



**Figure S11.** Mean synchronization indices across the moving sections in silent (blue bars) and music (red bars) conditions. Error bars indicate standard errors (SE) across the moving sections ( $N = 27$  in music condition,  $N = 24$  in silent condition). **(A)** Bin sizes are changed from 5 to 20 degrees with a step of 5 degrees to calculate the synchronization index which uses Shannon Entropy (Eq. 7 in Methods). **(B)** We also calculated a circular variance in the relative phases (i.e., length of the resultant vector in a circular plot) as another measure of synchronization consistency. The degree of synchronization in the music condition was significantly higher than that in the silent condition regardless of the indices ( $*p < 0.01$ , Mann-Whitney U test).