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## Research Article

# Development and Cross Validation of the Short Version of the Cultural Competence Scale for Nurses

Duckhee Chae, PhD, RN,<sup>1</sup> Yunhee Park, PhD, RN<sup>2,\*</sup>

<sup>1</sup> College of Nursing, Chonnam University, Republic of Korea

<sup>2</sup> Department of Nursing, College of Medicine, Wonkwang University, Republic of Korea

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### ABSTRACT

**Purpose:** To develop and validate the short form of the Korean adaptation of the Cultural Competence Scale for Nurses.

**Methods:** To shorten the 33-item CCSN, an expert panel ( $N = 6$ ) evaluated its content validity. The revised items were pilot tested using a sample of nine nurses, and clarity was assessed through cognitive interviews with respondents. The original instrument was shortened and validated through item analysis, exploratory factor analysis, convergent validity, and reliability using data from 277 hospital nurses. The 14-item final version was cross-validated through confirmatory factor analysis, convergent validity, discriminant validity, known-group comparisons, and reliability using data from 365 nurses belonging to 19 hospitals.

**Results:** A 4-factor, 14-item model demonstrated satisfactory fit with significant factor loadings. The convergent validity between the developed tool and transcultural self-efficacy was significant ( $r = 0.55$ ,  $p < 0.001$ ). The convergent validity evaluated using the Average Variance Extracted and discriminant validity were acceptable. Known-group comparisons revealed significant differences in the mean scores of the groups who spent more than one month abroad ( $p = .002$ ) were able to communicate in a foreign language ( $p < .001$ ) and had education to care for foreign patients ( $p = .039$ ). Cronbach  $\alpha$  was 0.89, and the reliability of the subscales ranged from 0.74 to 0.91.

**Conclusion:** The Cultural Competence Scale for Nurses-Short Form demonstrated good reliability and validity. It is a short and appropriate instrument for use in clinical and research settings to assess nurses' cultural competence.

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## Introduction

South Korea has been rapidly transforming into a multicultural society since the beginning of the 21<sup>st</sup> century. During the past 20 years, the number of foreigners in South Korea has increased fivefold, and the number of foreign residents reached 3.4% of the total population at the beginning of 2015 [1]. To live harmoniously as a member of a multicultural society, it is important to recognize, tolerate, and respect other cultures and to protect diverse cultural values by recognizing and understanding diversity [2].

In the same manner, the OECD Definition and Selection of Competencies, known as the DeSeCo project, has identified the ability to interact with socially heterogeneous groups as a core competency that will be required of future societies [3]. As nurses are professionals who provide direct nursing services, and therefore, have direct contact with migrants, there is growing awareness that cultural competence is needed for job competence [4]. Cultural competence refers to harmonious behaviors, attitudes, and policies that interact effectively in cultural situations by cultivating cognitive, affective, and practical capacities for various cultural phenomena [5].

Internationally, more than 30% of studies on cultural competence have been conducted by nursing researchers since the 1980s [6]. In Korea, nursing studies on cultural competence have been reported since 2010 [4]. Many nurses in Korea have been reported to be unfamiliar with the term “cultural competence”; therefore, recognition of this concept by those in the profession is still in its

\* Correspondence to: Yunhee Park, PhD, RN, Department of Nursing, College of Medicine, Wonkwang University, 460, Iksandae-ro, Iksan, Jeonbuk, 54538, Republic of Korea.

E-mail address: [yhpark118@wku.ac.kr](mailto:yhpark118@wku.ac.kr)

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infancy [7]. Efforts in the fields of nursing research and practice are needed to enable Korean nurses in this multicultural age to interact effectively with diverse clients to provide culturally appropriate nursing care. The priority is to develop an intervention program to enhance nurses' cultural competence and to produce evidence of effective interventions by measuring their outcomes using reliable and valid measurement tools.

Instruments to measure nurses' cultural competence have been developed mainly by Western scholars. The subscales of these scales include some or all attributes of cultural awareness, sensitivity, knowledge, and skills, and the numbers of items range from 25 to 83 [6]. However, only 13% of the developed tools have been examined for their reliability and validity [8], and only a handful have been validated in replication studies [6]. A recent systematic review of the literature reported a strong interest in implementing interventions to promote cultural competence among health-care workers, but evidence of effective interventions was weak. One reason for this finding was the lack of validated tools [9]. Therefore, it is necessary to conduct replication studies to verify the reliability and validity of measurement tools for use with diverse samples.

Korean researchers have used translated tools because of their increasing interest in cultural competence. However, owing to limitations in the cultural and conceptual equivalence of translated instruments, a tool was developed in Korean to measure the cultural competence of Korean nurses [7]. The Korean version of the Cultural Competence Scale for Nurses (CCSN) by Chae and Lee [7] used as its theoretical framework the Cultural Competence Model of Papadopoulos [10], which was developed through a literature review and interviews with nurses. The CCSN consists of four subscales (awareness, knowledge, sensitivity, and skills) and 33 items. It uses a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Since the development of the CCSN in 2014, it has been used consistently in Korean nursing research, including several recent studies [11–13].

Although consensus has not been reached on the conceptual definitions and models of cultural competence, the main characteristics of cultural competence have been identified as awareness, sensitivity, knowledge, and skills [6]. A meta-analysis of the effects of educational interventions for enhancing the cultural competencies of nurses found that the learning strategies for cultural competencies promoted awareness, sensitivity, knowledge, and skills [14]. Therefore, the CCSN, with its four subscales of cultural awareness, sensitivity, knowledge, and skills, is an appropriate instrument for evaluating the effectiveness of intervention programs designed to enhance cultural competence.

Cronbach  $\alpha$  coefficient of the CCSN was 0.93 when the scale was developed [7], and it was 0.93 [13] and 0.94 [11] in subsequent studies. Cronbach  $\alpha$  greater than 0.90 results from item redundancy and may create excessive respondent burden [15]. Polit and Yang [16] proposed using the Spearman–Brown formula to estimate the number of items needed to achieve an  $\alpha$  of 0.85 or 0.90. When applying this formula to the CCSN, 14–22 items were appropriate. In addition, the CCSN has been tested only with nurses in a general hospital of a metropolitan area in Korea [7].

A general goal of developing a scale is to develop a tool of minimal length while maintaining acceptable support for its reliability and validity [17]. Therefore, for the CCSN to be more widely used in nursing practice and research, it is necessary to develop a shorter form and to validate the tool for use in samples of nurses from diverse regions of Korea. The purpose of this study was to develop the CCSN-Short Form (CCSN-SF) to measure cultural competence quickly and effectively while retaining the theoretical framework of the original tool and to evaluate its validity and reliability.

## Methods

### Research design

In this methodological study, the CCSN-SF was developed, and its psychometric properties were evaluated.

### Procedure, setting, and sample

This study was conducted in two phases: Phase 1, development and validation of the CCSN-SF and Phase 2, its cross-validation.

#### Phase 1: Development and validation of the CCSN-SF

In Phase 1, the content validity and pilot tests were conducted with the aim of reducing the number of items. We conducted the first field survey to perform an item analysis and exploratory factor analysis (EFA) and to test the instrument's convergent validity and reliability.

We conducted two rounds of content validity testing from January 19, 2015 to January 26, 2015. Five content validity experts (four nursing professors and one sociology professor) and one Korean literature professor examined the CCSN. Theoretical and operational definitions of the measurement concepts were presented to the group of experts. The content validity experts were asked to rate the clarity and relevance of each item on a 4-point scale (1 = not relevant; 2 = unable to assess relevance without item revision; 3 = relevant but needs minor alterations; and 4 = very relevant). Comments were elicited for each item. The content validity index (CVI) for each item was the proportion of experts who rated it 3 or 4. A CVI above 0.80 is generally considered valid; items with ratings less than 0.80 were deleted after review. We asked the Korean literature professor for a semantic refinement of items so that respondents could understand the meaning of the items clearly.

A pilot test was conducted with nine nurses working at three hospitals in Gwangju City on January 29, 2015. The survey was conducted in the hospitals' break rooms. Groups of two to four respondents who completed the questionnaire were interviewed for more than 1 hour per group. They were asked how they understood and responded to each item to assess the items' clarity and relevance [18].

The first survey was conducted among 277 students who attended the RN-BSN or advanced-practice nurse programs at seven nursing colleges. The inclusion criteria were as follows: a) clinical nurses who were currently working, b) clinical nurses who had nursing experience with foreign patients, c) clinical nurses who understood the study purposes, and d) clinical nurses who consented to participate. Those who worked in departments that did not provide direct patient care were excluded from the study.

We explained the purpose and significance of the research to each university director and asked for their cooperation in data collection. After obtaining permission, the researchers or trained research assistants visited the nursing college to distribute the questionnaires to the participants and to collect the completed questionnaires on the same day.

In the item analysis and EFA, the criteria were a) item-total correlations  $<0.30$  or  $>0.70$ , b) communality  $<0.50$ , c) factor loading  $<0.40$ , and d) cross loadings  $\geq 0.32$  [16,17,19], and items were deleted if they met the criteria. Finally, item deletion aimed to include at least three items in each factor with a large factor loading while maintaining the theoretical framework of the tool [19].

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