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Short Communication

Do Workaholism and Work Engagement Predict Employee Well-being and Performance in Opposite Directions?

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Abstract: This study investigated the distinctiveness between workaholism and work engagement by examining their longitudinal relationships (measurement interval=7 months) with well-being and performance in a sample of 1,967 Japanese employees from various occupations. Based on a previous cross-sectional study (Shimazu & Schaufeli, 2009), we expected that workaholism predicts future *un*well-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. T1–T2 changes in ill-health, life satisfaction and job performance were measured as residual scores that were then included in the structural equation model. Results showed that workaholism and work engagement were weakly and positively related to each other. In addition, workaholism was related to an increase in ill-health and to a decrease in life satisfaction. In contrast, work engagement was related to a decrease in ill-health and to increases in both life satisfaction and job performance. These findings suggest that workaholism and work engagement are two different kinds of concepts that are oppositely related to well-being and performance.

Key words: Job performance, Life satisfaction, Physical complaints, Psychological distress, Workaholism, Work engagement

In recent years, rapidly changing working conditions (e.g., global competition, high pace of innovation) stimulate employees to work harder than before[1)]. Two types of working hard can be distinguished[2, 3)]: workaholism (i.e., bad type) and work engagement (i.e., good type). So far, the distinctiveness between workaholism and work engagement was empirically demonstrated in terms of their relationship with various indicators of well-being[2, 3)]. For instance, in their cross-sectional study among 776 workers of a Japanese construction machinery company, Shimazu and Schaufeli[3)] showed that workaholism is associated with *un*well-being (i.e., high ill-health and low life satisfaction) and poor job performance, whereas work engagement with well-being (i.e., low ill-health and high life satisfaction) and superior job performance. One possible explanation for the differences is the underlying motivation for working hard[1, 3, 4)]: workaholics are propelled by an obsessive inner drive they cannot resist, whereas engaged employees are intrinsically motivated. However, since this study is cross-sectional in nature, the long-term effects of workaholism and work engagement are not known. Besides, the study was carried out in one specific organization so that the results cannot be generalized to other occupations.

The aim of this study is to investigate whether Shimazu and Schaufeli's[3)] findings on the distinctiveness between workaholism and work engagement can be replicated by

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examining their longitudinal relationships with well-being and performance in a heterogeneous sample of Japanese employees from various occupations. In line with previous findings we expected that workaholism and work engagement are weakly and positively related to each other (Hypothesis 1). In addition, we formulated the following two hypotheses regarding the longitudinal associations of workaholism and work engagement with employees' well-being and performance.

Hypothesis 2: Workaholism predicts future unwell-being and poor performance: workaholism is related to an increase in ill-health and to decreases in both life satisfaction and job performance after controlling for baseline levels.

Hypothesis 3: Work engagement predicts future well-being and performance: work engagement is related to a decrease in ill-health and to increases in both life satisfaction and job performance after controlling for baseline.

This study was a part of a research project on socioeconomic status and health. We initially planned to conduct a three-wave longitudinal survey with about 6 month intervals. A prospective survey was conducted among registered monitors of an internet survey company in Japan. The internet survey system did not allow missing values, and therefore respondents had to fill out all questions. The questionnaire included scales on workaholism, work engagement, ill-health, life satisfaction, job performance, as well as demographic variables. The current study used the data obtained in the first-wave and the second-wave surveys. For the first-wave survey, a total of 13,564 monitors with occupation, who correspond in age, gender and resident area to a Japanese representative sample, were randomly invited to participate (October 2010). The recruitment stopped after the number of participants exceeding 2,520 due to budgetary constraints of the project. In May 2011, the respondents who completed the first-wave survey (N=2,520) were invited to the second-wave survey. Overall, 2,061 answered the questionnaire; the follow-up rate was 81.8%. A total of 553 respondents were excluded from the analyses due to the following reasons: 1) dropout during the follow-up period (n=458), or/and 2) no occupation at Time 1 (n=2), or 3) no occupation at Time 2 (n=93). Please note that one respondent at Time 1 had no occupation *and* dropped out during the follow-up period. Thus, the final number of respondents included in the analysis was 1,967. Please note again that we could not conduct the third-wave survey due to budgetary constraints regardless of our initial research plan. Thus, we used the data from T1 and T2 surveys.

The mean age of the participants was 45.3 (*SD*=12.5). Of the participants 51.2% were males, 63.7% were married, and 44.5% had a university degree. Over half of the participants had worked as regular employees (53.6%). The most frequently mentioned sector that the participants were employed in was clerical jobs (26.6%), followed by the technical, engineering sector (25.3%). When comparing our data to the Japanese population of working age, it was found that the participants in our study were more highly educated than the Japanese working population[5, 6].

In order to examine potential selection bias, we compared eligible respondents (N=1,967) with ineligible respondents (N=553) with respect to their baseline demographic characteristics and their scores on the study variables. The eligible respondents was significantly older (Mean 45.3, *SD*=12.5 vs. Mean 41.5, SD=13.7; *Welch's* $t(826.642)=5.788$, $p<0.001$) and reported a lower level of working excessively (Mean=2.0, *SD*=0.7 vs. Mean=2.1, *SD*=0.7; $t(2518)=2.63$, $p<0.01$), working compulsively (Mean=1.9, *SD*=0.6 vs. Mean=2.0, SD=0.6; $t(2518)=3.24$, $p<0.01$), and physical complaints (Mean=1.7, SD=0.5 vs. Mean=1.8, SD=0.6; *Welch's* $t(814.766)=2.88$, $p<0.01$) than ineligible respondents. There were also differences between the two groups regarding gender ($\chi^2(1)=6.19$, $p<0.05$). Specifically, the percentage of men in the eligible group (51.2%) was higher than in the ineligible group (45.2%). Thus, compared with the ineligible group, our eligible group is older, less workaholic, less physically distressed and includes more men. The procedures were approved by the ethics review board of The University of Tokyo before starting the study.

Workaholism was assessed with the Dutch Workaholism Scale (DUWAS)[4]. The 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 5 items which were rated on a 4-point Likert scale (1=totally disagree, 4=totally agree).

Work engagement was assessed with the short form of the Utrecht Work Engagement Scale (UWES)[7, 8]. 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"). Each item was scored on a seven-point Likert scale ranging from 0 ('never') to 6 ('always').

Psychological distress was assessed using the corresponding subscales of the Brief Job Stress Questionnaire (BJSQ)[9]. Psychological distress was assessed by means of 15 items, mainly reflecting fatigue, anxiety, and depres-

sion. 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 0.66 ($p<0.001$, Cohen's $d=0.03$). Physical complaints were also assessed using the corresponding subscales of BJSQ[9] 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 0.69 ($p<0.001$, Cohen's $d=0.01$).

Job satisfaction was assessed using a single item, that is, whether or not the participant was satisfied with his/her job[9]. 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[10]. 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 0.64 ($p<0.001$, Cohen's $d=0.01$). Family satisfaction was also assessed using a single item, that is, whether or not the participant was satisfied with his/her family[9]. This item was scored on a four-point Likert scale ranging from "1=dissatisfied" to "4=satisfied". Correlation between T1 and T2 was 0.64 ($p<0.001$, 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 & Anderson's scale[11] (e.g., 'I adequately completes 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 0.46 ($p<0.001$, Cohen's $d=0.05$). Creative behavior, the production of novel and useful ideas, was assessed by three items from George and Zhou's scale[12] (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 0.61 ($p<0.001$, Cohen's $d=-0.01$).

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 sub-dimension 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 more simple and parsimonious compared to the model in which T1 and T2 outcomes are separated and in which T2 outcomes are predicted by T1 outcomes and T1 engagement/workaholism. In this study, change scores were measured as residual scores[13], because we were interested in who has changed more, or less than expected based on their baseline score[14]. Following the recommendations of Smith and Beaton[14], 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 ill-health, life satisfaction and job performance.

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 reliabilities with Cronbach's alpha coefficients exceeding the criterion of 0.70.

Results of the SEM-analyses showed that the proposed model (Fig. 1) fits adequately to the data; χ^2 (35)=260.04, SRMR=0.03, CFI=0.97, RMSEA=0.06. As expected (Hypothesis 1), workaholism and work engagement were weakly 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 to 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 supported.

Shimazu and Schaufeli's[3] cross-sectional findings on the distinctiveness of workaholism and work engagement that were obtained in a homogeneous occupational sample were replicated longitudinally in a heterogeneous sample that consists of various occupations. That is, workaholism predicts future *un*well-being whereas work engagement predicts future 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.

As expected in Hypothesis 1, workaholism and work engagement are weakly and positively related to each other ($r=0.20$), sharing only 4.0% of their variances. This suggests that workaholism and work engagement seem two

Table 1. Means, standard deviations, internal consistencies (Cronbach's alpha on the diagonal) and correlations between the variables, N=1,967

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1 Time 1 vigor	2.61	1.26	(0.91)										
2 Time 1 dedication	3.08	1.27	0.86***	(0.87)									
3 Time 1 absorption	2.64	1.36	0.79***	0.84***	(0.89)								
4 Time 1 working excessively	2.00	0.71	0.05*	0.15***	0.21***	(0.81)							
5 Time 1 working compulsively	1.88	0.60	0.06**	0.16***	0.23***	0.65***	(0.74)						
6 Change in psychological distress	0.00 (1.99/1.97)[b]	1.00 (0.68/0.69)[c]	–0.08***	–0.05*	–0.05*	0.08***	0.08***	(0.95/0.95)[a]					
7 Change in physical complaints	0.00 (1.72/1.72)[b]	1.00 (0.51/0.54)[c]	–0.05*	–0.01	–0.01	0.08***	0.08***	0.41***	(0.84/0.86)[a]				
8 Change in job satisfaction	0.00 (2.52/2.51)[b]	1.00 (0.84/0.86)[c]	0.15***	0.13***	0.10***	–0.08***	–0.07**	–0.30***	–0.14***	(n.a.)			
9 Change in family satisfaction	0.00 (2.85/2.88)[b]	1.00 (0.83/0.81)[c]	0.04	0.04	0.02	–0.05*	–0.08***	–0.15***	–0.09***	0.31***	(n.a.)		
10 Change in in-role performance	0.00 (3.13/3.10)[b]	1.00 (0.56/0.56)[c]	0.14***	0.17***	0.13***	0.04	0.02	–0.06**	0.03	0.11***	0.08***	(0.83/0.84)[a]	
11 Change in creative behavior	0.00 (2.54/2.55)[b]	1.00 (0.75/0.73)[c]	0.11***	0.13***	0.13***	0.06*	0.04	–0.06**	–0.01	0.14***	0.03	0.38***	(0.91/ 0.91)[a]

Note: * $p<0.05$; ** $p<0.01$; *** $p<0.001$.

[a] Cronbach's alpha coefficients for the original T1 and T2 indicators are displayed before and after slash, respectively.

[b] Means for the original T1 and T2 indicators are displayed before and after slash, respectively.

[c] Standard deviations for the original T1 and T2 indicators are displayed before and after slash, respectively.

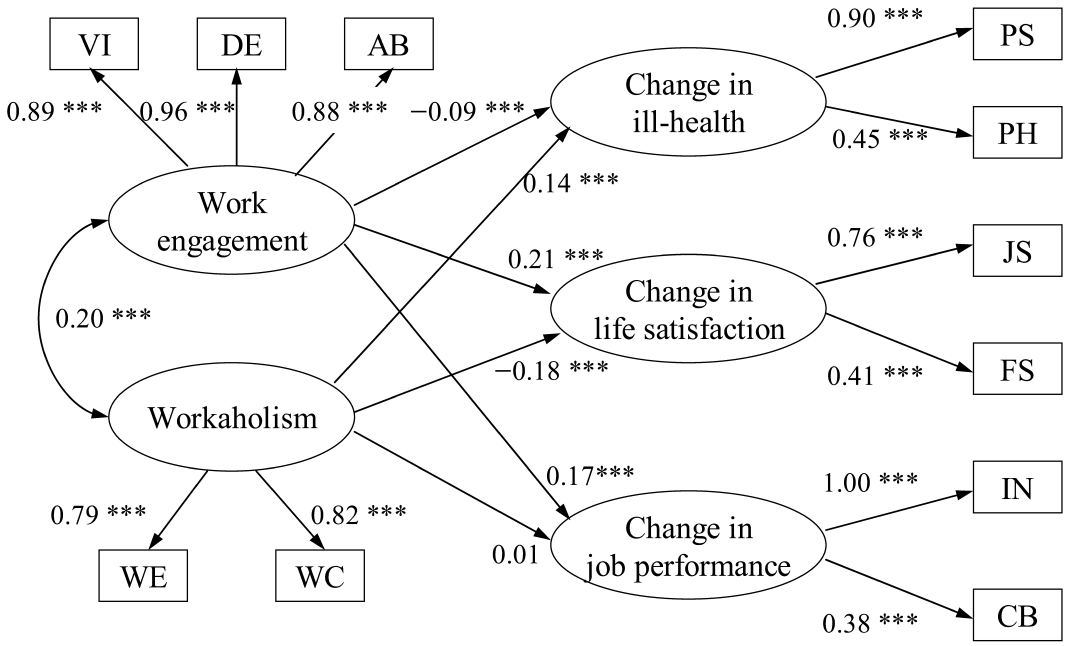

Fig. 1. Standardized solution (Maximum Likelihood estimates) of the hypothesized model. N=1,967.
VI=Vigor; DE=Dedication; AB=Absorption; WE=Working Excessively; WC=Working Compulsively; PS=Psychological Distress; PH: Physical Complaints; JS=Job Satisfaction; FS=Family Satisfaction; IN=In-role Performance; CB=Creative Behavior. *** $p<0.001$.

different kinds of concepts[2]. Regarding to Hypothesis 2, workaholism led to future impaired health and reduced life satisfaction, which is in line with our expectations. Unexpectedly, workaholism did not lead to future impaired job performance. This is in line with previous studies which claimed that workaholics are not necessarily good performers[3]. Since our scientific understanding of workaholism is as yet quite limited regardless of the widespread use of this term among lay people[15], its non-desirable, adverse effects on well-being should be more emphasized[3]. Regarding to Hypothesis 3, work engagement led to future improved health, life satisfaction, and job performance, which is in line with our expectations. In addition, in concordance with Shimazu and Schaufeli[3], a relatively strong association of work engagement with life satisfaction and job performance was observed compared with ill-health. Particularly the latter underlines the motivational role of work engagement[16].

Finally, several limitations in this study need to be addressed. First, although the current study was based on a longitudinal design, the interval between Time 1 and Time 2 was relatively short (i.e., seven months), which may not be long enough to detect the changes in the outcome variables. Future research on longer-term effects of workaholism and work engagement is needed. However, nothing is really known about adequate time lags[17]. A multi-wave design is desirable to capture more fully the developmental aspects of the process of interest[17]. Second, our study is based on survey data with self-report measures. Our findings should be replicated with objective indicators (e.g., blood pressure, objective performance). A third point involves the study population. Although the participants were recruited from heterogeneous occupations throughout Japan, generalization of the current results to other countries awaits further empirical examination. In addition, our data were collected via the internet, which requires caution about the generalizability of our findings as the representativeness of the sample may be challenged. It is claimed that the socioeconomic and educational status of the average internet user is usually above that of the general population[18]. Indeed, our participants had higher educational statuses compared with those from nationwide surveys in Japan, which were administered by a paper-and-pencil method[5, 6]. Thus, similar to typical internet studies, self-selection might be a limitation of the present study. Future research should examine whether or not our findings can be generalized to those obtained by paper-and-pencil assessment. Furthermore, compared with the eligible group, our ineligible group is more workaholic and more physically distressed. In addition, the ineligible group includes respondents who lost their job during the follow-up period (n=93). Thus, it is likely that the ineligible group may have consisted of less healthy respondents whereas the eli-

gible group may have consisted of more healthy ones. This might have led to some bias in the estimated relations, for instance, weakened relationship between workaholism and ill-health. Finally, the fact that job satisfaction and family satisfaction were measured with only 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[10], single item measures are usually more susceptible to errors than multi-item measures. It is recommended that future studies will use multi-item scales in order to increase the internal consistency of the tests.

In conclusion, workaholism and work engagement are two different psychological states that predict future changes in employee well-being and performance in opposite directions. Workaholism leads to *un*well-being whereas work engagement leads to well-being and performance.

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