

All Work and No Play Makes Jack Lose Sleep

Commentary on Virtanen et al. Long Working Hours and Sleep Disturbances: The Whitehall II Prospective Cohort Study. *Sleep* 2009;32:737-745.

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IN THIS ISSUE OF *SLEEP*, VIRTANEN AND COLLEAGUES¹ REPORT ON THEIR INNOVATIVE STUDY THAT REPLICATES AND SIGNIFICANTLY EXTENDS PREVIOUS findings on the relationship between long work hours and sleep disturbances.² The study includes repeated measures of both work hours and sleep parameters to allow an exploration of whether long work hours are associated with incident cases of sleep disturbances while controlling for other risk factors. In results from multivariate analyses, the authors found that working more than 55 hours per week, compared to working 35 to 40 hours per week, was associated with significantly increased risk for shortened sleeping hours, difficulty falling asleep, and waking without feeling refreshed.

The authors then adjusted in a stepwise fashion for other potential confounders and mediators to assess the role of these covariates in the association between long working hours and sleep disturbances. Many individuals attempt to cope with stressful situations by increasing use of alcohol and tobacco, reducing exercise, and increasing food consumption. Concomitantly, these behaviors could contribute toward sleep disturbances. Specific job characteristics and work environments such as low satisfaction with work,³ lack of social support,⁴ having to hurry,⁵ and the presence of both high psychological demands and low decision latitude⁶ have been found previously to be associated with disturbed sleep. Long working hours could therefore be associated with these job characteristics, which in turn function to disturb sleep. In the current study, controlling for exercise level, body mass index, smoking, alcohol use, and psychological job demands attenuated the associations between long working hours, short sleep duration, and waking without feeling refreshed, indicating that these behaviors and job characteristics played roles in these associations. Long working hours continued to be significantly associated with difficulty falling asleep even after controlling for these covariates.

Stressful and demanding jobs have motivated many of us to extend our workdays, making it more difficult to live healthy and balanced lifestyles and reducing the time available for adaptive strategies to cope with stress such as eating a healthy diet, socializing, and getting adequate exercise, rest, and sleep. The association between long working hours and sleep disturbances

could be viewed as somewhat counterintuitive in the sense that working longer hours could make us tired, seemingly making it easier to fall and stay asleep. However, Virtanen and colleagues hypothesize that poor recovery after work due to a lack of leisure time could help explain how long working hours could lead to sleep disturbances. Too little time to relax and unwind after a hard day at work would be expected to make it more difficult to fall asleep and to get enough sleep. One of the primary motivations for working longer hours is to increase productivity, yet resultant decrements in the quantity and quality of sleep could end up impairing work performance by diminishing attention and arousal and by impairing memory consolidation and insight formation, the building blocks of learning and creativity.⁷ Refraining from working long hours could therefore help us to be more productive during the hours that we do work by helping us to identify solutions to problems, find more efficient and effective work methods, and avoid mistakes.

Findings from this study raise an important question of the extent to which domestic responsibilities interact with employment work hours to disturb sleep. As more women have entered the workforce and the number of dual income families has increased, domestic responsibilities have continued to be disproportionately born by women. The authors found female sex to be associated with short sleep duration, difficulty falling asleep, frequent awakening during the night, early waking, and waking without feeling refreshed in cross-sectional analyses. Sleep disorders have been found to be more prevalent among women in other studies.^{8,9} The increased total daily workload and stress level from both work and home responsibilities could partially explain the higher prevalence of sleep disorders in women.⁴ Future longitudinal studies on the relationship between work hours and sleep disturbances would ideally include measures of domestic responsibilities.

The results from this study have important public health and treatment implications. Short sleep duration has been found to be a risk factor for obesity, diabetes, hypertension, and all-cause mortality, so longer working hours could increase the risk for chronic medical conditions by shortening sleep duration. Exercising and eating a healthy diet are health practice behaviors espoused by many health advocacy organizations, yet despite the wide proliferation of these recommendations, many people fail to comply with them. Given the numerous distractions and demands for our time such as dual career families, 24-hour stores, cell phones, and Blackberries, promoting sleep hygiene and the allowance of adequate time for leisure and sleep can be an even harder sell. The potential physical and mental health implications of following these practices invite efforts to bolster these

Submitted for publication April, 2009

Accepted for publication April, 2009

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messages. Individuals experiencing work related stress could be even more impervious to these public health messages, so simply disseminating this information is unlikely to secure compliance. Knowing the number of hours patients work and how stressful their jobs are can aid clinicians to help patients place a higher priority on engaging in adaptive coping strategies to combat stress. Clinicians can provide encouragement, motivation, and reinforcement for the adoption of sleep hygiene and other healthy behaviors as primary and preventative measures for sleep-onset insomnia. Since many employers expect employees to put in work weeks well over 40 hours, and given the negative impact of inadequate sleep on cognitive performance and the associations found between sleep disturbances and negative physical and mental health outcomes, employers may wish to change their cultures to decrease health care costs and, paradoxically, to boost productivity.

DISCLOSURE STATEMENT

Dr. Gangwisch has indicated no financial conflicts of interest.

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