Supporting Information

McHill et al. 10.1073/pnas.1706694115

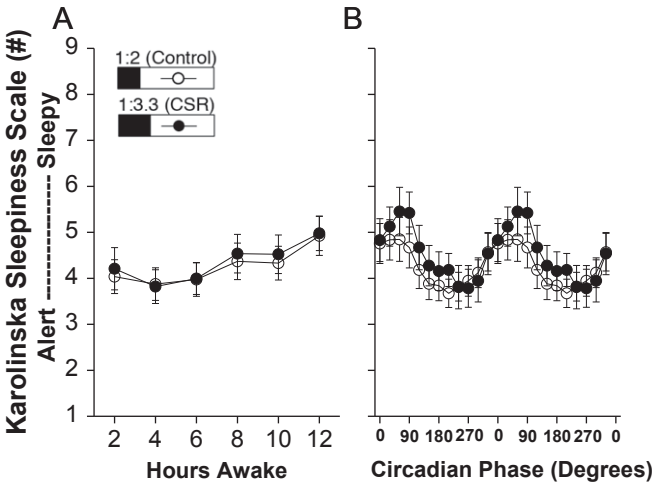

Fig. S1. Karolinska Sleepiness Scale (KSS) by (*A*) duration of wakefulness and (*B*) circadian phase. The control ($n = 8$, 1:2 sleep:wake ratio) condition is denoted by open circles and the chronic sleep restriction (CSR; $n = 9$, 1:3.3 sleep:wake ratio) condition is denoted by closed circles. Higher KSS scores indicate higher subjective sleepiness. In *B*, values are double plotted across circadian phase. Error bars represent SEM.

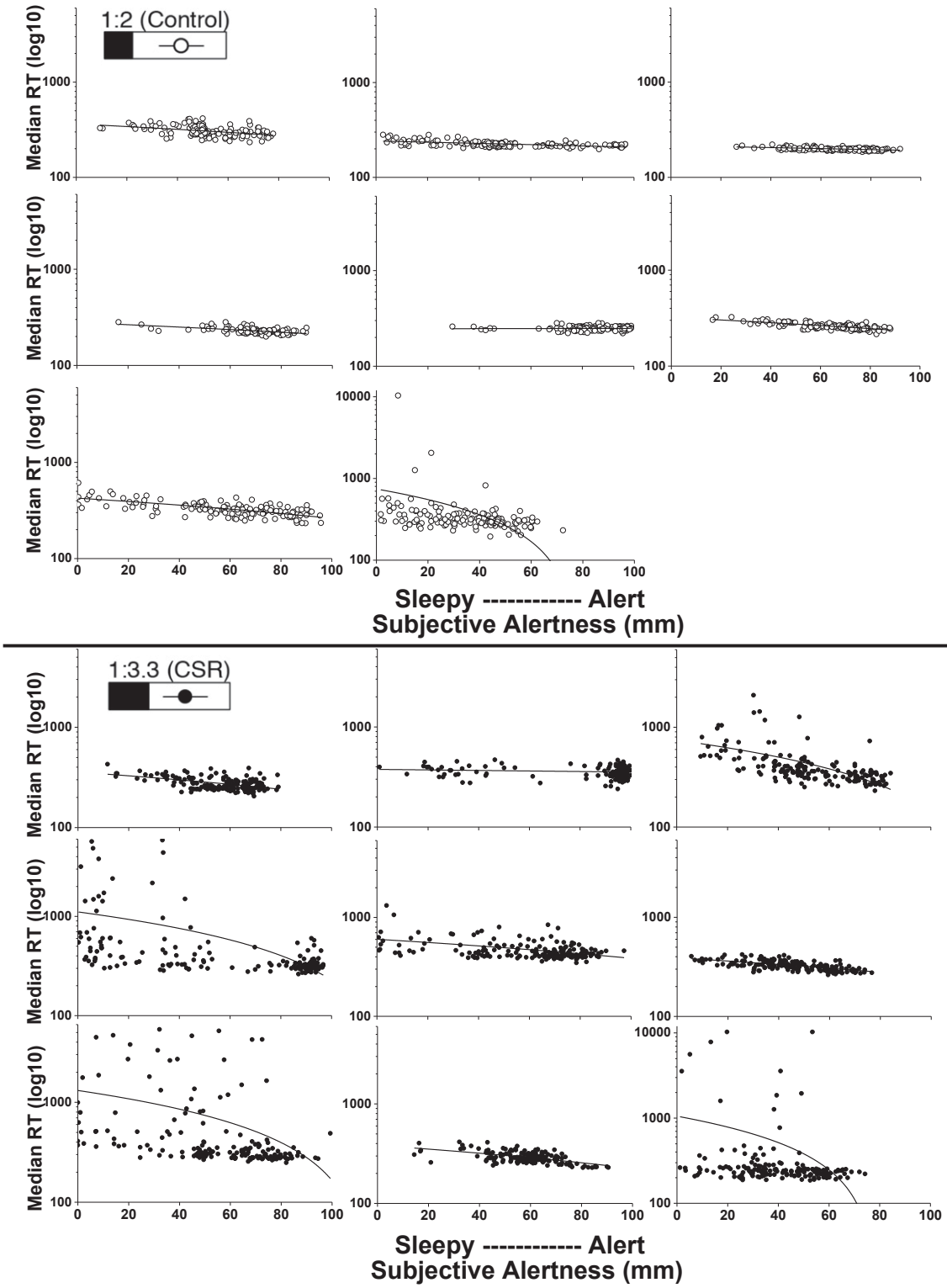

Fig. S2. Psychomotor vigilance task (PVT) performance versus subjective alertness (VAS) within each testing session for individual participants. The control (1:2 sleep:wake ratio) condition is denoted by open circles and the CSR (1:3.3 sleep:wake ratio) condition is denoted by closed circles. The solid line represents the best fit of the data. Higher median reaction time (RT) on the log scale indicates worse PVT performance, and higher VAS scores indicate higher subjective alertness. Note the different scale for the last participants in both the control and CSR panels.

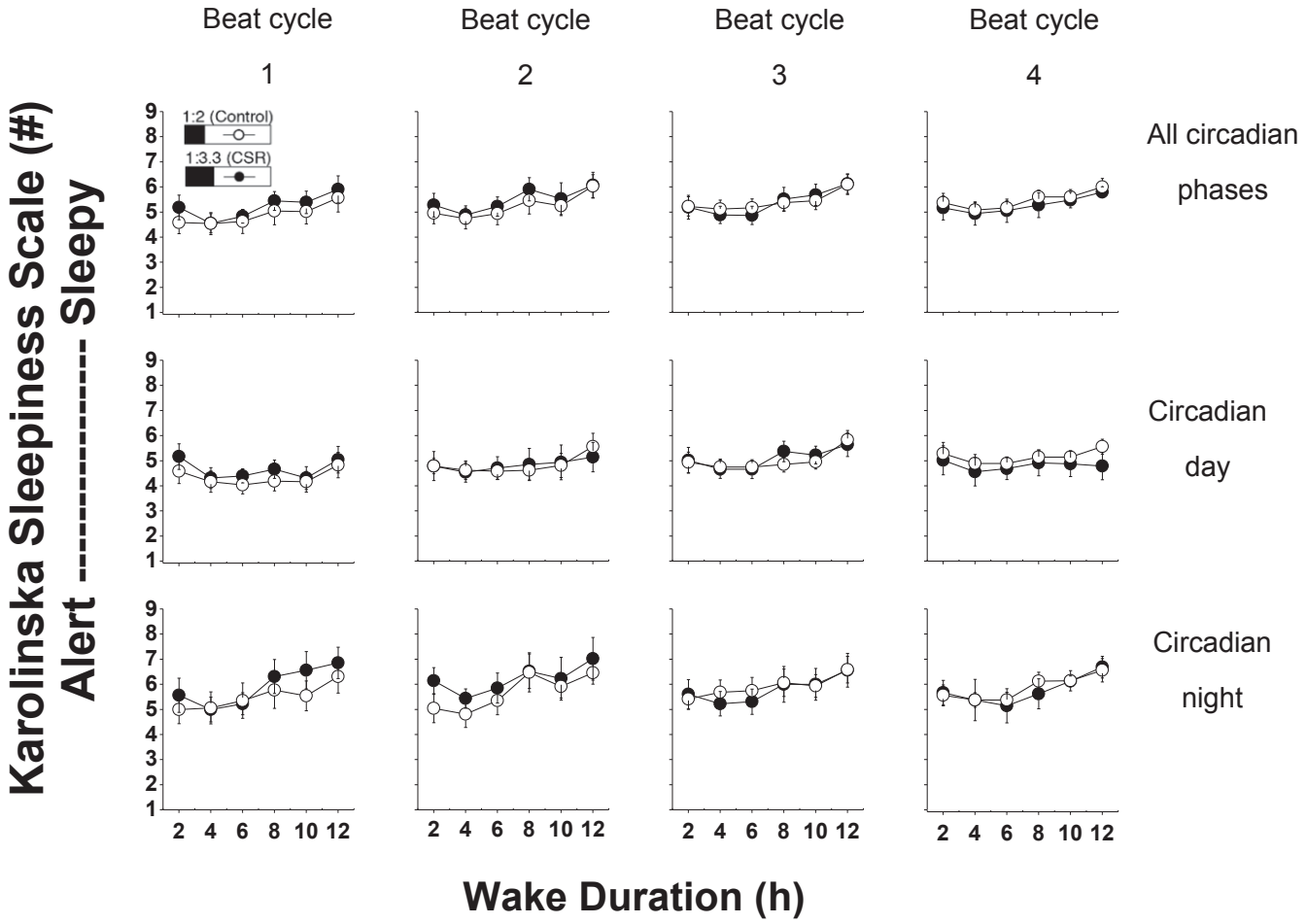

Fig. S3. Acute and chronic impact of sleep restriction on sleepiness (KSS) during the circadian day and night. The control ($n = 8$, 1:2 sleep:wake ratio) condition is denoted by open circles and the CSR ($n = 9$, 1:3.3 sleep:wake ratio) condition is denoted by closed circles. Higher KSS scores indicate higher subjective sleepiness. Beat cycles (i.e., time to complete a cycle of circadian and sleep:wake schedule combinations, which was ~6 protocol days in this forced desynchrony design) of the protocol are shown from *Left* to *Right*. Data are presented by duration of wakefulness for tests performed at all circadian phases (*Top*), during the circadian day (*Middle*), and during the circadian night (*Bottom*). Error bars represent SEM.