

**SUPPLEMENTARY FIG. S4.** (A) Model 1 specifies nonlinear modulation by the DMN on both connections between the vSN and CEN, (B) model 2 specifies nonlinear modulation by the vSN on both connections between the DMN and CEN, and (C) model 3 specifies nonlinear modulation by the CEN on both connections between the DMN and vSN. The panels ( $\mathbf{D}, \mathbf{E}$ ) display the FFX results in terms of log-evidence and posterior probability in NC group indicating that model 2 no longer has a higher probability. The panels ( $\mathbf{F}, \mathbf{G}$ ) display the FFX results in MCI group demonstrating that model 2 no longer has a higher probability. vSN, ventral salience network.