40      | -56 | -10 |
| 46        | -66 | 14 | -52      | -72 | 12 | 44        | -46 | -16 | -40      | -58 | -14 |
| 54        | -62 | 8  | -46      | -66 | 6  | 44        | -46 | -16 | -44      | -52 | -16 |
| 54        | -62 | 8  | -46      | -66 | 6  | 40        | -58 | -12 | -40      | -70 | -16 |
| 56        | -62 | -2 | -52      | -76 | 2  | 42        | -48 | -18 | -40      | -56 | -10 |
| 56        | -64 | 4  | -56      | -66 | 10 | 40        | -52 | -24 | -44      | -48 | -20 |
| 56        | -64 | 4  | -56      | -66 | 10 | 40        | -52 | -24 | -38      | -44 | -22 |
| 56        | -64 | 0  | -50      | -66 | 6  | 38        | -52 | -22 | -38      | -44 | -20 |
| 52        | -72 | 10 | -54      | -68 | 6  | 44        | -46 | -16 | -38      | -44 | -20 |
| 42        | -56 | 10 | -42      | -82 | 24 | 46        | -58 | -18 | -46      | -56 | -16 |
| 50        | -74 | 14 | -46      | -78 | 20 | 42        | -52 | -16 | -46      | -54 | -18 |
| 46        | -78 | 16 | -48      | -80 | 4  | 36        | -46 | -20 | -38      | -46 | -20 |
| 50        | -60 | 10 | -48      | -68 | 10 | 42        | -48 | -12 | -44      | -46 | -20 |

|    |     |    |     |     |    |    |     |     |     |     |     |
|----|-----|----|-----|-----|----|----|-----|-----|-----|-----|-----|
| 52 | -70 | -2 | -56 | -66 | -2 | 40 | -48 | -20 | -38 | -48 | -18 |
| 56 | -62 | 2  | -52 | -72 | 20 | 42 | -60 | -20 | -46 | -52 | -22 |
| 54 | -66 | 0  | -52 | -74 | 6  |    |     |     | -42 | -36 | -20 |
| 54 | -62 | 10 | -44 | -72 | 16 | 46 | -50 | -20 | -44 | -50 | -20 |
| 48 | -62 | 6  | -56 | -70 | 6  | 34 | -38 | -26 | -38 | -36 | -24 |
| 54 | -70 | -2 | -50 | -72 | 8  | 44 | -46 | -16 | -44 | -60 | -18 |
| 58 | -62 | 16 | -52 | -76 | 14 | 44 | -48 | -20 | -44 | -60 | -18 |
| 42 | -66 | 14 | -50 | -72 | 8  | 44 | -40 | -16 | -40 | -54 | -18 |
| 54 | -70 | 12 | -46 | -78 | 24 | 36 | -64 | -12 | -44 | -48 | -24 |
| 52 | -70 | 4  | -46 | -76 | 8  |    |     |     |     |     |     |
| 44 | -54 | 12 | -48 | -62 | 14 | 44 | -54 | -18 | -42 | -50 | -14 |
| 48 | -70 | 6  | -44 | -76 | 4  | 42 | -46 | -14 | -42 | -52 | -20 |
| 48 | -68 | 6  | -48 | -78 | 2  | 40 | -62 | -14 | -42 | -68 | -14 |
| 46 | -70 | 8  | -48 | -80 | 8  | 46 | -50 | -20 | -40 | -58 | -12 |
| 56 | -62 | 8  | -48 | -76 | 18 | 42 | -48 | -12 | -38 | -52 | -14 |
| 54 | -64 | 12 | -54 | -64 | 12 | 44 | -46 | -24 | -46 | -52 | -22 |

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*Note: BED = binge eating disorder; EBA = extrastriate body area; FBA = fusiform body area*

**Table S3. *F*-Values for the relevant terms of our estimated models.**

|           | Hypothesis 1/<br>Hypothesis 2   |  | Hypothesis 3   |
|-----------|---|--|--|
|           | LMM0  |  |  |
|           | Condition   | Group  | Condition × group<br>× body<br>dissatisfaction             |
| Right EBA | <b><i>F</i>(2,105.59) =<br/>152.14,<br/><i>p</i> &lt; .001,<br/><math>\eta^2</math> = .74,<br/>[0.68, 0.79]</b> | <i>F</i> (1,58.01) =<br>0.16,<br><i>p</i> = .687 | <i>F</i> (2,105.59) =<br>1.01,<br><i>p</i> = .369          |
| Left EBA  | <b><i>F</i>(2,108.73) =<br/>110.07<br/><i>p</i> &lt; .001,<br/><math>\eta^2</math> = .67,<br/>[0.59, 0.73]</b>  | <i>F</i> (1,58) =<br>0.03,<br><i>p</i> = .874    | <i>F</i> (2,108.73) =<br>0.35,<br><i>p</i> = .703          |
| Right FBA | <b><i>F</i>(2,99.89) =<br/>102.25,<br/><i>p</i> &lt; .001,<br/><math>\eta^2</math> = .67,<br/>[0.59, 0.73]</b>  | <i>F</i> (1,54) =<br>0.002,<br><i>p</i> = .965   | <i>F</i> (2,99.89) =<br>1.25,<br><i>p</i> = .289           |
| Left FBA  | <b><i>F</i>(2,242.69) =<br/>75.85,<br/><i>p</i> &lt; .001,</b>  | <i>F</i> (2,46.68) =<br>2.05,<br><i>p</i> = .159 | <b><i>F</i>(2,242.69) =<br/>5.71,<br/><i>p</i> = .004,</b> |



|                                   | $\eta^2 = .38,$<br><b>[0.31, 0.45]</b>   |  | $\eta^2 = .05,$<br><b>[0.01, 0.09]</b>  |   |
|-----------------------------------|--|--|---|---|
| Right amygdala                    | $F(2, 115.37) =$<br>2.16,<br>$p = .120$  | $F(1, 62.57) =$<br>2.30,<br>$p = .134$ | $F(2, 115.37) =$<br>0.38,<br>$p = .686$ | $F(2, 112.49) =$<br>0.06,<br>$p = .847$ |
| Left amygdala                     | $F(2, 419.91) =$<br>0.54,<br>$p = .584$  | $F(1, 58.06) =$<br>0.89,<br>$p = .349$ | $F(2, 419.91) =$<br>0.76,<br>$p = .471$ | $F(2, 405.94) =$<br>0.46,<br>$p = .632$ |
| Right insula                      | <b><math>F(2, 134.63) =</math></b><br><b>7.03,</b><br><b><math>p = .001,</math></b><br>$\eta^2 = .09,$<br><b>[0.03, 0.17]</b>    | $F(1, 57.99) =$<br>0.70,<br>$p = .405$ | $F(2, 134.63) =$<br>0.08,<br>$p = .927$ | $F(2, 125.19) =$<br>0.30,<br>$p = .738$ |
| Left insula                       | $F(2, 476.58) =$<br>2.52,<br>$p = .082$  | $F(1, 58.04) =$<br>0.03,<br>$p = .900$ | $F(2, 476.58) =$<br>0.04<br>$p = .964$  | $F(2, 438.67) =$<br>0.57<br>$p = .569$  |
| Ventromedial<br>prefrontal cortex | <b><math>F(2, 668.67) =</math></b><br><b>8.49,</b><br><b><math>p &lt; .001,</math></b><br>$\eta^2 = .02,$<br><b>[0.01, 0.05]</b> | $F(1, 58.01) =$<br>1.94,<br>$p = .288$ | $F(2, 668.67) =$<br>0.11<br>$p = .895$  | $F(2, 718.68) =$<br>0.63<br>$p = .533$  |

*Note: Type III Analysis of Variance Table with Satterthwaite's method (using the anova() command on the estimated model). Note that lower-level terms (main effects and two-way interactions) of the model including the condition  $\times$  group  $\times$  body dissatisfaction interaction are not reported in Table S3. Reference levels for our dummy variables were group: CG (control group), condition: diffeomorphic*

*stimuli (= control stimuli), such that the intercept is the model prediction for the diffeomorphic stimuli condition in the CG. All parameter estimates are interpreted as comparisons to this specific pairing of factor levels. Most analyses were performed over all participants (BED [binge eating disorder] N = 38, CG N = 22). Analyses in the right FBA (fusiform body area; BED n = 36, CG n = 20) and left FBA (BED N = 33, CG N = 17) were performed over a subsample,  $\eta^2$  = Partial Eta Squared, CI = 90% confidence interval, EBA (extrastriate body area), body dissatisfaction was assessed via the body shape questionnaire, Hypothesis 1: Compared to the control group, individuals with BED show aberrant activity in the EBA and FBA especially during exposure to images of their own body (this translates to a two-way interaction between condition and group for these areas), Hypothesis 2: Compared to the control group, individuals with BED show aversion-related increased activity in limbic areas (amygdala, insula, vmPFC) especially during exposure to images of their own body (this translates to a two-way interaction between condition and group for these areas), Hypothesis 3: The higher the dissatisfaction (as assessed by questionnaires, BSQ), the stronger the aversive response associated with limbic activity, whereby this correlation is expected to be stronger for the BED group (this translates to a three-way interaction between body dissatisfaction, condition, and group for the limbic areas).*

### ***Exploratory associations between left FBA activity and severity of eating pathology and depression***

To quantify the associations between neural activity in the left FBA and severity of eating pathology and depression, as assessed by the EDEQ (subscales), BSQ, and BDI-II, we computed two difference scores: (1) left FBA response during the processing of the own body stimuli minus left FBA response during the processing of the control stimuli (“own body difference score”), and (2) left FBA response during the processing of the other body stimuli minus left FBA response during the processing of the control stimuli (“other body difference score”). We included the respective self-report measure as fixed effect, random intercepts for participants, as well as by-participants random slopes for the condition factor. The best model fit to the data was selected depending on the Akaike (AIC) and Bayesian information criteria (BIC). Both showed that the model including EDEQ shape concern (*LMM shape concern*) had the best fit of the models tested (see Table S3.1 in the supplementary materials). The results indicate that EDEQ shape concern was positively related to left FBA activity ( $t(48.05) = 3.61, p < .001, \eta^2 = .21, [0.07, 0.37]$ ). Thus, higher levels of shape concern were associated with higher responses in the left FBA towards body images (in reference to control images). We further tested whether adding one of the other self-report measures (as a fixed effect) to *LMM shape concern* would significantly improve our model fit by conducting model comparison using a likelihood-ratio test. The model comparisons indicated that *LMM shape concern* was not significantly improved by adding another self-report measure (see supplementary materials).

We then repeated this analysis for the BED and the CG separately. The model including EDEQ restraint (*LMM restraint*) had the best fit of the models tested for the BED group (see Table S3.2). However, EDEQ restraint was not significantly related to left FBA activity ( $t(31.13) = -1.16, p = .255$ ). In the CG, the model including the BDI-II (*LMM BDI-II*) had the best fit of the models tested (see Table S3.3). The results indicate a positive association between BDI-II in the CG at trend level ( $t(236) = 2.59, p = .01, \eta^2 = .03, [0.00, 0.07]$ ). Thus, higher self-reported depressiveness in the control group was associated with higher left FBA activity in response to body stimuli (in reference to control stimuli). Model comparisons indicated that the model fit of neither *LMM restraint* nor *LMM BDI-II* was improved by adding another self-report measure.

**Table S3.1 AIC and BIC criteria for the different models, along with likelihood ratio chi-square tests.**

| Model                     | AIC            | BIC            | Comparing the models         |
|---------------------------|----------------|----------------|------------------------------|
| <b>EDEQ shape concern</b> | <b>2150.19</b> | <b>2177.50</b> |                              |
| EDEQ mean                 | 2153.97        | 2181.27        | $\chi^2(1) = 2.21, p = .137$ |
| EDEQ weight concern       | 2151.64        | 2178.95        | $\chi^2(1) = 0.01, p = .940$ |
| EDEQ eating concern       | 2156.37        | 2183.68        | $\chi^2(1) = 0.75, p = .386$ |
| EDEQ restraint            | 2160.75        | 2188.06        | $\chi^2(1) = 2.83, p = .093$ |
| BSQ                       | 2159.41        | 2186.71        | $\chi^2(1) = 0.13, p = .715$ |
| BDI-II                    | 2154.95        | 2182.25        | $\chi^2(1) = 1.87, p = .172$ |

*Note: In a first step, separate models were estimated for each self-report measure. The best model to fit the data was selected based on the Akaike (AIC) and Bayesian information criteria (BIC). Both showed that the model including EDEQ shape concern (LMM shape concern, depicted in boldface) had the best fit of the models tested. Note that lower AIC and BIC values represent a better model fit. We further tested whether adding one of the other self-report measures (as a fixed effect) to LMM shape concern would significantly improve our model fit by conducting model comparison using a likelihood-ratio test (see column comparing the models). The model comparisons indicated that LMM shape concern was not significantly improved by adding another self-report measure. EDEQ = Eating disorder examination questionnaire; BSQ = Body Shape Questionnaire; BDI-II = Becks Depression Inventory II (for further information see questionnaires-section)*

**Table S3.2 AIC and BIC criteria for the different models in the BED group, along with likelihood ratio chi-square tests.**

| Model                 | AIC            | BIC            | Comparing the models         |
|-----------------------|----------------|----------------|------------------------------|
| <b>EDEQ restraint</b> | <b>1479.10</b> | <b>1503.92</b> |                              |
| EDEQ shape concern    | 1479.45        | 1504.26        | $\chi^2(1) = 0.30, p = .303$ |
| EDEQ mean             | 1479.73        | 1504.55        | $\chi^2(1) = 0.95, p = .329$ |
| EDEQ weight concern   | 1479.90        | 1504.71        | $\chi^2(1) = 0.78, p = .375$ |
| EDEQ eating concern   | 1480.37        | 1505.18        | $\chi^2(1) = 0.51, p = .476$ |
| BSQ                   | 1486.46        | 1511.27        | $\chi^2(1) = 0.49, p = .483$ |
| BDI-II                | 1483.91        | 1508.72        | $\chi^2(1) = 0.05, p = .820$ |

*Note: For the description of the analysis procedure see table S3.1. In this analysis, EDEQ restraint (LMM restraint, depicted in boldface) had the best fit of the models tested. The model comparisons indicated that LMM restraint was not significantly improved by adding another self-report measure. AIC = Akaike information criteria; BIC = Bayesian information criteria; EDEQ = Eating disorder examination questionnaire; BSQ = Body Shape Questionnaire; BDI-II = Becks Depression Inventory II*

**Table S3.3 AIC and BIC criteria for the different models in the CG, along with likelihood ratio chi-square tests.**

| Model               | AIC           | BIC           | Comparing the models         |
|---------------------|---------------|---------------|------------------------------|
| <b>BDI-II</b>       | <b>667.11</b> | <b>687.94</b> |                              |
| EDEQ shape concern  | 670.20        | 691.04        | $\chi^2(1) = 0.54, p = .464$ |
| EDEQ mean           | 669.80        | 690.64        | $\chi^2(1) = 0.56, p = .453$ |
| EDEQ weight concern | 669.95        | 690.80        | $\chi^2(1) = 0.42, p = .515$ |
| EDEQ eating concern | 667.78        | 688.60        | $\chi^2(1) = 0.01, p = .972$ |
| EDEQ restraint      | 671.19        | 692.03        | $\chi^2(1) = 0.33, p = .563$ |
| BDI-II              | 667.42        | 688.25        | $\chi^2(1) = 0.01, p = .997$ |

*Note: For the description of the analysis procedure see table S3.1. In this analysis, BDI-II (LMM BDI-II, depicted in boldface) had the best fit of the models tested. The model comparisons indicated that LMM BDI-II was not significantly improved by adding another self-report measure. AIC = Akaike information criteria; BIC = Bayesian information criteria; EDEQ = Eating disorder examination questionnaire; BSQ = Body Shape Questionnaire; BDI-II = Becks Depression Inventory II*

**Table S4.1 Main effect condition ( $p < .05$ , FWE-corrected)**

| Brain Structure                      | BA | MNI coordinates |     |     | k    | F-Value |
|--------------------------------------|----|-----------------|-----|-----|------|---------|
|                                      |    | x               | y   | z   |      |         |
| Middle temporal gyrus right          | -  | 50              | -68 | 16  | 4842 | 117.85  |
| Middle temporal gyrus right          | -  | 50              | -66 | 8   |      | 115.19  |
| Superior temporal gyrus              | 22 | 42              | -60 | 14  |      | 107.11  |
| Middle temporal gyrus left           | -  | -44             | -68 | 12  | 1361 | 78.78   |
| Middle occipital gyrus left          | -  | -42             | -78 | 12  |      | 47.31   |
| Medial occipitotemporal gyrus        | -  | -28             | -62 | -8  | 5420 | 75.95   |
| Lateral occipitotemporal gyrus right | -  | 28              | -54 | -10 |      | 65.46   |
| Lateral occipitotemporal gyrus left  | -  | -26             | -48 | -18 |      | 54.67   |
| Fusiform gyrus right                 | -  | 40              | -50 | -16 | 143  | 71.22   |
| Inferior frontal gyrus right         | -  | 52              | 10  | 20  | 1694 | 57.91   |
| Precentral gyrus right               | -  | 46              | 6   | 24  |      | 56.07   |
| Inferior frontal gyrus right         | -  | 44              | 38  | 10  |      | 47.26   |
| Precuneus right                      | 7  | 4               | -68 | 36  | 3589 | 56.66   |
| Superior parietal lobule right       | -  | 12              | -66 | 36  |      | 53.79   |
| Cingulate gyrus                      | 23 | 4               | -24 | 28  |      | 49.99   |
| Supramarginal gyrus right            | -  | 38              | -16 | 20  | 161  | 36.86   |
| Postcentral gyrus right              | 43 | 54              | -10 | 14  |      | 22.64   |
| Supramarginal gyrus left             | -  | -62             | -34 | 32  | 117  | 35.99   |
| Medial front-orbital gyrus right     | -  | 6               | 48  | -18 | 103  | 32.34   |
| Medial front-orbital gyrus right     | -  | 2               | 42  | -22 |      | 25.77   |
| Postcentral gyrus left               | 13 | -38             | -18 | 16  | 103  | 27.54   |
| Postcentral gyrus left               | -  | -48             | -10 | 14  |      | 18.12   |
| Lateral occipitotemporal gyrus left  | -  | -32             | -8  | -32 | 39   | 27.24   |
| Right insula                         | 47 | 28              | 12  | -18 | 33   | 26.32   |

|                                  |    |     |     |     |     |       |
|----------------------------------|----|-----|-----|-----|-----|-------|
| Right insula                     | -  | 34  | 16  | 2   | 198 | 26.26 |
| Right insula                     | -  | 44  | 12  | -6  |     | 25.27 |
| Brain stem                       | -  | 8   | -28 | -14 | 42  | 25.56 |
| Anterior cingulate               | 24 | 4   | 38  | 2   | 334 | 25.50 |
| Anterior cingulate left          | 32 | -4  | 42  | 2   |     | 23.66 |
| Anterior cingulate left          | -  | -4  | 52  | -6  |     | 17.52 |
| Cingulate gyrus right            | -  | 2   | 26  | 32  | 178 | 25.30 |
| Anterior cingulate right         | -  | 2   | 34  | 18  |     | 24.90 |
| Cerebellum left                  | -  | -10 | -76 | -36 | 148 | 24.03 |
| Cerebellum left                  | -  | -10 | -78 | -26 |     | 22.92 |
| Cerebellum right                 | -  | 0   | -56 | -36 | 40  | 23.32 |
| Precentral gyrus right           | 3  | 42  | -22 | 60  | 52  | 23.05 |
| Cerebellum left                  | -  | -34 | -73 | -40 | 31  | 22.65 |
| Cerebellum left                  | -  | -20 | -40 | -44 | 21  | 22.34 |
| Right supplementary motor area   | -  | 6   | -22 | 64  | 35  | 21.99 |
| Fusiform gyrus left              | -  | -40 | -46 | -18 | 10  | 21.70 |
| Cerebellum left                  | -  | -24 | -70 | -26 | 27  | 19.46 |
| Lateral front-orbital gyrus left | 47 | -36 | 32  | -14 | 15  | 19.12 |
| Left insula                      | 13 | -32 | 14  | -16 | 21  | 18.80 |
| Superior frontal gyrus right     | -  | 18  | 34  | 48  | 8   | 18.69 |
| Hippocampal formation right      | -  | 28  | -30 | -8  | 8   | 18.22 |
| Cingulate gyrus right            | 24 | 4   | 2   | 34  | 13  | 18.12 |
| Precentral Gyrus                 | -  | 26  | -26 | 70  | 3   | 17.99 |
| Vermis                           | -  | 0   | -50 | -20 | 6   | 17.40 |
| Cerebellum left                  | -  | -34 | -46 | -42 | 2   | 17.35 |
| Left insula                      | -  | -36 | -8  | 4   | 1   | 16.43 |
| Superior temporal gyrus right    | 21 | 54  | 6   | -14 | 1   | 16.42 |
| Brain stem                       | -  | 18  | -38 | -46 | 3   | 16.25 |



|                                   |    |     |     |     |   |       |
|-----------------------------------|----|-----|-----|-----|---|-------|
| Lateral front-orbital gyrus right | 11 | 24  | 32  | -14 | 1 | 16.22 |
| Angular gyrus left                | -  | -40 | -70 | 44  | 3 | 16.17 |
| Middle temporal gyrus left        | -  | -58 | -58 | -4  | 1 | 16.06 |
| Inferior Frontal Gyrus            | -  | 24  | 26  | -14 | 1 | 15.75 |

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*Note: FWE = family-wise error rate*

**Table S4.2 Posthoc t-test own body > other body ( $p < .05$ , FWE-corrected)**

| Brain Structure           | BA | MNI coordinates |     |     | k | T-Value |
|---------------------------|----|-----------------|-----|-----|---|---------|
|                           |    | x               | y   | z   |   |         |
| Anterior cingulate left   | 32 | -4              | 42  | 6   | 4 | 5.69    |
| Right insula              | 13 | 44              | 10  | -6  | 2 | 5.58    |
| Brain stem                | -  | 18              | -38 | -46 | 1 | 5.56    |
| Anterior cingulate right  | -  | 4               | 34  | 18  | 1 | 5.52    |
| Cerebellum left (Culmen)  | -  | -36             | -52 | -24 | 1 | 5.50    |
| Cerebellum left (Declive) | -  | -32             | -56 | -22 | 1 | 5.49    |
| Cerebellum right (Culmen) | -  | 0               | -50 | -20 | 1 | 5.47    |
| Cingulate region left     | -  | 0               | 26  | 32  | 6 | 5.47    |

*Note: FWE = family-wise error rate*

**Table S4.3 Posthoc t-test own body > diffeomorphic stimuli ( $p < .05$ , FWE-corrected)**

| Brain Structure                | BA | MNI coordinates |     |     | k    | T-Value |
|--------------------------------|----|-----------------|-----|-----|------|---------|
|                                |    | x               | y   | z   |      |         |
| Middle temporal gyrus right    |    | 48              | -62 | 14  | 4600 | 16.33   |
| Middle temporal gyrus right    |    | 46              | -68 | 20  |      | 13.89   |
| Middle temporal gyrus right    | 37 | 46              | -70 | 2   |      | 13.13   |
| Inferior occipital gyrus left  | 39 | -48             | -74 | 8   | 1270 | 12.28   |
| Middle temporal gyrus left     | -  | -46             | -62 | 10  |      | 11.56   |
| Middle occipital gyrus left    | 39 | -40             | -76 | 24  |      | 9.73    |
| Fusiform gyrus right           | -  | 40              | -50 | -16 | 131  | 10.06   |
| Inferior frontal gyrus right   | -  | 50              | 36  | 16  | 2026 | 9.48    |
| Precentral gyrus right         | -  | 46              | 8   | 24  |      | 9.36    |
| Inferior frontal gyrus right   | -  | 52              | 12  | 14  |      | 9.06    |
| Cingulate gyrus                | -  | 2               | -18 | 30  | 2626 | 8.64    |
| Superior parietal lobule right | -  | 12              | -70 | 38  |      | 8.53    |
| Cingulate Gyrus left           | -  | -6              | -52 | 28  |      | 8.37    |
| Cerebellum left (Pyramis)      | -  | -10             | -78 | -38 | 127  | 7.97    |
| Cerebellum left (Declive)      | -  | -12             | -76 | -24 |      | 6.22    |
| Supramarginal gyrus left       | -  | -62             | -34 | 32  | 99   | 7.93    |
| Brain stem                     | -  | 8               | -28 | -14 | 50   | 7.91    |
| Cerebellum right (Nodule)      | -  | 0               | -58 | -36 | 71   | 7.88    |
| Right insula                   | -  | 34              | 16  | 0   | 140  | 6.99    |
| Right insula                   | 13 | 30              | 14  | -16 | 44   | 6.86    |
| Cerebellum left (Declive)      | -  | -24             | -70 | -26 | 41   | 6.57    |
| Fusiform gyrus                 | -  | -42             | -50 | -18 | 15   | 6.44    |
| Anterior cingulate             | 32 | 4               | 40  | 4   | 148  | 6.38    |
| Cingulate region left          |    | 0               | 42  | -6  |      | 6.07    |

|                                       |    |     |     |     |    |      |
|---------------------------------------|----|-----|-----|-----|----|------|
| Anterior cingulate left               | 32 | -2  | 34  | -6  |    | 5.94 |
| Cerebellum left (Cerebellar tonsil)   | -  | -36 | -46 | -42 | 4  | 6.25 |
| Cerebellum left (Cerebellar tonsil)   | -  | -20 | -40 | -44 | 12 | 6.19 |
| Left insula                           | 13 | -32 | 12  | -16 | 19 | 6.12 |
| Cingulate gyrus right                 | -  | 2   | 22  | 38  | 28 | 6.02 |
| Cerebellum left (Tuber)               | -  | -34 | -72 | -40 | 11 | 5.90 |
| Brain stem                            | -  | -4  | -30 | -14 | 2  | 5.81 |
| Medial frontal gyrus left             | 10 | -2  | 58  | -2  | 14 | 5.72 |
| Middle frontal gyrus left             | 6  | -26 | -4  | 48  | 1  | 5.69 |
| Medial front-orbital gyrus left       | -  | -8  | 52  | -10 | 5  | 5.69 |
| Inferior frontal gyrus right          | -  | 30  | 30  | 2   | 1  | 5.59 |
| Middle frontal gyrus/ Precentral left | 6  | -30 | -8  | 46  | 3  | 5.58 |
| Parahippocampal gyrus right           | -  | 28  | -26 | -14 | 1  | 5.54 |
| Anterior cingulate right              | -  | 2   | 34  | 20  | 3  | 5.53 |
| Cingulate gyrus right                 | -  | 10  | 20  | 36  | 2  | 5.50 |
| Cingulate gyrus right                 | 24 | 6   | -12 | 36  | 1  | 5.46 |
| Superior temporal gyrus right         | -  | 46  | -46 | 16  | 1  | 5.41 |
| Middle frontal gyrus right            |    | 32  | 10  | 54  | 1  | 5.40 |

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*Note: FWE = family-wise error rate*

**Table S4.4 Posthoc t-test other body > diffeomorphic stimuli ( $p < .05$ , FWE-corrected)**

| Brain Structure                   | BA | MNI coordinates |     |     | k    | T-Value |
|-----------------------------------|----|-----------------|-----|-----|------|---------|
|                                   |    | x               | y   | z   |      |         |
| Middle temporal gyrus right       | -  | 48              | -62 | 14  | 4163 | 16.14   |
| Middle temporal gyrus right       | -  | 48              | -70 | 4   |      | 14.57   |
| Middle temporal gyrus right       | -  | 52              | -68 | 18  |      | 14.11   |
| Middle temporal gyrus left        | -  | -52             | -70 | 10  | 1181 | 12.32   |
| Middle temporal gyrus left        | -  | -44             | -62 | 10  |      | 11.59   |
| Inferior occipital gyrus left     | 39 | -46             | -78 | 8   |      | 11.42   |
| Precuneus right                   | 7  | 4               | -70 | 38  | 2492 | 11.51   |
| Cingulate region right            | 23 | 4               | -38 | 24  |      | 9.49    |
| Cingulate gyrus right             | 23 | 4               | -26 | 28  |      | 8.76    |
| Fusiform gyrus right              | -  | 42              | -52 | -18 | 85   | 8.88    |
| Inferior frontal gyrus right      | -  | 50              | 12  | 14  | 1287 | 8.65    |
| Precentral gyrus right            | -  | 44              | 8   | 22  |      | 8.01    |
| Inferior frontal gyrus            | -  | 52              | 10  | 24  |      | 7.81    |
| Medial front-orbital gyrus right  | -  | 6               | 48  | -20 | 92   | 7.90    |
| Medial frontal gyrus              | -  | -6              | 50  | -18 |      | 5.74    |
| Middle frontal gyrus              | -  | 38              | 40  | -10 | 37   | 7.33    |
| Cerebellum left (Pyramis)         | -  | -10             | -78 | -36 | 116  | 7.15    |
| Cerebellum left (Declive)         | -  | -10             | -78 | -26 |      | 6.95    |
| Inferior parietal lobule left     | -  | -36             | -54 | 40  | 24   | 6.23    |
| Inferior parietal lobule left     | -  | -38             | -52 | 48  |      | 5.72    |
| Corpus callosum                   | -  | -6              | -44 | 12  | 3    | 5.92    |
| Lateral front-orbital gyrus right | -  | 36              | 36  | -16 | 2    | 5.85    |
| Cerebellum left (Culmen)          | -  | -22             | -64 | -32 | 3    | 5.82    |
| Superior frontal gyrus            | -  | 20              | 32  | 48  | 4    | 5.79    |

|                               |    |     |     |     |    |      |
|-------------------------------|----|-----|-----|-----|----|------|
| Cerebellum left (Tuber)       | -  | -36 | -72 | -38 | 12 | 5.79 |
| Middle frontal gyrus          | -  | -34 | -6  | 46  | 4  | 5.72 |
| Hippocampus right             | -  | 28  | -30 | -8  | 4  | 5.70 |
| Supramarginal gyrus left      | -  | -62 | -34 | 34  | 8  | 5.59 |
| Superior temporal gyrus left  | -  | -54 | -50 | 14  | 4  | 5.54 |
| Angular gyrus left            | 39 | -48 | -70 | 32  | 1  | 5.43 |
| Superior parietal lobule left | 7  | -38 | -60 | 52  | 2  | 5.43 |
| Middle frontal gyrus right    | 6  | 38  | 10  | 56  | 1  | 5.42 |

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*Note: FWE = family-wise error rate*

**Table S4.5 Posthoc t-test diffeomorphic stimuli > own body ( $p < .05$ , FWE-corrected)**

| Brain Structure                     | BA | MNI coordinates |     |     | k    | T-Value |
|-------------------------------------|----|-----------------|-----|-----|------|---------|
|                                     |    | x               | y   | z   |      |         |
| Superior occipital gyrus right      | -  | 20              | -92 | 26  | 4697 | 12.31   |
| Superior occipital gyrus left       | -  | -12             | -96 | 18  |      | 12.02   |
| Cuneus                              | 18 | 14              | -90 | 20  |      | 12.02   |
| Precentral gyrus right              | 3  | 42              | -22 | 58  | 123  | 8.28    |
| Right insula                        | 13 | 38              | -16 | 18  | 181  | 8.24    |
| Postcentral gyrus right             | 43 | 52              | -10 | 14  |      | 6.78    |
| Postcentral gyrus left              | 13 | -38             | -16 | 18  | 89   | 6.92    |
| Right supplementary motor area      | -  | 6               | -22 | 64  | 39   | 6.82    |
| Lateral occipitotemporal gyrus left | -  | -34             | -26 | -22 | 7    | 6.14    |
| Hippocampal formation left          | -  | -32             | -6  | -30 | 9    | 6.10    |
| Superior temporal gyrus right       | 38 | 52              | 6   | -14 | 2    | 5.97    |
| Right cerebrum                      | -  | 28              | -42 | 18  | 3    | 5.67    |
| Precentral gyrus right              | -  | 58              | -6  | 38  | 2    | 5.60    |
| Superior temporal gyrus right       | 21 | 64              | -8  | -2  | 2    | 5.52    |
| Precentral gyrus right              | 6  | 62              | -2  | 14  | 1    | 5.52    |
| Postcentral gyrus left              | -  | -50             | -8  | 16  | 1    | 5.47    |

*Note: FWE = family-wise error rate*

**Table S4.6 Posthoc t-test diffeomorphic stimuli > other body ( $p < .05$ , FWE-corrected)**

| Brain Structure                      | BA | MNI coordinates |     |     | k    | T-Value |
|--------------------------------------|----|-----------------|-----|-----|------|---------|
|                                      |    | x               | y   | z   |      |         |
| Superior occipital gyrus right       | 19 | 16              | -92 | 22  | 5586 | 12.92   |
| Medial occipitotemporal gyrus left   | -  | -22             | -54 | -14 |      | 11.03   |
| Medial occipitotemporal gyrus left   | -  | -28             | -66 | -8  |      | 10.76   |
| Hippocampal formation left           | -  | -34             | -14 | -28 | 30   | 6.92    |
| Hippocampal formation left           | -  | -32             | -6  | -30 |      | 6.75    |
| Right cerebrum                       | -  | 28              | -16 | 20  | 19   | 6.07    |
| Lateral occipitotemporal gyrus right | -  | 34              | -26 | -22 | 7    | 6.00    |
| Precentral gyrus right               | 3  | 44              | -20 | 58  | 3    | 5.57    |
| Lateral front-orbital gyrus left     | 11 | -36             | 34  | -14 | 4    | 5.56    |
| Putamen left                         | -  | -28             | -12 | 0   | 1    | 5.56    |
| Putamen left                         | -  | -26             | 6   | -4  | 2    | 5.52    |
| Inferior temporal gyrus right        | -  | 36              | -14 | -28 | 1    | 5.49    |
| Corpus callosum                      |    | -12             | -34 | 22  | 1    | 5.46    |

*Note: FWE = family-wise error rate*

**Table S4.7 Posthoc t-test other body > own body ( $p < .05$ , FWE-corrected)**

No significant main effect.