The Empirical Distinctiveness of Work Engagement and Workaholism among Hospital Nurses in Japan: The effect on Sleep Quality and Job Performance

DISTINCIÓN EMPÍRICA ENTRE ENGAGEMENT Y TRABAJOLISMO EN ENFERMERAS HOSPITALARIAS DE JAPÓN: EFECTO SOBRE LA CALIDAD DEL SUEÑO Y EL DESEMPEÑO LABORAL

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ABSTRACT

Objective: The aim of the present study is to demonstrate the distinctiveness of work engagement and workaholism by examining their relationships with sleep quality and job performance.

Method: A total of 447 nurses from 3 hospitals in Japan were surveyed using a self-administrated questionnaire including Utrecht Work Engagement Scale (UWES), the Dutch Workaholism Scale (DUWAS), questions on sleep quality (7 items) regarding (1) difficulty initiating sleep, (2) difficulty maintaining sleep, (3) early morning awakening, (4) dozing off or napping in daytime, (5) excessive daytime sleepiness at work, (6) difficulty awakening in the morning, and (7) tiredness awakening in the morning, and the World Health Organization Health Work Performance Questionnaire.

Results: The Structural Equation Modeling showed that, work engagement was positively related to sleep quality and job performance whereas workaholism negatively to sleep quality and job performance.

Conclusion: The findings suggest that work engagement and workaholism are conceptually distinctive and that the former is positively and the latter is negatively related to well-being (i.e., good sleep quality and job performance).

Key words: WORKAHOLISM, WORK ENGAGEMENT, SLEEP QUALITY, JOB PERFORMANCE

RESUMEN

Objetivo: El objetivo de este estudio es demostrar la distinción entre engagement y trabajolismo, estudiando su relación con la calidad del sueño y el desempeño laboral.

Método: Un total de 447 enfermeras de 3 hospitales de Japón fueron entrevistadas mediante un cuestionario autoadministrado que incluía la escala Utrecht (UWES, Utrecht Work Engagement Scale), la Escala de Adicción al Trabajo Holandesa (DUWAS, Dutch Workaholism Scale), preguntas sobre la calidad del sueño (7 ítems) con respecto a (1) dificultad para conciliar el sueño, (2) dificultad para mantener el sueño, (3) despertar temprano por la mañana, (4) dormirse o tomar siestas durante el día, (5) somnolencia diurna excesiva en el trabajo, (6) dificultad para despertarse por la mañana, y (7) despertar cansado en la mañana, y el Cuestionario sobre Salud y Desempeño (CSD) de la Organización Mundial de la Salud.

Resultados: Los modelos de ecuaciones estructurales demostraron que el engagement se relaciona positivamente con la calidad del sueño y el rendimiento laboral, mientras que el trabajolismo tiene una relación negativa con la calidad del sueño y el desempeño laboral.

Conclusión: Los resultados indican que el engagement y el trabajolismo son conceptualmente diferentes. El primero tiene una connotación positiva, mientras que el segundo se asocia de manera negativa al bienestar (buena calidad del sueño y buen rendimiento en el trabajo).

Palabras clave: TRABAJOLISMO, ADICCIÓN AL TRABAJO, ENGAGEMENT, CALIDAD DEL SUEÑO, DESEMPEÑO LABORAL.

INTRODUCTION

In recent years, work environment have rapidly been changing. For instance, clear role expectations at work do not exist anymore¹, and the boundaries between work and personal life are becoming more blurred.² These changes on working conditions call for a better understanding of personal attitude at work (i.e., how they feel about their work as well as where they work). In fact, some researchers have emphasized that personal attitude toward work can be associated with well-being.³⁷ This article focused on the empirical distinctiveness between work engagement (i.e., working hard with intrinsic motivation) and workaholism (i.e., work excessively hard in a compulsive fashion).
among nurses. This issue is particularly important because some conceptual confusion exists about the nature of these two overlapping concepts. In addition, current professional practice patterns among nurses show they are working longer than they ever have. The effect of these long hours may cause nurses to work in the midst of poor sleep quality and low job performance.

WORK ENGAGEMENT

The concept of work engagement emerged from burnout research, namely as an attempt to cover the entire spectrum running from employee unwell-being (burnout) to employee well-being. In order to prosper and survive in today’s continuously changing environment, rather than merely “healthy” employees, organizations need engaged employees. Work engagement refers to a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Vigor refers to high levels of energy and mental resilience while working, the willingness to invest effort in one’s work and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride and challenge at work. Absorption consists of being fully concentrated, happy and deeply engrossed in one’s work whereby time passes quickly and one has difficulty detaching oneself from work. Thus engaged employees work hard (vigor), are involved (dedicated) and feel engrossed (absorbed) in one’s work. Engaged worker may be seen similar to workaholics in the sense that they both work hard, are involved and feel engrossed in their work. However, in contrast to workaholics, engaged workers lack the typical compulsive drive. Engaged employees enjoy doing things outside work, they do not feel guilty when not working, and they do not work hard because of a strong and irresistible drive but for them work is fun. So, despite the fact that workaholics and engaged employees may work similarly hard, their motivation to do so differs fundamentally.

It is interesting to note that workaholism shows a positive relationship with excess working time, whereas this relationships is absent for work engagement.

Workaholism

The term workaholism originates from Oates, who describes it as “...the compulsion or the uncontrollable need to work excessively”. Ever since, it has become a colloquial term in the popular press as well as in empirical research. For the lay public workaholism seems synonymous with working extremely hard, however, conceiving workaholism exclusively in terms of the number of working hours is misreading because it neglects its addictive nature. A typical work addict is motivated by a strong internal drive that cannot be resisted rather than being motivated by external or contextual factors, such as financial problems, poor marriage, organizational culture, supervisory pressure, or a strong desire for career advancement. Given the ease with how the lay public uses the term workaholism, it is surprising that even after four decades researchers do not have adequate consensus about its meaning. Many researchers agree with workaholism as a negative phenomenon because it refers to the very origin of the term workaholism which was meant to correspond to alcoholism. But some researchers view workaholism as a positive phenomenon. For instance, Korn et al. call workaholics ‘hyper-performers’ as seen from an organizational perspective. Although ‘Is workaholism good or bad for employee well-being?’ has been discussed, Scott et al. found three common characteristics of workaholism that feature across various definitions. First, they spend a great deal of time on work activities when given the discretion to do so. Second, they are reluctant to disengage from work and persistently and frequently think about work then they are not at work. Finally, they work beyond what is reasonably expected from them to meet organizational or economic requirements. Therefore, based on a conceptual analysis, Schaufeli et al. defined workaholism as the tendency to work excessively hard (the behavioral dimension) and being obsessed with work (the cognitive dimension), which manifests itself in working compulsively. This definition agrees with the most recent analysis of scholarly definitions that concludes that work hard at the expense of other important life roles and a strong internal drive to work are two key aspects of workaholism.

Correlates of work engagement

Because work engagement was introduced as an antipode of burnout, it is expected that work engagement is primary related to (lack of) health problems. In addition, in the job-stress recovery literature, recovery from work (i.e., psychological detachment, relaxation, mastery, and control) is positively correlated both with work engagement and sleep quality. Hence, it can be speculated that work engagement is related to good sleep quality because engaged workers are likely to have better recovery experiences.

In terms of job performance, there are at least four reasons why engaged workers perform better than non-engaged workers. Engaged employees: (1) often experience positive emotions, including happiness, joy, and enthusiasm; (2) experience better health; (3) create their own job resources and personal resources; and (4) transfer their engagement to others. In line with this notion, some research showed that work engagement was positively related to better job performance.

Correlates of workaholism

Workaholics may go as far as actively creating additional work for themselves (i.e., work excessively)—for instance, by working on projects more complicated than necessary or by refusing to delegate work. Therefore, increased job demands can lead to insufficient opportunities to recover from such excessive efforts, leaving workaholics emotionally or cognitively exhausted over time. Such persistent cognitive activities (i.e., working compulsively) may also result in automatic arousal and emotional distress. Consequently, workaholics report relatively high levels of psychological distress and physical complaints.

In modern industrialized society, poor sleep is prevalent and its consequences include functional impairments, reduced quality of life, and significant health care costs. Moreover, among the working population, poor sleep quality is associated not only with deteriorated health (e.g., psychological distress, physical complaints), but also with poor work functioning, which can result in increased risk of accident/injury at work, absenteeism, reduced productivity, and job dissatisfaction. It means sleep quality is important outcomes in the area of occupational health. Since sleep quality is associated with psychological and physical health, it can be speculated that workaholism could be related to poor sleep quality. In fact, Kubota et al. showed workaholic nurses had higher risks for poor sleep quality (i.e., impaired awakening, insufficient sleep, and workplace sleepiness).

Besides sleep quality, another relevant outcome associated with workaholism is job performance. Schaufeli et al. argued that workaholics work hard rather than smart; they create difficulties for
themselves and their co-workers, suffer from perfectionism, are rigid and inflexible, and do not delegate. Some empirical studies revealed that workaholism were negatively related to job performance.6,17

This study

Previous studies which examined the distinctiveness between work engagement and workaholism suggest that they share the behavioral component (work excessively hard), but that the underlying motivation differs fundamentally.14,8,15 Moreover, the studies mentioned above suggest that work engagement is related to well-being, whereas workaholism to unwell-being. However, there have been only two studies that empirically investigated associations of work engagement and workaholism with well-being.14,6 In addition, there are no empirical studies that included sleep problems, which are important outcomes in the area of occupational health. Therefore, the aim of the present study is to demonstrate the empirical distinctiveness of work engagement and workaholism by examining their relationships with sleep quality and job performance in a sample of Japanese nurses. In line with the discussion above, we expected that work engagement is positively related to sleep quality and job performance (Hypothesis 1). In contrast, workaholism is negatively related to sleep quality and job performance (Hypothesis 2).

METHODS

Participants and procedure

Participants in this study included 750 registered nurses in 3 hospitals in Japan (2 hospitals are located in central area, and the other is in eastern area of Japan). All participants received a self-administrated questionnaire and had two months (from October to November 2008) to complete it. A total of 503 nurses returned the completed questionnaire, for a response rate of 67.1%. Data from 56 respondents were excluded from the analysis due to missing variables in the questionnaire. Thus, the final number of respondents for analysis was 447 (overall coverage rate: 59.6%). The aims and procedures of this study were explained to all nurses prior to commencing the study. The procedures of this study were approved by the Ethics Committees of The University of Tokyo Graduate School of Medicine.

Measures

The questionnaire included the following five aspects: work engagement, workaholism, sleep problems, job performance, and possible confounders.

Work engagement: Work engagement was assessed with the short form of the Utrecht Work Engagement Scale (UWES)38, that has recently been validated in Japan as well.29 The UWES includes three subscales that reflect the underlying dimensions of engagement: Vigor (3 items; e.g., At my job, I feel strong and vigorous), Dedication (3 items; e.g., I am enthusiastic about my job), and Absorption (3 items; e.g., I am immersed in my work). All items are scored on a 7-point Likert scale (0 = never, 6 = always).

Workaholism: Workaholism was measured using the Dutch Workaholism Scale (DUWAS) developed by Schaufeli and his colleagues.40 The scale consists of two subscales: Work Excessively (e.g., I stay busy and keep many irons in the fire) and Work Compulsively (e.g., I feel guilty when I take time off work). Each subscale consists of 5 items that are rated on a 4-point Likert scale (1 = totally disagree, 4 = totally agree).

Sleep quality: Seven self-reported questions related to sleep were selected for this study, following previous sleep studies41,31,32,7—namely, (1) difficulty initiating sleep (i.e., How long does it usually take you to fall asleep in bed), (2) difficulty maintaining sleep (i.e., How often do you have difficulty staying asleep), (3) early morning awakening (i.e., How often do you wake up too early and can’t fall asleep again), (4) dozing off or napping in daytime (i.e., How often do you take a nap while commuting time or during lunch break), (5) excessive daytime sleepiness at work (i.e., How often do you feel very drowsy when you are at work), (6) difficulty awakening in the morning (i.e., Do you feel difficulty waking up in the morning), and (7) tiredness awakening in the morning (i.e., Do you feel restless when you wake up in the morning). Difficulty initiating sleep is scored on a 5-point Likert scale (1 = within 10 minutes, 5 = over 2 hours), other questions are scored on a 6-point Likert scale (1 = very few, 5 = almost every day). That is, in terms of each sleep question, higher score indicated a lower sleep quality.

Job performance: Job performance was assessed using a single item from the World Health Organization Health Work Performance Questionnaire (HPQ).42 Respondents were asked to rate their overall work performance during the past four weeks on a 0-10 self-ananchoring scale, in which 0 is defined as the “worst possible work performance a person could have on this job” and 10 is defined as “top work performance” on the job.

Possible confounders: As possible confounders, age, gender, and shift (two-shift / three-shift / day-shift / others) were included.

Statistical analysis

Before evaluating the hypothesized model (Fig. 1), we first examined the factorial validity of sleep questions by exploratory factor analysis (EFA) with principal factor method and promax rotation and confirmatory factor analysis (CFA). In CFA, besides the χ² statistic, the comparative fit index (CFI), the goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), and the root mean square error of approximation (RMSEA) were utilized to evaluate the model fit.

Then, the hypothesized model (Fig. 1) was evaluated with structural equation modeling (SEM) techniques (Please note that Fig. 1 also presents the results of SEM). Because of the large number of items, it was not possible to conduct SEM-analysis on a full disaggregation model. Therefore, the scales introduced above were used as indicators of the latent factors. All latent factors had two or three indicators except for job performance which had only one indicator. To control for random measurement error for this factor, the error variance of
job performance was set equal to zero. The level of significance was p < 0.05 (two-tailed). PASW Statistics 18 and AMOS 16 were used for the statistical analyses.

RESULTS

Characteristics of the Respondents
Of 447 respondents, 428 (95.7 %) were females and 19 males (4.3 %); 272 (60.9 %) worked with three-shift, 132 (29.5 %) with two-shift, 29 (6.5 %) with day-shift, and 14 (3.1 %) with others. The mean age of the respondents was 31.0 years (SD = 7.87).

Factor structure of sleep questions
The EFA for sleep questions extracted three factors regarding “insomnia symptoms ((1) difficulty initiating sleep, (2) difficulty maintaining sleep, and (3) early morning awakening)”, “problems on awakening ((6) difficulty awakening in the daytime and (7) tiredness awakening in the daytime)”, and “sleepiness in the daytime ((4) dozing off or napping in daytime and (5) excessive daytime sleepiness at work)”. Inter-factor correlations were 0.23 (p < 0.001) between insomnia symptoms and problems on awakening, 0.30 (p < 0.001) between problems on awakening and sleepiness in the daytime, and -0.01 between insomnia symptoms and sleepiness in the daytime. These results suggest that sleep quality can be conceptualized by these three factors. The proposed three-factor model was also supported by the results of the CFA. The three-factor model (X² (11) = 41.18, CFI = 0.96, GFI = 0.97, AGFI = 0.93, RMSEA = 0.08) fits significantly better to the data than the one-factor model which assumed that all 7 items loaded on one ‘sleep quality factor’ (X² (14) = 391.61, CFI = 0.54, GFI = 0.80, AGFI = 0.61, RMSEA = 0.25; ΔX² (3) = 350.43, p < 0.001).

Descriptive statistics for the study variables
Table 1 shows the mean, standard deviations, internal consistencies (Cronbach’s alpha), and correlations of all scales included in this study. As can be seen, all variables have relatively favorable reliabilities with Cronbach’s alpha coefficients of 0.74 or higher except for work compulsively and problems on awakening.

Model testing
Results of the SEM-analysis showed that the proposed model (displayed in Fig. 1) fits adequately to the data; X² (24) = 89.504, CFI = 0.95, GFI = 0.96, AGFI = 0.92, RMSEA = 0.08. Work engagement was positively related to sleep quality (β = 0.29, p < 0.001) and job performance (β = 0.36, p < 0.001). In contrast, workaholism was negatively related to sleep quality (β = -0.36, p < 0.001) and job performance (β = -0.10, p < 0.05).

In a next step, we conducted additional analysis to control for potential confounders (i.e., age, gender, and shift work). Specifically, each control model as a manifest variable simultaneously and was allowed to have effects on all variables in the model. After controlling for confounding variables, the path coefficients were virtually the same as those of the proposed model, but the model fit decreased (X² (27) = 99.016, CFI = 0.94, GFI = 0.96, AGFI = 0.90, RMSEA = 0.08). Importantly, all the relationships of the control variables to the model variables were non-significant. Therefore, the control variables were removed from final model in Fig. 1.

DISCUSSION

This study examined the distinctiveness of work engagement and workaholism in terms of their relationships with well-being (i.e., sleep quality and job performance) among hospital nurses in Japan. Results of SEM showed that associations of work engagement and workaholism with well-being are different; work engagement is related to well-being (i.e., better sleep quality and job performance), whereas workaholism is related to unwell-being (i.e., poor sleep quality and job performance). This means work engagement and workaholism can be empirically differentiated from each other.

As far as the relationship of work engagement with sleep quality and job performance is concerned, our SEM results showed that work engagement had positively related to sleep quality as expected in Hypothesis 1. Since engaged employees, compared to workaholics, do not feel guilty when not working, they are likely to have better recovery experiences, which might lead to good sleep quality. Our SEM results also showed that work engagement was positively related to job performance as expected in Hypothesis 2. Although we did not mention a specific hypothesis between sleep quality and job performance, each component of sleep quality had positive correlation with job performance (see Table 1). Since the experience of good health is one of the conditions for better job performance, good sleep quality among engaged nurses may have led to better job performance. This health component is an important conceptual aspect that separates work engagement from other proactive organizational attitudes like organizational commitment.
As expected in Hypothesis 2 and in line with previous studies, workaholism was negatively related to sleep quality and job performance. The associations were still observed even after adjusting for demographic variables (i.e., age, gender, and shift work), suggesting that workaholism have adverse effects on sleep quality and job performance independent of these characteristics.

It is important to note that workaholism had stronger relationship with sleep quality ($\beta = -0.36$) compared to job performance ($\beta = -0.10$). The relative strong association with sleep quality underlines the importance of health component for workaholism. Since workaholics spend more time on their work, increased job demands may lead to less opportunity for recovery from excessive efforts and higher exhaustion. In addition, thinking persistently and frequently about work –even when not working— may cause autonomic arousal and emotional distress through the cognitive activation. These behavioral and cognitive characteristics of workaholism might result in poor sleep quality. In terms of job performance, workaholism are not only spending more times on their work but also rigid and inflexible, which can lead to poor job performance.

**Limitations**

Several limitations need to be discussed. First, because of the cross-sectional design of the study, a causal relationship could not be determined. In addition, long-term effects of work engagement and workaholism are unknown. A prospective study is needed to investigate a causal linkage and long-term effects. Second, all indicators were measured using self-reported questionnaires. In addition to self-report bias due to (for example) negative affect, common method variance might have played a role, although several studies have demonstrated that these influences are not as significant as expected. Nevertheless, findings should be repeated with objective indicators (e.g., sleep polysomnography and objective performance) in the future. Third, because the participants were recruited only from 3 hospitals in Japan, the findings could not be generalized. Finally, not much consideration was given to unmeasured factors such as smoking, alcohol consumption, and leisure time physical activity, or unknown factors. These confounders may have some influence on the relationship of work engagement and workaholism with well-being (i.e., sleep quality and job performance).

**Conclusion**

The present study indicated that work engagement and workaholism are two different kinds of concepts: work engagement is associated with well-being, whereas workaholism with unwell-being. This suggests the importance of focusing on personal attitudes toward work. Future research should examine the effects of personal attitudes as well as work environment on improving well-being among nurses.

**Ethics Approval**

This study was conducted with the approval of the Ethics Committees of The University of Tokyo Graduate School of Medicine

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