

# Heart rate variability and daytime functioning in insomniacs and normal sleepers: preliminary results.

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**OBJECTIVES:** This study examined the differences in heart rate variability (HRV) and daytime functioning between insomniacs and normal sleepers. **METHODS:** All participants underwent an interview, a medical examination, and a sleep measurement protocol during which they wore an actigraph and logged a sleep diary for a 7-day period to verify their eligibility. Included in the study were 18 insomniacs and 21 normal sleepers. During a laboratory session, these participants completed four paper-pencil tests of sleepiness, anxiety, fatigue, and concentration difficulty and the Wisconsin Card Sorting Test. Resting HRV was recorded under paced breathing. **RESULTS:** Neither did insomniacs experience cognitive impairment nor did they experience excessive daytime sleepiness compared with normal sleepers. However, insomniacs experienced higher frequency of fatigue [effect size (ES)=1.14,  $P=.002$ ] compared with normal sleepers. There was also a trend toward higher trait anxiety score (ES=0.62) and concentration difficulty (ES=0.59) in insomniacs than in normal sleepers. Although a tendency toward lower resting high-frequency (HF) HRV (ES=-0.57) in insomniacs than in normal sleepers was noted, neither the resting low-frequency (LF) HRV nor the LF/HF ratio were different between groups. Subjective sleep estimates correlated to self-reported daytime consequences such as fatigue and concentration difficulty but not cognitive function. On the contrary, objective sleep estimates correlated to problem-solving/conceptualization and learning but not self-reported daytime consequences. **CONCLUSIONS:** Insomniacs are not sleepier during the day than normal sleepers. However, they may experience such a daytime symptom as fatigue although cognitive function remains unimpaired.