

# Workaholism vs. Work Engagement: the Two Different Predictors of Future Well-being and Performance

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Published online: 3 April 2014  
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## Abstract

**Purpose** This study investigated the distinctiveness of two types of heavy work investment (i.e., workaholism and work engagement) by examining their 2-year longitudinal relationships with employee well-being and job performance. Based on a previous cross-sectional study by Shimazu and Schaufeli (Ind Health 47:495–502, 2009) and a shorter term longitudinal study by Shimazu et al. (Ind Health 50:316–21, 2012; measurement interval=7 months), we predicted that workaholism predicts long-term future unwell-being (i.e., high ill-health and low life satisfaction) and poor job performance, whereas work engagement predicts future well-being (i.e., low ill-health and high life satisfaction) and superior job performance.

**Method** A two-wave survey was conducted among employees from one Japanese company, and valid data from 1,196 employees was analyzed using structural equation modeling. T1–T2 changes in ill-health, life satisfaction, and job performance were measured as residual scores, which were included in the structural equation model.

**Results** Workaholism and work engagement were weakly and positively related to each other. In addition, and as expected, workaholism was related to an increase in ill-health and to a decrease in life satisfaction. In contrast, and also as expected, work engagement was related to increases in both life satisfaction and job performance and to a decrease in ill-health.

**Conclusion** Although workaholism and work engagement are weakly positively related, they constitute two different concepts. More specifically, workaholism has negative consequences across an extended period of 2 years, whereas work engagement has positive consequences in terms of well-being and performance. Hence, workaholism should be prevented and work engagement should be stimulated.

**Keywords** Hard work investment · Job performance · Physical complaints · Psychological distress · Workaholism · Work engagement

## Introduction

In recent years, rapidly changing working conditions (because of, e.g., global competition and high pace of innovation) stimulate employees to invest their time and effort in work more heavily than before [1]. This trend is observed in Japan as well as in other countries [2]. These changes call for a better understanding of how heavy work investment [3] impacts on employees (e.g., well-being) as well as on the organization (e.g., job performance) [4].

Two types of heavy work investment can be distinguished, workaholism and work engagement [5]. Both are characterized by large investments of employees in their work, for instance, in terms of time and effort. Workaholism is defined as “a tendency to work excessively hard and to be obsessed with work, which manifests itself in working compulsively” [6], whereas work engagement is defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” [7]. Although both workaholism and work engagement are characterized by heavy work investment [8], the underlying motivation for this investment differs: Workaholics are propelled by an obsessive inner drive they cannot resist, whereas engaged employees are

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intrinsically motivated [1, 4, 8]. Put differently, workaholism is characterized by high effort with negative affect, whereas work engagement is characterized by high effort with positive affect [9].

The distinctiveness of workaholism and work engagement was empirically demonstrated in terms of their relationship with various indicators of well-being and job performance. For instance, in their cross-sectional and short-term longitudinal (i.e., 7 months follow-up) studies, Shimazu et al. [4, 10] showed that workaholism is associated with (future) unwell-being (i.e., high ill-health and low life satisfaction) and poor job performance, whereas work engagement with (future) well-being (i.e., low ill-health and high life satisfaction) and superior job performance. However, since previous studies are either cross-sectional or have a relative short follow-up period, the longer term effects of workaholism and work engagement are still unclear.

The present study investigates the distinctiveness of workaholism and work engagement by examining their 2-year longitudinal relationships with employee well-being and job performance. Dwyer [11] showed that time lags that do not correspond to the actual effect interval may lead to reduced effect estimates. Considering that longer time lags may be required than the 1-year lag, which has been most often applied in occupational health psychology [12], we used time lags of 2 years. Based on a previous cross-sectional study [4] and a 7-month follow-up study [10], we expected that workaholism and work engagement are positively, but weakly, related to each other because both refer to some kind of heavy work investment (hypothesis 1). In addition, we predicted that workaholism predicts future unwell-being (i.e., high ill-health and low life satisfaction) and poor job performance after controlling for baseline (hypothesis 2), whereas work engagement predicts future well-being (i.e., low ill-health and high life satisfaction) and superior job performance after controlling for baseline (hypothesis 3). This differential prediction is based on the fact that the underlying motivation of engagement and workaholism differs [1, 13].

## Method

### Participants and Procedures

This longitudinal study was conducted as an additional survey of annual health checkup among all employees of an industrial machinery company in Tokyo, Japan. To set time lags of 2 years [12], data from 2009 to 2011 surveys were used in the analyses. Before participating, they were informed about the objectives of the study by their supervisors and occupational health staff. They were assured that their participation was voluntary. Those who agreed to participate received an online questionnaire. At the middle of October 2009 (T1), all

employees ( $n=1,332$ ) were invited to the survey and 1,325 employees answered the questionnaire (99.5 % response rate). At the middle of October 2011 (T2), all employees ( $n=1,278$ ) were again invited to the survey and 1,273 employees answered the questionnaires (99.6 % response rate). In total, 1,196 employees answered all two questionnaires (90.3 % of the initial respondents) and data from 1,196 employees were analyzed. The mean age of the participants was 43.1 (SD=10.0). Of the participants, 84 % were males, 76 % worked as regular employees, and 19 % were managers.

In order to examine the potential selection bias, we compared completers who answered both surveys ( $n=1,196$ ) with dropouts who answered only the first survey ( $n=129$ ) with respect to their baseline demographic characteristics and their scores on the study variables. The completers were significantly younger (mean 43.1, SD=10.0 vs. mean 49.3, SD=12.8; Welch's  $t$  (145.420)=5.333,  $p<0.001$ ) and reported lower in-role performance (Welch's  $t$  (151.171)=2.619,  $p<0.01$ ) than dropouts. There were also differences between the two groups regarding job contract ( $\chi^2$  (5)=75.04,  $p<0.001$ ) and job type ( $\chi^2$  (8)=18.45,  $p<0.05$ ). As for job contract, the percentage of regular employees in completers (76 %) was higher than in dropouts (61 %). As for job type, the percentage of managers among the completers (19 %) was lower than among the dropouts (26 %). Thus, compared with dropouts, completers are younger, reported lower in-role performance, and included more regular employees and less managers. The study procedures were approved by the ethics review board of The University of Tokyo before starting the study.

### Measures

Workaholism was assessed with the Dutch Workaholism Scale (DUWAS) [8]. This scale consists of two subscales, working excessively (e.g., "I stay busy and keep many irons in the fire") and working compulsively (e.g., "I feel guilty when I take time off work"). Each subscale consists of five items which were rated on a four-point Likert scale (1=totally disagree, 4=totally agree). Reliability and validity of the Japanese version of DUWAS were confirmed by Schaufeli et al. [8].

Work engagement was assessed with the short form of the Utrecht Work Engagement Scale (UWES) [7]. The UWES includes three subscales that reflect the underlying dimensions of engagement: vigor (three items; e.g., "At my job, I feel strong and vigorous"), dedication (three items; e.g., "I am enthusiastic about my job"), and absorption (three items; e.g., "I am immersed in my work"). Each item was scored on a seven-point Likert scale ranging from 0 ("never") to 6 ("always"). Reliability and validity of the Japanese version of UWES were confirmed by Shimazu et al. [14].

Psychological distress was assessed using the corresponding subscales of the Brief Job Stress Questionnaire (BJSQ) [15]. Psychological distress was assessed by means of 15 items, mainly reflecting fatigue, anxiety, and depression. For instance, “I am tired completely,” “I feel ill at ease,” and “I feel depressed” respectively. Each item was scored on a four-point Likert scale ranging from “1=almost never” to “4=almost always.” Correlation between T1 and T2 was 0.57 ( $p<0.001$ , Cohen’s  $d=0.09$ ). Physical complaints were also assessed using the corresponding subscales of BJSQ [15] consisting of 11 items like “I have a pain in the back.” Each item was scored on a four-point Likert scale ranging from 1=almost never to 4=almost always. Correlation between T1 and T2 was 0.63 ( $p<0.001$ , Cohen’s  $d=-0.06$ ).

Job satisfaction was assessed using a single item, that is, whether or not the participant was satisfied with his/her job [15]. It has been argued that a global index of overall job satisfaction (single item measure) is an inclusive and valid measure of general job satisfaction [16]. The job satisfaction item was scored on a four-point Likert scale ranging from “1=dissatisfied” to “4=satisfied.” Correlation between T1 and T2 was 0.49 ( $p<0.001$ , Cohen’s  $d=-0.04$ ). Family satisfaction was also assessed using a single item, that is, whether or not the participant was satisfied with his/her family [15]. This item was scored on a four-point Likert scale ranging from 1=dissatisfied to 4=satisfied. Correlation between T1 and T2 was 0.50 ( $p<0.001$ , Cohen’s  $d=-0.03$ ).

In-role performance, those officially required outcomes and behaviors that directly serve the goals of the organization, was assessed by two items from Williams and Anderson’s scale [17] (e.g., “I adequately complete assigned duties”). Each item was scored on a four-point Likert scale ranging from 1=disagree to 4=agree. Correlation between T1 and T2 was 0.40 ( $p<0.001$ , Cohen’s  $d=0.00$ ). Creative behavior, the production of novel and useful ideas, was assessed by three items from George and Zhou’s scale [18] (e.g., “I am a good source of creative ideas”). Each item was scored on a four-point Likert scale ranging from 1=disagree to 4=agree. Correlation between T1 and T2 was 0.54 ( $p<0.001$ , Cohen’s  $d=0.00$ ).

### Statistical Analyses

The responses of participants were analyzed with structural equation modeling (SEM) techniques using the AMOS 19 software package. We analyzed the covariance matrix using the maximum likelihood method of estimation, whereby the means of respective subdimension of the latent factor were used as observed variables. We tested a model in which T1–T2 changes in ill-health, life satisfaction, and job performance were included in the structural equation model. This is because the model with T1–T2 changes is simpler and parsimonious compared to the model in which T1 and T2 outcomes

are included separately and in which T2 outcomes are predicted by T1 outcomes and T1 engagement/workaholism. In this study, change scores were measured as residual scores [19] because we were interested in who had changed more (or less) than expected based on their baseline score [20]. Following the recommendations of Smith and Beaton [20], these change scores were obtained by regressing T2 scores of ill-health, life satisfaction, and job performance on the corresponding T1 scores. The differences between the predicted and the observed scores of T2 ill-health, life satisfaction, and job performance are the standardized residual scores that we used in the analyses. Positive residual scores indicate an increase, and negative scores a decrease in the outcome variables.

### Results

The means, standard deviations, internal consistencies (Cronbach’s alpha), and correlations between the study variables are displayed in Table 1. Note that, by definition, the mean values of the standardized residual scores are zero. As can be seen, all variables have satisfactory internal consistencies with Cronbach’s alpha coefficients exceeding the criterion of 0.70, except for working compulsively, which was slightly lower.

Results of the SEM analyses showed that the proposed model (Fig. 1) fits adequately to the data:  $\chi^2(35)=159.68$ , GFI=0.98, AGFI=0.96, CFI=0.97, NNFI=0.95, RMSEA=0.06. As expected (hypothesis 1), workaholism and work engagement were weakly ( $<0.30$ ) and positively related to each other. Furthermore, workaholism was significantly related to an increase in ill-health and to a decrease in life satisfaction after controlling for baseline levels of the corresponding variables. However, workaholism was *not* significantly related to a decrease in job performance. These results suggest that hypothesis 2 is partially supported. Regarding hypothesis 3, work engagement was significantly related to a decrease in ill-health and to increases in both life satisfaction and job performance again after controlling for baseline levels. These results suggest that hypothesis 3 is fully supported.

We conducted additional analysis to control for demographic and job characteristic variables (i.e., age, gender, job contract, job type, job demands, job control, and workplace support) as potential confounders. Specifically, each control variable was included in the proposed model as a manifest variable and allowed to correlate with all other model variables. After controlling for these confounding variables, the path coefficients remained virtually the same as those of the proposed original model, but the model fit decreased ( $\chi^2(58)=458.16$ , GFI=0.96, AGFI=0.89, CFI=0.93, NNFI=0.80, RMSEA=0.08). These results indicate that the impact of the control variables on the model variables were weak. Importantly, most control variables did not significantly affect

**Table 1** Means, standard deviations, internal consistencies (Cronbach's alpha on the diagonal), and correlations between the variables (N=1,196)

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1 Time 1 vigor	2.63	1.07	(0.87)										
2 Time 1 dedication	3.09	1.03	0.81***	(0.83)									
3 Time 1 absorption	2.75	1.12	0.72***	0.80***	(0.83)								
4 Time 1 working excessively	2.14	0.68	0.11***	0.23***	0.25***	(0.80)							
5 Time 1 working compulsively	1.97	0.55	0.08**	0.19***	0.22***	0.57***	(0.68)						
6 Change in psychological distress	0.00 (1.98/1.93) <sup>b</sup>	1.00 (0.57/0.57) <sup>c</sup>	-0.08**	-0.06	-0.04	0.02	0.07**	(0.92/0.93) <sup>a</sup>					
7 Change in physical complaints	0.00 (1.72/1.75) <sup>b</sup>	1.00 (0.48/0.49) <sup>c</sup>	-0.08**	-0.06*	-0.04	0.01	0.07*	0.52***	(0.83/0.84) <sup>a</sup>				
8 Change in job satisfaction	0.00 (2.58/2.61) <sup>b</sup>	1.00 (0.78/0.79) <sup>c</sup>	0.16***	0.14***	0.11***	-0.03	-0.01	-0.37***	-0.21***	(n.a.)			
9 Change in family satisfaction	0.00 (2.99/3.01) <sup>b</sup>	1.00 (0.79/0.73) <sup>c</sup>	0.12***	0.11***	0.09**	-0.03	-0.03	-0.15***	-0.12***	0.25***	(n.a.)		
10 Change in in-role performance	0.00 (3.12/3.12) <sup>b</sup>	1.00 (0.49/0.52) <sup>c</sup>	0.13***	0.14***	0.15***	0.05	0.08**	-0.19***	-0.10***	0.21***	0.07*	(0.79/0.84) <sup>a</sup>	
11 Change in creative behavior	0.00 (2.63/2.63) <sup>b</sup>	1.00 (0.63/0.63) <sup>c</sup>	0.10***	0.13***	0.13***	0.11***	0.08**	-0.12***	-0.06*	0.26***	0.08**	0.41***	(0.88/0.87) <sup>a</sup>

Means, SDs, and correlations for change scores are on the basis of standardized residual scores

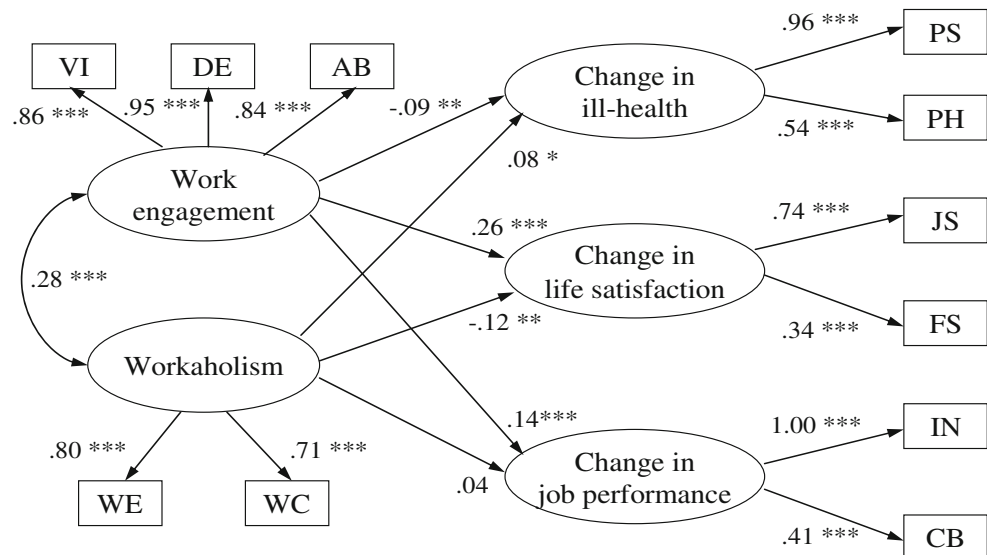
\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

<sup>a</sup> Cronbach's alpha coefficients for the original T1 and T2 indicators are displayed before and after slash, respectively

<sup>b</sup> Means for the original T1 and T2 indicators are displayed before and after slash, respectively

<sup>c</sup> Standard deviations for the original T1 and T2 indicators are displayed before and after slash, respectively

**Fig. 1** Standardized solution (Maximum Likelihood estimates) of the hypothesized model ( $N=1,196$ ). *VI* vigor, *DE* dedication, *AB* absorption, *WE* working excessively, *WC* working compulsively, *PS* psychological distress, *PH* physical complaints, *JS* job satisfaction, *FS* family satisfaction, *IN* in-role performance, *CB* creative behavior. \*\*\* $p<.001$ ; \*\* $p<.01$ ; \* $p<.05$



the structural paths in the model (i.e., 38 out of 77 paths were not statistically significant). Therefore, the control variables were removed from the final model in Fig. 1.

## Discussion

Previous findings on the distinctiveness of workaholism and work engagement from cross-sectional and short-term follow-up studies [4, 10] were replicated in a longer term follow-up design with a 2-year interval. That is—also in the longer run—workaholism predicts future unwell-being, whereas work engagement predicts well-being as well as performance. This suggests that workaholism and work engagement are reversely related to (un)well-being. Moreover, work engagement predicts future increases in job performance, but workaholism does not.

As expected in hypothesis 1, workaholism and work engagement are weakly and positively related to each other, sharing only 7.8 % of their variances. This suggests that workaholism and work engagement seem two different, non-overlapping concepts [1, 21].

Although workaholism led to future impaired health and reduced life satisfaction, which is in line with hypothesis 2, it did not lead to future impaired job performance. The latter was also found in a similar study that used a shorter time frame for 7 months [10]. This is in line with previous studies which claimed that workaholics are not necessarily good performers [4]. Since our scientific understanding of workaholism is as yet quite limited regardless of the widespread use of this term among lay people [21, 22], its non-desirable adverse effects on well-being should be emphasized [4]. In addition, our results contradict the belief of many organizations and managers that workaholics are superior performers.

In contrast, work engagement led to future improved health, life satisfaction, and job performance, which is in line with hypothesis 3. In addition, and in concordance with Shimazu et al. [4, 10], a relatively strong association of work engagement with life satisfaction and job performance was observed compared with ill-health. This underlines the motivational role of work engagement [23].

Several limitations in this study need to be addressed. First, our study is based on survey data with self-report measures. Hence, our findings should be replicated with objective indicators. A second point involves the study population. Participants were Japanese employees in an industrial machinery company. Generalization of the current results to other occupations and other countries awaits further empirical examination. Furthermore, compared with dropouts, our completers reported lower in-role performance. This might have led to some bias in the estimated relations, for instance, weakened relationship of workaholism and work engagement with job performance. Finally, the fact that job satisfaction and family satisfaction were measured with one item may be considered problematic. Although it has been argued that a global index of overall job satisfaction (single item measure) is an inclusive and valid measure of general job satisfaction [16], single item measures are usually more susceptible to errors than multi-item measures. It is therefore recommended that future studies will use multi-item scales in order to increase the internal consistency of the scales.

In conclusion, workaholism and work engagement seem to be two different kinds of heavy work investment that predict future changes in employee well-being and performance in opposite directions. Workaholism leads to unwell-being, whereas work engagement leads to well-being and better performance. Hence, workaholism should be prevented and work engagement should be promoted.

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## Human Rights

We state that we conformed to the Helsinki Declaration concerning human rights and informed consent, and that we followed correct procedures concerning treatment of humans in research.