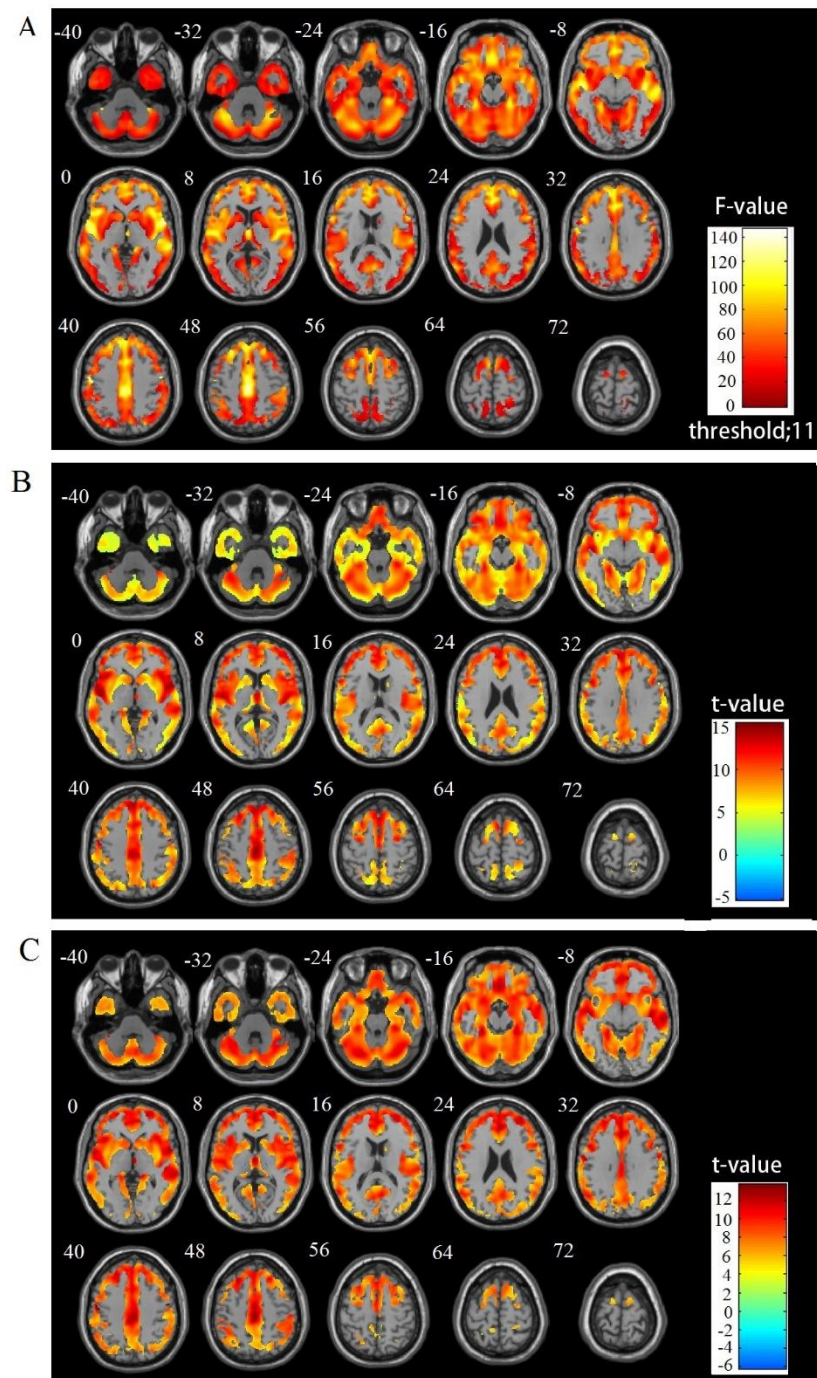


The VBM analysis revealed an age-related decline in the WM volume, prominently in the thalamic radiations. In contrast, there was an increase in WM volume in the paracentral and occipital areas in both the female and male

subjects. No significant interaction of age  $\times$  gender was observed regarding regional WM volume.



**Figure 4.** Group comparisons of GM volume alterations by VBM using SPM12 and DARTEL (FWE corrected at  $p < 0.05$  with extend threshold  $K = 100$ ). (A) F-test results for the four groups, (B) OF vs. YF, and (C) OM vs. YM. Warm and cool color scales show negative and positive correlations with age and volume, respectively