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Work Engagement in Japan: Validation of the Japanese Version of the Utrecht Work Engagement Scale

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The purpose of this study was to validate the Japanese version of the Utrecht Work Engagement Scale (UWES-J). Employees from three independent samples completed the questionnaire (total $N = 2,334$). Confirmatory factor analyses using the multiple-group method revealed that, instead of the original three-factor model, a one-factor model that assumes that all engagement items load on one single factor fitted the data. Moreover, the one-factor structure was invariant across all three samples. Internal consistency of the scale was sufficiently high ($\alpha = .92$) and the test–retest reliability with an interval of two months was .66. A series of second-order confirmatory factor analyses to examine construct validity confirmed the hypothesised model, indicating that work engagement was positively related to job satisfaction whereas it was negatively related to strain and burnout. However, as in previous studies, professional efficacy, a component of burnout, loaded on the engagement factor. These results, in general, suggest the reliability (internal consistency and stability), factorial invariance, and construct validity of the UWES-J in three independent samples.

Cette étude avait pour objectif de valider la version japonaise de l'Echelle d'Implication au Travail d'Utrecht (UWES-J). 2,334 salariés provenant de trois échantillons indépendants ont rempli le questionnaire. Une analyse factorielle confirmatoire faisant appel à la méthode des groupes multiples a montré que le modèle originel en trois facteurs devait laisser la place à un modèle unifactoriel puisque tous les items d'implication étaient saturés sur un unique facteur qui rendait compte à lui seul des données. En outre, la structure monofactorielle restait identique à elle-même sur les trois échantillons. La consistance interne de l'échelle était suffisamment élevée ($\alpha = .92$) et la fidélité test-retest après une période de deux mois était de .66. Une série d'analyses factorielles confirmatoires de second ordre destinées à étudier la validité de construction ont confirmé le modèle hypothétique, indiquant que l'implication dans le travail était en corrélation positive avec la satisfaction professionnelle tandis qu'elle était en relation négative avec la tension nerveuse et le burnout. Comme dans des travaux antérieurs, l'efficacité professionnelle, une composante du burnout, était saturée dans le facteur d'implication. Ces résultats, vont dans le sens de la fidélité (consistance interne et stabilité), de la solidité factorielle et de la validité de construction de l'UWES-J dans ces trois échantillons indépendants.

INTRODUCTION

Since the beginning of this century, increased attention has been paid to what has been coined positive psychology: the scientific study of human strengths and optimal functioning (Seligman & Csikszentmihalyi, 2000). This recent trend of concentrating on strengths and optimal functioning has also aroused attention in organisational psychology (Luthans, 2002; Luthans & Youssef, 2007). One of these positive states is work engagement.

The current article is about the psychometric evaluation of the Japanese version of a self-report questionnaire to measure work engagement—the Utrecht Work Engagement Scale (UWES-J).

Work engagement is assumed to be negatively related to burnout. While burnout is usually defined as a syndrome of exhaustion, cynicism, and reduced professional efficacy (Maslach, Schaufeli, & Leiter, 2001), engagement is defined as a positive, fulfilling, work-related state of mind that is characterised by vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Romá, & Bakker, 2002a). Engaged employees have a sense of energetic and effective connection with their work activities. *Vigor* is characterised by high levels of energy and mental resilience while working. *Dedication* refers to being strongly involved in one's work and experiencing a sense of significance and pride. Finally, *absorption* is characterised by being fully concentrated and happily engrossed in one's work.

Clearly, vigor and dedication are considered to be the reverse conditions of exhaustion and cynicism, respectively. More specifically, vigor and exhaustion span a dimension that has been labeled "activation", whereas dedication and cynicism constitute the end-points of an "identification" dimension (Schaufeli & Bakker, 2004). Moreover, absorption is a unique feature of work engagement whose reverse is not included in the burnout construct. In sum, work engagement and burnout share two dimensions (i.e. activation and identification) and are additionally defined by a unique feature (i.e. absorption and reduced professional efficacy, respectively). Please note that burnout and engagement may be considered "opposites" in the sense that they represent a positive (engagement) and a negative (burnout) aspect of well-being. Although both aspects of well-being are mutually exclusive at a specific point in time (i.e. one cannot feel engaged and burned-out simultaneously), they do not exclude each other when a longer time-frame is taken into account (i.e. one may or may not have felt engaged and burned-out during the past month or so). This relative independence of both "opposite" constructs is illustrated by the findings that: (1) work engagement is negatively (but not perfectly) correlated with burnout (e.g. Hakanen, Bakker, & Schaufeli, 2006; Schaufeli & Bakker, 2004); (2) the two-factor model, which assumes that each construct (i.e. engagement and burnout) is independent although negatively correlated with each other, fits the data better than the one-factor model, which assumes that each construct collapses into one general well-being factor (e.g. Schaufeli et al., 2002a; Schaufeli, Bakker, & Salanova, 2006).

Quite importantly, engagement and burnout exhibit different patterns of possible causes and consequences. More specifically, as assumed by the Job-Demands resources model (e.g. Hakanen et al., 2006; Schaufeli & Bakker, 2004), engagement plays a crucial role in the motivation process that is triggered by job resources, whereas burnout plays a role in the health

impairment process that is triggered by job demands. More particularly, engagement mediates the relationship between job resources (e.g. job control, performance feedback, and social support) and positive organisational outcomes (e.g. commitment, job performance), whereas burnout mediates the relationship between job demands (e.g. work overload, role conflict, emotional demands) and negative health outcomes (e.g. mental and physical health complaints, poor work ability) (for an overview see Schaufeli & Salanova, 2007).

Work engagement is a superordinate, second-order (latent) construct in the sense that it is manifested by its three dimensions (Edwards, 2001). Therefore, it is operationalised with the Utrecht Work Engagement Scale (UWES), a self-report instrument that includes the three dimensions mentioned above. The original UWES (UWES-17) includes 17 items (Schaufeli et al., 2002a): vigor (six items), dedication (five items), and absorption (six items). The UWES-17 has encouraging psychometric features (Schaufeli et al., 2006). For instance, confirmatory factor analyses showed that the hypothesised three-factor structure of the UWES is superior to the one-factor model (e.g. Schaufeli et al., 2002a; Schaufeli & Bakker, 2004), although the dimensions are highly related. Earlier studies demonstrated factorial invariance across countries (Schaufeli, Martinez, Marques-Pinto, Salanova, & Bakker, 2002b) and racial groups (Storm & Rothman, 2003) for members of similar occupations. In addition to the UWES-17, a shortened version of nine items (the UWES-9)—with three scales of three items each—is available that shows similar encouraging psychometric features (Schaufeli et al., 2006).

There are several well-being variables other than burnout which also have been examined in relation to engagement. For instance, positive attitudes towards work such as job satisfaction, job involvement, organisational commitment, and low turnover intention appear to be related to work engagement (Demerouti, Bakker, Janssen, & Schaufeli, 2001; Hallberg & Schaufeli, 2006; Salanova, Schaufeli, Llorens, Pieró, & Grau, 2001; Schaufeli & Bakker, 2004). Furthermore, there are some indications that engagement is positively related to health, that is, to low levels of depression, distress, and psychosomatic complaints (Demerouti et al., 2001; Schaufeli & Bakker, 2004).

The UWES is now used especially in Western countries. Thirteen language versions are available and an international data-base exists that currently includes engagement records of over 20,000 employees. As in other countries, the concept of work engagement is potentially fruitful for the study and practice of well-being of Japanese workers. So in order to study and to apply the concept of work engagement in Japan, the validation of the UWES-J is a necessary first step.

The aim of this study is to validate the Japanese version of the UWES. More specifically, (1) to evaluate its factorial and construct validity, and (2)

to evaluate its reliability (internal consistency and stability). In evaluating factorial validity, we compared the fit of a one-factor model to that of a three-factor model, and evaluated the invariance of the factor structure across three independent samples. In evaluating construct validity, we investigated the relationship with three other indicators of employee well-being: burnout, strain, and job satisfaction. For this purpose, we tested the following five second-order models: (1) a one-factor model (M1), which assumes that all scales measuring the four constructs load on *one* general well-being factor, (2) a two-factor model (M2), which assumes that work engagement and job satisfaction load on one positive well-being factor and burnout and strain load on another correlated negative well-being factor, (3) an alternative two-factor model (M3), which assumes that professional efficacy loads on the "positive" factor instead of loading on the "negative" factor (Salanova et al., 2001; Schaufeli et al., 2002a; Schaufeli & Bakker, 2004), (4) a four-factor model (M4), which assumes that each construct is independent, although correlated, and that work engagement would be negatively correlated with burnout and strain and positively correlated with job satisfaction, (5) an alternative four-factor model (M5), which assumes that professional efficacy loads on engagement instead of loading on "burnout". On the basis of previous studies (Salanova et al., 2001; Schaufeli et al., 2002a; Schaufeli & Bakker, 2004), we expect that the alternative four-factor model (M5) fits the data best.

METHOD

Translation

First, the English version of the UWES was translated into Japanese by the first author of the current study (AS). Then, back-translation into English was performed by a bilingual university graduate in psychology (HN). We compared the English and back-translated versions, and created a preliminary Japanese version (see Appendix) after some corrections for words, meanings, and content of each item in cooperation with yet another author (WS).

Participants

Participants in this study were Japanese employees from two occupations (engineers and nurses) and from three geographical areas in Japan (Hiroshima, Tokyo, and Aichi). In total, 2,324 employees completed the questionnaire (Mean age = 32.8, SD = 8.7; 31.0% men, 61.0% women; due to occasional missing data the percentages did not add up to 100%).

Sample 1 (N = 286) consists of employees who worked for a construction machinery company in Hiroshima in the western part of Japan (response

rate 100%). All participants were engineers engaged in research and development of new products. This sample was part of a clinical controlled trial for improving coping skills. Data at baseline of the survey from both intervention and control groups were used. To examine test–retest reliability, only data from the control group were used (N = 133). Among 286 participants, 82.9 per cent were men and 16.1 per cent were women; 87.8 per cent non-manager and 12.2 per cent manager (due to occasional missing data the percentages may not add up to 100%). Ages ranged from 20 to 62 years (mean = 36.6 years, SD = 10.3).

Sample 2 (N = 498) consists of employees who worked for a large international electronic company in Tokyo in the eastern part of Japan (response rate 99.6%). All participants were engineers engaged in research and development of new products. Among 498 participants, 83.5 per cent were men and 16.5 per cent were women; 89.0 per cent non-manager and 11.0 per cent manager. Ages ranged from 20 to 59 years (mean = 37.0 years, SD = 7.3).

Sample 3 (N = 1,540) consists of nurses who worked for five hospitals in Aichi in the central part of Japan (response rate 87.3%). Among 1,540 participants, 4.4 per cent were men and 83.8 per cent were women; 12.3 per cent worked regular hours, 72.1 per cent worked both day and evening shifts, and 2.0 per cent worked other types of shifts (due to occasional missing data the percentages did not add up to 100%). Ages ranged from 20 to 60 years (mean = 30.4 years, SD = 7.8).

Our survey was part of the mental health program of the companies (Sample 1 and 2), and because of that we had close relationships with industrial health staff. In addition, top management of the companies actively promoted the health programs, which is seen as a key success indicator (Kompier, Geurts, Grundemann, Vink, & Smulders, 1998). Taken together, these factors seem to have led to this exceptionally high response rate. Before participating in the study, all employees were informed about the objectives of the study by a pamphlet as well as by industrial health officers (Sample 1), members of the human resources management department (Sample 2), and supervisors (Sample 3). Consent from participants was confirmed by their filling out the questionnaires following the ethics code for public health research in Japan (Ministry of Education, Culture, Sports, Science, and Technology & Ministry of Health, Labour, and Welfare, 2005). The procedures were approved by the ethics review board of Hiroshima University before the study began.

Measures

Work engagement was assessed with a preliminary Japanese version of the UWES. The items of the UWES are grouped into three subscales that reflect

the underlying dimensions of engagement: Vigor (VI) (six and three items for the full and short versions, respectively), Dedication (DE) (five and three items for the full and short versions, respectively), and Absorption (AB) (six and three items for the full and short versions, respectively). All items are scored on a 7-point Likert scale ranging from 0 ("never") to 6 ("always").

Burnout was assessed with the Japanese version (Kitaoka-Higashiguchi, Nakagawa, Morikawa, Ishizaki, Miura, Naruse, Kido, & Higashiyama, 2004) of the Maslach Burnout Inventory-General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996). The MBI-GS includes three subscales: Exhaustion (EX) (five items), Cynicism (CY) (five items), and Professional Efficacy (PE) (six items). All items are scored on a 7-point Likert scale ranging from 0 ("never") to 6 ("every day"). High scores on EX and CY and low scores on PE are indicative of burnout. The results of confirmatory factor analysis (CFA) showed that the expected three-factor model fitted the data better than the one-factor model ($\Delta\chi^2(3) = 4743.44$, $p < .001$). Cronbach's alpha coefficients for each subscale were .91, .85, and .85 for EX, CY, and PE, respectively. Although data regarding work engagement were obtained from all samples, burnout, strain, and job satisfaction were only assessed from Sample 3.

Strain was assessed with the corresponding subscales of the Co-Labo (Kosugi, 2003), a Japanese questionnaire. Strain was assessed using 37 items, scored on a 5-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The strain scales include: Anger (AN) (six items), Tension (TE) (seven items), Physical complaints (PY) (five items), Fatigue (FA) (four items), and Depressive symptoms (DS) (seven items). The results of confirmatory factor analysis (CFA) showed that the expected five-factor model fitted the data better than the one-factor model ($\Delta\chi^2(10) = 5184.64$, $p < .001$). Cronbach's alpha coefficients for each subscale were .87, .59, .83, .80, and .86 for AN, TE, PY, FA, and DS, respectively.

Job satisfaction was also assessed with the corresponding subscales of Co-Labo (Kosugi, 2003), including: Career satisfaction (CA) (four items), Interpersonal relation satisfaction (IN) (four items), and Ability utilisation satisfaction (AU) (four items). All items are scored on a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The results of confirmatory factor analysis (CFA) showed that the expected three-factor model fitted the data better than the one-factor model ($\Delta\chi^2(3) = 1547.45$, $p < .001$). Cronbach's alpha coefficients for each subscale were .68, .65, and .77 for CA, IN, and AU, respectively.

Analyses

Structural equation modeling (SEM) methods as implemented by AMOS (Arbuckle, 1997) were used to evaluate the factorial validity of both the

17 (full) and nine (short) versions of the UWES-J. Model testing was carried out in all three samples simultaneously by using the so-called multiple-group method. Maximum likelihood estimation methods were used and the input for each analysis was the covariance matrix of the items or the scale-scores. In order to assess the factorial invariance across samples, the procedure recommended by Taris, Bok, and Meijer (1998) was followed.

RESULTS

Factor Structure

To examine the factorial validity, the fit of two models (i.e. one- and three-factor models) was assessed. First, the one-factor model was simultaneously fitted to the data of the three samples. All items loaded significantly on latent factors for both the 17- and the nine-item versions ($p < .001$). Next, the three-factor model was simultaneously fitted to the data of the three samples. Unfortunately, this fitting failed for the 17- and the nine-item versions, because the produced covariance matrix of three latent variables—VI, DE, and AB—was not positive definite, which might be caused by model misspecification due to the very high correlations between the factors. Therefore, the fit of the two one-factor models (i.e. the 17- and nine-item versions) was examined in greater detail. As can be seen in Table 1, the nine-item version fits the data better than the 17-item version, so the one-factor model of the nine-item version was used for further analyses.

In order to assess the invariance of the factor loadings across samples, the fit of the constrained model was assessed relative to that of the freely estimated model. Fit indexes of the constrained model were superior to those of the freely estimated model (see Table 1), and a formal χ^2 difference test revealed that the difference between the two models was *not* significant ($\Delta\chi^2(16) = 25.08$, $p > .05$). These results suggest that factor loadings are indeed invariant across the three samples.

TABLE 1
Results of Confirmatory Factor Analyses of UWES-J ($N = 2,324$)

Model	χ^2	*df*	*GFI*	*AGFI*	*CFI*	*RMSEA*	*AIC*
17 item/1 factor (Freely estimated)	3,632.13	119	.81	.76	.85	.11	3,700.13
9 item/1 factor (Freely estimated)	1,041.99	81	.90	.83	.92	.07	1,149.99
9 item/1 factor (Constrained loadings)	1,067.07	97	.90	.86	.92	.07	1,143.07

Additional Psychometric Analyses (Internal Consistency, Stability, and Correlations with the Original Scales)

Subsequent principal component analyses confirmed the existence of one underlying dimension of the nine-item version of the UWES-J in each sample. Only one component was extracted with an eigenvalue greater than one, which accounted for 58.23 per cent, 60.57 per cent, 61.10 per cent, and 61.15 per cent of the total variance in Sample 1, Sample 2, Sample 3, and the total sample, respectively. All factor loadings exceeded .70 in all samples. Values for Cronbach's alpha were .91, .92, .92, and .92 for Sample 1, Sample 2, Sample 3, and the total sample, respectively. The stability coefficient with an interval of two months was .66 (based on $N = 133$ of Sample 1). The correlations between the short scale and the original scale were .91 for VI, .97 for DE, .87 for AB, and .97 for total scores, respectively.

Relationship with Other Well-Being Variables

In order to investigate the relationship with other indicators of well-being (i.e. job satisfaction, burnout, and strain), five second-order models mentioned in the introduction were fitted to the data of Sample 3 ($N = 1,392$). Please note that additional well-being data were not collected from Sample 1 and Sample 2 and that due to missing data the number of nurses included in the analyses is slightly lower than the total number of the participants from Sample 3. Of all five models (Table 2), M5, which assumes that PE

TABLE 2
Fit of Models that Specify the Relationship among Work Engagement, Job Satisfaction, Burnout and Strain ($N = 1,392$[a])

Model	χ^2	*df*	*GFI*	*AGFI*	*CFI*	*RMSEA*	*AIC*
Model 1 (1 factor)	1,679.23	54	.83	.75	.72	.15	1,727.23
Model 2 (2 factor; Positive-Negative)	1,417.36	53	.86	.80	.77	.14	1,467.36
Model 3 (2 factor; Extended EN)	1,204.44	53	.87	.81	.80	.13	1,254.44
Model 4 (4 factor)							
Model 5 (4 factor; Extended EN)	943.50	48	.90	.83	.85	.12	1,003.50
Model 6 (4 factor; Extended EN; Covariances allowed)	491.22	45	.94	.90	.92	.08	557.22

[a] The numbers did not add up to the total number of the participants because of occasional missing data.
Note: EN = Work engagement.

loads on "engagement" instead of loading on "burnout", fitted best to the data. Inspection of the modification indices revealed that the fit would improve if the error terms of work engagement (WE-9) and CY, of PE and AU, and of EX and FA, were allowed to correlate. Re-specifying the model accordingly (M6) improved the fit significantly ($\Delta\chi^2(3) = 452.28$, $p < .001$), with an additional increase in all fit indices. Regarding M6, work engagement correlated positively with job satisfaction, while it correlated negatively with burnout and strain. All scales loaded significantly on the corresponding latent factors ($p < .001$). For reference, a full correlation matrix of observational variables is shown in Table 3.

DISCUSSION

A series of confirmatory factor analyses using the multi-group method revealed that the one-factor model which assumed that all items load on one underlying engagement factor fitted best. In addition, the fit of the shortened nine-item version was superior to that of the original 17-item version. This one-factor structure consisting of nine items was invariant across the three samples, that is, the factor-loading of the items on the underlying factor did *not* differ systematically across the three samples under study. Furthermore, the internal consistency of the short version of the UWES-J was sufficient, meeting the stringent criterion of .80 (Henson, 2001). In fact, Cronbach's alpha coefficients exceeded .90 and only one principal component was extracted with eigenvalues greater than 5 in all three samples. These findings suggest that in the Japanese context the expected three dimensions (VI, DE, and AB) collapsed and condensed into one engagement dimension. This might not be as dramatic as it looks at first glance since, empirically speaking, the three components of work engagement are highly interrelated (e.g. Schaufeli et al., 2002a; Schaufeli et al., 2006), and theoretically speaking, they refer to the same underlying construct: work engagement. This implies that, for the time being—at least in Japan—work engagement should be treated as a unitary construct. Future research should uncover whether the three dimensions have different causes and consequences so that a differentiation between the three aspects would be preferred instead of a single score. As far as 20-month stability of engagement is concerned ($r = .66$), the magnitude was almost the same as that found in Australian ($N = 293$) and Norwegian ($N = 2{,}111$) samples with an interval of one year (see Schaufeli & Salanova, 2007). This means that, as expected, engagement has a more persistent and chronic nature, rather than being a momentary and transient state irrespective of the country in which it is studied.

As far as the relationship with other well-being variables is concerned, the alternative four-factor model (M6), which assumes that extended work engagement (WE-9 and PE), reduced burnout (EX and CY), job satisfaction,

TABLE 3
Correlation Matrix of Observational Variables in Sample 3 (N = 1,392)

	DE	*AB*	*WE-9*	*CA*	*IN*	*AU*	*EX*	*CY*	*PE*	*AN*	*TE*	*PY*	*FA*	*DS*
VI	.76***	.73***	.91***	.19***	.23***	.44***	−.35***	−.42***	.44***	−.20***	−.29***	−.16***	−.39***	−.41***
DE		.78***	.92***	.14***	.18***	.46***	−.22***	−.42***	.52***	−.17***	−.26***	−.15***	−.26***	−.36***
AB			.92***	.17***	.17***	.40***	−.25***	−.39***	.42***	−.15***	−.19***	−.08**	−.27***	−.29***
WE-9				.18***	.21***	.47***	−.30***	−.45***	.50***	−.19***	−.27***	−.14***	−.34***	−.38***
CA					.33***	.27***	−.14***	−.19***	.00	−.19***	−.01	−.02	−.18***	−.13***
IN						.34***	−.16***	−.26***	.09***	−.22***	−.13***	−.11***	−.18***	−.23***
AU							−.33***	−.42***	.39***	−.13***	−.30***	−.17***	−.34***	−.43***
EX								.59***	.01	.22***	.42***	.34***	.67***	.50***
CY									−.09***	.29***	.38***	.30***	.47***	.54***
PE										−.06*	−.29***	−.11***	−.14***	−.30***
AN											.33***	.23***	.29***	.37***
TE												.42***	.48***	.64***
PY													.40***	.45***
FA														.62***

Note 1: *** $p < .001$; ** $p < .01$; * $p < .05$.
Note 2: VI = Vigor; DE = Dedication; AB = Absorption; WE-9 = Shortened version of the UWES; CA = Career Satisfaction; IN = Interpersonal Relation Satisfaction; AU = Ability Utilisation Satisfaction; EX = Exhaustion; CY = Cynicism; PE = Professional Efficacy; AN = Anger; TE = Tension; PY = Physical Complaints; FA = Fatigue; DS = Depressive Symptoms.

and strain are independent, yet correlated, fitted to the data best, albeit after allowing three error terms to correlate. Although allowing error terms to correlate increases the risk of chance capitalisation, we believe that including correlated error terms is justified on theoretical grounds in our case. Consistent with previous studies (Demerouti et al., 2001; Hallberg & Schaufeli, 2006; Schaufeli & Bakker, 2004), engagement was positively correlated with job satisfaction and negatively with strain. Future longitudinal research should uncover whether job satisfaction and strain might be considered consequences or antecedents of work engagement. Based on the cross-sectional analyses of the current study, it can only be concluded that work engagement is related to both, but no conclusion can be drawn about any causal order.

In conclusion, this study confirmed that the UWES-J, especially the shortened nine-item version, is an adequate measure of work engagement that can be used in the Japanese context. We hope that the introduction of this questionnaire stimulates not only further research on work engagement in Japan but also international cooperation on positive organisational psychology.

REFERENCES

Arbuckle, J.L. (1997). *Amos users' guide version 4.0*. Chicago, IL: Smallwaters Corporation.

Demerouti, E., Bakker, A.B., Janssen, P.P.M., & Schaufeli, W.B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment & Health*, *27*, 279–286.

Edwards, J.R. (2001). Multidimensional constructs in organizational behavior research: An integrative analytical framework. *Organizational Research Methods*, *4*, 144–192.

Hakanen, J.J., Bakker, A.B., & Schaufeli, W.B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology*, *43*, 495–513.

Hallberg, U., & Schaufeli, W.B. (2006). "Same same" but different: Can work engagement be discriminated from job involvement and organizational commitment? *European Journal of Psychology*, *11*, 119–127.

Henson, R.K. (2001). Understanding internal consistency reliability estimates: A conceptual primer on coefficient alpha. *Measurement and Evaluation in Counseling and Development*, *34*, 177–189.

Kitaoka-Higashiguchi, K., Nakagawa, H., Morikawa, Y., Ishizaki, M., Miura, K., Naruse, Y., Kido, T., & Higashiyama, M. (2004). Construct validity of the Maslach Burnout Inventory-General Survey. *Stress and Health*, *20*, 255–260.

Kompier, M.A.J., Geurts, S.A.E., Grundemann, R.W.M., Vink, P., & Smulders, P.G.W. (1998). Cases in stress prevention: The success of a participative and stepwise approach. *Stress Medicine*, *14*, 155–168.

Kosugi, S. (2003). *Co-Labo*. Tokyo: Atlux Humanage (in Japanese).

Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, *23*, 695–706.

Luthans, F., & Youssef, C.M. (2007). Emerging positive organizational behavior. *Journal of Management*, *33*, 321–349.

Maslach, C., Schaufeli, W.B., & Leiter, M.P. (2001). Job burnout. *Annual Review of Psychology*, *52*, 397–422.

Ministry of Education, Culture, Sports, Science and Technology & Ministry of Health, Labour and Welfare (2005). http://www.mext.go.jp/a_menu/shinkou/seimei/epidemiological/04122801/all.pdf (in Japanese).

Salanova, M., Schaufeli, W.B., Llorens, S., Pieró, J.M., & Grau, R. (2001). Desde el "burnout" al "engagement": una nueva perspectiva [From "burnout" to "engagement": A new perspective]. *Revista de Psicología del Trabajo y de las Organizaciones*, *16*, 117–134.

Schaufeli, W.B., & Bakker, A.B. (2004). Job demands, job resources and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, *25*, 293–315.

Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, *66*, 701–716.

Schaufeli, W.B., Leiter, M.P., Maslach, C., & Jackson, S.E. (1996). Maslach Burnout Inventory-General Survey. In C. Maslach, S.E. Jackson, & M.P. Leiter (Eds.), *The Maslach Burnout Inventory-Test Manual* (3rd edn., pp. 22–26). Palo Alto, CA: Consulting Psychologists Press.

Schaufeli, W.B., Martinez, I., Marques-Pinto, A., Salanova, M., & Bakker, A.B. (2002b). Burnout and engagement in university students: A cross national study. *Journal of Cross-Cultural Psychology*, *33*, 464–481.

Schaufeli, W.B., & Salanova, M. (2007). Work engagement: An emerging psychological concept and its implications for organizations. In S.W. Gilliland, D.D. Steiner, & D.P. Skarlicki (Eds.), *Research in social issues in management (Volume 5): Managing social and ethical issues in organizations* (pp. 135–177). Greenwich, CT: Information Age Publishers.

Schaufeli, W.B., Salanova, M., Gonzalez-Romá, V., & Bakker, A.B. (2002a). The measurement of engagement and burnout: A confirmative analytic approach. *Journal of Happiness Studies*, *3*, 71–92.

Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*, 5–14.

Storm, K., & Rothman, I. (2003). A psychometric analysis of the Utrecht Work Engagement Scale in the South African police service. *South African Journal of Industrial Psychology*, *29*, 62–70.

Taris, T.W., Bok, I.A., & Meijer, Z.Y. (1998). Assessing stability and change of psychometric properties of multi-item concepts across different situation: A general approach. *Journal of Psychology*, *123*, 301–316.

APPENDIX

次の 17 の質問文は，仕事に関してどう感じているかを記述したものです．各文をよく読んで，あなたが仕事に関してそのように感じているかどうかを判断してください．そのように感じたことが一度もない場合は，0（ゼロ）を，感じたことがある場合はその頻度に当てはまる数字（1.ほとんど感じない，2.めったに感じない，3.時々感じる，4.よく感じる，5.とてもよく感じる，6.いつも感じる）を記入してください．

1. 仕事をしていると，活力がみなぎるように感じる． *(活力 1)* *
2. 自分の仕事に，意義や価値を大いに感じる． *(熱意 1)*
3. 仕事をしていると，時間がたつのが速い． *(没頭 1)*
4. 職場では，元気が出て精力的になるように感じる． *(活力 2)**
5. 仕事に熱心である． *(熱意 2)**
6. 仕事をしていると，他のことはすべて忘れてしまう． *(没頭 2)*
7. 仕事は，私に活力を与えてくれる． *(熱意 3)**
8. 朝に目がさめると，さあ仕事へ行こう，という気持ちになる． *(活力 3)**
9. 仕事に没頭しているとき，幸せだと感じる． *(没頭 3)**
10. 自分の仕事に誇りを感じる． *(熱意 4)**
11. 私は仕事にのめり込んでいる． *(没頭 4)**
12. 長時間休まずに，働き続けることができる． *(活力 4)*
13. 私にとって仕事は，意欲をかきたてるものである． *(熱意 5)*
14. 仕事をしていると，つい夢中になってしまう． *(没頭 5)**
15. 職場では，気持ちがはつらつとしている． *(活力 5)*
16. 仕事から頭を切り離すのが難しい． *(没頭 6)*
17. ことがうまく運んでいないときでも，辛抱強く仕事をする． *(活力 6)*

* 短縮版