
Figures and figure supplements

Macro-scale patterns in functional connectivity associated with ongoing thought patterns and dispositional traits

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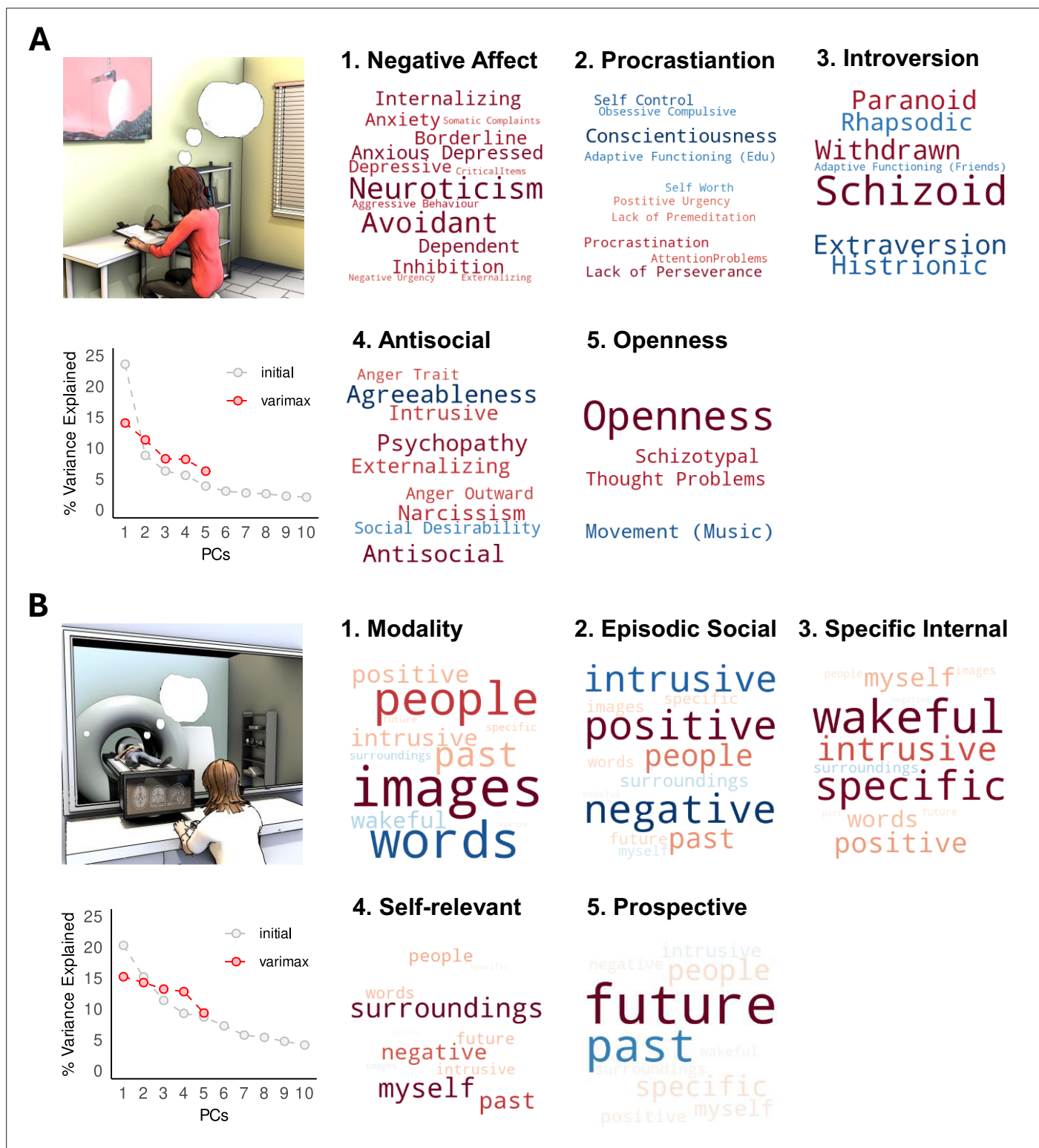


Figure 1. Principal components of traits and thoughts. (A) First five trait components derived from principal component analysis (PCA) after varimax rotation are represented as word clouds with negative loadings shown in cold colours and positive loadings in warm colours; the relative loading of each variable within a component is represented by the relative font size (see **Figure 1—figure supplements 1 and 2** for numerical loading values). In the bottom-left panel, scree plot showing the percentage of trait variance explained by the each of the first 10 components in grey, and the first 5 components after varimax rotation in red. (B) Results of the application of PCA to the multidimensional experience sampling (MDES) data, depicted in the same way.

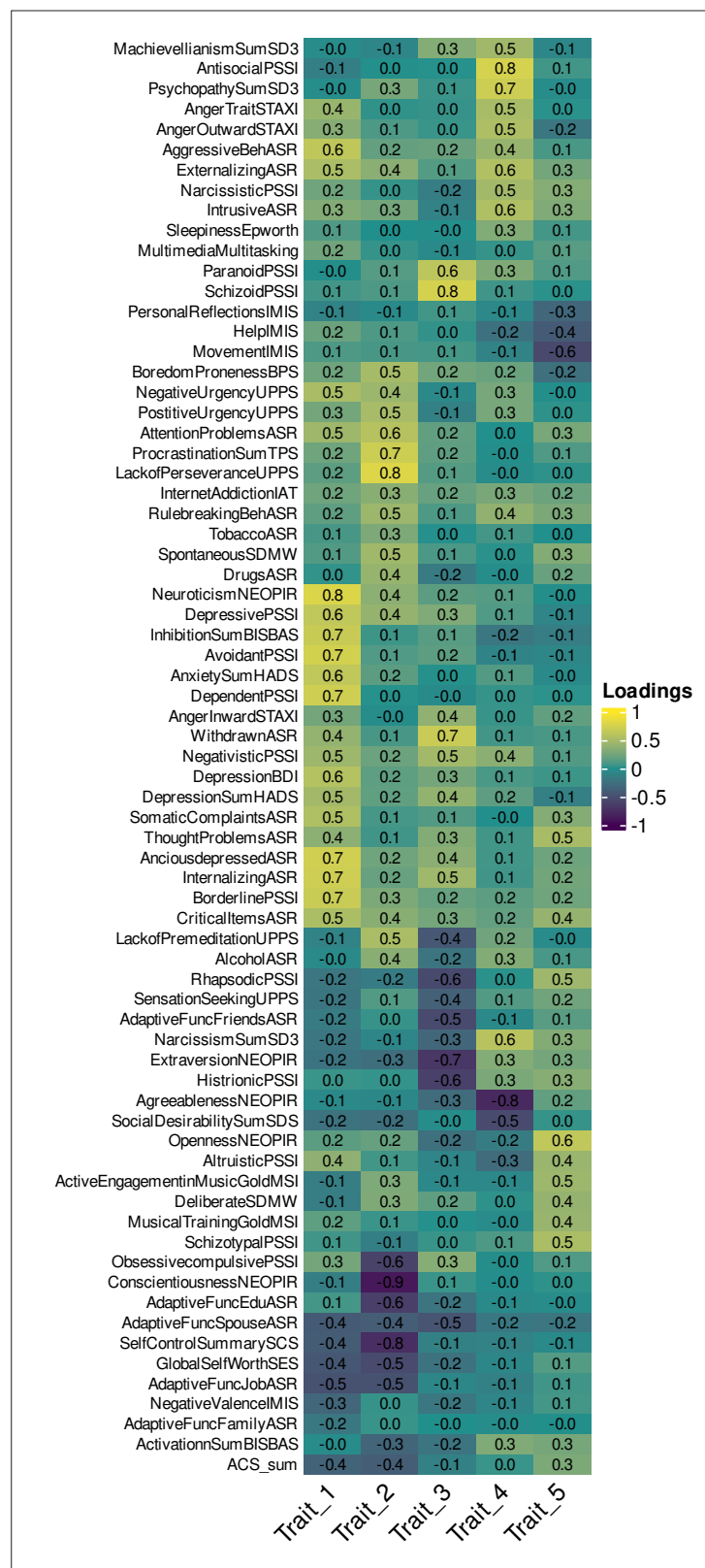


Figure 1—figure supplement 1. Heatmap showing variable component loadings for the first five principal components derived from trait questionnaires.

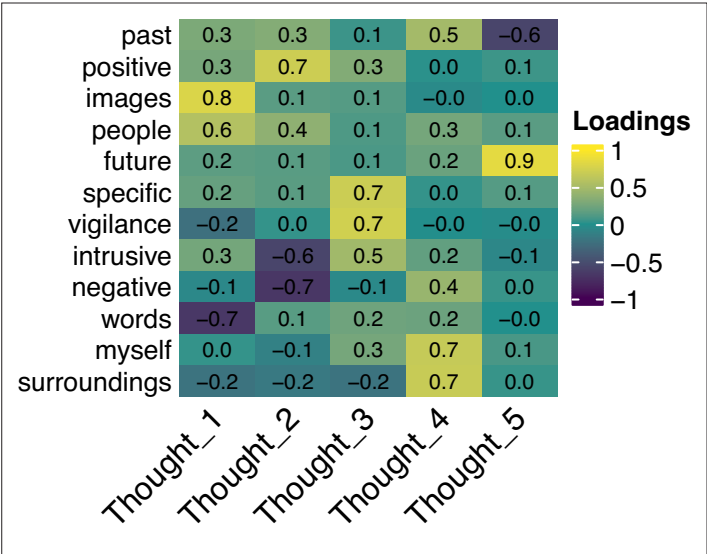


Figure 1—figure supplement 2. Heatmap showing variable component loadings for the first five principal components derived from multidimensional experience sampling (MDES).

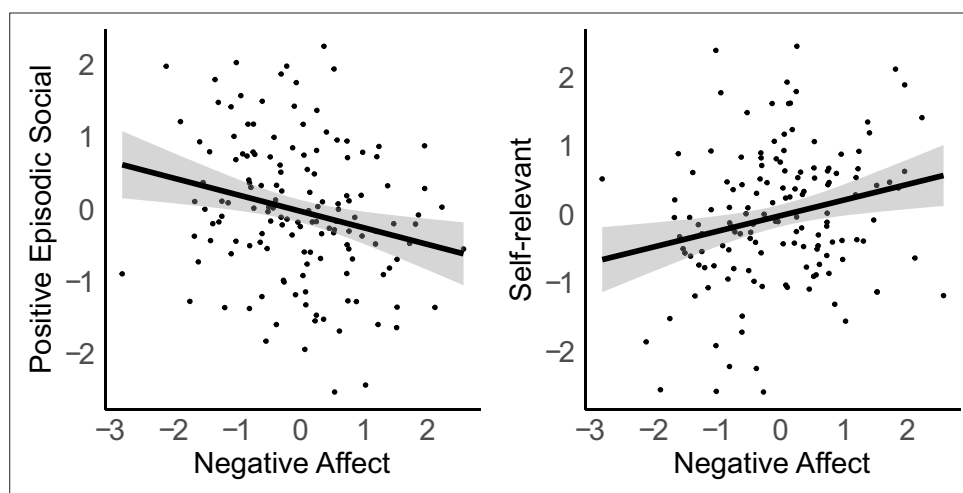


Figure 1—figure supplement 3. Scatterplots showing the relationship between trait 'negative affect' and 'positive episodic social' and 'self-relevant' thought.

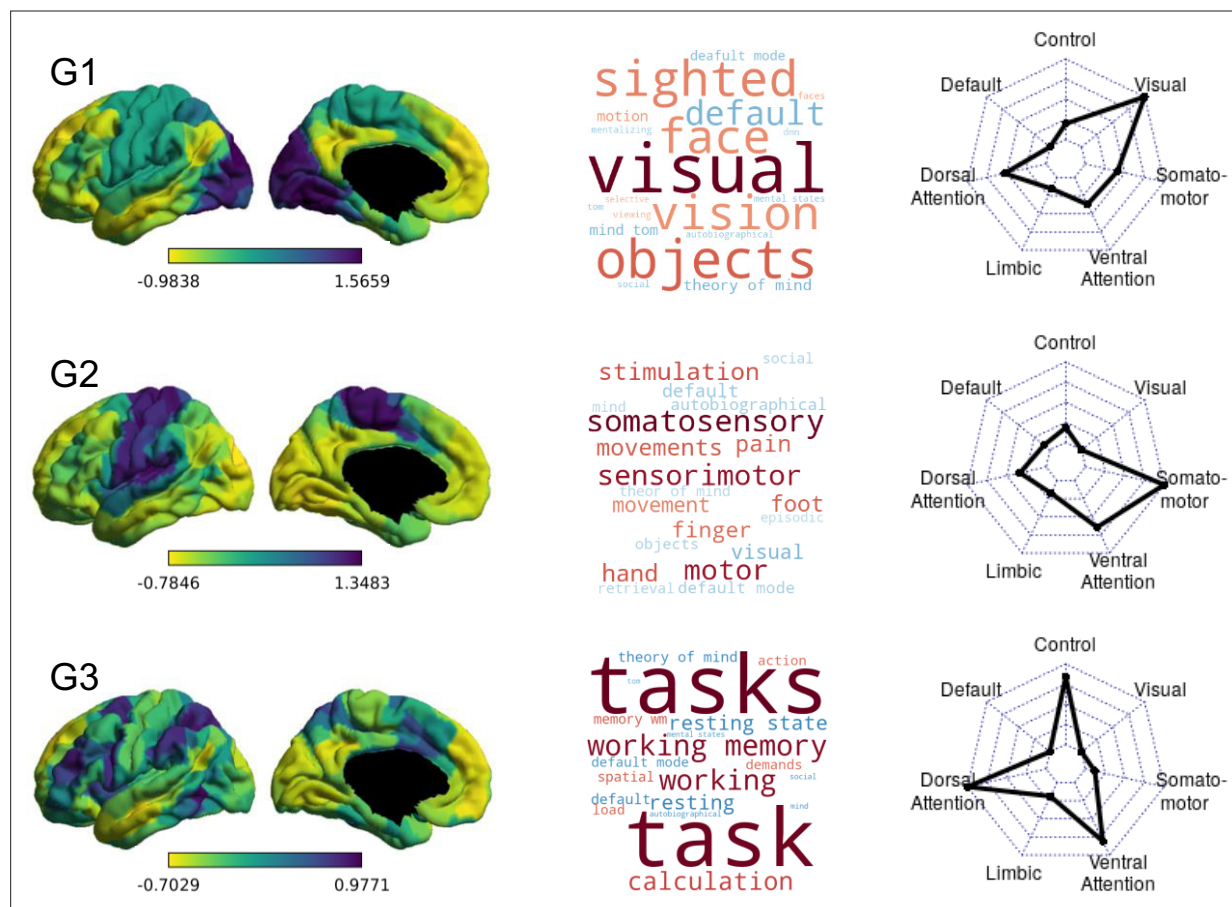


Figure 2. Group-level gradients of functional connectivity. On the left are the first three group-averaged gradients, represented in left lateral and medial views. Regions with similar whole-brain connectivity profiles are shown in similar colours, with yellow and purple regions indicating most dissimilar connectivity patterns. Loading ranges and directions are arbitrary. In the middle, word clouds representing the top 10 positively (warm colours) and negatively correlated (cold colours) Neurosynth decoding topic terms for each gradient map. The relative strength of correlation is represented by the relative font size. On the right, radar plots showing the Yeo network profile of each group-level gradient depicted in the left column. Each radar plot shows the mean gradient loadings for all parcels within the seven Yeo networks.

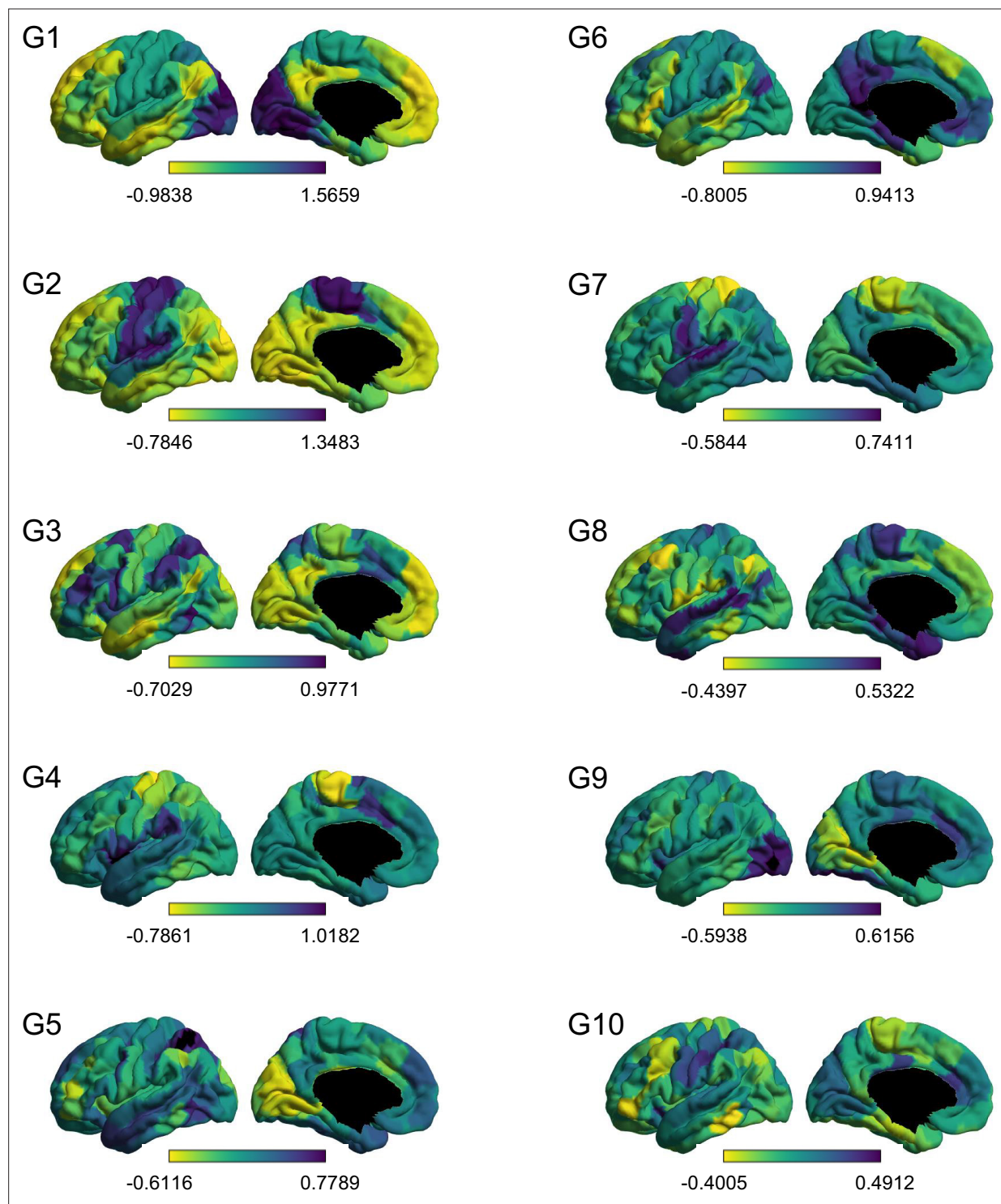


Figure 2—figure supplement 1. Ten group-level cortical gradients shown from the left lateral and medial views.

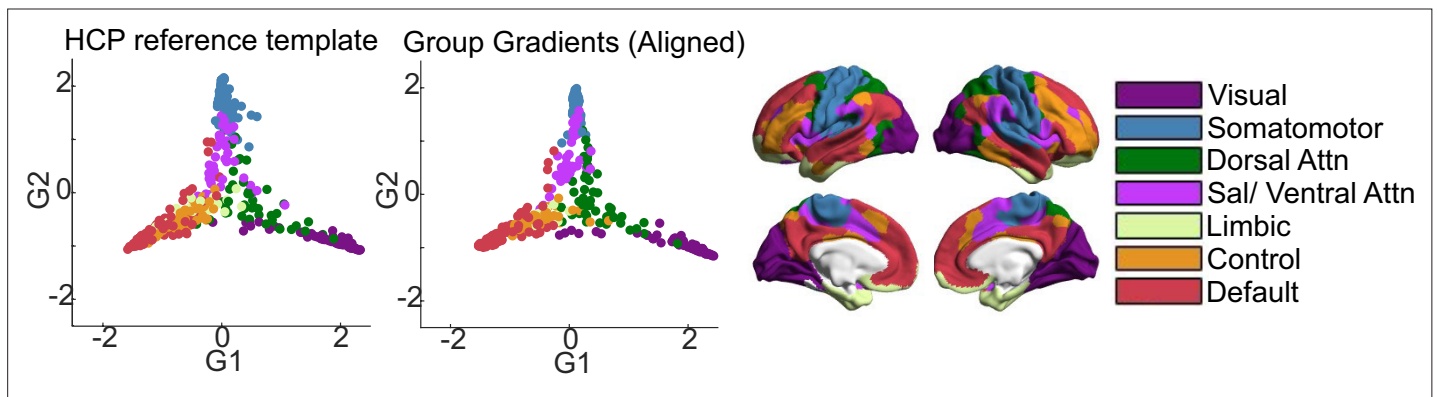


Figure 3. Comparison of group-level gradients to BrainSpace HCP template. The first scatterplot shows 400 parcel positions along G1 and G2 in the template calculated from the HCP subsample included in BrainSpace toolbox (Vos de Wael et al., 2020). The second scatterplot shows parcel positions in the group-level gradients G1 and G2 after Procrustes alignment to the HCP template. Parcels are colour-coded according to their respective Yeo network. Yeo networks are shown as colour-coded brain maps on the right.

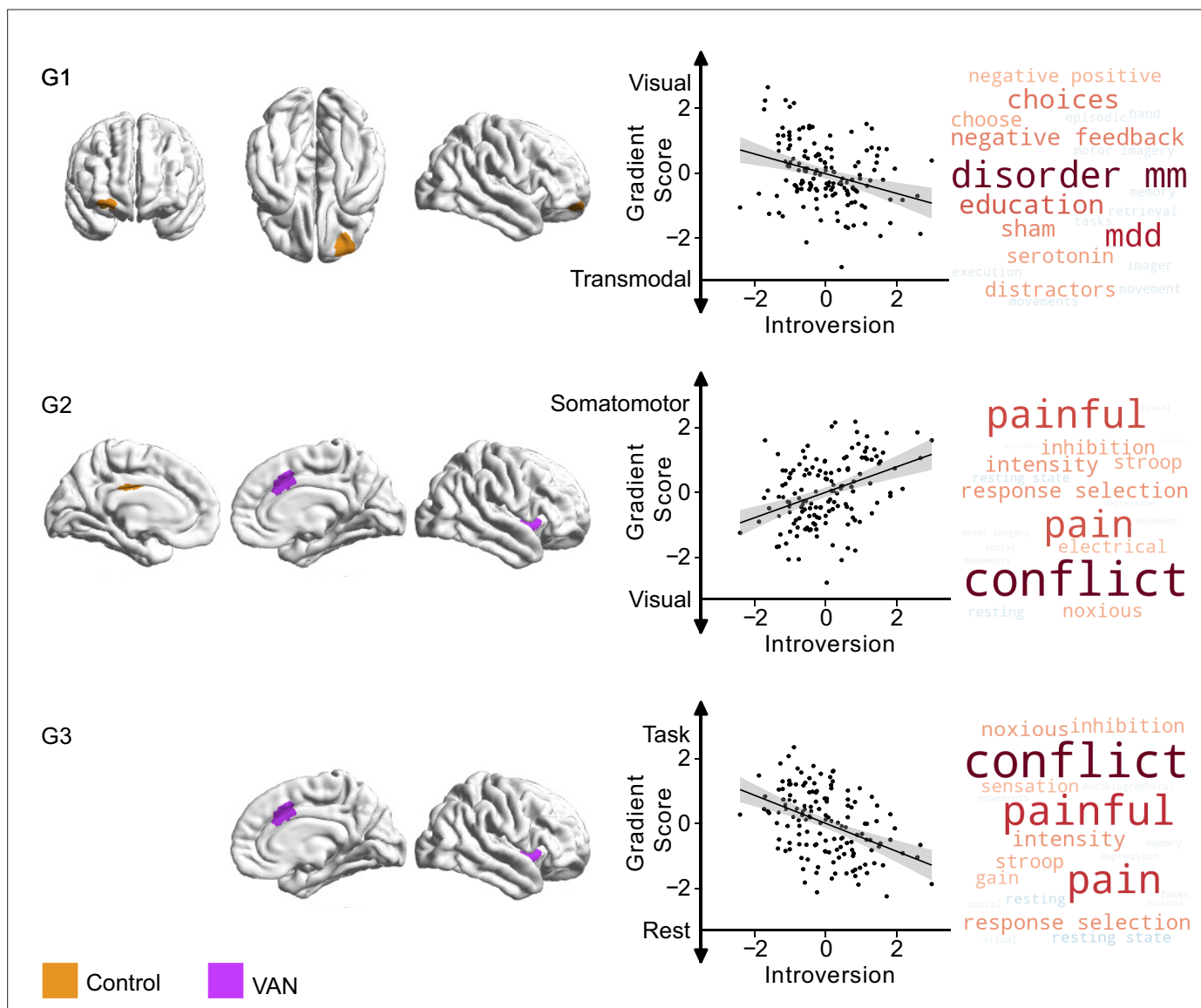


Figure 4. Relationship between trait 'introversion' on the first three connectivity gradients. On the left, parcels within the first three gradients that show significant ($p_{\text{bonf}} < 0.025$) differences related to trait 'introversion', orange indicating regions within the 'frontoparietal control network', and violet indicating regions within the 'ventral attention network (VAN)'. Scatter plots depict the relationship between individual scores for 'introversion' thought (x-axis) and average gradient score of all affected parcels (y-axis) within each gradient. Each datapoint is a participant. Both axes show standardised scores. Detailed results from individual parcels are reported in **Table 3**. The right column shows Neurosynth decoding of ROI maps of affected parcels within each gradient, showing top 10 positively correlated topic terms in warm colours, and top ten negatively associated topic terms in cold colours.

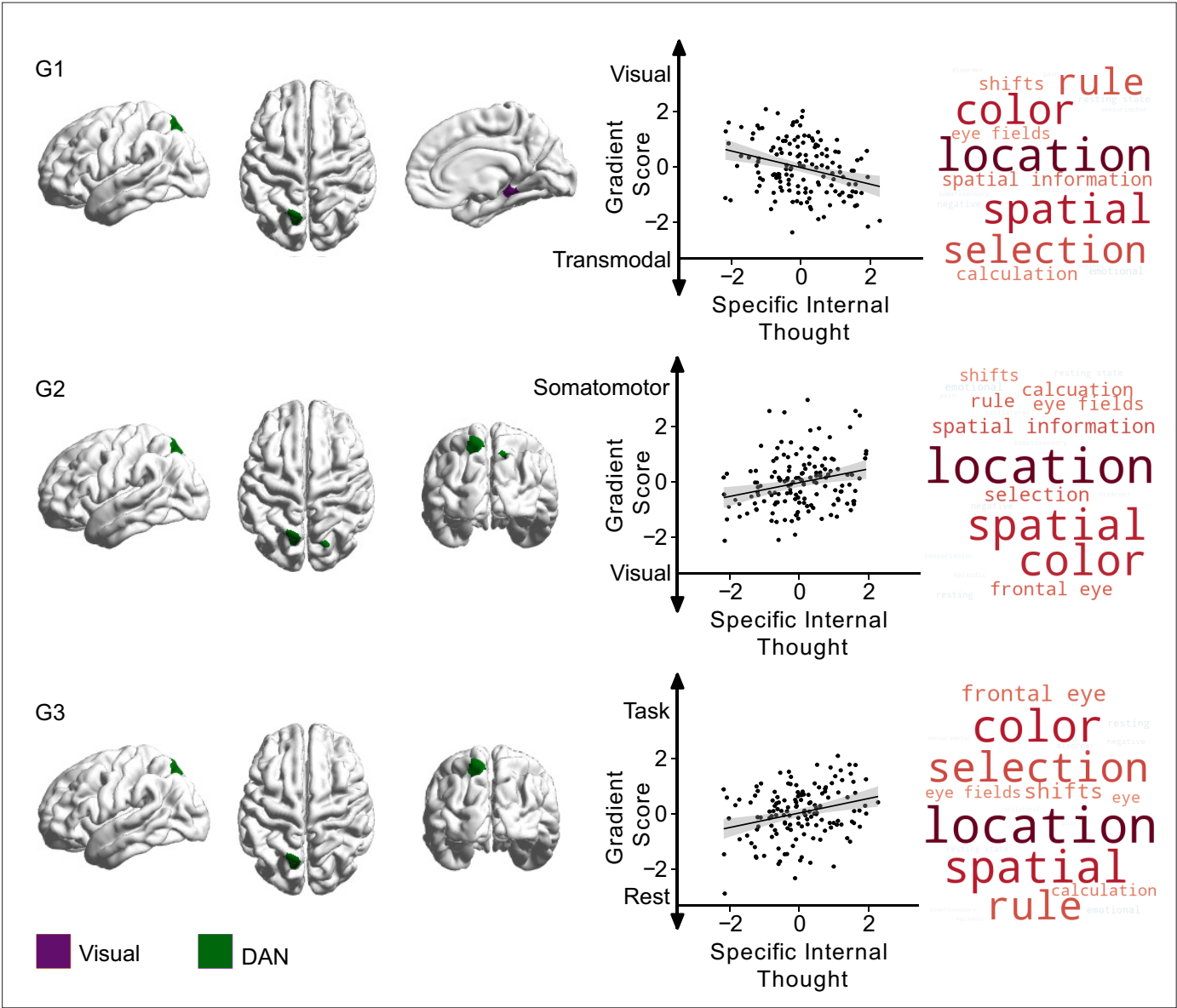


Figure 5. Relationship between specific internal thought and the first three connectivity gradients. On the left, parcels within the first three gradients that show significant differences ($p_{\text{bonf}} < 0.025$) related to 'specific internal' thought, green indicating regions within 'dorsal attention network (DAN)', and purple indicating regions within the 'visual network'. Scatter plots depict the relationship between individual scores for 'specific internal' thought (x-axis) and average gradient score of all affected parcels (y-axis) within each gradient. Each datapoint is a participant. Both axes show standardised scores. Detailed results from individual parcels are reported in **Table 3**. The right column shows Neurosynth decoding of ROI maps of affected parcels within each gradient, showing top ten positively correlated topic terms in red, and top 10 negatively associated topic terms in blue.