

VALIDITY AND RELIABILITY OF THE HUMAN CAPITAL SUSTAINABILITY LEADERSHIP SCALE - JAPANESE VERSION

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Abstract

Background: As the industry becomes more competitive in an era of rapid change, human resource management that aims to promote employee well-being calls for a new style of leadership. Di Fabio and Peiro (2018) have recently developed a new instrument for the Human Capital Sustainability Leadership Scale (HCSLS). Purpose: This study is to develop the HCSLS-Japanese version in Japanese workplace settings and analyze the psychometric properties of the new scale for assessing human capital sustainability leadership for Japanese workers. Method: A cross-sectional questionnaire survey was conducted online between September 13-27, 2019 from 33,480 members of a private survey enterprise. The original HCSLS was translated into Japanese followed by a back-translation procedure. The provisional HCSLS - Japanese version is composed of 16 items on a Likert scale. Validity was performed using concurrent validity to demonstrate the extent to which the HCSLS - Japanese version correlated with the trust scale, mentoring behavior scale, 5 items- subjective happiness scale, stress mindset, and K6-depression scale. Results: The compatibility of the factor model to the data was analyzed on a confirmatory factor analysis under maximum likelihood robust estimation to test three goodness-fit indices. As a result, the three-factor model of the HCSLS - Japanese version showed an acceptable fit to the data with 3 first-order factors: ethical (Cronbach's alpha coefficients of 4 items=.805), sustainable (alpha coefficients of 4 items=.824), and mindful/servant leadership (alpha coefficients of 5 items=.775): GFI=.942, AGFI=.915, and RMSEA=.067. The results of Pearson's *r* correlations between the HCSLS - Japanese version and concurrent other scales were found to exist with its referent measures, ranging from -.109 to .585, $p < .05$, with exception of the stress-is-enhancing mindset. Multiple group structural equation modeling showed no homogeneity of leadership constructs between gender due to inequivalent sample numbers. Discussion: This study hypothesized that each of the dimensions is ethical (e.g., I ethically make decisions.), sustainable (e.g., I support my collaborators in their personal/career growth.), mindful (e.g., I am aware of the strengths and the limitations of my collaborators.), and servant leadership (e.g., I encourage my collaborators when I realize that they encounter difficulties.), according to the original scale. The HCSLS - Japanese version proved to be a reliable and valid measure for assessing this new kind of leadership, except for the servant leadership factor which was not extracted as a sub-scale construct and combined with the mindful leadership factor. This finding suggests that the construct of human capital sustainability leadership in the Western context would need to adjust according to the Eastern work setting.

Keywords: Human Capital Sustainability Leadership Scale (HCSLS) - Japanese version, Cronbach's alpha reliability, concurrent validity, multiple group structural equation modeling, industrial and organizational psychology.

1. Introduction

Amid the response to the COVID-19 infection, many Japanese companies face a variety of management issues to improve sustainable corporate value. As the industry becomes more competitive in an era of rapid change, human resource management that aims to promote employee well-being calls for a new style of leadership. An important fact is that leaders must have the ability to flexibly respond to changes and enhance their resilience to unexpected shocks, regardless of their past successes. Leaders pay attention implicitly to organizations' success through collective work with employees. Many previous reports that implementing sustainable human resources practices depended on leadership style matters (e.g., Yang and Lew, 2020). Leadership is important because, through a leader's guidance, they are responsible to identify

problems and overcome them for stakeholders' interests including organizations, employees, clients, and investors.

Implicit in the decision processes of corporate leaders is a central question: what and who is this business here for? In this perspective, Di Fabio and Peiro (2018) have recently developed a new instrument for the Human Capital Sustainability Leadership Scale (HCSLS). Specifically, they propose HCSLS as a higher-order construct composed of sustainable, ethical, mindful, and servant leadership. They propose all of these constructs are needed to support the suitability of human capital leadership and healthy organizations. To facilitate sustaining work outcomes through human capital sustainability leadership, the importance of focusing on a new integrated construct of human capital sustainability leadership, and a scale to assess it is emphasized. There is, thus far, a lack of reliable and valid HCSLS in Japan. It is advantageous to develop the Japanese language version of the HCSLS. This study is to develop the HCSLS-Japanese version in Japanese workplace settings and analyze the psychometric properties of the new scale for assessing human capital sustainability leadership for Japanese workers.

2. Methods

Participants. This study was reviewed by an ethics committee at Kurume University which belonged to the first author (AT) before. To investigate the replicability of a four-factor structure of the HCSLS-Japanese version, we conducted a cross-sectional questionnaire survey through the internet between September 13-27, 2019 from 33,480 members of a private survey enterprise in Tokyo. To be included, respondents had to be over 18 years old and employed as leaders from various public and private organizations in Japan. A final eligible sample of 553 (female 30, male 523, mean age: 53.56±8.9 years old) (response rate: 79.6%).

Measures. We translated the original HCSLS into Japanese followed by a back-translation procedure after obtaining permission from the original authors. The measure consists of four factors, ethical leadership (e.g., I ethically make decisions.), sustainable leadership (e.g., I support my collaborators in their personal/career growth.), mindful leadership (e.g., I am aware of the strengths and the limitations of my collaborators.), and servant leadership (e.g., I encourage my collaborators when I realize that they encounter difficulties.), with four items for each. Each item was rated on a five-point Likert scale ranging from 1=none to 5=very much. Validity was performed using concurrent validity to demonstrate the extent to which the HCSLS-Japanese version correlated with the trust scale (10 items), mentoring behavior scale (6 items), 5-item subjective happiness scale, stress mindset (8 items), and K6-depression scale (6 items).

Data Analyses. Data were analyzed using the SPSS AMOS (ver.22) and HAD (ver.16) statistical packages for Windows. A statistical level of significance of .05 was used. We used established procedures to test the psychometric properties of the provisional HCSLS-Japanese version. Scale means and standard deviation (SD) were computed, and item-total (I-T) correlation and Cronbach's alpha coefficients were calculated to assess the internal consistency as a central aspect of the reliability of the scale. Alpha equal to or greater than 0.65 was considered satisfactory. For concurrent validity assessment, the associations between the scale scores of the HCSLS and the trust scale, mentoring behavior scale, subjective happiness scale, stress mindset, and K6-depression scale. A structural equation modeling method was applied to test structural validity.

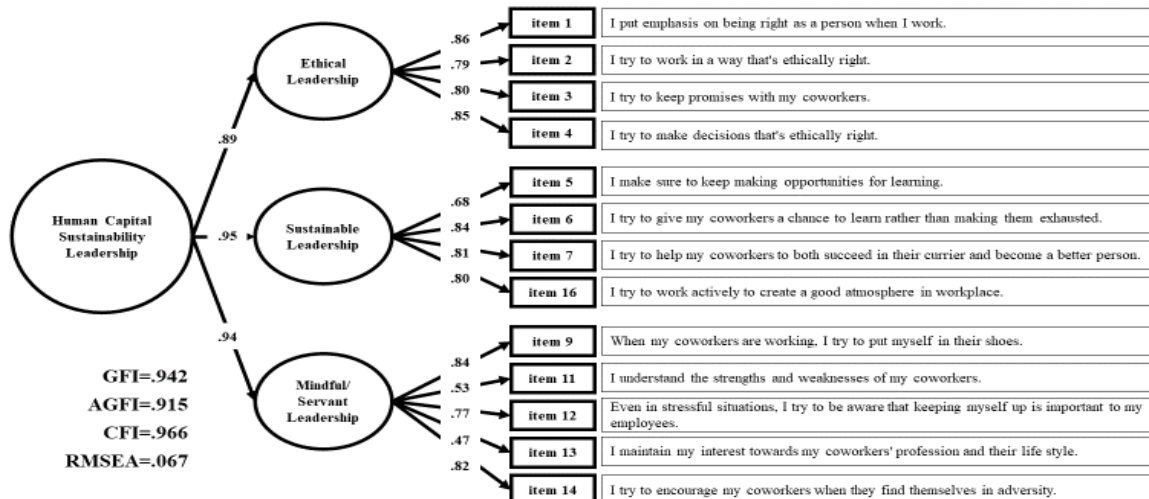
3. Results

Item Analysis of the HCSLS-Japanese version: Firstly, we examined item completeness and the distributions of the item scores as indicated by the mean, SD, skewness, and kurtosis. There was no item to be deleted from the psychometric analysis. In the next step, each of the item's scores was divided into the upper 25% (high group) and lower (25% (low group). The discriminative power was analyzed on a good-poor (G-P) analysis. A two-tailed t-test of GP analysis showed a significant difference ($p < .001$, $d = .595-.880$). On item-total (I-T) correlation analysis for each item score, a significant correlation coefficient was obtained in all items.

Factorial Validity of the HCSLS-Japanese version: To confirm factorial validity, the compatibility of the factor model to the data was analyzed on a confirmatory factor analysis under maximum likelihood robust estimation to test several goodness-fit indices. As a result, the three-factor model of the HCSLS-Japanese version showed an acceptable fit to the data with 3 first-order factors: ethical (Cronbach's alpha coefficients of 3 items=.805), sustainable (alpha coefficients of 4 items=.824), and mindful/servant leadership (alpha coefficients of 5 items=.775): GFI=.942, AGFI=.915, CFI=.966, and RMSEA=.067. Three items from the original HCSLS were deleted because of higher than .70 inter-item correlation coefficients and less than .40 factor loading. All three factors of the HCSLS-Japanese version were found to be strongly intercorrelated ($r = .696-.747$).

Concurrent Validity of the HCSLS-Japanese version: It was expected that each factor of the HCSLS-Japanese version would correlate positively with the trust scale, mentoring behavior scale, subjective happiness scale, and stress mindset, and correlate negatively with the K6-depression scale. This was assessed by the Pearson product-moment statistic where an r value above .40 was considered satisfactory. Moderate to strong r correlations were found between each score of the HCSLS-Japanese version and concurrent other scales with its referent measures, ranging from $-.251$ to $.590$, $p < .05$, with the exception of the stress-is-enhancing mindset sub-scale factor.

Figure 1. Confirmatory factor analysis testing the theoretical construct underlying the HCSLS - Japanese version: The 3-factor model consisted of 13 items.



Reliability of the HCSLS-Japanese version: To determine the homogeneity of the HCSLS-Japanese version, internal consistency reliabilities of each subscale score were calculated. Cronbach's alpha coefficients for the three subscales were high: ethical leadership, .892; sustainable leadership, .866; and mindful/servant leadership, .820. Multiple group structural equation modeling showed no homogeneity of leadership constructs between gender due to inequivalent sample numbers.

4. Discussion

This study hypothesized that each of these dimensions is ethical, sustainable, mindful, and servant leadership according to the original scale. The developed HCSLS-Japanese version proved to be a reliable and valid measure for assessing this new kind of leadership from the leader's point of view, except for the servant leadership which was not extracted as a subscale construct. The HCSLS-Japanese version differs from the original version (Di Fabio & Peiro, 2018) in the number and concept of human capital sustainability leadership due to a combined subscale of mindful leadership and servant leadership subscales. This discrepancy might be possible to interpret the differences in the growing awareness of the importance of organizational human resources management contributions to HCSL. Japanese corporate culture seems to create a community of employment practice with high stability and homogeneity and has achieved growth by taking advantage of coordination and teamwork abilities derived from such a community. This finding suggests that the construct of the Western context would need to adjust according to the Eastern work setting. Western culture is characterized by low collectivism (i.e., higher individualism), contrary to Japanese culture, and developing a high level of a social climate for knowledge and information of sustainability. Nevertheless, the HCSLS-Japanese version may be practical and usable for Japanese workers. Future studies are necessary to investigate whether leaders who perceive higher HCSL feel flourishing in terms of social and psychological prosperity and well-being.

References

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