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Long working days and falling asleep at work – issues in R&D work efficiency

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Long working days and falling asleep at work – issues in R&D work efficiency

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Abstract

Excessive daytime sleepiness is a major problem in the modern 24/7 society. In our study among Estonian creative R&D employees, we sought to investigate the links between work arrangements, duration of the working day and daytime sleepiness. The average duration of the working day among our sample of 153 creative R&D employees is as long as 10 hours – considerably more than the statutory eight hours. As might be expected, the more working hours and the less sleeping hours, the more serious the daytime sleepiness problem is. Moreover, we find that employees that have the flexibility to choose when they work (and where they work) experience less daytime sleepiness, and also feel that their sleep is significantly less disturbed compared to peers with more rigid work arrangements. Flexitime and distance work may therefore help considerably in reducing work-related daytime sleepiness.

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Pikad tööpäevad ja uinumas töölaua taga – T&A töötajate unisusest ja ajakasutusest

ERVE SÕÖRU*, AARO HAZAK[§], MARIT REBANE[§]

Kokkuvõte

Ülemäärane päevane unisus on tänapäeva 24/7 ühiskonnas oluliseks probleemiks. Kaasaja kommunikatsioonivahendid toovad töö mis tahes ajal eraellu ja eraelu mis tahes ajal töö vahele, rääkimata mitmest kahurist korraga tulistatavatest erinevatest töökohustustest. Eesti T&A valdkonna loovtöötajate seas läbi viidud uuringus püüdsime tuvastada, millised on töökorralduse, tööpäeva pikkuse ja päevase unisuse seosed. Uuringuvalimisse arvatud 153 loova T&A töötaja andmete põhjal osutus keskmiseks tööpäeva pikkuseks 10 tundi ehk oluliselt enam kui riiklik tööajanorm. Üldjoontes osutus töötajate ülemäärane päevane unisus T&A töötajate hulgas tõsiseks probleemiks. Ei tule üllatusena, et nii suurema töötundide arvu kui väiksema unetundide arvu juures töötajate puhul kõrgem päevane unisus esile tuli. Seejuures selgus, et loovtöötajad, kellele on antud võimalus töötada paindliku tööajaga, on päeval vähem unised. Samuti tunnetasid nad ise vähemal määral, et töö nende und häirib, võrreldes töötajatega, kellel paindlikkust töötegemise ajas ja kohas ei ole võimaldatud. Seega võib paindlik tööaeg ja kaugtöö olla märkimisväärseks abiks päevase unisuse probleemide leevendamisel, vähemasti loovate T&A töötajate puhul. Mittefikseeritud tööaeg nõuab samas töötajatelt suuremat sisemist distsipliini, et töötundide arvuga endale mitte liiga teha.

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Long working days and falling asleep at work – issues in R&D work efficiency

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Sleepiness and work arrangements

As with emotional tiredness, excessive sleepiness is a large concern in contemporary 24/7 societies. Work related and social tasks and thoughts are not easy to escape from at whatever time of the day and in whatever place. This can be very disturbing to the timing and duration of sleep, which in turn results in abnormal sleepiness in the daytime. The multiple means of communication in contemporary society are among the key channels that propagate the related positive and negative effects, including the possibility and risk of being engaged in work and work related thoughts outside the office and outside working hours. The location and timing of work and other work arrangements may therefore be related to the causes of excessive sleepiness.

Previous research has shown that excessive sleepiness has adverse effects on employee productivity and individual well-being, and it causes different kinds of errors at work (see, e.g. Doi and Minowa, 2003). While sleepiness may have multiple and often interrelated causes, the role of work arrangements as a driver of excessive sleepiness cannot be underestimated. Numerous previous studies (e.g. Ohayon et al., 2010 and Pallesen et al., 2007) have demonstrated the adverse effects of night time work on sleepiness. Considering that as morning or evening types people are different, similar daytime effects may be expected. According to research by Takahashi et al. (2011 and 2006), the better a person is at controlling the allocation of work within a day and within a week, the more daytime sleepiness decreases. These researchers find, however, that large variations in daily workload may be another contributor to daytime sleepiness.

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Creative R&D employees are excessively sleepy

Our research group comprises medical researchers and economists from the Department of Economics and Finance at Tallinn University of Technology as well as international partners. Among other issues of R&D efficiency, we are interested in the relationship between work arrangements, work results, individual characteristics and sleepiness. We carried out a study among Estonian creative research and development employees based on a repeated questionnaire survey in 2015 and 2016 to investigate these issues.

The average duration of the working day among our sample of 153 creative R&D employees is as long as 10 hours – considerably more than the statutory eight hours. This appears to be a prevailing problem, irrespective of the specific field of activity of the employee. Our study shows that the more hours an employee works and the less sleep he or she gets, the more serious the daytime sleepiness problem. This relationship is not surprising but the high prevalence of daytime sleepiness problems among creative R&D employees is.

We find that employees that have the flexibility to choose when they work (and where they work) experience less daytime sleepiness. This finding is in alignment with the previous study by Takahashi et al. (2011), as well as with the broader job autonomy literature, referring to the positive effects on sleep when the person can choose (more) freely when to work and where. Our study results show that employees who have the flexitime option feel that their sleep is significantly less disturbed compared to peers with more rigid work arrangements.

Flexitime and working remotely may therefore help considerably in reducing work-related daytime sleepiness. Considering that avoiding daytime sleepiness is not only in the interests of the employee whose overall well-being is improved, but also benefits the employer who receives better work results from better rested employees. Providing more time flexibility in work should therefore be a win-win situation. As the working hours of creative R&D employees are long, time flexibility requires the employee to control the duration of his or her working day in order to allow for sufficient sleep.

In addition to the sleepiness problems discussed in this short research brief, our research group has investigated the links between working time arrangements and work results, happiness, sleep patterns and tiredness, as well as the related gender and contractual

aspects among others (see www.ttu.ee/ta2). Furthermore, the study is part of a larger effort by the research group to investigate the individual, institutional, financial and market driven aspects of development in R&D and knowledge intensive societies. Next to the scientific contribution, we would like to facilitate discussion on topical issues associated with work arrangement, health and knowledge intensive development.

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