Validation of a patient-centered culturally sensitive health care provider inventory using a national sample of adult patients

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Abstract

Objective—The Tucker-Culturally Sensitive Health Care Provider Inventory – Patient Form (T-CSHCPI-PF) is an inventory for culturally diverse patients to evaluate provider cultural sensitivity in the health care process. The T-CSHCPI-PF is novel in that it assesses provider cultural sensitivity as defined by culturally diverse patients. The purpose of the present study was to determine the factor structure and internal consistency reliability of the T-CSHCPI-PF.

Method—A sample of 1648 adult patients was recruited by staff at 67 health care sites across the United States. These patients anonymously completed the T-CSHCPI-PF, a demographic data questionnaire, and a patient satisfaction questionnaire.

Results—Confirmatory factor analyses of the TCSHCPI-PF revealed that it has three factors with high internal consistency and validity.

Conclusion—It is concluded that the T-CSHCPI-PF is a psychometrically strong and useful inventory for assessing the cultural sensitivity of health care providers. Practical implications: The T-CSHCPI-PF may be a useful inventory for obtaining patients' feedback on their providers' cultural sensitivity and for assessing the effectiveness of trainings to promote patient centered cultural sensitivity among providers.

1. Introduction

Recommendations for reducing health disparities include improving quality of care for racial/ethnic minorities and individuals with low household incomes. These recommendations include increasing cultural sensitivity in health care systems [1], advocating for patient-centered care [2,3], and increasing the cultural competency and cultural sensitivity of health care providers [2,4,5].

Cultural competence in health care has been defined as a set of behaviors, attitudes, and policies that generates and demonstrates understanding, appreciation, and respect for cultural differences and similarities within, among, and between groups [6,7]. Cultural sensitivity has been defined as services that are relevant to patients' needs and expectations [8]. Herman et al. [9] provides an in-depth discussion on the differences and implementation of these terms. It has been asserted that cultural competence and cultural sensitivity of providers are positively associated with patient satisfaction [10], treatment adherence [11], and health outcomes [2]. The paucity of empirical evidence of these associations [12] is likely due in part to the lack of appropriate health care quality assessments [13].

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According to the American Association of Medical Colleges [14], standardized and valid measures of patient-centered culturally sensitive health care are needed. A review of the literature reveals that there are a few published measures of culturally competent health care [5,14–17] and no published measures of culturally sensitive health care or of providers' cultural sensitivity. However, there is one report on the development of race/ethnicity specific patient-centered culturally sensitive health care assessments that include a subscale to assess provider cultural sensitivity [18]. Unfortunately, factor analyses were not performed to examine the factor structure of these inventories, and their reliabilities were determined using small samples.

Mirsu-Paun et al. [4] claim that the limitations of existing cultural competence and cultural sensitivity assessments are as follows: (a) the items in these assessments are not data-based; (b) the perspectives of professional "experts" rather than the perspectives of patients were used in the development of these assessments; and (c) these assessments focus on testing specific knowledge pertaining to racial/ethnic groups, failing to attend to broader aspects of culturally sensitive health care or of provider cultural sensitivity such as provider communication skills.

The focus of the present study is on evaluating the Tucker- Culturally Sensitive Health Care Provider Inventory – Patient Form (T-CSHCPI-PF). This inventory is of interest particularly because the procedures involved in its development were designed to address the above identified limitations of similar inventories. Specifically, the following inventory development procedures were used in the development of the T-CSHCPI: (a) focus groups consisting of racially/ethnically diverse primary care patients were asked to identify specific behaviors and attitudes of providers that enable patients to feel comfortable with, respected by, and trusting of health care providers [19]; (b) an independent sample of racially/ ethnically diverse patients rated the importance of the items generated in the focus groups using a 1–5 rating scale, and only the health care provider items with mean ratings of 3 or higher were retained in the T-CSHCPI-PF [18]; and (c) the factor analysis performed on the items retained in the T-CSHCPI-PF (based on the importance ratings of these items) revealed factors that focus on areas other than providers' knowledge of racial/ ethnic minorities.

The purpose of the current study is to use a culturally diverse national sample to test the reliability and validity of the pilot TCSHCPI- PF, which was developed in previous research [18] to assess providers' level of display of behaviors and attitudes that culturally diverse patients identified as characteristics of culturally sensitive patient-centered providers. The specific goals of the present study are to: (a) determine the factor structure of the TCSHCPI-PF using ratings of the listed provider behaviors and attitudes on a pilot version of this inventory that were provided by a culturally diverse national sample of patients, (b) determine the internal consistency of the resulting T-CSHCPI-PF factors/subscales, and (c) determine the construct validity of the T-CSHCPI-PF by examining the correlation between patients' scores on it and their scores on a measure of patient satisfaction. The T-CSHCPI-PF is the first known inventory to assess provider's patient-centered cultural sensitivity as defined and assessed by adult patients, including large numbers of Hispanic/Latino patients, African American/Black patients, and patients with low household incomes.

2. Method

Data were collected on 1681 patient participants from among 67 health care sites located in four major geographical regions of the United States (i.e., northeast, midwest south, and west). Patient participant inclusion criteria were: (a) being at least 18 years old; (b) being a patient at one of the health care sites in the study for at least one year; (c) being able to

communicate either verbally or in written form; and (d) signing an informed consent form that documents an agreement to participate in the study.

There were twice as many women (66.7%) as men (33.3%) who participated. The racial/ethnic composition of the participants is as follows: 21.4% African American/Black, 34.6% White, 4.1% American Indian/Native American, 3.2% Asian/Pacific Islander, 33.2% Hispanic/Latino, and 3.5% Other/Non-specified race/ethnicity. The age distribution among the participants is as follows: 17.4% aged 18–24 years, 20.9% aged 25–34 years, 21.5% aged 35–44 years, 22.6% aged 45–54 years, 12.6% aged 55–64 years, and 5% aged 65 years or older. With regard to maximum level of attained education, 5.4% reported elementary school, 9.5% reported middle/junior high school, 37.5% reported high school, 29.5% reported some college/technical school, 13.3% reported college, and 4.6% reported graduate school. These percentages reflect higher rates of women, African American, and Hispanic/Latino patient participants than was reported for the population in the U.S. Census 2010 although all other demographic characteristics conform to what was reported for the population.

Of the 67 health care sites recruited, 47.5% were community health care centers, 10.0% were hospitals, 5.0% were private practices, 2.5% were health departments, and 35% were other/nonspecified sites. With regard to site location, 53.8% were located in the west, 30.8% in the south, 10.3% in the midwest, and 5.1% in the northeast.

Patient participants in this study anonymously completed an assessment battery (AB) consisting of (a) a Demographic Data Questionnaire (DDQ), (b) the pilot Tucker-Culturally Sensitive Health Care Provider Inventory – Patient Form (T-CSHCPI-PF), and (c) the Patient Satisfaction Questionnaire – Short Form (PSQ-18). The DDQ was developed by the Primary Investigator (PI) and contains questions to ascertain the following patient participant information: race/ethnicity, gender, age, education level, household income, employment status, and relationship status.

The pilot Tucker-Culturally Sensitive Health Care Provider Inventory – Patient Form (T-CSHCPI-PF) assesses patients' perceived levels of patient-centered cultural sensitivity displayed by their providers. This inventory was originally part of a three-section pilot inventory that also included patients' perceived cultural sensitivity displayed by health care center office staff and the physical environment and policies of their health care center [18]. A preliminary exploratory factor analysis was performed on the 72-item section of provider behaviors and attitudes of the original inventory. The 27 items with the highest factor loadings (see Table 1), which also demonstrated the best distributional properties (variance and item subscale correlations), were used to construct the T-CSHCPI-PF, which consisted of three hypothesized factors. These three factors are: Competence/ Confidence, Sensitivity/ Interpersonal Skill, and Respect/Communication Skill. The Competence/Confidence factor assesses the provider's ability to demonstrate his/her competence and confidence in his/her medical knowledge and skills to the patient. The Sensitivity/Interpersonal Skill factor assesses the provider's ability to demonstrate his/her sensitivity to the patient's religion, culture, family, and financial background through his/her interpersonal skills. The Respect/ Communication Skill factor assesses the provider's ability to demonstrate his/her respect and trust of the patient's concerns and experiences through his/her communication skills. All items are rated on a 4-point Likert scale, ranging from 1 = "Strongly Disagree" to 4 = "Strongly Agree."

The Patient Satisfaction Questionnaire – Short Form (PSQ-18) [20] is an 18-item scale which assesses patients' attitudes toward their health care providers, and their satisfaction with the health care they receive. The PSQ-18 consists of seven subscales: Accessibility and

Convenience, Communication Interpersonal Manner, Technical Quality, Financial Aspects, Time Spent with Doctor, and General Satisfaction. Additionally, the Technical Quality, Interpersonal Manner, Communication, and Time Spent with Doctor subscales can be combined to produce a measure of satisfaction with provider care, the Satisfaction with Physician subscale. For the purpose of this paper, only the Satisfaction with Physician subscale will be examined. The PSQ-18 has been reported to have a high internal consistency that exceeded .90 among population samples with various ethnic and racial groups [20]. All items on the scale are rated on a 5-point Likert scale, ranging from 1 = "Strongly Agree" to 5 = "Strongly Disagree," such that higher scores indicate greater patient satisfaction.

This study was part of a larger study that included patient participants as well as provider and office staff participants at participating health care sites. Only the patient participants and their data are the foci of the present study.

Data collection for the present study involved a three-step process. In Step One, a list of national organizations with some focus on health care (e.g., National Medical Association, American Medical Association, Commission on Minority Health) and health care sites in the four major regions of the nation were identified. The identified organizations and health care sites were sent an invitation letter that: (a) explained our study; (b) requested their participation and/or assistance in recruiting health care sites; and (c) provided a number and email address for contacting our research team to express study participation interest and/or to learn more about the study. Telephone meetings were scheduled with those who contacted our research team in response to the invitation letter. In these telephone meetings the research purpose, potential benefits, participation tasks, timeline, and compensation were explained in more detail and study related questions were addressed.

A total of 665 sites initially responded for more participation information and of these sites: 10% confirmed participation, 20% declined confirmed participation, and 70% were unresponsive after the initial contact. These participation rates reflect lack of site resources such as available staff members, conflicting timelines for the sites that were also doing training and other orientations, site administrator's shifting roles (that no longer allowed them at the time to be the point person for the project), and a high turn-over rate amongst the staff members at some sites.

In Step Two, a site administrator who has the authority to agree to have her/his health care site participate in the study identified a staff person to be a Data Collection Coordinator (DCC), who in turn identified two community members to be Data Collectors (DCs). The DCC was mailed recruitment and study participation materials. Study materials were available in Spanish, Chinese, Vietnamese, and English. Upon receipt of the materials, the DCC and administrator at each site and our research team worked collaboratively to obtain institutional review board (IRB) approval at the site. Next, the DDC and the DCs were trained by our research team via telephone to execute their roles, which are described in Step Three.

In Step Three, the DCs distributed recruitment flyers to patients in the waiting rooms of their sites, and posted these flyers. Patients who met the participant inclusion criteria and decided to participate in the study completed the following steps with any needed assistance from the DCs: (a) read and signed the informed consent form; (b) completed the assessment battery (AB) without placing a name on it; (c) signed a form that included a name and address for payment to be mailed; and (d) returned all forms that included their names to a DC in one sealed envelope and the completed AB in another sealed envelope. The latter action avoided connection of a participant's name to her/his assessment battery, thus protecting the

confidentiality of the patient participants. These sealed envelopes were returned to the DCC to be mailed to the researchers at the end of the 3-month data collection period. All data were processed in accordance with the ethical standards of the IRB at the university where the research team members are based. For study participation, patient participants were each paid $15 via money orders, each DCC was paid $50 via a money order, and each DC was paid $8 per hour for a maximum of 16 hours and the resulting maximum payment of $128 was made via money order. All patient participants, DCCs, and DCs were paid within six weeks following the end of the study at their site.

Data analyses were performed to determine the factor structure, reliability, and validity of the pilot T-CSHCPI-PF and involved the following steps. An examination of basic distributional characteristics of the 27 items of the pilot T-CSHCPI-PF was conducted. The Blom transformation [21] was used to improve item distribution and reduced skewness and kurtosis for all items. Skewness remained significant for most variables although it was generally reduced by 50% or more for all variables and kurtosis was no longer significant. A confirmatory factor analysis of the 27 item factor structure was conducted using item parceling. The internal consistency and validity of the final proposed factor using the full set of 27 items combined into parcels were examined.

3. Results

Three item parcels each comprised of 3 randomly combined items from within a given hypothesized factor were generated for each factor for a total of 9 parcels. Parcels were generated using Blom-normalized item scores, yielding indicators with minimal skewness and kurtosis. Parceling produces composite items with improved variance that are more congruent for factor analysis while preserving the internal consistency of expected factors [22]. A confirmatory factor analysis were conducted of the proposed 3 factor structure with the set of 9 parcels using full information maximum likelihood of the available sample [23].

Model fit was very good. The model chi-square statistic was significant [$\chi^2(24) = 51.06$, p < .001], and was slightly more than twice the model degrees of freedom (χ^2/df ratio = 2.1). All fit indices exceeded 0.9 (NFI = 0.99, RFI = 0.99, IFI = 1.00, TLI = 0.99, CFI = 1.00). The RMSEA was 0.02, which was not significantly different from the criterion value of 0.05. Thus, most indicators were suggestive of excellent model fit. Table 2 shows the standardized factor loadings for the estimated solution; all factor loadings were significantly greater than zero.

Internal consistency was computed using the Blom-transformed scores for the 27 items. Cronbach alphas for each factor were: Competence/Confidence, a = .96; Sensitivity/ Interpersonal Skill, a = .94; and Respect/Communication, a = .94. The T-CSHCPIPF evidenced excellent internal consistency reliability for each of its three factors.

A Pearson correlation analysis was conducted to examine the associations between the mean scores for the three factors of the TCSHCPI- PF and the mean score for the Satisfaction with Physician Care subscale of the PSQ-18. Results revealed significant positive correlations between the Satisfaction with Physician Care subscale and the Competence/Confidence factor (r = .439, p < .001), the Sensitivity/Interpersonal Skill factor (r = .455, p < .001), and Respect/Communication factor (r = .414, p < .001). Correlations were low to moderate, which can be explained by the conceptual differences between patient satisfaction and perceived patientcentered cultural sensitivity, which are similar but independent constructs. These results suggest that the 27-item T-CSHCCEI-PF is a valid measure when used with the national sample in the present study.

4. Discussion and conclusion

4.1. Discussion

There is a critical need for the development of reliable and valid assessments of cultural sensitivity in health care provision. The TCSHCPI- PF was developed in an effort to address this need. The TCSHCPI- PF is unique in that (a) its items are patient-defined rather than expert-defined, (b) it consists of specific health care provider behaviors and attitudes that culturally diverse patients have identified as indicators of patient-centered cultural sensitivity, and (c) it serves as a vehicle for patients to provide feedback regarding their health care providers' behaviors and attitudes. The current paper examined the factor structure, reliability, and validity of the T-CSHCPI-PF using a national sample of patients.

The factor analyses confirmed the hypothesized factor structure of the three subscales of the T-CSHCPI-PF: (1) Competence/ Confidence, (2) Sensitivity/Interpersonal Skill, and (3) Respect/ Communication. These subscales were found to have excellent internal consistency reliability and high validity, thus suggesting that the T-CSHCPI-PF is a psychometrically strong inventory that may be useful for assessing patients' perceived cultural sensitivity of their providers' behaviors and attitudes in the health care delivery process.

There are three major limitations of the current study. The first limitation is that participants who were receiving health care at a health care site and thus patients who do not receive regular health care may not be represented in the present study. Furthermore, item ratings may be inflated because patients who are not satisfied may not return or seek services elsewhere. In spite of this limitation, the present study did have the strengths of involving many culturally diverse patients from a variety of health care sites across diverse geographical locations. Additionally, efforts were made to include health care sites that serve low income patients and racial/ethnic minority patients – groups that are often underrepresented in health care quality research and who are less likely than majority Americans to experience comfort, trust, and respect in interactions with their health care providers due to the cultural divide between the mostly majority providers in the U.S. and both the low income patients and racial/ethnic minority patients they serve.

The second limitation of the present study is that the participating sites were not randomly selected from among the major geographical areas of the U.S. Because of the known difficulty of recruiting participating health care sites, multiple site recruitment strategies were used including asking for volunteer sites and asking participating sites to recruit other sites to participate in the study. As a result a large number of participating sites are from urban settings and from larger states.

The third limitation of the present study is that the T-CSHCPIPF is a self-report inventory. Self-report measures may actually encourage socially desirable responses, such as under-reporting or over-reporting the occurrence of the behaviors and attitudes that are listed on the T-CSHCPI-PF. Yet, self-report measures are commonly used in health care quality research and have been found to generate reliable data [24]. In this study, patients' ratings of their providers were negatively skewed or in other words, overly positive (e.g., agreeing or strongly agreeing that their providers demonstrate the desired behavior or attitude). Overreporting by patients could be due to their desire to give socially desirable responses regarding their providers, particularly for patients who prefer paternalistic relationships with their providers [25]. For example, some cultures, such as many Asian cultures, view providers with the same level of respect as elders and parents, which may result in patients from these cultures preferring paternalistic patient-provider relationships [26,27]. A future research direction is to determine if the factor structure varies for the different racial/ethnic cultural groups in the present study.

4.2. Conclusion

Based on the findings in the present study suggesting that the TCSHCPI- PF is a reliable and valid measure, support is provided for using this inventory at diverse health care sites for long periods of time in order to further assess its reliability and validity with patients who have various levels of utilization of health care providers. Additionally, an important future research direction is to use data from the T-CSHCPI-PF at a particular site to develop culturally sensitive health care provision training for the providers at that site and then determine if there are changes in pre-training to post-training scores on the T-CSHCPI-PF. Results of such research will have implications regarding the usefulness of the T-CSHCPI-PF for addressing calls for assessments and training to promote cultural sensitivity in the health care process. Finally, the evidenced strong psychometric properties of the TCSHCPI-PF in the present study provide support for the plan to develop a clinical tool version of this inventory that can be used to customize patient-centered culturally sensitive health care by health care providers. This clinical tool will have the same items as the T-CSHCPI-PF but will have the instruction to patients to rate how important it is that each listed provider behavior and attitude is displayed by their provider. A glance at this patient feedback by a provider prior to seeing the patient who provided the feedback could result in "customized" patient centered culturally sensitive health care that reflects the reality that there are individual as well as cultural group differences regarding desired provider behaviors and attitudes in the health care delivery process.

4.3. Practice implications

The support for the T-CSHCPI-PF's strong psychometric properties in the present paper has three important implications. One implication is that this inventory can be used to promote patient-centered culturally sensitive provider behaviors and attitudes by providing health care providers and site administrators with feedback regarding the level of occurrence of these behaviors and attitudes. This feedback can be used in the training of health care providers to be culturally sensitive, which in turn will likely increase patients' health care satisfaction – a variable that has been linked to more continuous health care, adherence to medical regimens, and ultimately better health [28,29]. A second implication is that this inventory may be a useful instrument for promoting patients' health care self efficacy. This is important given the finding that patients with high self-efficacy in relation to their health care experience demonstrated better health outcomes [30,31] and higher levels of health care satisfaction [32]. An important predicator of the adoption and maintenance of health behaviors is health self-efficacy [33]. Health self-efficacy has been associated with treatment adherence, health promoting behaviors, and decreased physical and psychological symptoms [34,35].

A third implication is that this inventory may call the attention of health care providers and administrators to the importance of psychosocial aspects of health care quality that are not typically emphasized in medical training. These psychosocial aspects of health care quality primarily is impacted by how providers interact with their patients, which include providers' interpersonal skills that enable patients to feel comfortable and trusting, and displaying provider behaviors and attitudes that connote sensitivity to and respect for patients. Promoting these aspects of health care quality are particularly important given that the quality of patient-provider communication affects patients health outcomes, such that the more trust and comfort patients feel with their providers, the more likely they are to adhere to treatment, including engagement in recommended health promoting behaviors [36–39].

Acknowledgments

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Table 1

27-item exploratory factor analysis on normalized T-CSHCPI-PF items, using listwise deletion (N = 920).

	Competence/ Confidence	Sensitivity/ Interpersonal Skill	Respect/ Communication
Item 08 Knows what he/she is doing	0.92	0.05	0.01
Item 09 Confident in ability	0.92	0.02	0.06
Item 06 Well educated	0.92	0.07	0.02
Item 07 Knowledgeable about medicine	0.91	0.03	0.02
Item 04 Dedicated	0.87	0.03	0.02
Item 05 Enjoys what he/she is doing	0.78	0.07	0.00
Item 03 Honest and direct	0.72	0.02	0.10
Item 10 Right about why I am sick	0.70	0.11	0.02
Item 12 Interested in my problems	0.61	0.24	0.02
Item 68 Respectful of religious beliefs	0.04	0.86	0.01
Item 67 Shows care/concern for my children	0.02	0.81	0.02
Item 70 Understands my culture	0.00	0.81	0.03
Item61 Provides race/ethnicity health info	0.09	0.80	0.02
Item65 Understands financial situations	0.05	0.77	0.01
Item 50 Follows up with me	0.06	0.75	0.01
Item 62 Prepares me for next steps	0.08	0.75	0.06
Item 66 Shows appreciation	0.07	0.74	0.09
Item 49 Doesn't make me wait long	0.04	0.66	0.01
Item 30 Doesn't talk down to me	0.05	0.03	0.91
Item 29 Doesn't psychologize everything	0.06	0.12	0.90
Item 35 Doesn't embarrass me	0.07	0.03	0.71
Item 31 Communicates with me	0.11	0.09	0.71
Item 28 Doesn't question truth/accuracy of what I'm feeling	0.04	0.09	0.69
Item 34 Takes patient concerns seriously even if considers them not serious	0.07	0.22	0.58
Item 32 Tries to educate me	0.06	0.24	0.54
Item 36 Certainty before prescribing	0.19	0.18	0.51
Item 27 Takes my concerns seriously	0.20	0.25	0.47

Table 2

Standardized factor loadings for the 9-parcel confirmatory factor analysis on normalized TSCHCI-PP parcels, using full-information maximum likelihood estimation (N = 1681).

	Competence/ Confidence	Sensitivity/ Interpersonal Skill	Respect/ Communication
Competence/Confidence Parcel1 (Items 5,12,7)	0.94		
Competence/Confidence Parcel2 (Items 4,10,6)	0.93		
Competence/Confidence Parcel3 (Items 9,3,8)	0.92		
Sensitivity/Interpersonal Skill Parcel1 (Items 61,65,66)		0.91	
Sensitivity/Interpersonal Skill Parcel2 (Items 49,68,70)		0.89	
Sensitivity/Interpersonal Skill Parcel3 (Items 50,67,62)		0.93	
Respect/Communication Skill Parcel1 (Items 28,36,29)			0.80
Respect/Communication Skill Parcel2 (Items 31,32,35)			0.91
Respect/Communication Skill Parcel3 (Items 27,30,34)			0.93

Note: All loadings significantly greater than zero, p < .01.