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Predictors of actigraphy - derived sleep measures in a community sample

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Statement of the Problem: Many factors are reported to interfere with sleep in otherwise healthy adults. However, most relevant studies were only cross-sectional in nature or they tested only a small number of risk factors. Fewer of them have examined a large pool of potential predictors in a longitudinal study to determine which can most strongly predict impaired sleep. Thus, we examined demographics, symptoms/disorders, physical activity, other behavior (e.g. substance use, electronic device use) and work-contexts as predictors of sleep quality at T1 (cross-sectional) and 3-months later (T2, longitudinal), in a community sample.

Methodology & Theoretical Orientation: The sample included 161 participants aged 18–65 years. They completed questionnaires at T1 and T2 that asked about demographics and their recent experiences of sleep, night-eating, affective distress (i.e., stress, anxiety, depression), physical activity, substance use (e.g., caffeine, alcohol, drugs), work-context (i.e. shift-work) and parenting young children. Their physical activity and sleep were monitored via actigraphy for 24-hours at T1 and T2.

Findings: Hierarchical multiple regression analysis examined the factors as predictors of sleep quality at T1 and T2. At T2, longer sleep onset latency was predicted by parenting young children and watching TV at night; shorter sleep duration was predicted by female gender; and more awake time and less sleep efficiency were predicted by less alcohol intake. In contrast, all of the T1 sleep measures were predicted by physical activity, including total number of steps, METs and time spent travelling, with the exception of awake time, which was predicted also by less education.

Conclusion & Significance: A combination of demographics (e.g. female gender, less education), consumption behavior (i.e. alcohol intake) and other behavior (i.e. watching TV at night, parenting young children) may contribute to poor sleep quality in the short-term and longer-term.

Recent Publications

1. Kredlow M A, Capozzoli M C, Hearon B A, Calkins A W and Otto M W (2015) The effects of physical activity on sleep: a meta-analytic review. *Journal of Behavioral Medicine* 38(3):427-449.
2. Fossum I N, Nordnes L T, Storemark S S, Bjorvatn B and Pallesen S (2014) The association between use of electronic media in bed before going to sleep and insomnia symptoms, daytime sleepiness, morningness, and chronotype. *Behavioral Sleep Medicine* 12(5):343-357.
3. Li R, Wing Y, Ho S and Fong S (2002) Gender differences in insomnia - A study in the Hong Kong Chinese population. *Journal of Psychosomatic Research* 53(1):601-609.
4. Thompson J F, Roberts C L, Currie M and Ellwood D A (2002) Prevalence and persistence of health problems after childbirth: associations with parity and method of birth. *Birth* 29(2):83-94.

Biography

Shireen W Eid is a PhD student at the Psychology Department in the ANU. She has a Master's degree in Human Physiology from Jordan University of Science and Technology (JUST). She did her Bachelor's in Physiotherapy from the University of Jordan. She has experience in conducting research studies in humans as part of her post-graduate degrees.

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