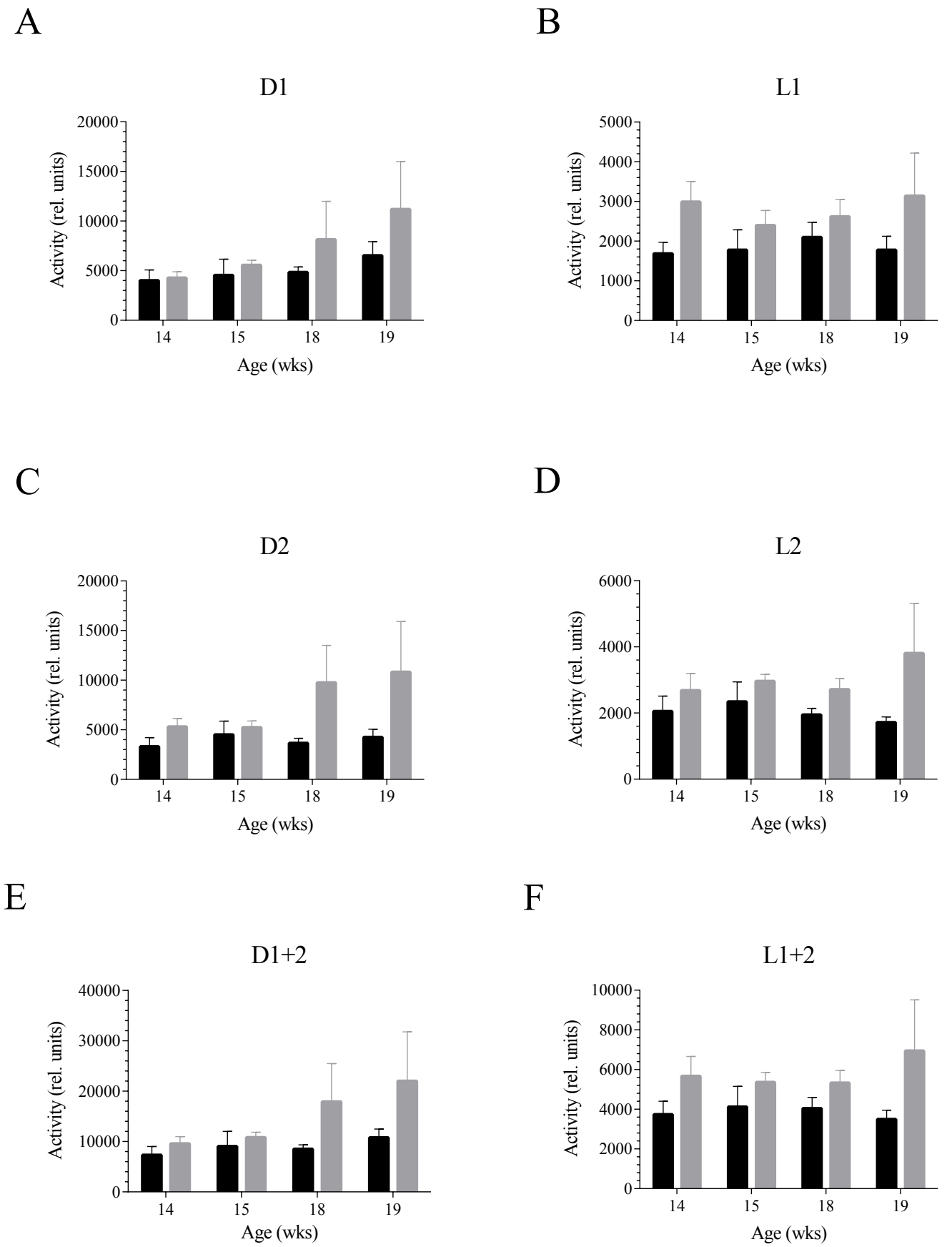
Supplementary Figure 1 (Papazoglou et al., 2016)

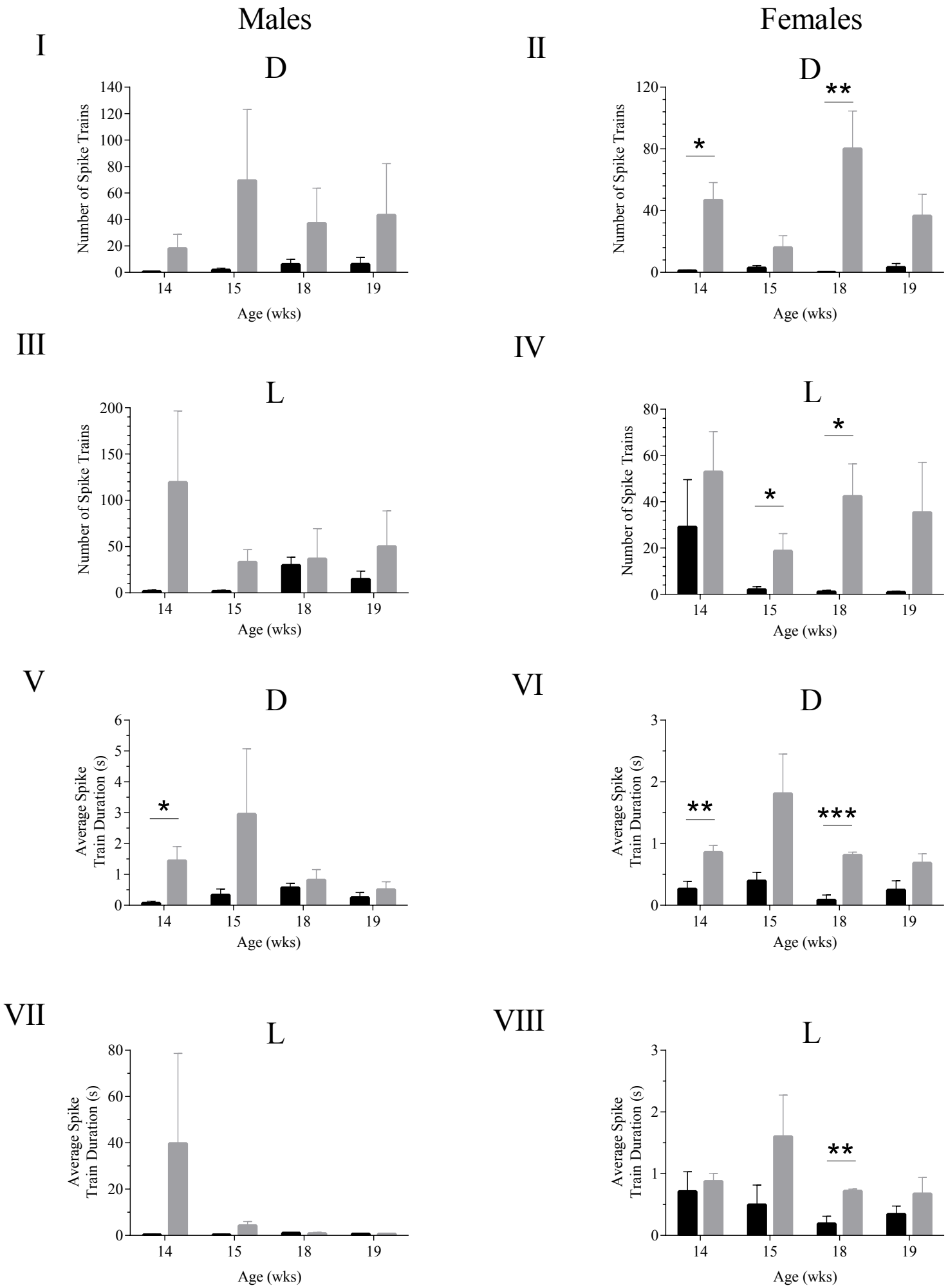
Females



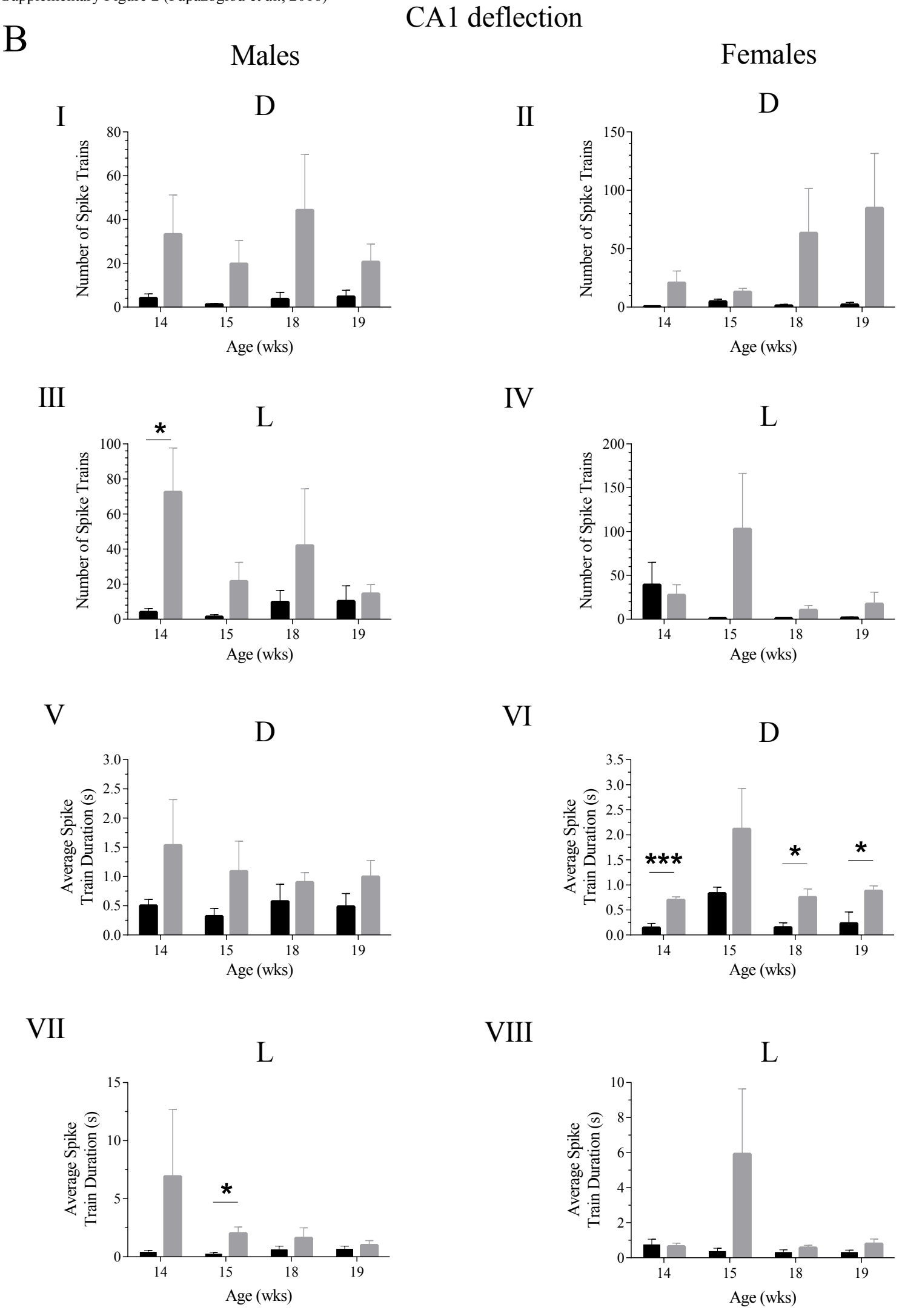
Supplementary Figure 2 (Papazoglou et al., 2016)

M1 deflection

A



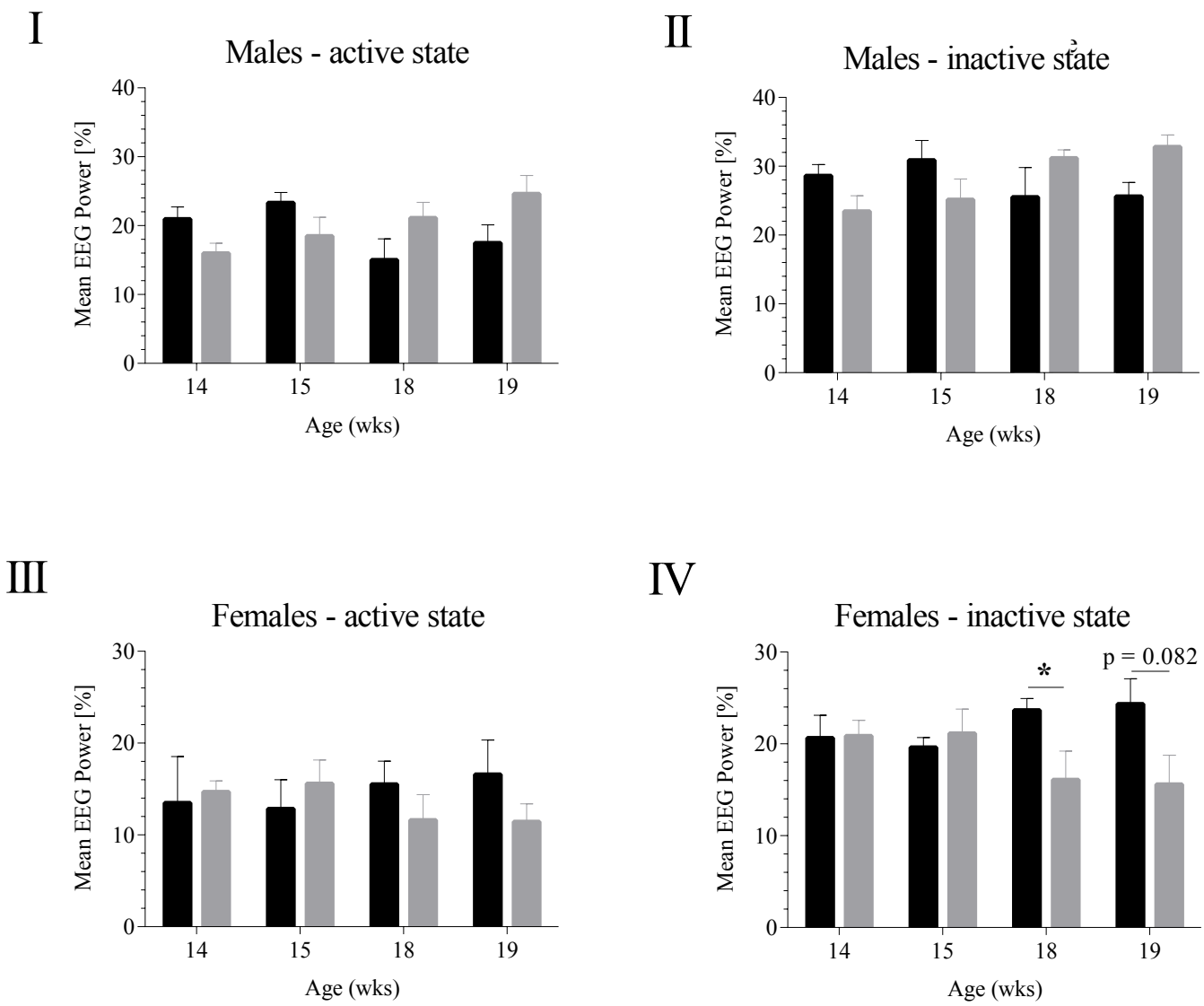
Supplementary Figure 2 (Papazoglou et al., 2016)



Supplementary Figure 3 (Papazoglou et al., 2016)

A

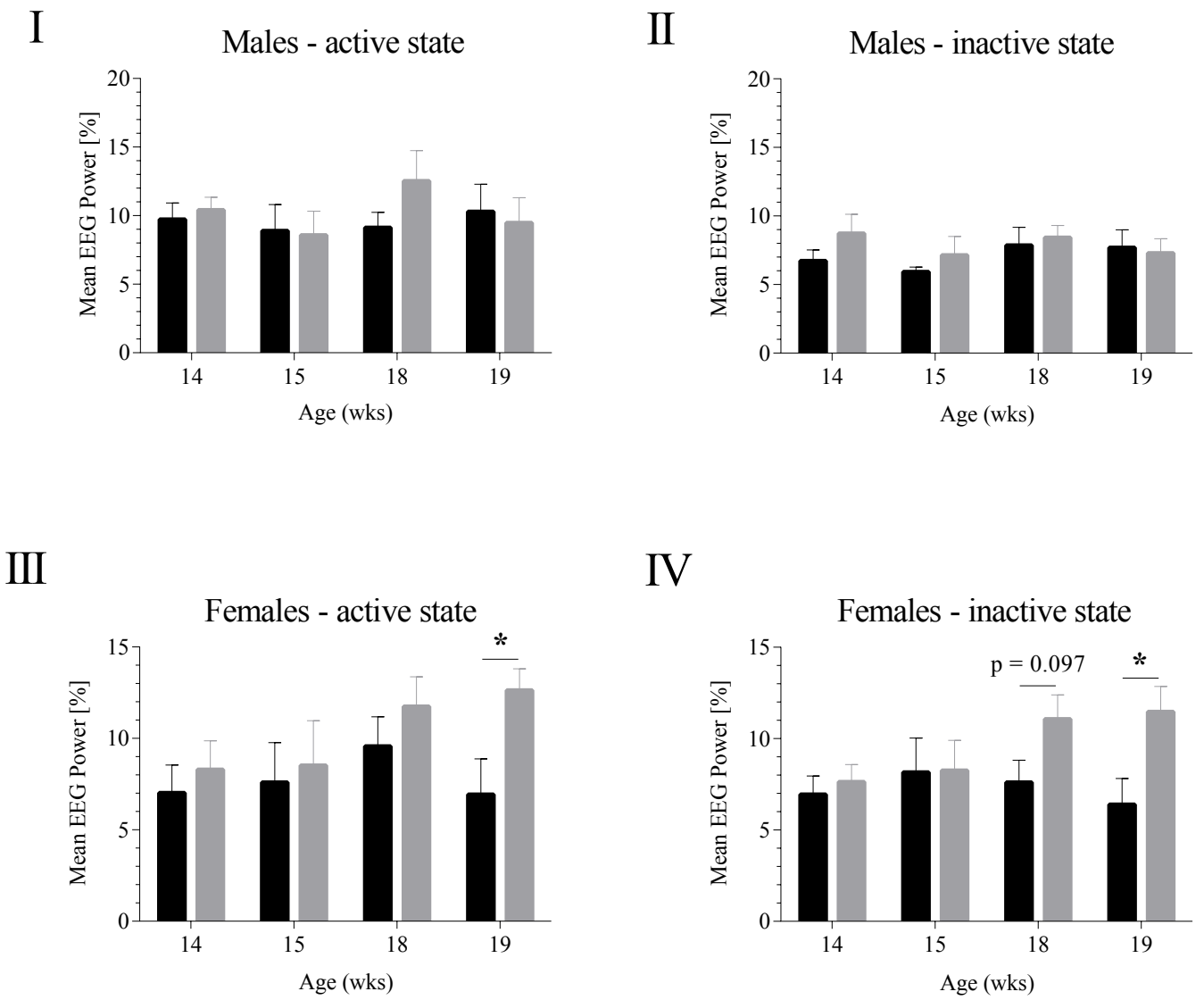
CA1 θ (4-8 Hz) - Dark cycle



Supplementary Figure 3 (Papazoglou et al., 2016)

B

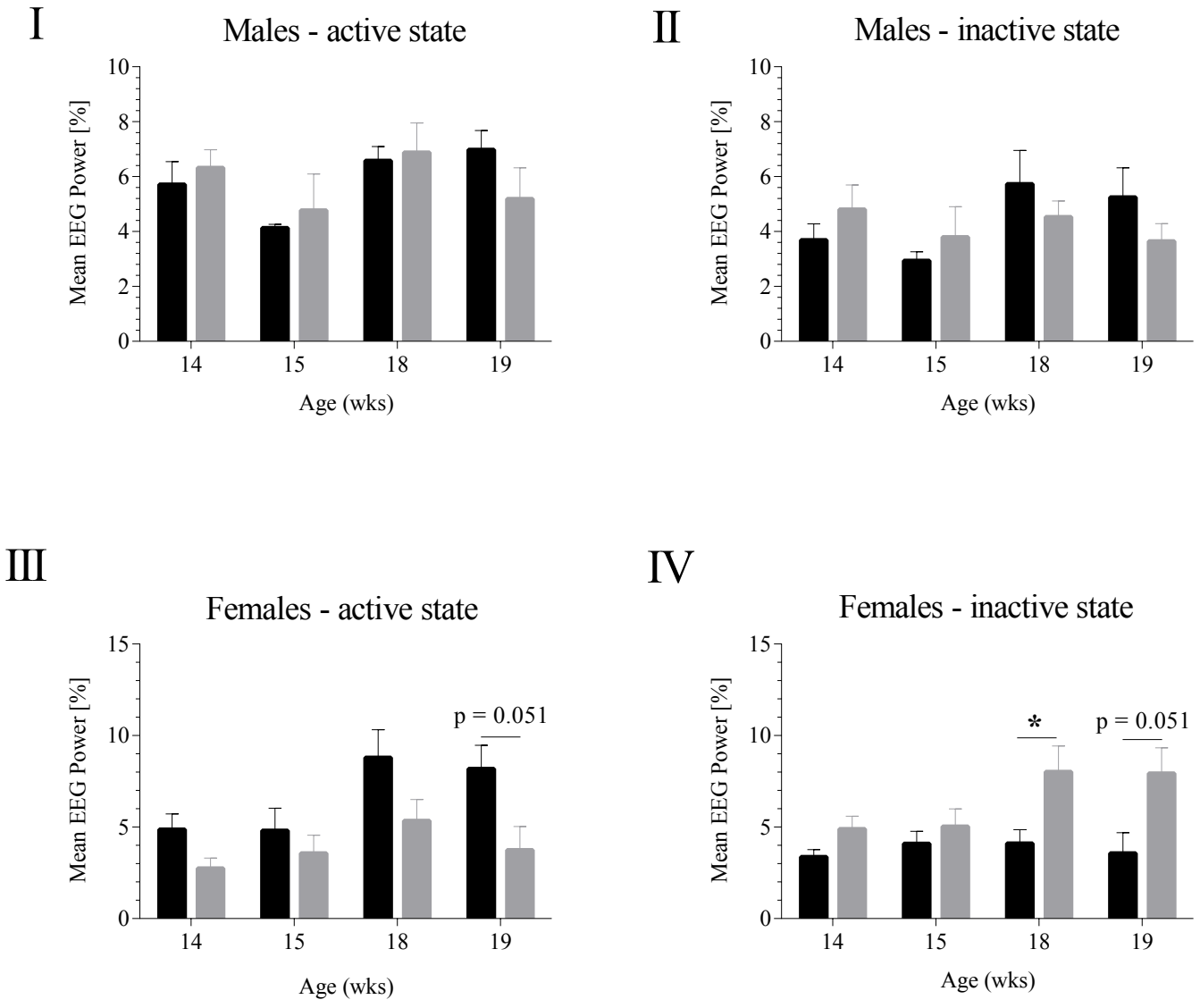
CA1 γ (30-50 Hz) - Dark cycle



Supplementary Figure 3 (Papazoglou et al., 2016)

C

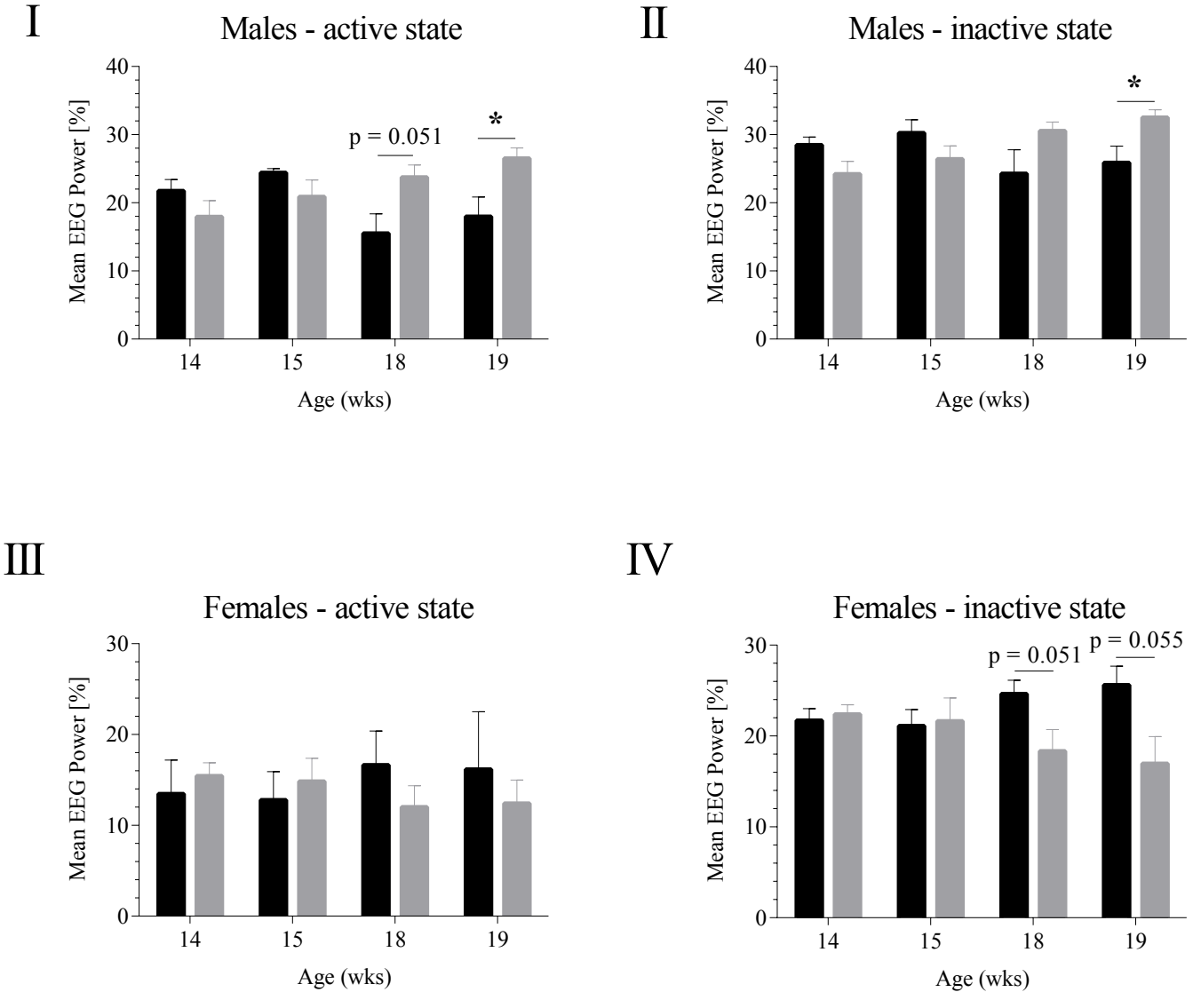
CA1 γ (50-70 Hz) - Dark cycle



Supplementary Figure 3 (Papazoglou et al., 2016)

D

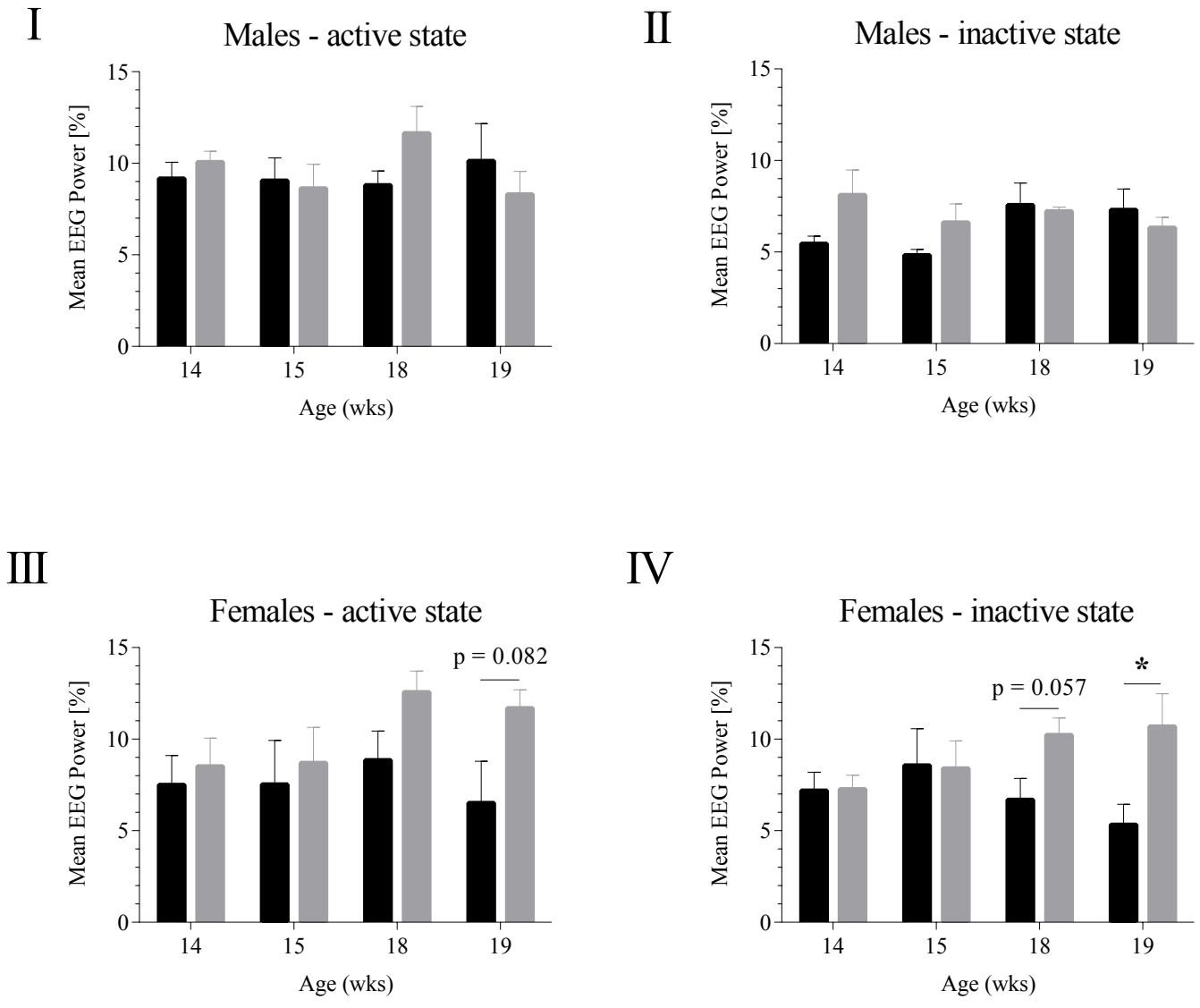
CA1 θ (4-8 Hz) - Light cycle



Supplementary Figure 3 (Papazoglou et al., 2016)

E

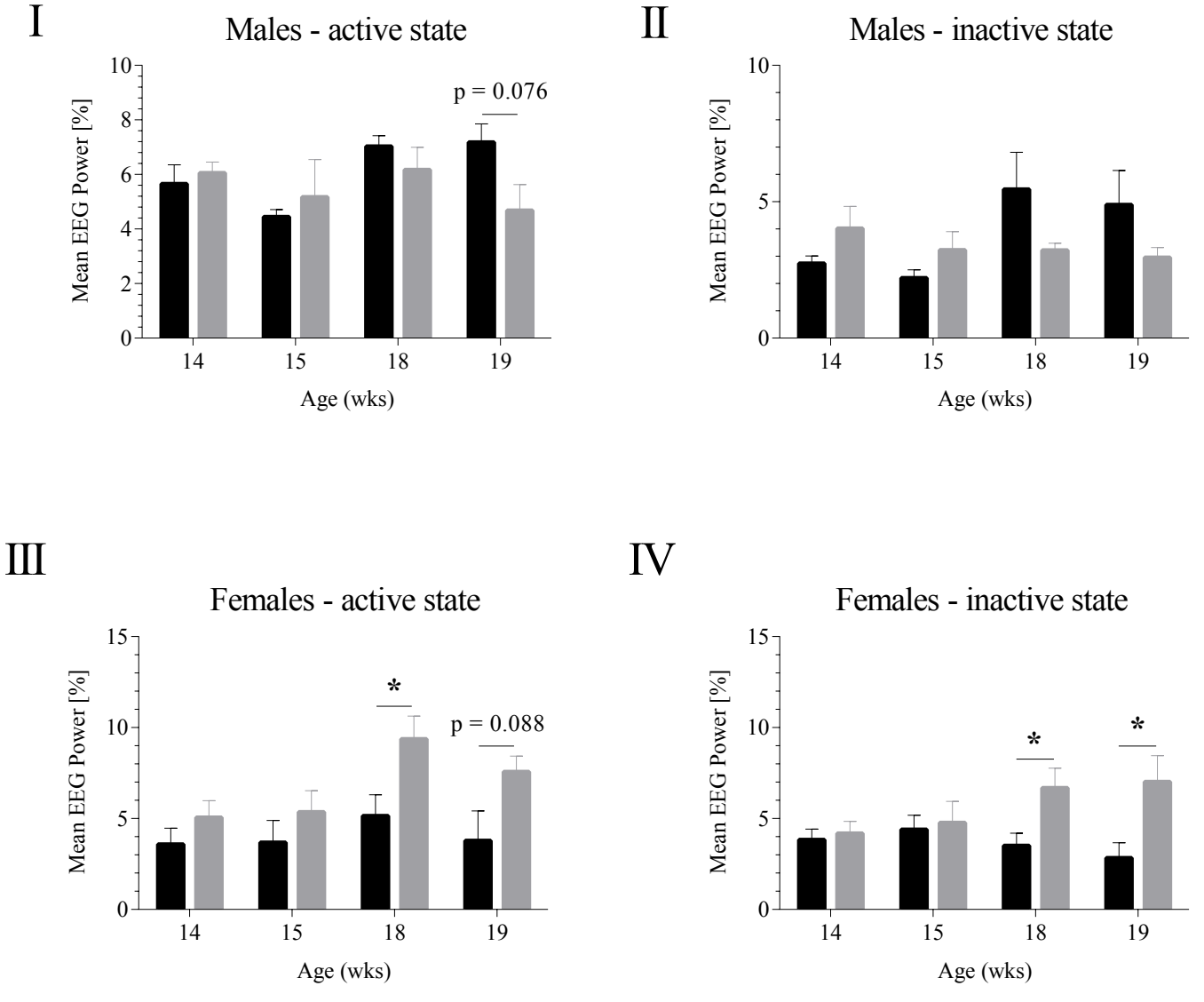
CA1 γ (30-50 Hz) - Light cycle



Supplementary Figure 3 (Papazoglou et al., 2016)

F

CA1 γ (50-70 Hz) - Light cycle



Supplementary Figure 1: Activity analysis in female controls and APPswePS1dE9 mice. Female animals from both groups were analyzed for motor activity (relative units) for different ages (14, 15, 18, 19 wks) and circadian periods (D1, L1, D2, L2, D1+D2, L1+L2). In females, no changes were observed in motor activity. Black, controls; gray, APPswePS1dE9.

Supplementary Figure 2: Electroencephalographic seizure analysis in controls and APPswePS1dE9. Both M1 (A) and CA1 (B) 48 hrs long-term EEG recordings were analyzed for electroencephalographic seizures using an automated seizure detection tool. Seizure parameters included the number of spike trains as well as the average spike train duration and were averaged for a single dark (D) or light (L) cycle for the various ages (14, 15, 18, 19 wks). Black, controls; gray, APPswePS1dE9.

Supplementary Figure 3: Gender specific frequency analysis in controls and APPswePS1dE9 mice during the active and inactive state. The mean EEG power [%] was calculated FFT based for males and females considering potential circadian rhythmicity (light / dark phase) and also the activity status (active, activity counts > 0; inactive, activity = 0). For CA1 deflections, theta (4-8 Hz), gamma (30-50 Hz) and gamma (50-70 Hz) were quantified. Frequency analysis was performed for all four ages (14, 15, 18, 19 wks). Black, controls; gray, APPswePS1dE9.