

Supplementary

Table S1. Time spans for which HRV was calculated and the rationale.

Time span	Operationalization	Rationale
Pre-sleep	The 5-minute segment before the first epoch of any sleep stage	Theoretical considerations [1,2] and empirical data suggest that reducing pre-sleep arousal can ameliorate sleep [3–5].
Sleep period	The average of consecutive non-overlapping 5-min segments starting from the beginning of the first epoch of sleep to the end of the last epoch of sleep (i.e., including periods of wakefulness)	Depression is associated with lower HRV during the night [6–10].
Sleep stages N1, N2, N3, and REM	Only 5-min segments consisting of consecutive epochs of a particular sleep stage (N1, N2, N3, or REM) were included in the analysis. The last consecutive 5-minute segment of a particular sleep stage was excluded since changes in HRV have been shown to precede sleep stage changes [11–14]. Hence, only phases containing at least 10 minutes with consecutive epochs of a particular sleep stage were used to extract 5-min segments for the analysis. We computed the average of all 5-min segments for each sleep stage. This is analogous to the method used by Herzig et al. 2018 [15].	We differentiate individual sleep stages as well as non-REM and REM sleep since these sleep stages also differ in terms of parasympathetic and sympathetic predominance [14].

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