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SUPPLEMENT ARTICLE

Evaluating cultural competence among Japanese clinical nurses: Analyses of a translated scale

Ariko Noji RN PHN PhD Professor[1] | Yuki Mochizuki PhD Adjunct Associate Professor[1] | Akiko Nosaki RN PHN PhD Associate Professor[1] | Dale Glaser PhD Associate Professor[2] | Lucia Gonzales RN PhD MBA MSN NP-C, Associate Professor[2] | Akiko Mizobe RN PhD Associate Professor[3] | Katsuya Kanda RN PhD Vice-President and Professor[4]

[1] Graduate School of Nursing, Chiba University, Chiba, Japan

[2] Hahn School of Nursing and Health Science, San Diego, CA, USA

[3] School of Nursing, Fukuoka, International University of Health and Welfare, Fukuoka, Japan

[4] Aino University, Osaka, Japan

Correspondence
Ariko Noji, Graduate School of Nursing, Chiba University, 1-8-1 Inohana, Chuo-ku, Chiba 260-8672, Japan.
Email: anoji@faculty.chiba-u.jp

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Abstract

This paper describes the factor analysis testing and construct validation of the Japanese version of the Caffrey Cultural Competence Health Services (J-CCCHS). The inventory, composed of 28 items, was translated using language and subject matter experts. Psychometric testing (exploratory factor, alpha reliability, and confirmatory factor analyses) was undertaken with nurses (N = 7494, 92% female, mean age 32.6 years) from 19 hospitals across Japan. Principal components extraction with varimax rotation yielded a 5-factor solution (62.31% variance explained) that was labeled: knowledge, comfort-proximal, comfort-distal, awareness, and awareness of national policy. Cronbach α for the subscales ranged from 0.756 to 0.892. In confirmatory factor analysis using the robust maximum likelihood estimator, the chi-square test was as follows: χ^2 (340) = 14604.44, $P < .001$. After correlated errors were introduced, there was evidence of improved model fit (χ^2(335) = 8681.61, $P < .05$) but the other indices showed improvement (RMSEA = .058 [90% CI, 0.057-0.059], TLI = .891, CFI = .903, and SRMR = .059). The discriminating power of the J-CCCHS was indicated by statistically mean differences in J-CCCHS subscale scores between predefined groups. Taking into consideration that this is the first foray into construct validation for this instrument, and that fit was improved when a subsequent data driven model was tested, and it has the ability to distinguish between known groups that are expected to differ in cultural competence, the instrument can be of value to clinicians and educators alike.

KEYWORDS

construct validity, cultural competence, Japan, nurses, psychometric testing

1 | INTRODUCTION

Advances in transportation, communication, education, and trade have contributed to globalization through tourism worldwide. For example, the United Nations World Tourism Organization has estimated that 1 billion tourists travel worldwide each year (Ki-moon, 2015. United Nations). Likewise, 19.73 million foreigners visited Japan in 2015, which was a 47% increase from 2014 (Otake, The Japan Times, January 19, 2016). These recent data are because Tokyo will be the host city for the 2020 Olympic and Paralympic games. Although tourism is viewed as a desirable income generating industry, when a significant influx of international visitors is concentrated into just 2 or 3 months, it will have serious implications for the Japanese health care system.

In preparation for the Olympics, the Japanese government plans to expand health care services for tourists/visitors to include the following: medical interpreters, international health care coordinators, hospital accreditation to care for foreign patients, and offer medical insurance packages for sale to visitors. Thus, this anticipatory planning for 2020 adds international health care to domestic health concerns. However, nursing has yet to launch a formalized plan in response to the anticipated influx of international tourist patients.

A recent study of nurses in Hiroshima where there are many international visitors describes the dilemma associated with Japanese

nurses caring for foreign patients (Nishikawa, Niiya, & Okayasu, 2014). The investigators found that 82% of inpatient unit nurses had some experience in the care of foreign patients. However, the nurses reported concerns about the following important areas: how patients would pay for their care, communication, lifestyle differences, issues of informed consent, explaining the contents of medications, and several others. The concept of communication included the problem of reciprocal understanding that sometime relied upon hand gesturing to provide care. A similar study among emergency room staff documented concerns about epidemiological emergencies, language barriers, culture differences, and financial issues relating to health insurance (Osegawa, Morio, Nomoto, Nishizawa, & Sadahiro, 2002). Since these are all valid issues, it is apparent that nurses themselves are concerned about the quality of care that they provide.

Although the Japanese educational system offers English language courses in elementary and high schools, prelicensure nursing education may not include curriculum about diverse cultures nor strategies to communicate well in other languages. This situation becomes an area of potential misunderstanding and miscommunication with patients and among the health care team. Thus, there is an urgent need to develop and implement measures to improve cultural competence (CC) among Japanese clinical nurses. This study was designed to analyze a measure of CC for Japanese nurses that can be used with educational efforts to improve this dimension of nursing care. This paper describes the factor analysis testing and construct validation of the Japanese version of the Caffrey Cultural Competence Health Services (J-CCCHS), an existing CC scale by Caffrey and colleagues (Caffrey, Neander, Markle, & Stewart, 2005), to address this question "What is the level of CC among Japanese clinical nurses?"

1.1 | Literature review

To assess the awareness of CC in published medical and nursing literature, a survey of Japanese and English language publications on the topic was conducted. The Japanese manuscript reference database, ICHUSHI, was used to screen manuscripts published from 2006 to 2015 using 2 keywords (cultural competence or competency and foreign patient) that yielded 33 manuscripts. In this 10-year interval, the first 5 years yielded 11 and the second half 21 that reflected a 100% increase in publications on these topics. Likewise, the EBSCO Host manuscript database was searched from 2004 to 2014 using 3 keywords (culture, competency, and nursing) that recovered 3012 manuscripts. In the first half of this 10-year interval, 1600 publications were identified and the second half yielded 1412 papers. In comparison, the numbers of Japanese papers regarding CC were much smaller (n = 33) than the English (n = 3012), but the rate increase of was much greater (+100% versus −12%).

In a recent systematic review of health care CC assessment instruments from 1982 to 2013, the investigators undertook a rigorous of screen of available instruments based on reliability (Cronbach α = 0.70-0.95; and intraclass correlation coefficient ≥ .70 or Pearson $r \geq .80$), validity (≥75% of variance explained), and appropriate sampling of health care providers (Lin, Lee, & Huang, 2016 Jun 15. [Epub ahead of print]). After screening 952 publications, 57 papers were identified that used 10 instruments (5 in English and 5 in Chinese). However, these tools measured several other concepts such as cultural awareness, cultural self-efficacy, cultural sensitivity, as well as CC specifically. As with most measurement instruments, further psychometric testing of these instruments is still needed to confirm their reliability and validity among other populations (Shen, 2015). Also, there are few instruments to validate the impact of education on CC among nurses (Bernhard et al., 2015). Notably, there were no samples of Japanese nurses using these instruments.

Based on Japanese and English language literature reviews and appraisal of existing instruments conducted for this study, the CCCHS by Caffrey and colleagues was ultimately selected for adaptation into Japanese based on 3 factors: content, brevity, and cost (Caffrey et al., 2005). This instrument was originally developed to evaluate nursing students' self-report of CC after a 5-week clinical immersion rotation in international nursing. The paper and pencil instrument consists of 28 items using a 5-point Likert scale. The developers created a global score by averaging responses of all 28 items for their statistical comparisons. This scale was based on a model of learning that incorporated cognitive (acquisition of knowledge) and affective (attitudinal and behavioral) changes (Wells, 2000). The CCCHS examines participants' perceived knowledge, self-awareness, and comfort with the skills of CC. Ultimately, the developers determined that the instrument yielded 5 constructs or factors: knowledge, comfort-proximal, comfort-distal, awareness, and awareness of national policy. Comfort-proximal is defined as feeling at ease in working with diverse individuals as a member of a health care team. Comfort-distal is defined as feeling at ease in working with diverse individuals outside of the immediate health care setting. Awareness is defined as recognition of one's own limitations related to CC. Awareness of national policy is defined as recognition of institutional policies affecting culturally diverse populations and the nurse's perceived ability to advocate on behalf of those groups. Estimates of reliability from the developer's small sample yielded Cronbach coefficient scores ranging from α = 0.90 to 0.97 and was deemed sufficiently sensitive to detect predifference and postdifference in CC following educational experiences as was their intention.

1.2 | Conceptual framework

The model used in the development of this instrument proposes that CC, as an educational outcome, may be assessed by incorporating 2 phases of the learning process: the acquisition of knowledge and resulting attitudinal and behavioral changes (Wells, 2000). The acquisition of knowledge occurs by transitioning from cultural lack of knowledge to cultural knowledge and then to cultural awareness. The attitudinal and behavioral changes occur by transitioning from sensitivity to competency and lastly to proficiency in multicultural environments. The practical outcome of CC is that all aspects of nursing care are adapted to meet the cultural expectations of the patient and promotes optimal patient outcomes.

2 | METHODS

A cross-sectional correlational study design that surveyed practicing Japanese nurses was used using the J-CCCHS questionnaire. Prior to the onset of the study, approval was obtained from the committee

responsible for protection of human participants located where the primary investigator (AN) was employed. To recruit an adequate sample of nurses, a wide range hospital types were canvassed to identify potential data collection sites. The following types of agencies were invited to participate in this stage of the study: public and private university hospitals (n = 173), agricultural cooperative hospitals (n = 104), hospitals accredited by the Joint Commission International and the Japan Medical Service for International Patients (n = 12), and public hospitals in communities with relatively large populations of international residents (n = 292). The hospital participation surveys were directed to the directors of nursing to identify their willingness to permit and facilitate data collection about CC among their staff. Between September 2014 and March 2015, the participation surveys were mailed and returned; 195 responses (33.6%) were returned and validated. Of those, nursing directors at 31 hospitals confirmed their willingness to have their nursing staff participate in the study. Ultimately, 19 hospitals across Japan participated and granted access to 9140 registered nurses in various roles including clinical staff nurses, chief nurses, head nurses, and department directors.

The J-CCCHS surveys were sent directly to individual nursing directors who were responsible for distributing them to the nursing staff. Using regard for anonymity and respecting ethical considerations, the questionnaires were distributed, retrieved from nursing staff, and returned all together to the investigators at 1-month after distribution. The data collection interval from all 19 hospitals occurred between September and December 2015.

2.1 | The J-CCCHS instrument

The Japanese version of the CCCHS was devised by translating the 28-item instrument using language and subject matter experts that followed with the standard process of forward translation and comparing back translation (Strickland, 2001). The survey was also expanded by 15 items to assess prior transcultural experience and demographic information. Pretesting of the instrument included preliminary cognitive interviews with a test sample of practicing nurses to finalize the Japanese version before actual data collection began. Further, a brief demographic inventory was included to the survey packet for distribution to the study sample.

2.2 | Data analysis

For the J-CCCHS, both exploratory (EFA) and confirmatory factor analysis (CFA) were performed. Brown (2006) recommends that EFA and CFA be conducted on separate samples, however, given that the construct validity (eg, EFA, CFA, and item response theory (IRT)) had not been thoroughly performed on this measure on a prior occasion, both EFA and CFA were included in this analysis. Multiple rotations (orthogonal, oblique, etc) and extractions (principal components [PC], principal axis factoring, etc) were conducted for the EFA. Given that the results were similar across rotations and extraction, the results are reported with PC and varimax rotation (Thompson, 2004). For this analysis, we decided to consider retention of factor/component loadings >|.45|, indicating at least 20% of the item variance would be explained by the common factors. Guidelines for item/factor retention are offered, (eg, rotated factor loadings >.35), to some degree item (and factor), retention is a function of multiple elements such as level of saturation and overdetermination (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Stevens, 2009). Note that most loadings were >.60.

For the purpose of assessing the postulated factorial solution for the J-CCCHS, CFA was also performed. By examining and testing the relationship between the manifest indicators (ie, individual items) and the latent constructs, evidence can be furnished as to the psychometric integrity of this instrument (Brown, 2006). Ultimately, a 5-construct model was tested.

Adjudging the quality of model fit is not without controversy (Barrett, 2007) with many divergent opinions as to what constitutes acceptable model fit (Nye & Drasgow, 2011). Even though there has been an accumulation of research comparing fit indices and offering preliminary (and at times, conflicting) guidelines for cutoffs (Hu & Bentler, 1999), the indices that have, to date, maintained favorable properties will be reported here. Those include the chi-square (χ^2) test, of which a fail to reject decision is preferred (ie, $P > .05$), an error of approximation index: the root mean square error of approximation (RMSEA), incremental fit indices: the Tucker-Lewis index (TLI) and the comparative fit index (CFI), and the standardized root mean residual (SRMR). Though cutoffs have been suggested (Chen, Curran, Bollen, Kirby, & Paxton, 2008; West, Taylor, & Wu, 2012), a more conservative approach will be used with this psychometric assessment using the following criteria: CFI and TLI > .95, SRMR < .05, and RMSEA < .08 will be preliminary evidence of acceptable fit. For this publication, just the postulated model will be reviewed. Data-driven changes to the model will be deferred for future replications.

There are a variety of estimation techniques that depend on the variable metrics (eg, binary, multinomial, and ordinal), model complexity, or distributional properties (Zhang, 2008). The Mplus software

TABLE 1 Population description, n = 7494

Demographic Factors	Frequency	%
Women	6844	91.3
Men	633	8.4
Age range 20-24	1572	21.0
Age range 25-29	2043	27.3
Age range 30-34	1193	15.9
Age range 35-39	920	12.3
Age range 40-77	1704	22.7
Staff nurse	6516	86.9
Chief nurse	230	3.1
Subhead nurse	368	4.9
Head nurse	274	3.7
Administration nurse	40	0.5
Others	54	0.7
Experienced abroad none	5321	71.0
Experienced abroad within 1 month	1703	22.7
Experienced taking care of foreign patient	5430	72.5
Opportunity to meet different culture patient		
1. Never	1945	26.0
2. Sometimes	5317	71.0
3. Often	197	2.6
Experienced working with foreign nurse		
1. None	6833	91.2
2. Yes	624	8.3

was used and provides estimators for ordered categorical data. Thus, the robust likelihood estimator (MLR) was reported for this study (Muthen & Muthen, 1998-2012). Cronbach coefficient α for each of the constructs is reported herein (Thompson, 2004).

In addition to EFA and CFA analyses, construct validity was assessed by using known-groups technique (Polit & Beck, 2004). Three subgroups were predefined based on theoretically expected differences in CC. It was postulated that having lived abroad for no time, 1 to 3 months and greater than 3 months would result in increasingly higher scores on the J-CCCHS subscales. Mean scores were calculated. To compare the 3 "time living abroad" groups (ie, no time, 1–3 months, and greater than 3 months), a 1-way analysis of variance was performed for each of the J-CCCHS scale scores using α = .05 as the level of significance. Associations for other background characteristics and all outcomes were measured using the Pearson correlation coefficient, *r*, where 1 is total positive correlation, 0 is no correlation, and −1 is total negative correlation.

3 | RESULTS

Analysis of completed inventories resulted in a final response rate of 82% (N = 7494). In summary, the sample consisted of the following: 91.3% (n = 6844) females; average age 32.63 years (SD = 9.37); 86.9% (n = 6516) staff positions; 71.0% (n = 5321) never traveled outside of Japan; 22.7% (n = 1703) had lived abroad for less than 1 month; 27.9% (n = 2091) had taken a class regarding international relations and/or cross-cultural issues; and 72.5% (n = 5430) had experience taking care of foreign patients (Table 1).

Mean responses for individual subscales of J-CCCHS were as follows: 1.41 (SD = 0.50) for knowledge; 1.60 (SD = 0.66) for comfort-proximal; 2.01 (SD = 0.72) for comfort-distal; 2.36 (SD = 0.90) for awareness; and 2.38 (SD = 0.84) for awareness of national policies. The global mean, as calculated per the method of the developers, was 1.85 (SD = 0.52).

Exploratory factor analysis was performed (Table 2). When using PC extraction with varimax rotation, a 5-component solution was

TABLE 2 Rotated factor loadings for each of the obtained components with means, standard deviations, and communalities for J-CCCHS items, n = 7494

	Knowledge	Comfort/Proximal	Comfort/Distal	Awareness	Aware/National Policies	Mean	SD	h^2
Q1	0.256	0.242	**0.518**	−0.095	0.293	2.03	1.02	0.487
Q2	**0.817**	0.112	0.133	0.062	0.167	1.35	0.65	0.73
Q3	**0.854**	0.135	0.127	0.052	0.161	1.28	0.59	0.792
Q4	**0.802**	0.14	0.138	0.107	0.127	1.36	0.64	0.709
Q5	**0.778**	0.183	0.131	0.044	0.078	1.26	0.57	0.664
Q6	**0.506**	0.311	0.412	−0.086	0.115	1.36	0.68	0.543
Q7	**0.485**	0.141	0.328	0.169	0.14	1.85	0.85	0.411
Q8	0.229	0.179	**0.736**	0.111	−0.011	1.72	0.88	0.638
Q9	0.159	0.151	**0.776**	0.139	0.032	1.86	0.95	0.67
Q10	−0.017	0.073	**0.66**	0.254	0.16	2.72	1.24	0.532
Q11	0.011	0.022	0.297	**0.672**	0.233	2.74	1.17	0.596
Q12	0.145	0.102	0.144	**0.642**	0.155	2.26	1.08	0.488
Q13	0.134	0.29	**0.625**	0.245	0.056	2.02	0.93	0.555
Q14	0.213	0.371	**0.623**	0.106	0.077	1.74	0.86	0.588
Q15	**0.535**	0.462	0.128	0.277	−0.152	1.41	0.68	0.616
Q16	**0.541**	0.465	0.052	0.292	−0.18	1.41	0.70	0.629
Q17	**0.543**	0.435	0.071	0.343	−0.154	1.44	0.71	0.631
Q18	0.132	0.174	0.099	**0.779**	0.165	2.14	1.07	0.693
Q19	0.077	0.129	0.098	**0.785**	0.181	2.30	1.19	0.682
Q20	0.206	**0.636**	0.239	0.249	0.118	1.67	0.83	0.58
Q21	0.214	**0.764**	0.251	0.102	0.193	1.59	0.76	0.74
Q22	0.258	**0.783**	0.214	0.116	0.182	1.53	0.73	0.771
Q23	0.129	**0.684**	0.361	0.127	0.29	1.78	0.86	0.715
Q24	0.211	**0.739**	0.239	0.048	0.213	1.46	0.72	0.696
Q25	0.038	0.105	0.254	0.228	**0.696**	2.77	1.23	0.614
Q26	0.205	0.308	0.057	0.498	**0.514**	2.00	0.97	0.652
Q27	0.131	0.144	0.112	0.4	**0.698**	2.41	1.08	0.697
Q28	0.101	0.154	0.009	0.14	**0.524**	2.03	1.02	0.487
Eigenvalues	10.212	2.678	1.95	1.404	1.202			
% of variance	36.472	9.566	6.966	5.015	4.291			

Factor loadings expressed as eigenvalues. The extraction method was principal component analysis. The rotation method was varimax with Kaiser normalization. Rotation converged in 6 iterations. Description of items found in Appendix A.

Bolding represents the highest factor loading for each question. A factor loading for a variable is a measure of how much the variable contributes to the factor; thus, high factor loading scores indicate that the dimensions of the factors are better accounted for by the variables.

obtained with 62.31% of the variance explained. Cronbach αs for the subscales were as follows: knowledge = 0.89; comfort-proximal = 0.90; comfort-distal = 0.82; awareness = 0.82; and awareness of national policy = 0.76.

When conducting CFA for the 5-factor model (N = 7492) using the robust maximum likelihood (MLR) estimator, there was a significant chi-square test indicating that the model does not fit the data: (χ^2 (340) = 14604.44, P < .001). The RMSEA was = .075 (90% CI, 0.074-0.076), the TLI = .816, the CFI = .834, and the SRMR = .064. The RMSEA and SRMR might be considered to yield "acceptable" results. However, overall model fit is not supported given the relatively low values of TLI and CFI and the significant test-statistic (ie, χ^2).

Some data-driven changes as suggested by the modification indices might aid in improving model fit (eg, correlating errors and respecifying paths). For example, incorporating correlated residuals (eg, "knowledgeable HC belief" and "knowledgeable HC practice") and/or respecifying item/latent construct relationships ("comfortable comprehensive assessment" loading on the comfort-distal construct instead of knowledge) will improve the fit of the model. However, such data-driven changes to the model should be cross-validated on other samples. Moreover, though we did find adding correlated residuals did improve model fit, omitting items that had low r^2 did not substantively improve fit of the model (ie, CFI and TLI were <.9). The chi-square test was still significant (χ^2(335) = 8681.61, P < .05), but other indices showed improvement (RMSEA = .058, 90% CI, 0.057-0.059, TLI = .891, CFI = .903, SRMR = .059). Figure 1 contains the standardized coefficients and correlating coefficients among each subscales for 5-factor CCCHS with MLR. Given that test validation is an iterative, ongoing effort, there is preliminary evidence of the usefulness of this instrument.

To further assess construct validity, the extent to which an instrument measures the theoretical construct it is intended to measure (Cronbach & Meehl, 1955), known-groups technique was used for participants with living abroad experience. Similar to findings by Kohlbry (Kohlbry, 2016), respondents' mean scores in cultural competency were significantly higher following a living abroad experience. The patterns of results are as follows: (1) Significance was found for all outcomes. (2) The pattern of means was such that those with no time living abroad and those with more time living abroad (ie, 1-3 months and >3 months) were associated with incrementally higher scores on each of the outcomes. Thus, for each outcome, 1 to 3 months had a higher mean than none, and >3 months had a higher mean than 1 to 3 months, and all pairwise comparisons per the Tukey honest significant difference (HSD) were significant (ie, P < .05). The results (Table 3) confirm the postulate that those living abroad would have higher scores on J-CCCHS, hence providing preliminary evidence that those who lived abroad performed better on J-CCCHS than those who did not live abroad.

For other background characteristics and all outcomes (Table 4), results are as follows: (1) those with lifetime contact with a cultural group other than one's own had a higher mean than those without contact; (2) those with contact at the hospital or community with a patient other than one's own culture had a higher mean than those who did not; (3) those with contact at the hospital or community with a care provider other than one's own culture (eg, none, sometimes, and common) was associated with incrementally higher scores; (4) those

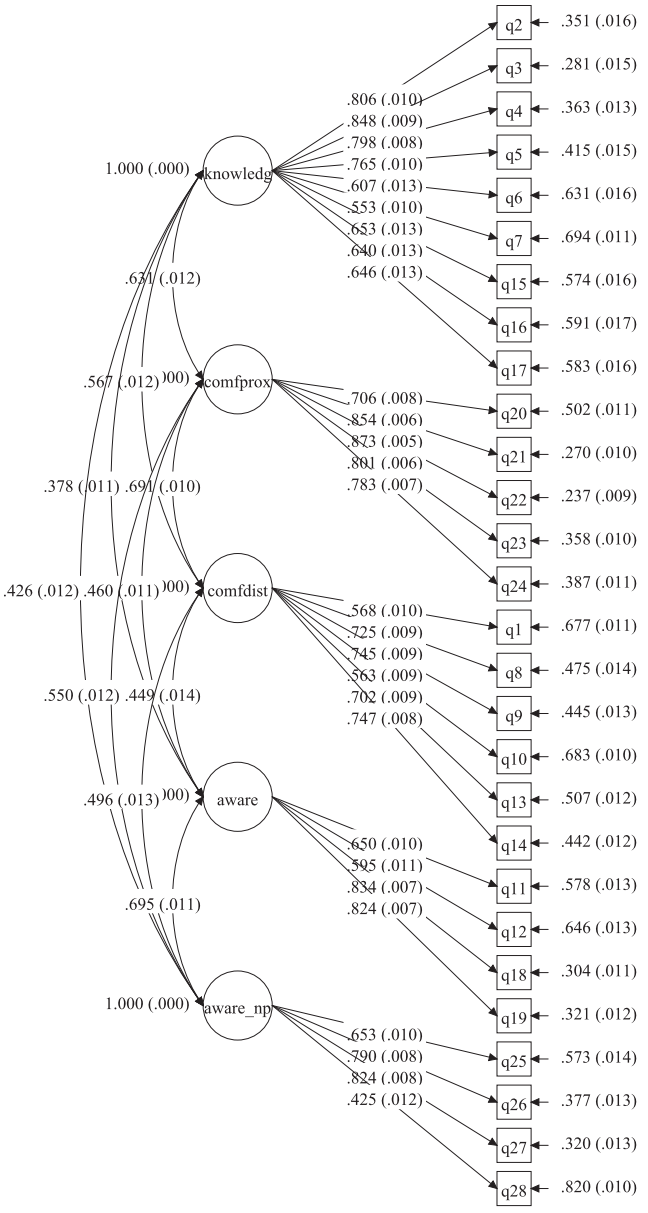

FIGURE 1 Contains the standardized coefficients and correlating coefficients among each subscales for 5-factor CCCHS with MLR

with experience working with foreign care providers had a higher mean than those who did not have the experience; and (5) those with bed care experience taking care of foreign patient was associated with incrementally higher scores. All correlations were significant (P < .05). Demographic characteristics for all types of contact with international cultures were significantly positively correlated with subscale scores (Table 4). Given that the pattern of the means for those living abroad was obtained as expected and given that there were significantly positive correlations between the background characteristics and the outcomes, the usefulness of this inventory was further supported.

4 | DISCUSSION

This study is the first to examine CC among a large sample of Japanese clinical nurses located in multiple hospitals nationwide. The global mean score for the J-CCCHS among Japanese nurses (N = 7494) was

TABLE 3 Known-groups comparison of the 3 "time living abroad" groups (ie, no time, 1-3 months, and greater than 3 months) for J-CCCHS items, using a 1-way ANOVA using α = .05 as the level of significance

Time Living Abroad	Knowledge	Comfort-Proximal	Comfort-distal	Aware	Aware NP	Glob Score
No time mean	1.3782	1.5611	1.9562	2.3037	2.3114	1.8013
N	5288	5281	5271	5277	5267	5183
Std. deviation	.46985	.63262	.70168	.89560	.82002	.50041
1-3 mo mean	1.4565	1.6614	2.1125	2.4519	2.5054	1.9280
N	1894	1891	1880	1888	1890	1851
Std. deviation	.50952	.67535	.73068	.90209	.84220	.52301
>3 mo mean	1.8114	2.0922	2.5209	2.8804	2.8880	2.3144
N	231	232	231	232	230	228
Std. deviation	.69097	.85277	.80077	.92317	.86553	.62978
Total mean	1.4117	1.6034	2.0137	2.3596	2.3790	1.8497
N	7413	7404	7382	7397	7387	7262
Std. deviation	.49486	.65894	.72134	.90517	.83634	.52040

TABLE 4 Demographic Characteristics for All Types of Contact with International Cultures and Correlations with Subscale Scores of J-CCCHS

		Amount of lifetime contact with a cultural group other than your own culture	Amount of contact at the hospital or community with a patient other than your own culture	Amount of contact at the hospital or community with a care provider other than your own culture	Amount of bedcare experience taking care of foreign patient	Amount of experience ever working with a foreign care provider
Knowledge	Coefficient r	.294	.106	.151	.073	.092
	Sig. (2-tailed	.000	.000	.000	.000	.000
	n	7408	7417	7413	7424	7417
Comf prox	Coefficient r	.250	.133	.171	.074	.110
	Sig. (2-tailed	.000	.000	.000	.000	.000
	n	7399	7408	7404	7414	7407
Comf dist	Coefficient r	.260	.173	.133	.103	.097
	Sig. (2-tailed	.000	.000	.000	.000	.000
	n	7375	7384	7380	7391	7384
Aware	Coefficient r	.191	.205	.164	.089	.081
	Sig. (2-tailed	.000	.000	.000	.000	.000
	n	7392	7401	7397	7407	7400
Aware NP	Coefficient r	.262	.157	.152	.042	.073
	Sig. (2-tailed	.000	.000	.000	.000	.000
	n	7382	7392	7387	7397	7390
Global	Coefficient r	.331	.200	.198	.101	.118
	Sig. (2-tailed	.000	.000	.000	.000	.000
	n	7255	7265	7260	7271	7264

1.85 (SD = .52). Notably, this was much lower than initially reported by developers of the instrument (M = 3.60, SD = 0.59; M = 4.42, SD = 0.48) or by a more recent report (M = 3.34, SD = .43) (Caffrey et al., 2005; Von Ah & Cassara, 2013).

Data from this sample show that the knowledge and comfort subscales were lower than reported in the literature. This is not surprising for several reasons. As an island nation, Japan developed a unique culture and language that has historically limited cross-cultural exposure. Further, a large majority of the Japanese sample reported that they had never traveled outside of Japan. This finding was anticipated as cultural immersion through travel is commonly viewed as a positive catalyst to developing an increased level of cultural awareness and sensitivity (Canfield, Low, & Hovestadt, 2009; Levine, 2009). In contrast to Japanese nurses, nurses from other countries where there is more cultural diversity may be more aware of cultural differences in their own communities and readily acknowledge their own multicultural family histories. Other systems of health care place great emphasis on health disparity among minority populations (U.S. Department of Health and Human Services, 2011). Transcultural nursing and CC are woven into curricula; textbooks are produced solely on this topic.

5 | CONCLUSIONS AND IMPLICATIONS

Lower scores on the J-CCCHS for Japanese nurses reflect an existing opportunity to enhance CC. Associations between CC and background characteristics point the direction to improving scores by contact with a cultural group other than one's own, contact with care provider other than one's own, caring for a foreign patient, or working with a foreign care provider. Higher scores reported in other nations provide guidance to improving scores by weaving CC into the curricula of nursing students and into the textbooks.

Psychometric testing of the J-CCCHS with nurses from across Japan confirms the 5-factor solution identified by the developers as

follows: knowledge, comfort-proximal, comfort-distal, awareness, and awareness of national policy. The reliability estimates for the subscales are considered to be acceptable. After testing the 5-factor model by CFA, the fit for the postulated model was not supported. Yet when specifying the model based on modification indices (eg, adding correlated errors), the model fit did improve. Construct validity, using known-groups technique and examining background characteristics and all outcomes, supported the usefulness of this tool. At this juncture, ongoing validation is recommended that may lead to further modification and refinement of the J-CCCHS. As this is the first foray into construct validation and given that fit improved when a subsequent data-driven model was tested, the instrument offers value to clinicians and educators alike.

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APPENDIX

A. | Description of Content of Items of J-CCCHS

q1	Comfortable socially
q2	Knowledgeable health care (HC) belief
q3	Knowledgeable HC practice
q4	Knowledgeable risk factors
q5	Knowledge of comprehensive components
q6	Comfortable comprehensive assessment
q7	Knowledgeable traditional foods
q8	Comfortable if client has folk healer
q9	Comfortable working with folk healer
q10	Comfortable working with translator
q11	Awareness family decision making
q12	Awareness my gender in providing care
q13	Comfortable culturally prescribed treatment
q14	Comfortable culturally prescribed problematic treatment
q15	Knowledgeable death and dying
q16	Knowledgeable organ donation
q17	Knowledgeable pregnancy and childbirth
q18	Awareness my stereotypes in providing care
q19	Awareness my limitations in providing care
q20	Comfortable advocating different cultures
q21	Comfortable caring diverse backgrounds
q22	Abilities caring diverse backgrounds
q23	Comfortable as team member with HC providers from diverse backgrounds
q24	Comfortable as supervisor of HC providers from diverse backgrounds
q25	Interest in working with staff from diverse backgrounds
q26	Awareness of impact of National Policy
q27	Concerned for impact of National Policy
q28	My influence on National Policies that impact care

(*Continues*)

(Continued)