Supplemental Information: Inventory of Supplemental Information

Figure S2. Further investigations of cortico-cortical correlations during rest.

In the main Figure 2, we present our major analyses of cortical regions of interest. In order to follow up on differences found between cortical ROI correlations during rest periods (as shown in Fig. 2), we performed additional analyses for these cortical ROI pairs and present these in Fig. S2. These analyses are: non-parametric randomization tests to verify parametric tests performed in Fig. 2 (Fig. S2A); cross-correlation functions between cortical ROI pairs during rest (Fig. S2B); coherence between cortico-cortical ROI pairs during rest (Fig. S2C); and changes in enhanced Post-OF Rest cortico-cortical ROI pair correlations over time (Fig. S2D).

Figure S3. Further investigations of hippocampal-LO correlations during rest.

Our primary analyses of hippocampal-LO correlations during rest are presented in Figure 3. We support these primary findings regarding hippocampal-LO correlations shown in Fig. 3 with additional analyses of hippocampal-LO correlations presented in Fig. S3. Figure S3A shows the results of non-parametric tests performed to verify differences found across rest periods in Fig. 3B. Hippocampal-LO cross-correlation functions and coherence during rest are shown in Fig. S3B and C, respectively. Changes in enhanced hippocampal-LO connectivity during Post-OF Rest are shown in Fig. S3D.

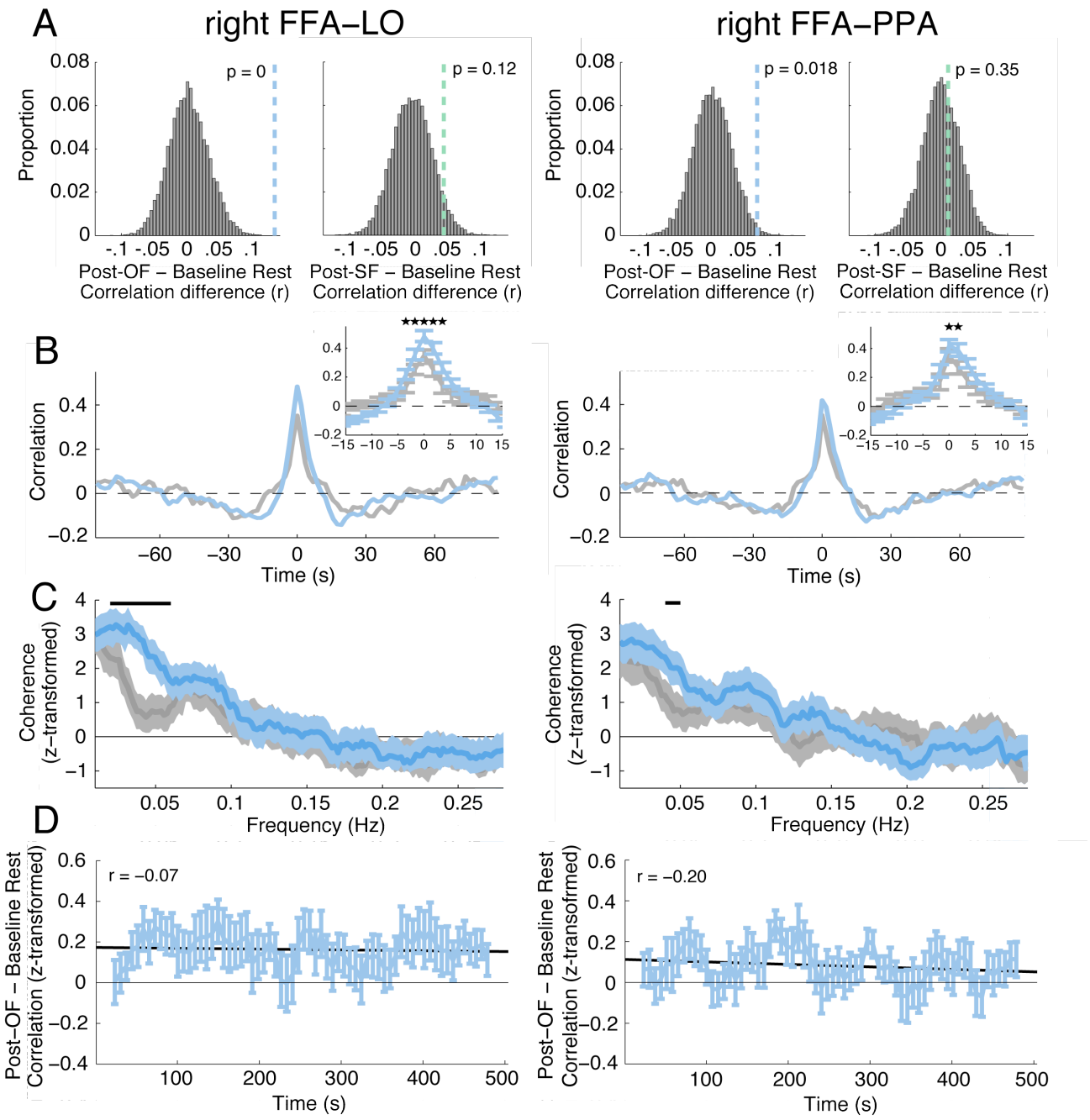

Figure S2. Further investigations of cortico-cortical correlations during rest. (A) Null distributions for the mean correlation difference across subjects between Post-OF and Baseline Rest (left) and Post-SF and Baseline Rest (right) for the right FFA-LO (two leftmost panels) and right FFA-PPA (two rightmost panels). The observed difference and associated *P* value based on the null distribution is shown in blue and green dotted lines for Post-OF (left) and Post-SF (right) Rest, respectively. The difference in correlation between the Post-OF and Baseline Rest was

significant for the FFA-LO (leftmost panel; $P = 0$, the value of the true correlation difference or any larger value was never observed in 10,000 iterations of the randomization procedure) and the FFA-PPA ($P = .018$, middle-right panel). The difference between the Post-SF and Baseline Rest correlation was not significant for the FFA-LO ($P = .12$, middle-left panel) and the FFA-PPA ($P = .35$, rightmost panel). (B) Cross-correlation functions between the FFA and LO (left), FFA and PPA (right) during Baseline Rest (gray) and Post-OF Rest (blue). Insets show same cross-correlation function between lags of -15 to +15 s. Significant differences ($^{\star}P < .05$) between cross-correlation functions during Baseline and Post-OF Rest are noted in insets. Significance tests were only performed for bins -5.25 s to +5.25 s and were corrected for multiple comparisons. (C) Coherence between FFA and LO (left) and FFA and PPA (right) for Baseline Rest (gray) and Post-OF Rest (blue). 95% confidence intervals are shown surrounding the mean coherence and were computed via bootstrapping the coherence across subjects and tapers. Significant differences and are noted with a black bar above the Post-OF coherence. (D) Mean difference over time between the Post-OF and Baseline Rest correlation (Z-transformed) for the entire rest scan for the right FFA-LO (left) and right FFA-PPA (right). Correlations were computed every 7 s over bins of 43.25 s over the course of the Post-OF and Baseline Rest scans. To determine if enhanced correlations seen in the Post-OF Rest were consistent throughout the entire scan, a linear regression was performed with the mean difference between the Post-OF and Baseline Rest scans. No linear correlation between time in the rest scan and mean difference in correlation between scans was found for the right FFA-LO ($r = -.07$, $P > .5$) and right FFA-PPA ($r = -.20$, $P > .1$). The best linear fit from the regression is shown in black.

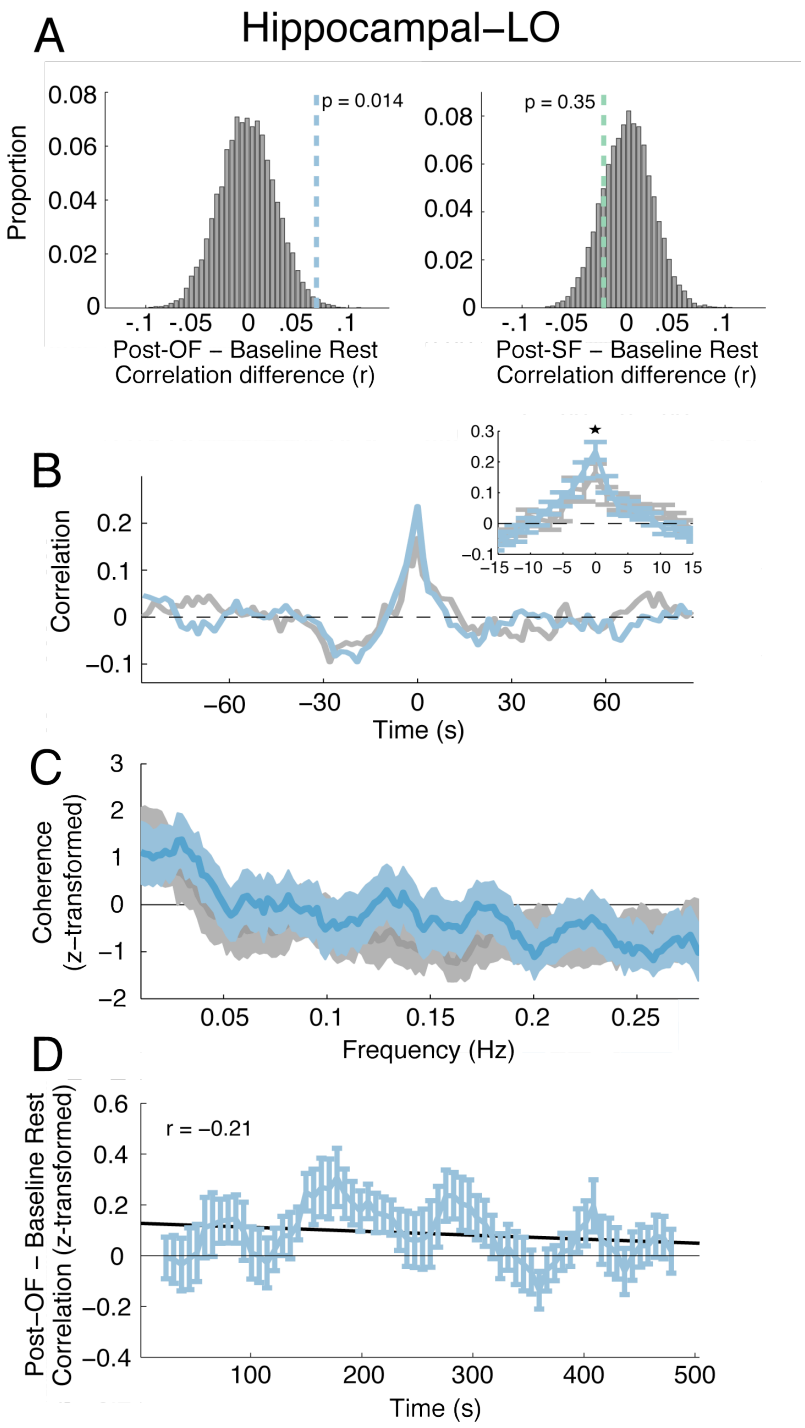

Figure S3. Further investigations of hippocampal-LO correlations during rest.

(A) Null distributions for the difference in hippocampal-LO correlations for post-task versus Baseline Rest. The observed difference and associated *P* value based on the null distribution is shown in blue and green dotted lines for Post-OF (left) and Post-SF (right) Rest differences,

respectively. A significant difference between the mean correlation for Post-OF and Baseline Rest was found ($P = .014$, left) but no significant difference was found between the Post-SF and Baseline Rest correlations ($P = .35$, right). (B) Cross-correlation function between the hippocampal ROI and LO during Baseline Rest (gray) and Post-OF Rest (blue). The inset shows the same cross-correlation function between lags of -15 to +15 s. Significant differences ($^{\star}P < .05$) between cross-correlation functions during Baseline and Post-OF Rest are noted in insets. Significance tests were only performed for bins -5.25 s to +5.25 s and were corrected for multiple comparisons. (C) Coherence between hippocampal ROI and LO for Baseline Rest (gray) and Post-OF Rest (blue). 95% confidence intervals are shown surrounding the mean coherence and were computed via bootstrapping the coherence across subjects and tapers. (D) Mean correlation difference over time between the Post-OF and Baseline Rest for the hippocampal-LO correlation. A trend for a linear decrease over time was found for the difference in Post-OF and Baseline Rest correlations ($r = -.21$, $P < .09$).