SPM 1ST Level Modelling

Create onsets.mat file for each participant

1. Onset times for each condition were defined as beginning of idea generation/image manipulation period. For the first concept/image per trial, this was immediately after the instructions disappear. For the second and third concept/image, this was immediately after the previous concept/image had been generated (as indicated by the last button press). Thus, for ideate and manipulate conditions, there were up to 3 onset times per trial.
2. Condition durations defined as the entire time between the condition onset and the response button press.
3. Mat.files containing onset times and durations for each participant were generated.

1st level modelling paramterers

1. 'Units for design' select 'Seconds'
2. 'Interscan interval' 2.39
3. 'Microtime resolution' 45
4. 'Microtime onset' 23
5. 'Data & Design' -> select 'New: Subject/Session' -> 'Subject/Session' ->
6. 'Scans' select smoothed functional images
7. Accept default setting 'Conditions' is blank
8. 'Multiple conditions' select onsets.mat file
9. Accept default setting 'Regressors' is blank
10. 'Multiple regressors' select rp.txt file in functional folder
11. Accept default setting 'High-pass filter' is 128
12. Accept default setting 'Factorial design' is blank
13. 'Basis Functions' -> select 'Canonical HRF' -> 'Model derivatives' select 'Time and Dispersion derivatives
14. Accept default settings 'Model Interactions (Volterra)' is 'Do not model Interactions' -> 'Global normalisation' is 'None' -> 'Masking threshold' is 0.8 -> 'Explicit mask' is blank -> 'Serial correlations' is 'AR(1)'

Estimate

On SPM, 'Estimate' -> select SPM.mat -> save job as estimate.mat -> run

Contrast Manager

On SPM, 'Results' select SPM.mat -> select 't-contrasts' -> 'Define new contrast' type in name and contrast -> 'Done' -> 'apply masking select 'none' -> 'p value adjustment to control' select 'FWE' -> 'p value (FWE) select 0.001 -> '& extent threshold {voxels} select 0

2nd level modelling parameters

1. Design: One sample t-test
2. Scans: 29 ideate>manipulate (or creative>innovative) 1st level contrast images
3. Multiple covariates: txt file containing years of experience and novelty scores
4. All other settings default

Estimate

On SPM, 'Estimate' -> select SPM.mat -> save job as estimate.mat -> run

Contrast Manager

On SPM, 'Results' select SPM.mat -> select 't-contrasts' -> 'Define new contrast' type in name and contrast -> 'Done' -> 'apply masking select 'none' -> 'p value adjustment to control' select 'FWE' -> 'p value (FWE) select 0.001 -> '& extent threshold {voxels} select 0