Supplementary Discussion

**Face-selective ROI:** Significant suppression within the face-selective ROI was not observed in the younger population\(^1\), and so this was not a suitable marker with which to assess age-related changes in suppression. The face-selective ROI identified in the fusiform gyrus was consistently less selective than the scene-selective ROI, as reflected by a lower mean t-value in the face vs. scene contrast from the functional localizer task. Because the face-selective ROI is modestly activated by scene stimuli, it may actually support aspects of scene encoding and we suspect for this reason it fails to be suppressed in the “Ignore Faces/Remember Scenes” condition in both the younger and older adult populations. However, since both Scene and Face WM were equivalently impaired in older participants, we predict that a comparable suppression deficit would be observed in face-processing regions had a useful ROI been identified.