**Table 1-1** Within-viewpoint and between-viewpoint correlations and associated paired t-tests across all face regions defined with 200 voxel masks.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Correlation (r) |  |  |
| ROI | Within-viewpoint | Between-viewpoint | t | *Pcorrected* |
| OFA  | .16 | -.04 | 3.50 | .007 |
| FFA  | .15 | -.03 | 4.11 | .003 |
| STS  | .20 | -.05 | 3.70 | .006 |
| AMG  | .07 | -.02 | 3.32 | .007 |
| IFG  | .01 | .00 | 0.24 | *ns* |

**Table 2-1** Regression coefficients for the viewpoint representation models across all face regions defined with 200 voxel masks.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Viewpoint | Direction | Symmetry |
| ROI | β | *pcorrected* | β | *pcorrected* | β | *pcorrected* |
| OFA  | .18 | .002 | .25 | <.001 | -.05 | *ns* |
| FFA  | -.02 | ns | -.15 | .008 | .28 | <.001 |
| STS  | .14 | .021 | .07 | *ns* | .13 | .037 |
| AMG  | -.12 | ns | .00 | *ns* | .08 | *ns* |
| IFG  | -.02 | ns | -.08 | *ns* | .06 | *ns* |

**Table 4-1** Regression coefficients demonstrating the ability of the behavioural data from Exp 2 (Similarity ratings) and Exp 3 (Recognition) in predicting the neural responses across all face regions defined with 200 voxel masks.

|  |  |  |
| --- | --- | --- |
|  | Similarity | Recognition |
| ROI | β | *pcorrected* | β | *pcorrected* |
| OFA  | .20 | <.001 | .12 | *ns* |
| FFA  | .37 | <.001 | .16 | .007 |
| STS  | .34 | <.001 | .08 | *ns* |
| AMG  | .06 | *ns* | .10 | *ns* |
| IFG  | .04 | *ns* | -.01 | *ns* |

**Table 2-2** Regression coefficients for the viewpoint representation models using multiple regression across all ROIs.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Viewpoint | Direction | Symmetry |
| ROI | β | *pcorrected* | β | *pcorrected* | β | *pcorrected* |
| V1 | .36 | <.001 | .43 | <.001 | -.09 | *ns* |
| V2 | .43 | <.001 | .43 | <.001 | -.07 | *ns* |
| V3 | .42 | <.001 | .39 | <.001 | -.02 | *ns* |
| V3A | .34 | <.001 | .30 | <.001 | -.03 | *ns* |
| V3B | .15 | *ns* | .24 | <.001 | .06 | *ns* |
| V4 | .21 | .002 | .29 | <.001 | -.01 | *ns* |
| VO1 | .34 | <.001 | .29 | <.001 | .00 | *ns* |
| VO2 | .38 | <.001 | .31 | <.001 | -.01 | *ns* |
| PH1 | .28 | <.001 | -.04 | *ns* | .28 | <.001 |
| PH2 | .13 | .032 | -.11 | *ns* | .28 | <.001 |
| LO1 | .10 | *ns* | .09 | *ns* | .14 | *ns* |
| LO2 | .10 | *ns* | .09 | *ns* | .19 | *ns*  |
| MT | .13 | *ns* | .07 | *ns* | .13 | *ns* |
| OFA | .21 | .005 | .17 | .018 | .13 | *ns* |
| FFA | .22 | .003 | -.16 | .029 | .34 | <.001 |
| STS | .27 | <.001 | -.05 | *ns* | .37 | <.001 |
| AMG | -.14 | *ns* | .07 | *ns* | .00 | *ns* |
| IFG | .00 | *ns* | -.07 | *ns* | .00 | *ns* |

**Table 4-2** Regression coefficients demonstrating the ability of the behavioural data from Exp 2 (Similarity ratings) and Exp 3 (Recognition) in predicting the neural responses using multiple regression across all ROIs.

|  |  |  |
| --- | --- | --- |
|  | Similarity | Recognition |
| ROI | β | p | β | p |
| V1 | .15 | .035 | -.16 | ns |
| V2 | .23 | <.001 | -.24 | <.001 |
| V3 | .29 | <.001 | -.23 | <.001 |
| V3A | .23 | <.001 | -.21 | .003 |
| V3B | .30 | <.001 | -.12 | ns |
| V4 | .27 | <.001 | -.21 | .004 |
| VO1 | .25 | <.001 | -.22 | .002 |
| VO2 | .24 | <.001 | -.25 | <.001 |
| PH1 | .28 | <.001 | -.11 | ns |
| PH2 | .19 | .005 | -.06 | ns |
| LO1 | .34 | <.001 | -.05 | ns |
| LO2 | .34 | <.001 | -.03 | ns |
| MT | .25 | <.001 | -.10 | ns |
| OFA | .31 | <.001 | -.05 | ns |
| FFA | .37 | <.001 | -.03 | ns |
| STS | .46 | <.001 | -.06 | ns |
| AMG | -.02 | ns | .11 | ns |
| IFG | .03 | ns | -.02 | ns |

**Table 2-3** Permutation analysis for the viewpoint representation models’ ability to predict neural responses across ROIs. Permutation p-values have been corrected for multiple comparisons using the Bonferroni-Holm correction across ROIs. Critical values represent the 95th percentile of absolute permuted null distribution.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Viewpoint | Direction | Symmetry |
| ROI |  | β | Permutation*pcorrected* | Permutationcritical value |  | β | Permutation*pcorrected* | Permutationcritical value |  | β | Permutation*pcorrected* | Permutationcritical value |
| V1 |  | .62 | <.001 | 0.099 |  | .63 | <.001 | 0.097 |  | -.37 | <.001 | 0.098 |
| V2 |  | .67 | <.001 | 0.099 |  | .66 | <.001 | 0.098 |  | -.39 | <.001 | 0.099 |
| V3 |  | .63 | <.001 | 0.099 |  | .61 | <.001 | 0.098 |  | -.33 | <.001 | 0.099 |
| V3A |  | .51 | <.001 | 0.098 |  | .48 | <.001 | 0.099 |  | -.28 | <.001 | 0.098 |
| V3B |  | .24 | <.001 | 0.098 |  | .30 | <.001 | 0.098 |  | -.08 | *ns* | 0.099 |
| V4 |  | .37 | <.001 | 0.097 |  | .40 | <.001 | 0.098 |  | -.19 | <.001 | 0.098 |
| VO1 |  | .48 | <.001 | 0.098 |  | .46 | <.001 | 0.099 |  | -.24 | <.001 | 0.096 |
| VO2 |  | .54 | <.001 | 0.098 |  | .50 | <.001 | 0.098 |  | -.28 | <.001 | 0.098 |
| PH1 |  | .12 | *ns* | 0.099 |  | .03 | *ns* | 0.099 |  | .15 | .010 | 0.097 |
| PH2 |  | -.06 | *ns* | 0.096 |  | -.12 | *ns* | 0.098 |  | .24 | <.001 | 0.098 |
| LO1 |  | .08 | *ns* | 0.097 |  | .10 | *ns* | 0.097 |  | .06 | *ns* | 0.099 |
| LO2 |  | .05 | *ns* | 0.097 |  | .09 | *ns* | 0.097 |  | .12 | *ns* | 0.099 |
| MT |  | .09 | *ns* | 0.099 |  | .10 | *ns* | 0.098 |  | .05 | *ns* | 0.099 |
| OFA |  | .24 | <.001 | 0.099 |  | .25 | <.001 | 0.098 |  | -.02 | *ns* | 0.099 |
| FFA |  | -.03 | *ns* | 0.097 |  | -.14 | *ns* | 0.097 |  | .27 | <.001 | 0.100 |
| STS |  | .06 | *ns* | 0.099 |  | -.01 | *ns* | 0.098 |  | .25 | <.001 | 0.100 |
| AMG |  | -.11 | *ns* | 0.098 |  | .00 | *ns* | 0.097 |  | .05 | *ns* | 0.098 |
| IFG |  | -.04 | *ns* | 0.101 |  | -.07 | *ns* | 0.098 |  | .02 | *ns* | 0.097 |

**Table 4-3** Permutation analysis for simple linear regression demonstrating the ability of the behavioural data from Exp 2 and 3 in predicting the neural responses across all ROIs. Permutation p-values have been corrected for multiple comparisons using the Bonferroni-Holm correction across ROIs. Critical values represent the 95th percentile of absolute permuted null distribution.

|  |  |  |
| --- | --- | --- |
|  | Similarity | Recognition |
| ROI |  | β | Permutation*pcorrected* | Permutationcritical value |  | β | Permutation*pcorrected* | Permutationcritical value |
| V1 |  | .07 | *ns* | 0.099 |  | -.08 | *ns* | 0.098 |
| V2 |  | .11 | *ns* | 0.098 |  | -.11 | *ns* | 0.097 |
| V3 |  | .17 | .0030 | 0.099 |  | -.08 | *ns* | 0.099 |
| V3A |  | .12 | *ns* | 0.098 |  | -.09 | *ns* | 0.099 |
| V3B |  | .24 | <.001 | 0.099 |  | .04 | *ns* | 0.098 |
| V4 |  | .16 | .009 | 0.098 |  | -.06 | *ns* | 0.097 |
| VO1 |  | .13 | *ns* | 0.099 |  | -.09 | *ns* | 0.010 |
| VO2 |  | .11 | *ns* | 0.098 |  | -.12 | *ns* | 0.099 |
| PH1 |  | .22 | <.001 | 0.099 |  | .04 | *ns* | 0.099 |
| PH2 |  | .16 | .013 | 0.098 |  | .05 | *ns* | 0.099 |
| LO1 |  | .31 | <.001 | 0.098 |  | .13 | *ns* | 0.099 |
| LO2 |  | .32 | <.001 | 0.098 |  | .15 | .045 | 0.099 |
| MT |  | .20 | .001 | 0.098 |  | .03 | *ns* | 0.098 |
| OFA |  | .28 | <.001 | 0.099 |  | .11 | *ns* | 0.096 |
| FFA |  | .36 | <.001 | 0.099 |  | .17 | .009 | 0.099 |
| STS |  | .43 | <.001 | 0.099 |  | .18 | .007 | 0.098 |
| AMG |  | .04 | *ns* | 0.098 |  | .10 | *ns* | 0.096 |
| IFG |  | .02 | *ns* | 0.099 |  | .00 | *ns* | 0.098 |

**Table 1-2** Total number of voxels for each region of interest. Voxel size = 2 x 2 x 2 mm.

|  |  |
| --- | --- |
| ROI | Voxel Count |
| V1 | 1604 |
| V2 | 1372 |
| V3 | 1044 |
| V3A | 554 |
| V3B | 263 |
| V4 | 328 |
| VO1 | 153 |
| VO2 | 253 |
| PH1 | 175 |
| PH2 | 165 |
| LO1 | 324 |
| LO2 | 125 |
| MT | 86 |