Development and Validation of the Japanese Version of Organization-Based Self-Esteem Scale

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Abstract: Development and Validation of the Japanese Version of Organization-Based Self-Esteem Scale: Yoriko Matsuda, et al. Health Psychology and Welfare Research Institute, J. F. Oberlin University—Objectives: The purpose of this study was to validate a Japanese version of the organization-based self-esteem (OBSE) scale, a positive self-concept that has been proven to play an important role in predicting employees' work attitudes and behaviors primarily in a Western organizational setting. Methods: Two independent field studies, Study One and Study Two, involving 1,562 Japanese employees from a variety of organizations were conducted by employing a web-based questionnaire. Results: In Study One, initial evidence for the factorial validity of an eight-item, single factor scale, with high internal consistency (0.93 and 0.88 for Sample 1 and Sample 2, respectively) and test-retest reliability (r=0.84) was provided. In Study Two, the eight-factor structure was replicated and multiple-group confirmatory factor analysis (CFA) demonstrated measurement invariance across two samples. In addition, a series of CFA demonstrated that the Japanese OBSE is a distinct construct from global self-esteem, job complexity and work engagement. Furthermore, the nomological validity evidence was demonstrated through structural equation modeling. Conclusions: The Japanese OBSE scale is presented as a psychometrically sound measure that can contribute to furthering substantive OBSE research.

(J Occup Health 2011; 53: 188–196)

Key words: Nomological network, Organization-based self-esteem, Scale development, Validity

Over the past two decades, a body of organizational research has emerged demonstrating that organization-based self-esteem (OBSE) plays a significant role in shaping important work-related attitudes and behaviors¹,², as well as having a relationship with employee well-being³. In response to Tharenou’s (1979) call for the development and validation of measures of self-esteem specific to the domain under study⁴, Pierce, Gardner, Cummings, and Dunham (1989) introduced the concept of OBSE, an organization-specific conceptualization of self-esteem⁵. Extending Coopersmith’s (1967) definition of global self-esteem⁶, they conceptually defined organization-based self-esteem as “the degree to which an individual believes him or herself to be capable, significant, and worthy as an organizational member” (p.625). Somewhat malleable in nature, OBSE initially emerges as an outer-level conceptualization of the self, and with an accumulation of organizational experiences it increasingly becomes trait-like (i.e., an inner-level self-concept⁷), reflecting a deep-seated belief in one’s organizational worthiness.

As to the origins of OBSE, messages from important organizational others (e.g., managers), work-related successes (failures), and structures to which the individual is exposed play a major and defining role (Pierce et al., 1989), as does the employee’s personality⁸. Building upon Korman’s (1970, 1976) self-consistency theory of work motivation⁹, self-consistency theory of work motivation⁸, employees with high self-esteem are predicted to develop and maintain favorable work attitudes and engage in effective performance because such attitudes and behaviors are consistent with their positive self-concept.

The empirical OBSE literature has almost exclusively employed an instrument developed and validated in the U.S. by Pierce and his colleagues (1989)⁹. The initial construct validity evidence in support of this 10-item, self-report instrument stems from seven field studies and a laboratory simulation, involving 2,444 individuals from a variety of organizations. A one-factor structure was found with high internal consistency (α ranging from 0.86
to 0.96) reliability. Examination of the empirical observations stemming from this validation work and subsequent reviews of the OBSE literature reveals that OBSE has strong psychometric properties\(^1,2,8\). In addition, it is related to global self-esteem, to its hypothesized determinants (e.g., job complexity, organization structure, core self-evaluation) and consequences (e.g., job satisfaction, intrinsic motivation, organizational citizenship behavior), thereby supporting its construct validity.

More recently and on the heels of the emergence of positive psychology\(^11\), scholars in the field of occupational health psychology (OHP) have shown an increasing interest in the positive aspects of health and well-being\(^25\). Schaufeli, Salanova, Gonzalez-Roma and Bakker (2002), for example, proposed work engagement, “a positive, fulfilling, work-related state of mind”, as one of these positive aspects of health and well-being\(^13\). Recent OHP studies from Europe\(^3\) have reported a positive relationship between OBSE and work engagement, with OBSE emerging as one of its most important predictors.

The Current Study

Although the instrument for the measurement of OBSE has now been widely employed in substantive studies in more than a dozen countries, the transfer of a self-report instrument across cultures should raise construct validity questions. As a part of their review of the OBSE literature, Pierce and Gardner (2004) expressed wonderment as to the efficacy of the OBSE instrument amongst employees with collectivistic values as both the conceptualization of the OBSE construct and its research instrument finds its origin in a western and individualistic context\(^2\). Accompanying the increased interest in the positive employee well-being in Japan\(^14\), and the potentially important role played by OBSE, it is deemed important to develop and validate a Japanese version of the OBSE scale as there remains distinctive collectivist elements within the Japanese culture\(^10\).

We also believe the introduction of OBSE research in Japan is timely given the current situation in which Japan ranks lowest worldwide in an employee engagement survey with only 3% of employees highly engaged in their jobs\(^16\). Another employee engagement survey reported similar results, adding that 24% were actively disengaged while at work, costing Japan’s economy about $232 billion per year\(^13\). Thus, the purpose of this study was the development and provision of evidence in support of the construct validation of a Japanese version of the OBSE instrument. Study One involved the development of the Japanese OBSE instrument and examination of its factorial validity and reliability. Study Two sought to replicate the instrument’s factor structure, examine measurement invariance, and provide a test of the instrument’s nomological validity.

### Study One

#### Methods

##### Translation procedure

The 10-item English version of the OBSE scale was translated into Japanese by the first author of this study. The phrase “around here” used in the original English version (e.g., I am helpful around here) was deemed too broad to be meaningful in the workplace context when translated into Japanese. Thus we employ the words “in my workplace” in lieu of “around here” for each of the 10 items.

Next, two professional translators and a professor of English linguistics who had not read the original items performed a back-translation into English. Then the second author compared the original and back-translated versions, and provided feedback. This process was repeated until the two versions were judged as presenting the same construct (see Table 1). A five-point Likert response scale, ranging from 1 (strongly disagree) to 5 (strongly agree) was employed in the first validation study.

##### Participants and procedure

Study One utilized two samples consisting of 464 Japanese employees (64.4% men and 35.6% women; mean age=38.77 yr, \(SD=9.87\); mean tenure=10.10 yr, \(SD=9.31\)). For Sample 1, we recruited participants by using an online research company with a research panel of over one million active members nationwide. Criteria for selecting participants were: 1) age 20–60 yr and 2) employees working in organizations of various sizes. Between June and July 2009, an e-mail message was sent to those who met the criteria, asking them to complete a web-based questionnaire consisting of the OBSE (10 items) and several demographic variables (e.g., age, gender, tenure). Three hundred and sixty members responded during the study period, representing a response rate of 14.0% (61.4% men; mean age=39.89 yr, \(SD=10.35\); mean tenure=10.78 yr, \(SD=9.99\)). Sample 2 consisted of 104 software developers from various IT companies in Tokyo engaging in project-based work (75% men; mean age=34.89 yr, \(SD=6.77\); mean tenure=7.77 yr, \(SD=5.85\)). The data were collected through the first author’s personal contacts. They were directed to a web-based survey where the number of page visits was not measured and therefore an accurate response rate was unavailable. They filled out the same questionnaire, and 56 of them completed the questionnaire on two occasions, separated by five weeks. This data permits an examination of the instrument’s test-retest reliability. A statement describing the purpose of the study, along with a confidentiality and anonymity of the data statement were presented on the first page of the web form. Those who agreed to participate were instructed to proceed and complete the questionnaire. The study procedures were reviewed and approved by the Research
Ethics Committee of the lead author’s university.

Analyses

We conducted multi-group confirmatory factor analysis (CFA) with the maximum likelihood method using AMOS 17.0J18 for the two samples simultaneously to evaluate the factorial validity of the 10-item Japanese version of the OBSE scale. To test the model fit, we used the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) as recommended by Hu and Bentler (1999)19. Values of 0.95 or higher for CFI and TLI indicate good fit19. Values smaller than 0.08 for SRMR and RMSEA indicate good model fit, and RMSEA values less than 0.05 suggest good model fit, and RMSEA values higher than 0.1 should lead to model rejection20.

Results

Factor structure

To examine if the 10-item Japanese OBSE replicates the factor structure of the 10-item English OBSE, a one-factor model was fitted simultaneously to the data of the two samples. The fit indices other than SRMR did not reach an acceptable level ($\chi^2=511.65$, df=70, CFI=0.88, TLI=0.85, SRMR=0.047, RMSEA=0.117). Examination of the modification indices (MI) revealed that several MI involved Item 2 (“I am trusted in my workplace”) and Item 10 (“I am an important part of this workplace”) in both samples. MI suggested adding covariances between the error for Item 2 and multiple other errors, and the covariance between the errors for Item 2 and Item 5 (“There is faith in me in my workplace”) showed the largest MI of 123.10 in Sample 1. Similarly, MI suggested adding covariances between the error for Item 10 and multiple other errors, and the covariance between the errors for Item 10 and Item 7 (“I am a valuable part of this workplace”) showed MI of 59.13 in Sample 2. Moreover, Item 2 and Item 5, and Item 10 and Item 7, appeared to be semantically similar, which was confirmed by high correlations between Item 2 and Item 5 (Sample 1: r=0.85, Sample 2: r=0.83), and between Item 10 and Item 7 (Sample 1: r=0.85, Sample 2: r=0.80). Taken together, the findings suggest that Item 2 and Item 10 may be redundant. We therefore conducted a second CFA on the one-factor eight-item model after omitting Item 2 and Item 10. The model was fitted simultaneously to the data of the two samples and the fit indices showed a noticeably better model fit ($\chi^2=172.83$, df=40, CFI=0.95, TLI=0.92, SRMR=0.040, RMSEA=0.085). RMSEA was above the suggested cutoff value of ±0.08, yet it fell into the acceptable range of 0.08–0.10, suggesting “mediocre” fit21. TLI was close to 0.95, and both CFI and SRMR indicated good model fit. Furthermore, each of the factor loadings was significant at $p<0.001$ (factor loadings ranged from 0.55 to 0.87 in Sample 1 and 0.41 to 0.86 in Sample 2). Consequently, the eight-item, one-factor model was used for further analyses (See Table 1). We conducted a principal component analysis to confirm the unidimensional structure of the eight-item version of the Japanese OBSE, and a single component was extracted with an eigenvalue greater than one, explaining 66.0 per cent and 55.07 per cent of the common variance in Sample 1 and Sample 2, respectively.

Reliability

Cronbach’s coefficient alpha for the 10-item scale was 0.95 and 0.91 in Sample 1 and Sample 2, respectively. Following the adjustments made to the instrument, the alpha coefficients for the eight-item scale remained high (0.93 in Sample 1 and 0.88 in Sample 2), and were consistent with the values reported in the Pierce and Gardner (2004) review of the OBSE literature20. Across the five-week time period, the test-retest reliability was 0.84, which is similar to previous observations20.

Study Two

Study Two had four objectives: 1) to further examine the factor structure of the Japanese OBSE, 2) to examine measurement invariance of the instrument, 3) to assess the convergent and discriminant validity, and 4) to examine the instrument’s performance within its nomological network.

Partial nomological network for organization-based self-esteem in Japan

Pierce and his colleagues (1989) developed and employed a nomological network in their validation study21. Borrowing from this work we employed several constructs (see Fig. 1) for our examination of the Japanese OBSE scale. Schwab (1980) noted that a research instrument that is construct valid reveals relationships between variables in its nomological network consistent with a priori predictions22).

As previously suggested, OBSE reflects an individual’s self-evaluation as to their competence and worthiness within his or her employing organization, whereas global self-esteem is an overall self-evaluation of his or her competencies in a broad domain of life. Given the large role that work plays in the lives of most people, we would expect that these two self-evaluations to be related. Empirically Pierce et al. (1989) and Tang and Gilbert (1994) report observing a positive relationship between OBSE and global self-esteem22. Thus, we hypothesized:

H1: There is a positive relationship between OBSE and global self-esteem.

Antecedents of organization-based self-esteem

Pierce et al. (1989, 2009) reasoned that complex job
design requires, for example moderate to high levels of ability and the exercise of autonomy which leads to experiences of work as being intrinsically interesting, challenging and meaningful, and ultimately to beliefs as to one’s organizational importance. Pierce and Gardner (2004) reviewed studies demonstrating that job complexity is consistently related to OBSE. They also reviewed studies reporting the positive relationship between perceived organizational support and OBSE, which is consistent with current theorizing. Korman (1970, 1976), for example, argued that messages sent from significant organizational others suggesting that the employee is of organizational importance eventually leads to beliefs as to one’s personal belief. Thus, we hypothesized:

H2: Job complexity is positively related to OBSE.

H3: Perceived organizational support is positively related to OBSE.

Consequences of organization-based self-esteem

Building on Korman’s (1970) theory, Pierce et al. (1989) proposed that employees who perceive themselves as a valuable and meaningful part of the organization will engage in behaviors, possess attitudes and choose roles which are consistent with their positive self-image. As a consequence it has been hypothesized and empirical evidence supports a positive relationship with job satisfaction and organizational citizenship behaviors. Mauno, Kinnunen, and Ruokolainen (2007) reasoned that individuals who have come to believe that they are important, meaningful, effectual and worthwhile within the work environment (i.e., high OBSE) will become work engaged. Thus, we hypothesized:

H4: OBSE is positively related to job satisfaction.

H5: OBSE is positively related to work engagement.

H6: OBSE is positively related to organizational citizenship behavior.

**Methods**

**Participants and procedure**

Study Two utilized two samples consisting of 1,098 Japanese employees (54.6% men and 45.4% women; mean age=39.89 yr, SD=10.16; mean tenure=11.26 yr, SD=9.45; 62.9% non-managers and 37.1% managers). For Sample 1, the data were collected from the online research panel owned by the same research company using the same procedure and the same selection criteria as Study One, however, individuals who received an invitation to participate in Study One were excluded. Between August and September 2009, an e-mail message was sent to those who met these criteria and they were asked to complete a web-based questionnaire. To reduce the potential bias for order effects, the online questionnaire items appeared in random order for each respondent. Nine hundred and forty members responded during the study period, representing a response rate of 8.3% (49.0% men; mean age=39.51 yr, SD=10.28; mean tenure=10.54 yr, SD=9.07; 66.3% non-managers and 33.7% managers). Sample 2 consisted of 158 employees from various organizations located in Tokyo (88% men; mean age=42.11 yr, SD=9.12; mean tenure=15.73 yr, SD=10.42; 43% non-managers and 57% managers). The data were collected through the first author’s personal contacts as in Study One.

**Measures**

Organization-based self-esteem was measured with the eight-item Japanese version of the OBSE scale developed in Study One (See Table 1).

1) Correlate

Global self-esteem was measured with the Japanese version[26] of Rosenberg’s (1965) 10-item scale[26].

2) Antecedent conditions

Job complexity was measured with the Japanese...
version\textsuperscript{27} of Hackman and Oldham’s (1980) Job Diagnostic Survey\textsuperscript{28}. Following Dunham (1976) and Lee (2003), we employed a single factor solution by combining 10 items to form a measure of job complexity\textsuperscript{29, 30}. Perceived organizational support (POS) was measured with the Japanese version\textsuperscript{31} of the POS scale, the nine-item short version, developed by Eisenberger, Huntington, Hutchison, and Sowa (1986)\textsuperscript{24}).

3) Consequent conditions
   Job satisfaction was measured with a 14-item Japanese questionnaire\textsuperscript{32}, adapted from McLean’s (1979) Self-assessment of Work Stress\textsuperscript{33}. Work engagement was measured with the Japanese version\textsuperscript{34} of the nine-item Utrecht work Engagement Scale\textsuperscript{13}. Although the original version measures three factors (i.e., Vigor, Dedication and Absorption), Shimazu, Schaufeli, Kosugi, et al. (2008) found a single factor solution in their Japanese samples\textsuperscript{35}. A principal component analysis conducted in the current study also confirmed a single factor solution.

Job complexity and work engagement were assessed on a seven-point Likert response scale ranging from 1 (strongly disagree) to 7 (strongly agree) and 0 (never) to 6 (always), respectively. The other five variables employed a five-point Likert response scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Analyses
First, multi-group CFA was conducted to further examine the factor structure of the Japanese OBSE and to test measurement invariance of the scale across two samples, based on the procedure recommended by Brown (2006)\textsuperscript{36}. Second, convergent and discriminant validity of the instrument was assessed by investigating the pattern of correlations of OBSE with other constructs. Finally, the hypothesized network of relationships was tested with Structural Equation Modeling (SEM). Two models were created and examined separately: one relating the two hypothesized antecedents to OBSE, another relating OBSE to the three hypothesized consequences. For validation analyses, a partial disaggregation approach with domain representative parcels was employed where single items were randomly assigned into composites (parcels), comprising three or four items each\textsuperscript{37}. Mean scores were calculated for each item parcel. Two to four item parcels were created for each scale.

Results
Further validation of the factor structure and measurement invariance
Having modified the model based on data analysis using modification indices in Study One, it was important to further examine the factor structure of the Japanese OBSE with an independent sample of participants. We therefore conducted a multi-group CFA. First, the ten-item model was fitted simultaneously to the data of the two samples. Four indices indicated a model fit near to acceptable ($\chi^2=709.90$, $df=70$, $CFI=0.93$, $TLI=0.91$, $SRMR=0.037$, $RMSEA=0.091$). Next, the eight-item model was fitted simultaneously to the data of the two samples. All four indices demonstrated a better model fit (see M1: Configural variance in Table 2) and each of the factor loadings was significant at $p<0.001$. Furthermore, Cronbach’s coefficient alpha of eight items was 0.92 and 0.91 for Sample 1 and Sample 2, respectively.

A subsequent multi-group CFA was conducted to examine the measurement invariance of the Japanese OBSE across two samples. In structural equation modeling, testing for the invariance of parameters across groups is achieved by placing constraints on particular parameters (i.e., specifying particular parameters to be equivalent across groups)\textsuperscript{38}. We proceeded with the following increasingly restrictive tests of invariance across samples, and each test was nested in the previous model: (1) test configural invariance (equivalent factorial
structures), (2) test the equality of factor loadings, and (3) test the equality of factor variances. The equality of indicator residual variances was not tested because this test can be difficult to achieve and is generally regarded to be overly restrictive. In the Amos program, constraints are specified through a labeling mechanism where each parameter to be held equal across groups is given a label. This means any parameters that are unlabeled will be freely estimated, thus taking on different values across groups.

Table 2. Test of measurement invariance across two samples for the one-factor model of OBSE

<table>
<thead>
<tr>
<th>Measurement invariance</th>
<th>χ²</th>
<th>df</th>
<th>Δχ²</th>
<th>Δdf</th>
<th>CFI</th>
<th>TLI</th>
<th>SRMR</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1: Configural invariance</td>
<td>288.45</td>
<td>40</td>
<td></td>
<td></td>
<td>0.959</td>
<td>0.942</td>
<td>0.033</td>
<td>0.075</td>
</tr>
<tr>
<td>M2: Equal factor loading</td>
<td>293.66</td>
<td>47</td>
<td>5.21</td>
<td>7</td>
<td>0.959</td>
<td>0.951</td>
<td>0.033</td>
<td>0.069</td>
</tr>
<tr>
<td>M3: Equal factor variance</td>
<td>295.20</td>
<td>48</td>
<td>1.55</td>
<td>1</td>
<td>0.959</td>
<td>0.952</td>
<td>0.033</td>
<td>0.069</td>
</tr>
</tbody>
</table>

Table 3. Descriptive statistics and correlation matrix for Study Two variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>(SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization-based self-esteem</td>
<td>3.65</td>
<td>0.72</td>
<td>(0.92)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Global self-esteem</td>
<td>3.37</td>
<td>0.60</td>
<td>0.59 ***</td>
<td>(0.83)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Job complexity</td>
<td>4.69</td>
<td>0.68</td>
<td>0.58 ***</td>
<td>0.43 ***</td>
<td>(0.63)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Perceived organizational support</td>
<td>2.55</td>
<td>0.85</td>
<td>0.37 ***</td>
<td>0.24 ***</td>
<td>0.31 ***</td>
<td>(0.95)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Job satisfaction</td>
<td>2.75</td>
<td>0.76</td>
<td>0.32 ***</td>
<td>0.23 ***</td>
<td>0.30 ***</td>
<td>0.67 ***</td>
<td>(0.93)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Work engagement</td>
<td>2.96</td>
<td>1.14</td>
<td>0.56 ***</td>
<td>0.35 ***</td>
<td>0.44 ***</td>
<td>0.55 ***</td>
<td>0.49 ***</td>
<td>(0.95)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Organizational citizenship behavior</td>
<td>3.35</td>
<td>0.59</td>
<td>0.47 ***</td>
<td>0.23 ***</td>
<td>0.36 ***</td>
<td>0.32 ***</td>
<td>0.29 ***</td>
<td>0.52 ***</td>
<td>(0.82)</td>
<td></td>
</tr>
</tbody>
</table>

To obtain a mean value for each scale in the table, item scores were summed, and then divided by the number of items in the scale. SD=Standard deviation, Cronbach’s α coefficients are provided in parentheses. ***p<0.001.

Convergent and discriminant validity

Table 3 presents correlations, descriptive statistics, and Cronbach’s coefficient alpha. To demonstrate convergent validity, the instrument should have the strongest positive correlation with other instruments measuring similar constructs. If correlation values between constructs are not excessively high (e.g., r>0.85), they indicate discriminant validity. OBSE correlated with global self-esteem positively (r=0.59, p<0.001), stronger than OBSE’s correlation with all of the other study variables. The correlations between OBSE and job complexity (r=0.58, p<0.001) and work engagement (r=0.56, p<0.001) were also moderately high, prompting us to investigate OBSE’s discriminant validity. Applying the procedure outlined by Kline (2005) using CFA, five models were fitted to the data: 1) OBSE, global self-esteem (GSE), job complexity (JC) and work engagement (WE) forming one factor, 2) OBSE and GSE forming one factor and correlated to JC and WE, 3) OBSE and JC forming one factor and correlated to GSE and WE, 4) OBSE and WE forming one factor and correlated to GSE and JC, and 5) Each construct being independent, although correlated. As discussed previously, a partial disaggregation approach was employed. As presented in Table 4, the four-factor model fitted the data best. These results indicate that OBSE is distinct from the three constructs examined.
Nomological network of organization-based self-esteem

1) Correlate
As previously noted, we observed a significant correlation ($r=0.59, p<0.001$) between global self-esteem and OBSE. This relationship supports H1.

2) Antecedents
Structural equation modeling (SEM) was used to examine the relationship between OBSE and its hypothesized antecedents. The SEM model for the two antecedents indicated an adequate fit to the data ($\chi^2=133.12$, $df=17$, $CFI=0.98$, $TLI=0.97$, $SRMR=0.038$, $RMSEA=0.079$). Job complexity ($\beta=0.68, p<0.001$) and perceived organizational support ($\beta=0.13, p<0.001$) were both significantly related to OBSE. This provided support for H2 and H3.

3) Consequences
The SEM model for the hypothesized consequences of OBSE also indicated an acceptable fit to the data except for the SRMR values ($\chi^2=472.74$, $df=51$, $CFI=0.97$, $TLI=0.96$, $SRMR=0.120$, $RMSEA=0.087$). Modification indices (MI) suggested allowing the disturbance terms of job satisfaction and work engagement to correlate. A revised model with correlation between two disturbance terms improved the fit significantly, $\Delta \chi^2=167.92$ ($p<0.001$), with additional increases or decreases in all fit indices ($\chi^2=304.82$, $df=50$, $CFI=0.98$, $TLI=0.97$, $SRMR=0.080$, $RMSEA=0.068$). Several studies reported work engagement as an antecedent of job satisfaction$^{41}$, which indicates that the correlated disturbance terms reflected an unanalyzed relationship between the two constructs. OBSE was significantly related to job satisfaction ($\beta=0.36, p<0.001$), work engagement ($\beta=0.60, p<0.001$) and organizational citizenship behavior ($\beta=0.53, p<0.001$), thereby supporting H4 – H6.

Discussion
Using a sample of Japanese employees, this study aimed to develop and provide evidence for the construct validity of a Japanese version of the organization-based self-esteem (OBSE) scale. In Study One, multi-group CFA did not support the 10-item one-factor model as found in the English version. Data analysis and inspection of the semantic content suggested that two items may be redundant: The covariance between the errors for Item 2 (“I am trusted in my workplace”) and Item 5 (“There is faith in me in my workplace”), and between the errors for Item 7 (“I am a valuable part of this workplace”) and Item 10 (“I am an important part of this workplace”) both showed large modification indices (MI). Moreover, the pair of Item 2 and Item 5, and the pair of Item 10 and Item 7 in the Japanese translation appeared to have semantic overlap with evidence of high item correlations for both pairs ($r=0.80–0.85$). Because several of MI involved Item 2 and Item 10, the decision was made to eliminate those two items and retain Item 5 and Item 7. A revised one-factor model with eight items showed adequate model fit, and principal component analysis yielded a one-factor solution. In Study Two, the eight-item model provided a better fit to the data than the 10-item model as observed in Study One, thereby indicating cross-validation. Given the consistently high coefficient alpha values (average $r=0.88$) reported in the literature, Pierce and Gardner (2004) argued that a more parsimonious instrument might be a viable option$^{42}$. Our eight-item Japanese version of the instrument responds to this observation, while maintaining strong internal consistency and reliability.

In addition, we obtained test-retest reliability of 0.84 from the software developers who were involved in a project team. This result indicates that OBSE is fairly stable even amongst employees undergoing work changes due to the nature of the projects worked upon. Further, CFA revealed that the eight-item one-factor model was invariant across two samples.

OBSE—global self-esteem correlation ($r=0.59$) was similar to the convergent validity evidence ($r=0.54$) reported by Pierce, et al. (1989) from their American samples$^{43}$. A series of CFA demonstrated that OBSE

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**Table 4. Test for discriminant validity of OBSE**

<table>
<thead>
<tr>
<th>Description</th>
<th>$\chi^2$</th>
<th>df</th>
<th>CFI</th>
<th>TLI</th>
<th>SRMR</th>
<th>RMSEA</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: One-factor (OBSE, GSE, JC &amp; WE forming 1 factor)</td>
<td>3,761.03</td>
<td>44</td>
<td>0.58</td>
<td>0.48</td>
<td>0.12</td>
<td>0.27</td>
<td>3,715.03</td>
</tr>
<tr>
<td>Model 2: 3-factor (OBSE &amp; JC forming 1 factor)</td>
<td>869.55</td>
<td>39</td>
<td>0.90</td>
<td>0.87</td>
<td>0.07</td>
<td>0.14</td>
<td>923.55</td>
</tr>
<tr>
<td>Model 3: 3-factor (OBSE &amp; GSE forming 1 factor)</td>
<td>869.55</td>
<td>39</td>
<td>0.96</td>
<td>0.95</td>
<td>0.05</td>
<td>0.09</td>
<td>424.14</td>
</tr>
<tr>
<td>Model 4: 3-factor (OBSE &amp; JC forming 1 factor)</td>
<td>1,430.17</td>
<td>39</td>
<td>0.84</td>
<td>0.77</td>
<td>0.09</td>
<td>0.18</td>
<td>1,484.17</td>
</tr>
<tr>
<td>Model 5: 4-factor (OBSE &amp; JC &amp; WE forming 1 factor)</td>
<td>266.74</td>
<td>38</td>
<td>0.97</td>
<td>0.96</td>
<td>0.04</td>
<td>0.07</td>
<td>322.74</td>
</tr>
</tbody>
</table>

differs from each of global self-esteem, job complexity, and work engagement measures. Overall, these observations provide initial evidence in support of the factorial validity, reliability, and convergent and discriminant validity of the Japanese OBSE scale.

Finally, we examined the performance of the developmental Japanese OBSE scale within its nomological network. SEM-analyses provided support for all hypotheses. Consistent with previous findings concerning job complexity\(^6\), employees exposed to complex jobs appeared to have higher levels of OBSE than those employees working on simple jobs. In addition, perceived organizational support appears to make positive and significant contributions to this self-concept. The positive and significant relationship between OBSE and job satisfaction, work engagement, and organizational citizenship behaviors, suggests that Japanese employees with high OBSE hold positive work attitudes and behaviors similar to employees in other countries.

**Limitations and future directions**

Several limitations of this study need to be addressed. First, all measures were self-reports. Future research should attempt to employ additional methods such as collecting objective data and organizational manipulations, as done in the validation work of Pierce et al. (1989)\(^5\). Second, the use of cross-sectional design does not allow us to determine causal relationships between the variables examined. Future longitudinal research should uncover the causality, strength, and duration of relationships between OBSE and its antecedents and consequences. Third, we employed only a portion of the current OBSE nomological network, and future research should expand upon the nomological network employed here. Finally, our data were collected primarily from an online research panel, which requires caution about the generalizability of our findings as the representativeness of the sample may be challenged. Future research should examine sample equivalence across paper-and-pencil and Internet assessments.

Despite the limitations discussed above, this study provides initial evidence that the Japanese version of the organization-based self-esteem scale is a psychometrically adequate measure that can provide new opportunities for OBSE studies in both organizational science and occupational health psychology in the Japanese context. Our findings suggest that employees from collectivistic cultures hold a self-concept similar to their counterparts from more individualistic cultures, at least in the organizational context.

**References**

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