**Stage 2 Review of *Neuroanatomical Correlates of System-justifying Ideologies: A Pre-registered Voxel-based Morphometry Study on Right-Wing Authoritarianism and Social Dominance Orientation***

The authors have now conducted the analyses described in the Methods section reviewed in Stage 1. My feedback on each section of the Results is below:

**Section 3.2, lines 2 & 3**, where it says “none of the self-report items” and “therefore all items” – should this be ‘scales’? i.e. the two self-report scales that were used? Or is this referring to an analysis of all the items within those scales? Also, with regards to testing the assumption of normality, was any statistical test of normality conducted (e.g. a Shapiro-Wilk test or Kolmogorov-Smirnov test)?

**Table 1**: It’s a bit confusing that summary stats are reported separately for male and female participants, given there were no significant differences between them.

**Section 3.3, line 1**: Were RWA and SDO both entered in the same model, or were these two separate models?

**Section 3.3.1**: How was the overlapping tested? Was this a conjunction analysis or was this done by overlaying the results from separate GLMs, one for RWA and one for SDO?

 **Section 3.3.1, line 2**: in addition to looking at regions in which grey matter volume was positively associated with both RWA and SDO, did the authors look to see if there were any regions in which grey matter volume correlated negatively with both RWA and SDO?

**Section 3.3.1, line 2**: Why was the minimum cluster extent of 20 voxels used? Did the authors consider employing threshold-free cluster enhancement (see [tr08ss1.pdf (ox.ac.uk)](https://www.fmrib.ox.ac.uk/datasets/techrep/tr08ss1/tr08ss1.pdf)) to eliminate the need for imposing a cluster-forming threshold?

**Section 3.3.2, line 1**: in addition to looking at regions in which grey matter volume was negatively associated with only one of RWA or SDO, did the authors look to see if there were any regions in which grey matter volume correlated positively with only one of these?

**Figure 3a**: Should the legend say negatively associated with RWA, rather than positively?

**Section 3.4.1**: As this is an ROI analysis, the subheading here should refer to the question of whether grey matter in the amygdala (as opposed to ‘any region/s) is associated with RWA and SDO.

**Section 3.4.1, line 2**: Apologies that I did not feed back on this when I reviewed the methods, but this ROI sphere (radius of 20mm) is much too big for the amygdalae. The amygdalae are small structures, with a volume of around 1.5 – 2 cm3 each. A sphere with a diameter of 4 cm would have a volume of around 30 cm3 so these ROIs are going to cover a lot of brain that is not amygdala.

**Section 3.4.2**: As this is an ROI analysis, the subheading here should refer to grey matter in the vmPFC (as opposed to ‘any region/s).

**Section 3.4.3**: As this is an ROI analysis, the subheading here should refer to grey matter in the left anterior insula (as opposed to ‘any region/s).

**Figure 4**: These blobs do not look like they are in the amygdalae.

**Figure 5b**: In these images, it looks as though the blob is outside the brain?

**Figure 6**: These blobs do not appear to be in insular cortex.

**Overall**

Given my feedback above, I would suggest that the spherical ROIs have not been successful in isolating the desired brain regions. I have never used the sphere approach to making ROIs, so perhaps the problem is simply that the spheres were too big. However, I would suggest that the authors consider using a probabilistic atlas to construct the ROIs. This eliminates the problem of working out what sphere radius is appropriate for an ROI for a small region like the amygdala versus a larger region like the vmPFC. Also, using a probabilistic atlas to create the ROIs accounts for the fact that brain structures are not necessarily spherical.

I would also like to ask the authors to clarify what correction for multiple comparisons was applied in the ROI analyses? Was it SPM’s small volume correction?

Regarding the section of 3.4 that is underneath Table 3, I suggest the authors remove this. It is not necessary, as the T-statistics provide this information. Extracting the volumes and then correlating these with the original measures could also arguably be called double-dipping.

I hope the authors find this feedback helpful. In case the results are different following analyses with more localised ROIs, I am not going to review the Discussion at this time. I will, however, be very happy to review an amended Results and Discussion section in future.