Cultural Attitudes, Knowledge, and Skills of a Health Workforce

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This study describes cultural attitudes, knowledge, and skill of 409 health care workers using the Ethnic Attitude Scale, the Cultural Self-Efficacy Scale, and a demographic inventory. Findings suggest cultural knowledge and educational preparation of the health worker may influence cultural skills. Workers that were most confident in their cultural skills in working with other cultural groups were more confident in knowledge of cultural concepts and had higher education levels. The results also suggest gaps in workers' knowledge of other cultures and how to care for them in culturally sensitive ways. Educational interventions may enhance workers' knowledge. Whether such enhanced knowledge yields improved patient care outcomes remains to be answered.

Keywords: *cultural attitudes; cultural knowledge; Hispanics; health workforce; cultural skills; management; workforce diversity; continuing education; staff development*

Disparities in health care in the United States are at least partly attributable to the cultural mismatch between the professionals who provide care and the patients they serve. A singular challenge facing health care institutions in this century will be assisting an essentially homogeneous group of health care professionals to meet the special needs of a culturally diverse society. A major driving force is the mandate of *Healthy People 2010* to increase the span of healthy life for all Americans and eliminate disparities in health between population groups (U.S. Department of Health and Human Services, 2000).

In 2000, immigrants from 215 countries came to the United States (U.S. Bureau of Census, 2001), and the proportion of those from minority groups grew: 69% White, 12.3% African American, 12.5% Hispanic, and 5.5% other non-White (U.S. Bureau of Census, 2003). By contrast, in 2001, 87% of the nursing force was White, 10% African American, and 3.4% Hispanic—clearly a mismatch, if the special needs of culturally diverse population groups are to be met (Spratley, Johnson, Sochalski, Fritz, & Spencer, 2001). The differences in language and cultural traditions of these subgroups of the population require unique solutions in the health care arena to meet their special needs.

The concepts of cultural sensitivity and cultural competency have become increasingly common terms in the United States as demographic shifts translate into an ethnically diverse society. Recently published national standards for culturally and linguistically appropriate services address the need to ensure that health services are responsive to individual needs of all patients (Office of Minority Health, 2001). The standards are based on a definition of cultural and linguistic competence as

a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross cultural situations. . . . "Competence" implies having the capacity to function effectively as an individual and an organization with the context of the cultural beliefs, behaviors, and needs presented by

consumers and their communities. (Cross, Bazron, Dennis, & Issacs as cited in Office of Minority Health, 2001, pp. 4-5).

Prepared in professional schools, many health care workers have had little exposure to culture, how to study culture, and how to move from ethnocentrism to cultural awareness. Research study of attributes necessary for cultural competence is limited despite consensus that the therapeutic interventions of health care professionals who interact with culturally different patients are influenced by three major variables: (a) personal attitudes toward culturally different patients, (b) knowledge of specific cultures, and (c) specific skills to work with culturally different patients (Tripp-Reimer, 2000). The current study was done to explore these three variables among health care workers serving a predominantly Hispanic patient population. It was part of a cultural needs assessment conducted within one hospital setting.

DEVELOPING A CULTURALLY COMPETENT HEALTH CARE WORKFORCE

A major driving force in the development of a culturally competent health workforce is the recognition that to meet the *Healthy People 2010* goal of elimination of health disparities among population groups, major changes in the way care is delivered to patients will be needed. The relationship between socioeconomic status and health outcomes is well documented (Aday, 2001; Williams, 1990). Mortality and morbidity differentials among population groups, particularly minority versus White populations, have long been attributed to differences in access to care (Aday, 2001; Aday, Begley, Lairson, & Slator, 1993; Carrasquillo, Carrasqillo, & Shea, 2000). A critical research agenda for the past 12 years has addressed the underlying mechanisms of social class and disease and the psychological and interpersonal processes that can intensify the effects of social status (Williams, 1990). These differences are now known to exist despite similarity of insurance and health plans (Schneider, Zaslavsky, & Epstein, 2002; Smedley, Stith, & Nelson, 2002). Substantive studies underline the relationship between subtle racial prejudice and differences in the outcomes of health (Smedley et al., 2002). As a result, there is growing recognition that changes in the patient-provider mix within health systems and changes in the way health providers are prepared in professional programs are needed to achieve equality in health outcomes for specific populations (Neff-Smith, O'Donnell, Bryant, & Riley-Eddins, 2001).

In nursing, much of the response to developing a culturally competent workforce has focused on the way health care workers are prepared in professional programs. Position papers describe the need for research (Meleis, Isenberg, Koerner, Bernadine, & Stern, 1995), the goals for incorporating culture into nursing educational programs (Lenburg et al., 1994), and the need to transform health professionals and the organizations in which they work (Dienemann, 1997). Theoretical models have been developed to understand cultural patterns (e.g., Giger & Davidhizar, 2003; Leininger, 1988; Orem, 2001; Purnell & Paulanka, 2003). Definitions of culturally competent care have been developed (American Academy of Nursing, 1990; Meleis et al., 1995). Ways to deliver culturally competent care have been described (Andrews & Boyle, 1995; Campinha-Bacote, 2002; Galanti, 1991; Spector, 2000). Cultural competence training models (Chrisman & Schultz, 1997; Goode, 2001) have been implemented. These efforts are laudable but are still in developing stages in most health care institutions.

In the literature, little attention has been given to studying those already in the workforce. Tripp-Reimer (2000), for example, urged that research is needed to study such personal characteristics of the provider as communication styles, practice styles, linguistic facility, and values held of other cultural groups. A major challenge to doing so is the absence of quality tools with which to measure cultural attitudes, knowledge, and skills. Those that have been used most often have been based on some variety of the self-efficacy model. Bernal and Froman (1987), for example, developed a self-efficacy scale to measure cultural knowledge and skill. They administered a cultural self-efficacy scale to 190 community health nurses and found that community health nurses had the highest confidence in caring for African American patients and the lowest confidence in caring for Asian American patients with Puerto Rican patients falling in the middle. Results indicated that nurses did not feel confident about caring for any of these three ethnic groups. In addition, the perceived lack of confidence was irrespective of the nurse's ethnic, educational, or geographic background.

Bonaparte (1979) developed the cultural attitude scale to measure attitudes among registered nurses. She studied 300 culturally diverse registered nurses using the Ego-Defensiveness Measure and the Cultural Attitude Scale. She found that nurses who had low ego defensiveness and were more open minded had more positive attitudes toward all patients than did nurses with high ego defensiveness or were less open minded.

Rooda (1993) revised Bonaparte's Cultural Attitude Scale, retitling it the Ethnic Attitude Scale, to examine knowledge and attitudes of White, acute care nurses toward culturally different patients in a midwestern urban setting. Nurse attitudes toward the four major ethnic groups (White, Asian, Hispanic, and African American) differed, with the least positive attitudes toward Hispanics and the most positive attitudes toward Whites. Nurses had more knowledge about Asian culture than they did about African American or Hispanic cultures. Level of educational preparation was found to be a significant predictor of knowledge and attitude. Associate degree graduates were less biased toward Hispanics than were bachelor of science (BSN) graduates and had significantly more knowledge about African American culture than did BSN-prepared nurses. Rooda was not able to account for

these findings based on the data but questioned whether the differences were due to curricular variations or individual personal attributes. As the study was limited to White nurses, working in hospital settings, she called for further study with nurses from a variety of backgrounds, ethnicities, and health care settings.

PURPOSE OF THE STUDY

The need for the current study arose from the recognition that a growing proportion of the individuals receiving care at a large metropolitan teaching hospital were Hispanic, the proportion of Hispanic providers was relatively stable, and there was little known about providers' ability to deliver culturally sensitive and competent care to Hispanic patients. To obtain a more comprehensive assessment of providers' cultural attitudes, knowledge, and skill, the current study examined providers' attitudes toward, knowledge of, and skills in caring for patients from each of the three primary ethnic groups served: Hispanic, African American, and White. The purposes of the current study were to (a) describe cultural attitudes toward, cultural knowledge of, and cultural skills in caring for persons from Hispanic, White, and African American backgrounds among Hispanic, White, African American, and Asian American health care providers; (b) evaluate differences in these providers' cultural attitudes toward, cultural knowledge of, and cultural skills in caring for persons from Hispanic, White, and African American backgrounds based on providers' ethnicity, level of education, and years of work experience in health care; and (c) explore the relationships among selected provider characteristics, their cultural attitudes toward, cultural knowledge of, and cultural skill in caring for persons from Hispanic, White, and African American backgrounds.

METHOD

Setting

This descriptive survey study was conducted in a county health care system in a metropolitan city in the Southwest United States. A major teaching institution, the health system serves a large multiethnic population; however, approximately 75% of almost 16,000 infants born at the hospital in 2001 were to mothers of Hispanic origin, the majority of whom were from Mexico.

The health system has a well-organized set of coordinated community-based primary care clinics serving women and children. Patients enter the system for prenatal care in one of eight neighborhood clinics, deliver their infants at the hospital, and the women and their children return to one of the neighborhood clinics for postpartum and newborn follow-up care. The community-based programs as well as the inpatient hospital maternity units served as the sites for the study.

Sample

At the time of the study, the health system staff serving women and children consisted of 2,107 inpatient and 643 community-based staff for a total of 2,750 professional and nonprofessional staff. Of these, 13% were Hispanic, 32% were African American, 11% were Asian, and 44% were White. Participation in the project was voluntary and confidential. Questionnaires from 409 staff were returned for a 15% return rate: 248 were inpatient hospital staff (12% of all inpatient staff), and 161 were community-based primary care clinic staff (25% of all community-based staff).

Instruments

The Ethnic Attitude Scale (EAS) is a self-administered questionnaire (Bonaparte, 1979; Rooda, 1993). It consists of three vignettes (White, African American, and Hispanic). Each vignette presents a patient scenario describing the family unit, type of employment, church affiliation, and health care practices. Respondents answer 20 questions designed to measure attitudes related to providing care for patients from the ethnic group depicted in each vignette. The same questions are used for each ethnic group and include such items as "are very demanding of nursing care and attention," "prefer home remedies to prescribed medicines regardless of cost," and "are reluctant to complain about pain." Respondents answer each question using a Likert-type scale from 1 (*strongly agree*) to 5 (*strongly disagree*). The scale has an equal number of positively and negatively worded items. Negatively worded items are reverse scale scored. A total score for each vignette is computed by averaging responses across all items within the vignette. Scores range from 20 to 100 with a higher score indicating a more positive attitude. Bonaparte (1979) developed questionnaire statements based on clinical experience, literature review, and review by a panel of three professional nurses for content validity. Reliability and validity were also established with a pilot sample of 50 registered nurses. Factor analysis of these data revealed three statistically significant factors underlying professional nurse attitudes toward minority culture patients (.94 for nursing care-patient interaction items, .95 for cultural attitudes and beliefs items, and .77 for cultural health attitudes and beliefs items). Validity coefficients for each item ranged from 0.42 to 0.72. Rooda (1993) reported coefficient alphas for each scale ranging from .87 to .92. Reliabilities (Cronbach's alpha) of the vignettes from the EAS for this study were low with $r = .67$ for the Hispanic vignette, $r = .72$ for the African American vignette, and $r = .57$ for the White vignette.

The Cultural Self-Efficacy Scale (Bernal & Froman, 1987) is a 30-item Likert-type scale that measures the level of confidence in caring for different ethnic groups. The 30 statements were derived from anthropological and nursing literature and reviewed by a panel of five expert public health nurses for content validity. The authors reported an internal consistency estimate of .97 based on responses in a study of

190 community health nurses (Bernal & Froman, 1987). Originally designed to assess knowledge in caring for Puerto Ricans, African Americans, and Southeast Asians, the scale was modified for this project to measure knowledge of Hispanic, African American, and White cultures. Only the referent ethnic groups were changed; none of the 30 Likert-type items assessing confidence was changed. The items are grouped into three sections that are the same for each referent ethnic group: knowledge of cultural patterns of each of the three cultural groups, such as family organization, child care practices, and nutritional patterns; knowledge of cultural concepts such as distinguishing between ethnocentrism and discrimination; and skill in performing selected activities with culturally different patients such as using an interpreter properly. Respondents answer each item in terms of how confident they are in their knowledge and skill where a response of 1 indicates *very little confidence* and a response of 5 indicates *quite a lot of confidence*. Scores are computed by taking the average of responses for each section and for each ethnic group and range from 1 to 5. Higher scores connote higher levels of confidence in knowledge of the culture of each ethnic group, cultural concepts, and skill in providing care. Reliability coefficients for the current study on the Cultural Self-Efficacy Scale for level of confidence with knowledge of cultural patterns were uniformly high: $r = .99$ for each ethnic/racial group. Coefficient alpha for knowledge of cultural concepts on the same scale was .99 and for skills in transcultural care it was .98.

A 12-item demographic inventory requested respondent information on age, gender, ethnicity, educational preparation, number of years worked in health care, and the estimated percentage of time spent working with ethnically different patients. Additional questions included whether respondents' educational programs contained content on culture or whether they had attended continuing education programming on culture. Four questions addressed language skills including primary language of the respondent, Spanish language speaking skills, desire to learn Spanish, and whether they desired to begin or to continue learning Spanish.

Procedure

Following approval by the university and hospital Institutional Review Boards, a graduate research assistant described the purpose of the project, the time and effort required, and its risks and benefits to staff during group unit meetings. This information was also included as a cover letter that accompanied the data collection questionnaires. Staff members agreeing to participate were given a packet of materials to take home to complete by a specified deadline. They were instructed not to put their names on any of the materials. They returned sealed packets to a designated area on each unit. They received a coupon for a fast-food sandwich when they informed the unit secretary that the packet had been returned. The graduate research assistant retrieved the packets on a weekly basis. All data were collected within a 2-month period.

Data Analysis

SPSS for Windows (rel. 11.5.0) was used to compute descriptive statistics for each study variable. MANOVA was used to evaluate differences in providers' attitudes, knowledge, and skills based on their ethnicity, level of education, and years of work experience. In cases in which the MANOVA indicated significant differences ($p = .05$), one-way ANOVA with Bonferroni contrasts were used to examine differences among providers ($p = .05$). To examine the relationships among selected provider characteristics, their attitudes, knowledge, and skills, Pearson correlations were computed followed by a stepwise multiple regression analysis (variables entered based on mathematical maximization: variables entered if correlated at $p < .05$ and removed if $p > .10$).

FINDINGS

Respondents' average age was 39 years with a range of 19 to 65 years. The majority (95%) of respondents were women. Thirty-one percent (126) were African American, 36% (148) were White, 11% (47) were Asian, and 16% (64) were Hispanic. Most had either a high school degree (112; 28%) or a bachelor's degree (106; 26%) as the highest educational attainment. Of the remaining, 31% (127) had either a diploma or associate degree in nursing, 12% (50) had a master's degree, and 2% (10) had a doctoral degree. The number of years of experience in health care ranged from 1 to 2 years to more than 16 years. More than one third (154; 38%) of the participants had worked in health care 16 years or more. Thirty-nine percent (159) had worked in health care 3 to 10 years. A majority (237; 59%) reported spending 71% to 100% of their time with ethnically different patients. Most (225; 55%) reported their basic education did not include cultural training while a majority (215; 53%) reported having participated in continuing education programming on culture topics. Three fourths of respondents (304; 75%) stated their primary language was English; 52 (13%) reported their primary language was Spanish. Most individuals (249; 61%) did not speak Spanish. A majority (349; 85%) reported a desire to learn Spanish, with 82% (336) desiring to begin or continue study of Spanish.

Cultural Attitudes, Cultural Knowledge, and Cultural Skill

Average attitude scores toward the three ethnic groups depicted in the vignettes were similar with a mean attitude score of 63 ($SD = 7$) on the Hispanic vignette, 65 ($SD = 8$) on the African American vignette, and 64 ($SD = 6$) on the White vignette. As can be seen in Table 1, Asian staff members had the lowest average attitude score on the Hispanic vignette

TABLE 1
Mean and Standard Deviation Scores for Attitude, Knowledge, and Skill by Ethnicity of Participant

Subscale	Hispanic (n = 64)		African American (n = 126)		White (n = 148)		Asian (n = 47)		Other (n = 19)		All (n = 404)[a]	
Attitude toward Hispanic	64	(7)	63	(7)	67	(6)	59	(7)	61	(6)	63	(7)
Attitude toward African American	63	(8)	66	(8)	66	(8)	62	(6)	62	(7)	65	(8)
Attitude toward White	64	(6)	63	(7)	64	(6)	65	(6)	64	(6)	64	(6)
Knowledge: Hispanic	3.7	(.9)	3.2	(.7)	3.1	(.7)	3.3	(.5)	3.1	(.76)	3.3	(.75)
Knowledge: African American	3.0	(.9)	3.6	(.7)	3.1	(.7)	3.3	(.5)	3.2	(.71)	3.3	(.76)
Knowledge: White	2.9	(1.3)	3.3	(.8)	3.8	(.7)	3.4	(.6)	3.3	(.56)	3.4	(.89)
Knowledge: Concepts	3.3	(1.0)	3.4	(.9)	3.1	(1.0)	3.4	(.7)	3.6	(.67)	3.3	(.9)
Skills	3.5	(.7)	3.3	(.8)	3.3	(.7)	3.6	(.8)	3.3	(.63)	3.4	(.75)

a. Five respondents did not indicate their ethnicity.

while White staff members had the highest average score. Across all staff, average attitude scores were most similar for the White vignette.

Across all respondents, average level of confidence in cultural knowledge was similar for each of the three ethnic groups studied (Hispanic, African American, and White) with a mean level of confidence score of 3.3 ($SD = .75$) associated with knowledge of the Hispanic culture, 3.3 ($SD = .76$) associated with knowledge of the African American culture, and 3.4 ($SD = .88$) associated with knowledge of the White culture. As shown in Table 1, White staff respondents had the lowest level of confidence, on average, in their knowledge of the Hispanic culture and of the African American culture. Hispanic staff respondents had the lowest average level of confidence for knowledge of the White culture.

Across all respondents, average level of confidence in knowledge of cultural concepts was 3.3 ($SD = .91$). As indicated in Table 1, average level of confidence was moderate with the lowest average level of confidence reported by White staff respondents.

Across all respondents, average level of confidence in skills in transcultural care was 3.4 ($SD = .75$). As shown in Table 1, average level of confidence in skills in transcultural care was moderate with the highest level of confidence reported by Asian staff respondents.

Differences in Provider's Cultural Attitudes, Knowledge, and Skill

With ethnicity of the respondent serving as the independent variable, MANOVA revealed significant differences among respondents'

- attitudes toward African Americans ($F = 4$; $df = 4$, 375; $p < .01$) and toward Hispanics ($F = 22$; $df = 4$, 375; $p < .01$)
- level of confidence in knowledge of the African American culture ($F = 9$; $df = 4$, 375; $p < .01$), the Hispanic culture ($F = 6$; $df = 4$, 375; $p < .01$), and the White culture ($F = 7$; $df = 4$, 375; $p < .01$)
- level of confidence in knowledge of cultural concepts ($F = 3$; $df = 4$, 375; $p = .03$).

There were no significant differences in level of confidence in skills of transcultural care or in attitudes toward the White culture.

Follow-up one-way ANOVA with Bonferroni post hoc contrasts revealed that attitudes toward the African American culture were different only between Asian and White respondents ($p = .03$) with White respondents expressing more positive attitudes than did Asian respondents. There were no other significant differences in attitudes toward the African American culture associated with ethnicity of staff respondents.

White staff respondents' attitudes toward the Hispanic culture were significantly more positive than were those of African American ($p < .01$), Hispanic ($p = .01$), Asian ($p < .01$), and Other ethnicity ($p = .01$) respondents. Hispanic staff respondents' attitudes toward the Hispanic culture were more positive than were those of African American ($p = .03$), Asian ($p < .01$), and Other ethnicity ($p = .01$) respondents. There were no differences between Asian, African American, and Other ethnicity respondents' attitudes toward the Hispanic culture.

African American respondents had significantly higher levels of confidence in their knowledge of the African American culture than did White ($p < .01$) or Hispanic ($p < .01$) respondents. There were no other significant differences among respondents' level of confidence in knowledge of the African American culture.

Hispanic respondents had significantly higher levels of confidence in their knowledge of the Hispanic culture than did Other ethnicity ($p = .03$), African American ($p < .01$), and White ($p < .01$) respondents. There were no other significant differences among respondents' level of confidence in knowledge of the Hispanic culture.

White respondents had significantly higher levels of confidence in their knowledge of the White culture than did African American ($p < .01$) and Hispanic ($p < .01$) respondents. Asian respondents had higher levels of confidence in their knowledge of the White culture than did Hispanic respondents ($p = .05$). There were no other significant differences

TABLE 2
Correlations Between Cultural Attitude, Knowledge, and Skill for
White, African American, and Hispanic Women and Children

	Knowledge of Concepts	Knowledge of African American Culture	Knowledge of Hispanic Culture	Knowledge of White Culture	Attitudes Toward African American Culture	Attitudes Toward Hispanic Culture	Attitudes Toward White Culture
Skill	.57**	.37**	.43**	.12*	.23**	.17**	.15**
Knowledge of Concepts		.40**	.42**	.13*	.24**	.10*	.06
Knowledge of African American culture			.49**	.39**	.23**	.04	.14**
Knowledge of Hispanic culture				.24**	.16**	.15**	.14**
Knowledge of White culture					.19**	.23**	.12*
Attitudes toward African American culture						.34**	.24**
Attitudes toward Hispanic culture							.18**

*p = .05. **p = .01.

among respondents' level of confidence in knowledge of the White culture.

With respondents' years of education serving as the independent variable, MANOVA revealed significant differences among respondents'

- attitudes toward the Hispanic culture (F = 10; df = 4, 375; $p < .01$)
- level of confidence in knowledge of the White culture (F = 4; df = 4, 375; $p < .01$).

There were no other significant differences associated with level of respondents' education.

Follow-up one-way ANOVA with Bonferroni post hoc contrasts revealed no differences between those with doctoral degrees, master's degrees, and bachelor's degrees. Respondents with a doctoral degree had significantly more positive attitudes toward the Hispanic culture than did those with a diploma in nursing (p = .01). Respondents with bachelor's and master's degrees had significantly more positive attitudes toward the Hispanic culture than did those with a high school education ($p < .01$; p = .01), associate degree (p = .01; p = .04), and diploma in nursing ($p < .01$; $p < .01$).

Respondents with a high school education had significantly less confidence in their level of knowledge of the White culture than did those with an associate degree ($p < .01$), a diploma in nursing ($p < .01$), a bachelor's degree ($p < .01$), a master's degree ($p < .01$), and a doctoral degree ($p < .01$). There were no other significant differences in level of confidence in knowledge of the White culture associated with years of education.

MANOVA revealed no differences in respondents' attitudes toward, knowledge of, or skill in transcultural care for Hispanic, African American, and White cultures associated with the number of years that respondents had worked in health care.

Relationships Among Cultural Attitudes, Knowledge, and Skill and Provider Characteristics

The Pearson correlations in Table 2 reveal that level of confidence in skills of transcultural care was significantly associated with each of the other variables and most strongly correlated with level of confidence in knowledge of cultural concepts. To evaluate which of these variables accounted for or were predictive of level of confidence in skills of transcultural care, a stepwise multiple regression was computed. Level of confidence in skills in transcultural care served as the dependent (criterion) variable, and each of the other variables served as predictor variables. As shown in Table 3, five variables were predictive of level of confidence in transcultural skills and collectively they accounted for 35% of the variance.

DISCUSSION

In light of the low reliability coefficients found in each of the EAS vignettes, the results related to the differences in attitudes toward Hispanic, African American, and White cultures should be viewed with caution. These providers were equally confident in their level of knowledge of the culture of persons from ethnic groups different from their own.

On average, these providers' level of confidence in knowledge of cultural concepts and level of confidence in transcultural care were moderate or midrange. There were no significant differences in level of confidence of cultural concepts or in level of confidence in transcultural care associated with respondents' ethnicity, level of education, or years worked in health care. Further examination of these concepts, what they are, how they are learned, and what factors influence them is needed.

Understanding confidence in knowledge of cultural concepts may also help to understand confidence in skills in transcultural care. The moderate correlation between the two

TABLE 3
Analysis of Variables Predicting Level of Confidence in Skill in Transcultural Care ($N = 369$)

	Unstandardized Coefficients		Standardized Coefficients	t^a
	b	SE	β	
Constant	.55	.30	—	1.83
Confidence in cultural concepts	.34	.30	.41	8.61
Knowledge of Hispanic culture	.16	.04	.16	3.26
Attitude toward Hispanic culture	.21	.05	.10	2.31
Knowledge of African American culture	.12	.09	.12	2.38
Education	.05	.02	.10	2.30

NOTE: a. All t values significant at $p < .05$.
$R^2 = .36$; Adjusted $R^2 = .35$.; $F = 41$; $df = 5, 364$; $p < .01$.

suggest that there may be common or overlapping factors that are associated with each. The regression analysis results suggest that those most confident in their cultural skills were also more confident in knowledge of cultural concepts, had higher levels of confidence in knowledge of Hispanic and African American culture, were more positive in attitudes toward Hispanic culture, and had higher education levels.

These findings, together with the fact that more than one half of respondents reported no formal education in culture, suggest that staff in the current study may not have the cultural knowledge necessary to transform the caregiving environment into care that is culturally competent. The need for more knowledge of cultural knowledge is consistent with findings from an earlier study by Baldonado et al. (1998). Registered nurses and nursing students perceived an overwhelming need for transcultural nursing knowledge; neither group expressed confidence in ability to care for diverse patients.

The nature, timing, and type of educational interventions need to be evaluated for effectiveness. Social learning theories may provide guidance for the type and nature of interventions, for example, those thought to enhance self-efficacy. Many professional schools have already modified their curricula to enhance learning activities related to culture and cultural concepts. Some offer study-abroad programs that immerse students in the culture of the country visited. Employers are also offering various educational interventions intended to enhance employees' cultural sensitivity and competence. Few studies have evaluated the effectiveness of these interventions in terms of patient care outcomes.

The findings from the current study are suggestive only because it had several important limitations. A major limitation of the current study was the relatively small number of providers who voluntarily completed and returned the study packet. Various factors may have contributed to the low response rate including using only a single-survey distribution strategy (no reminders or follow-ups were sent to nonresponders), fear of loss of confidentiality, denial of cultural bias in care, a work climate in which cultural bias was already occurring, and cultural conflict among staff. Two

other factors may have influenced the response rate. The first, suggested by findings from a participant observation study conducted concurrently (Jones & Bond, 1998), is the belief that most professionals are sensitive to all cultures. As one nurse said, "I am open to all" (Jones & Bond, 1998). The second factor, obtained from anecdotal responses from persons participating in a study of faculty attitudes, is the respondent's developing awareness of what his or her pattern of responses to the scales imply about his or her cultural sensitivity and a subsequent denial of the bias his or her pattern of responses implies. Self-disclosure, even if confidential, may keep individuals from returning their responses.

A challenge to studying cultural attitudes is finding ways to measure them validly and reliably. In the current study, the EAS failed to meet this challenge. It was used in the current study because it permitted study of the attitudes of multiple ethnic groups, was reported to be valid and reliable, appeared to measure what it purported to measure, and placed relatively little burden on respondents.

The current study, as planned, had as its intent to describe the cultural attitudes, knowledge, and skills of a heterogeneous group of providers. In designing the demographic inventory, group characteristics that would have helped identify potential interventions were not addressed. One of these was job category and whether it was professional or nonprofessional.

Increasing evidence suggests health care systems in the United States are having difficulty developing a workforce that can meet the cultural needs of a changing population mix (Salimbene, 1999). Most health care institutions are experiencing a patient-provider mismatch.

To effectively address the mismatch, from a systems perspective, a softening of the technology, efficiency-driven health care system, which goes beyond language training and interpreter services is needed. This means staff must learn about the well-documented invisible barriers to communication between cultural groups such as differing notions of time and space management, family organization (lines of authority and decision making), and differing attitudes toward prevention and relating to health care workers. In Mexican cul-

ture, for example, the development of a personal relationship with the caregiver and evidence of mutual respect is valued. Developing skill in communicating across cultural boundaries requires provision for opportunities for self-reflection as well as the opportunity to gather knowledge firsthand.

Addressing the patient-provider cultural mismatch will not be accomplished in the short term by recruitment initiatives within the health professions designed to increase ethnic diversity of providers. Eliminating health disparities among population groups requires reaching existing providers within health systems with innovative strategies rooted in adult learning principles. Tools to reliably measure outcomes of cultural interventions are needed. Research is needed to determine if providers who learn how to study culture and develop culture-specific skills can influence the subtleties of differential treatment and differential access to care for culturally diverse populations.

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