Measuring cross-cultural competence in medical education: A review of curricular effectiveness and attitudinal studies

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Abstract

The aim of this study was to use a meta-analysis of the medical education literature to evaluate how the profession assesses cross-cultural education. Results revealed much variance in how researchers attempt to measure domains of culture. Political correctness and social desirability appear to be influential, as only two of the twenty-one studies reviewed found ambivalence or skepticism about cross-cultural education. A mixed-method approach is recommended as the most effective approach to measure the integration of cross-cultural competencies into the curriculum. The results of this study offer a platform for discussing how to measure cross-cultural training and competencies in medicine.

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Health disparities among underrepresented, marginalized, and immigrant populations are becoming an increasingly salient issue for medical education and the profession. Medicine has observed disparities in health care among these particular populations even when access to care is similar to privileged groups (Betancourt & Maina, 2004; Shaya & Gbarayor, 2006; van Ryn & Burke, 2000). When access to care is comparable, the profession has attributed health disparities to the patient – physician relationship (Betancourt, 2006a; Betancourt & Maina; Eiser & Ellis, 2007). Specifically, the medical profession has identified cultural differences between patients and physicians as a contributing factor to the lower health status of certain groups (Anderson, Scrimshaw, Fullilove, Fielding, & Normand, 2003; Betancourt, 2003, 2006b; Dogra & Karnik, 2003). Some in the profession expect the issue to grow in magnitude as minority and immigrant populations continue to increase in the United States (Crosson, Deng, Brazeau, Boyd, & Soto-Greene, 2004; Juckett, 2005). Several health care stakeholders to include medicine, nursing, and health sciences have proposed cross-cultural training as a strategy to minimize health disparities.

In medicine, cross-cultural education seeks to train medical students and professionals to provide culturally appropriate care for diverse patients who may hold beliefs and values different from their physician (Betancourt, 2003). The integration of cross-cultural competencies has been problematic for medicine due to the primarily scientific lens in which the profession views issues. In contrast, culture is an abstract construct that is usually associated with the art of medicine (Mindrum, 2006). Culture, the underlying construct of cross-cultural education, is difficult to define and quantify, especially since a universal view regarding what culture means does not exist (Banks, Billings, & Tice, 1993; Betancourt, 2003).

Purpose

During 1999, the Accreditation Council for Graduate Medical Education (ACGME), the accrediting body for residency programs, endorsed cross-cultural skills as a required competence (Lynch, Surdyk, & Eiser, 2004). Then in 2000, the Liaison Committee on Medical Education (LCME), the accrediting body for medical schools, required cross-cultural competencies as an outcome for medical students (Lu & Primm, 2006). Medical schools and the profession as a whole typically approach the integration of culture in terms of knowledge, attitudes, and skills, which coincides with how educators assess and evaluate other competencies (Kripalani, Bussey-Jones, Katz, & Genao, 2006; Ladson, Lin, Flores, & Magrane, 2006; Lie, Boker, & Cleveland, 2006; Park, et al., 2005). Learning and understanding definitions, the importance of group characteristics, and cultural issues typically characterize the knowledge approach (Betancourt, 2003; Kripalani, et al.). The attitudinal approach typically entails increasing awareness and sensitivity to the role that culture may play with respect to clinical encounters (Betancourt, 2003; Kripalani, et al.). Integration efforts focus on building skills that primarily necessitates enhancing communication and trust between the patient and physician, particularly in terms of bridging and negotiating differences in beliefs (Betancourt, 2003; Kripalani, et al.).

Efforts by ACGME and LCME are but two illustrations of how medical education and the profession have considered and acted upon cross-cultural training. However, there are many in the profession who has questioned what medicine is teaching, how the construct has been integrated into the curriculum, and whether or not training is making a difference. One of the central concerns around culture and medicine pertain to the objective of cross-cultural training, which is to prepare medical professionals to be competent to care for patients whose health beliefs, values, and practices differ from their own (Gregg & Saha, 2006; Koehn & Swick, 2006;

Lu & Primm; Turbes, Krebs, & Axtell, 2002); yet, evaluation of these competencies is not prominent in the literature. The aim of this study is to evaluate how medical educators assess cross-cultural competencies through a type of literary meta-analysis.

Theoretical Framework

The medical profession has recognized the need to address cultural diversity, largely due to the belief of many in the profession that the current health care infrastructure is not sustainable if unable to address the diverse health care beliefs, values, and practices of a multicultural society (Martin, et al., 2004). The health care infrastructure can be described in terms of patients having access to care, physicians providing appropriate and quality service, education and research to advance the profession, and reimbursement models that attract physicians and sustain the profession (Martin, et al.). Many in the profession are considering the effect that culture may be having on health outcomes and the ability of an already tenuous infrastructure to meet diverse needs (Martin, et al.). The profession's immediate response to health disparities that arise because of differences between patients and physicians has been to integrate cross-cultural competencies into the curriculum of medical schools and residency programs (Betancourt, 2006a; Betancourt, Green, Carrillo, & Ananeh-Firempong, 2003; Betancourt & Maina).

One of the difficulties that medical educators face is the measurement and assessment of cross-cultural competence, both as it pertains to the term itself and to the underlying construct. The term cross-cultural competence is difficult to define and problematic in what it conveys (Dean, 2001; Tervalon & Murray-Garcia, 1998). Some believe that it is possible to become an expert on specific groups through training (Dean; Tervalon & Murray-Garcia). On the surface, the theory seems positive, but there can be unintended outcomes of cross-cultural training when the focus is on learning specifics about a particular group. The most serious that the profession

has identified is stereotyping. Medicine has defined stereotyping as making generalizations about entire groups of people based on preconceived ideas and experiences (Berger, 2008; Betancourt, 2006a, 2006b). The profession affixes the issue of stereotyping largely to the simplistic way that culture sometimes is taught. This is especially problematic when the construct becomes an algorithm for interacting with others (Dean; Tervalon & Murray-Garcia). The near exclusion of culture as a complex construct has the effect of making beliefs, values, and behaviors appear as traits that individuals cannot escape (Gregg & Saha).

The tenuousness in which medicine has defined culture, in the context of the profession, coupled with the concerns about stereotyping have lead to a quandary when it comes to the measurement of culture, specific to what should be measured and how it should be measured. At best, the profession has fragmented views on how to define cross-cultural competence. The term is problematic in that competence may suggest certainty, fixedness, and finality with respect to how one learns about other cultures, not to mention one's own culture. This study will examine the existing literature in terms of these limitations and concerns and evaluate how cross-cultural competencies have been and are being measured.

Method

Broad criteria were outlined to begin reviewing studies to obtain a large sample of studies that have attempted to measure cross-cultural competence. Criteria for inclusion were as follows: the study had to evaluate or assess an aspect of cross-cultural education in medicine, describe a methodology, population, and procedure, and be conducted after the year 2000. The date was established based on the LCME requirement in 2000 that cross-cultural competencies be an outcome for medical students (Lu & Primm). Based on these criteria, a literature search was conducted via PubMed, a National Library of Medicine and National Institutes of Health

repository for biomedical research articles. In addition, current educational reference lists were reviewed as related to the criteria. After initially limiting the population to medical students and residents, the search was expanded to include nurses and physicians, encompassing a general approach to medical practice to better capture the attempts to measure cross-cultural competence.

In all, twenty-one studies were evaluated for purpose, operationalization of culture, subsets of culture, the study population, the sampling technique, and data collection method. With meticulous review and efforts, including collapsing and expanding of various categories, a code list was developed. Using this framework of codes, a thematic analysis was used to evaluate the studies. Findings were then reported using a group of summary tables.

Findings

Twenty-one studies were included in the final summary. Three tables encapsulate how researchers have attempted to measure, evaluate, and assess cross-cultural competence and education in health care. To briefly outline, Table 1 is a summary of the main characteristics of the studies; Table 2 focuses on curricular objectives and the operationalization of culture in the studies; and Table 3 describes the studies' key findings and recommendations.

All studies were completed after the year 2000, with eight being published in 2006. Although the studies stated different objectives and purposes, it was reasonable to categorize the studies into two subgroups, research examining the effectiveness of the curriculum and research regarding attitudes about culture or training. The studies included a range of target populations and samples to include medical students, residents, and nurses; however, over half of the studies (57%) focused solely on medical students. Ten studies sought to assess the effectiveness of cross-cultural education, and fifteen studies evaluated attitudes. Ten studies were labeled as quantitative, and four studies were labeled as mixed methods. Of the twenty-one studies,

fourteen collected data via a closed-ended questionnaire. The majority of the studies developed instruments specifically for their projects, while others adapted or used existing tools. Three categories were used to characterize the studies' findings: curricular effectiveness, attitudes about the educational climate, and the appropriateness of the instrument (See Table 1).

Table 1. Summary of studies

	n		n
Date		Data collection *	
2001	4	Questionnaire	15
2002	1	Interview	9
2003	2	Archival document	2
2004	4		
2005	2		
2006	8		
		Data analysis *	
		Statistical	18
		Thematic	8
Study location *		Study purpose *	
United States	12	Curricular effectiveness	10
Non-United States	10	Attitudes about cross-culture education	14

Table 1. Summary of studies

Target population *		Instrument source *	
Medical students	12	Developed specifically for study	10
Residents	6	Modified an existing instrument	2
Faculty physicians	1	Used existing instrument	5
Non-academic physicians	2	No information	5
Nurses employed in hospitals or clinics	4		
Stakeholders	2		
Patients	2		
Findings *		**Research method**	
Curricular impact	8	Quantitative	10
Educational climate	16	Qualitative	7
Appropriateness of assessment	5	Mixed	4

* Responses are not mutually exclusive

Two distinct objectives emerged from the research literature: studies that focused on the effectiveness of cross-cultural interventions and studies that examined attitudes about cross-cultural education. Fourteen studies measured general and specific attitudes about cross-cultural education. These studies often explored questions about training that pertained to whether or not health care learners and professionals felt prepared to provide culturally appropriate care. Eleven studies pertained solely to attitudes about the relevance of cross-cultural training and providing care for culturally diverse patients (Dogra & Karnik; Dogra & Wass, 2006; Kairys & Like, 2006;

Ladson, et al.; Lee & Coulehan, 2006; Leishman, 2004; Lempp & Seale, 2006; Park, et al., 2005; Park, et al., 2006; Tang, Fantone, Bozynski, & Adams, 2002; Weissman, et al., 2005). Seven studies focused exclusively on effectiveness of the curriculum (Brathwaite & Majumdar, 2006; Crosson, et al.; Dogra & Stretch, 2001; Godkin & Savageau, 2001; Jotkowitz, et al., 2004; Majumdar, Browne, Roberts, & Carpio, 2004; Pena Dolhun, Munoz, & Grumbach, 2003).

Curricular effectiveness studies examined whether or not learners changed as a result of an intervention. Objectives and learner outcomes were central to the curricular studies and often entailed a combination of general and specifics content about culture. General concepts pertained to definitions of culture, stereotyping, diversity, cultural awareness, and sensitivity. Concepts, such as cultural beliefs and practices, epidemiology, and barriers to effective cross-cultural encounters, describe specific course content. Didactics pertaining to patient – physician relationship and communication skills were either general or specific.

The three domains that the profession has identified as strategies to teach culture were found consistently throughout the literature: knowledge, attitudes, and skills. Regardless of the purpose or design of the study, all measured culture in terms of what health care learners and professionals know, what they believe, and how prepared they were to treat diverse patients. Five out of the fourteen attitudinal studies measured knowledge (Kairys & Like; Ladson, et al.; Park, et al., 2005; Park, et al., 2006; Weissman, et al.). With respect to curricular effectiveness studies, four of the ten evaluated the knowledge domain (Brathwaite & Majumdar; Godkin & Savageau; Jotkowitz, et al.; Majumdar, et al.). The content domain for attitudes was found in ten of the fourteen attitudinal studies (Dogra & Karnik; Dogra & Wass; Ladson, et al.; Lee & Coulehan; Leishman; Lempp & Seale; Park, et al., 2005; Park, et al., 2006; Tang, et al.; Weissman, et al.), and within five of the ten curricular effectiveness studies (Brathwaite & Majumdar; Crosson, et

al.; Dogra & Stretch; Godkin & Savageau; Jotkowitz, et al.). Five out of the ten studies measuring skills were attitudinal studies (Kairys & Like; Ladson, et al.; Park, et al., 2005; Park, et al., 2006; Weissman, et al.), and four pertained to curricular effectiveness (Brathwaite & Majumdar; Crosson, et al.; Godkin & Savageau; Majumdar, et al.). None of the studies measured knowledge or skill alone, and the studies varied with respect to measuring specific or general characteristics of culture in terms of knowledge, attitudes, and skills. In these studies, the teaching domain for attitudes was most prevalent despite the study's objective (See Table 2).

Table 2. Description of curricular objectives[2]

	Study design	Curricular objectives	Curricular method	Operationalization of culture	Culture subsets
Attitudes about cross-cultural education					
(Dogra & Karnik)	Survey – Closed-ended Interview – FG (NS)	None	None	A	E, R
(Dogra & Wass)	Interview – Individual (semi)	None	None	A	Not specified
(Kairys & Like)	Interview – FG, Individual (semi)	None	None	K, S	CL, E, L, R
(Ladson, et al.)	Survey – Closed-ended	None	None	K, A, S	E, L, R
(Lee & Coulehan)	Survey – Pre/post	None	None	A	G, R
(Leishman)	Interview –	None	None	A	E, F, G,

[2] Study design: FG – focus group, semi – semi-structured
Curricular Objectives: B – barriers, C – culture, CBP – cultural beliefs and practices, Div – diversity, Ep – epidemiology, PPR – patient –physician relationship, Se – sensitive, Self – self awareness, St – stereotyping, Sx – sexual orientation
Curricular method: PBL – problem-based learning
Operationalization of culture: A – attitudes, K – knowledge, S – skills
Subsets of culture: CL – class, Dis – disability, E – ethnicity, F –faith, G – gender, L – language, N – nationality, R – race, SES – socioeconomic status,
U – underserved
NS – not specified

Table 2. Description of curricular objectives[2]

	Study design	Curricular objectives	Curricular method	Operationalization of culture	Culture subsets
	Individual (unstructured)				L, N, R
(Lempp & Seale)	Interview – Individual (semi)	None	None	A	E, G
(Park, et al., 2005)	Interview – FG, Interview (semi)	None	None	K, A, S	E, L, R
(Park, et al., 2006)	Interview – Individual (semi)	None	None	K, A, S	E, F, G, N, R, SES, Sx
(Tang, et al.)	Survey – Pre/post	CBP, Ep, PPR	Lectures, PBL, readings, small-group	A	Not specified
(Weissman, et al.)	Survey – Closed-ended	None	None	K, A, S	F, L, N, R
Curricular effectiveness					
(Brathwaite & Majumdar)	Survey – Closed-ended, Open-ended	C, CBP, Ep, PPR, Self	Lecture, role play, small group, reflective	K, A, S	Not specified
(Crosson, et al.)	Survey – Pre/post	C, PPR	Standard patient	A, S	E, L, R
(Dogra & Stretch)	Survey – Closed-ended	Course development	Not specified	A	F, R, Sx
(Godkin & Savageau)	Survey – Closed-ended	B, C, CBP, Div, PPR, Se,	Experiential, lecture	K, A, S	L, N, R, U
(Jotkowitz, et al.)	Survey – Closed-ended	PPR	Not specified	K, A	Not specified
(Majumdar, et al.)	Survey – Closed-ended	Se	Not specified	K, A, S	E, N
(Pena Dolhun, et al.)	Document – Journal Survey – Closed-ended Document – syllabi, outlines, readings Interview – Individual (NS)	None	None	Not specified	Not specified

Table 2. Description of curricular objectives[2]

	Study design	Curricular objectives	Curricular method	Operationalization of culture	Culture subsets
Attitudes about cross-cultural education and curricular effectiveness					
(Dogra, 2001)	Survey – Pre/post	B, Div, PPR, Self, St,	PBL, group, reflective, discussions	A	CL, Dis, E, F, G, R, Sx
(Kai, Bridgewater, & Spencer, 2001)	Interview – FG	Not specified	Not specified	K, A	Not specified
(Lie, et al.)	Survey – Closed-ended	None	None	K, A, S	CL, E, R

The studies varied markedly in the research questions posed. Knowledge based questions tended to inquire whether or not one understood terms like cultural diversity (Dogra & Wass; Lie, et al.), specific beliefs and practices about local populations, barriers to cross-cultural care (Godkin & Savageau; Kairys & Like; Lie, et al.; Park, et al., 2006), and epidemiology (Lie, et al.). Questions about attitudes were most prevalent and were either general or specific. General attitudinal questions or statements pertained to broad issues of culture, such as whether or not the patient's cultural beliefs and practices are relevant to the health care encounter or if cultural differences affect disparities in care or health status (Crosson, et al.; Dogra & Wass; Lie, et al.). Specific statements typically inquired about attitudes toward particular cultural groups, along with the beliefs, values, and practices associated with the group (Dogra; Dogra & Karnik; Dogra & Stretch; Godkin & Savageau).

Regardless of the purpose or methodology, most of the studies included subsets of culture; however, there was much variation among the studies in terms of what the subsets were or which ones to discuss. In different combinations, the studies defined subsets of culture as class, disability, ethnicity, faith, gender, language, nationality, race, sexual orientation, and

socioeconomic status (See Table 2). Studies that used specific situational statements tended to define subsets of culture more clearly than studies that used general attitudinal statements or questions.

Studies varied in sampling techniques: random, stratified random, convenient population, purposive, and snowball. The response rates for qualitative attitudinal and quantitative curricular effectiveness studies did not meaningfully differ with respect to spread – qualitative (36-89%) and quantitative (44-100%). More so, studies were representative of quantitative, qualitative, and mixed methods. Although five studies assessed the usefulness of their instrument, only one study reported reliability and validity findings (Lee & Coulehan).

The twenty-one studies discussed their finding in terms of curricular impact, attitudes about the educational climate, and the appropriateness of the instrument, summarized in Table 3. Overall, these studies reported that curricular interventions resulted in significant or positive changes with respect to increasing knowledge or improving attitudes. Several studies reported that health care learners and professional believed that cross-cultural education was important and relevant to care; however, they often did not believe that they were prepared to treat diverse patients in a culturally appropriate manner (Godkin & Savageau; Kai, et al.; Lie, et al.; Park, et al., 2005; Park, et al., 2006; Weissman, et al.). This finding suggested that medical schools had not made cross-cultural education an important part of the curriculum. Some studies attributed the lack of importance of cross-cultural education to several factors, such as limited resources, marginalized ways in which programs teach and measure competence, and the variations in what cross-cultural education should seek to achieve (Dogra & Wass; Kairys & Like; Lie, et al.; Pena Dolhun, et al.; Weissman, et al.).

Table 3[3]. Description of Analysis and Findings that Measure Cross-cultural Competence in Medical Education

	Data analysis	Impact			Educational Climate	Assessment
		knowledge	attitudes	skills		
Attitudes about cross-cultural education						
(Dogra & Karnik)	Descriptive Group comparison				Beneficial	
(Dogra & Wass)	Thematic				Ambivalent (concept and relevance), need to improve teaching and assessment	Need to develop more reliable and valid instruments
(Kairys & Like)	Thematic				Ambivalent, limited resources	
(Ladson, et al.)	Group comparison (t-test, Mann-Whitney U test, Tukey's)				Important and relevant	
(Lee & Coulehan)	Group comparison (paired t-test, MANOVA)		+/-		Beneficial	Appropriate
(Leishman)	Thematic				Limited part of curriculum, need to be continuous and ongoing	
(Lempp & Seale)	Thematic				Hidden curriculum should be examined	
(Park, et al., 2005)	Thematic				Important and relevant, limited part of curriculum	
(Park, et al., 2006)	Thematic				Important and relevant, limited part of curriculum, ambivalent, cautions about sole focus on knowledge-based content	
(Tang, et al.)	Descriptive Group comparison (paired t-test)		+		Important and relevant	
(Weissman, et al.)	Descriptive Group comparison (chi-square)				Contradictory message (conveyed as important, but limited resources, time, and assessment), limited part of the curriculum, limited assessment and	

[3] Impact: + (statistically significant effect), # (positive effect), +/- (inconclusive)

Table 3[3]. Description of Analysis and Findings that Measure Cross-cultural Competence in Medical Education

	Data analysis	Impact			Educational Climate	Assessment
		knowledge	attitudes	skills		
					mentoring	
Curricular effectiveness						
(Brathwaite & Majumdar)	Group comparison (ANOVA, paired t-test) Thematic	+				
(Crosson, et al.)	Group comparison (Pearson's chi-square, paired t-test, independent t-test) Correlation (Cronbach's alpha)		+			
(Dogra & Stretch)	Frequency Group comparison				Important and relevant	
(Godkin & Savageau)	Group comparison (t-test, paired t-test)		#		Cautions about knowledge-based content	
(Jotkowitz, et al.)	Group comparison (ANOVA, t-test, chi-square)	+	#			
(Majumdar, et al.)	Group comparison	+	+			
(Pena Dolhun, et al.)	Descriptive				Low consensus concept	Useful for curriculum planning
Attitudes about cross-cultural education & Curricular effectiveness						
(Dogra)	Descriptive Group comparison (Mann-Whitney U test)		#			Appropriate
(Kai, et al.)	Thematic				Important and relevant, limited part of curriculum, cautions about sole focus on knowledge-based content	
(Lie, et al.)	Descriptive Group comparison (Mann-Whitney U test) Correlation				Poorly taught	Useful for curriculum planning, FG may be a complement

Conclusion

This analysis of the measurement of culture and cross-cultural competencies has revealed that there is much variance in how researchers have assessed the two. Despite the variations, most studies tended to address either attitudes or curricular effectiveness. The primary difference was that attitudinal studies tended to be qualitative and curricular effectiveness studies were often quantitative. With respect to quantitative studies most of the items explicitly addressed culture. Political correctness and social desirability may have influenced some responses, especially since only two out of twenty-one studies found ambivalence and skepticism about cross-cultural education (Dogra & Wass; Kairys & Like). None of the studies directly or explicitly assessed what faculty physician knew, believed, or practiced. Although few studies in the sample used mixed methods, Betancourt (2003) proposed that the approach may be most effective in evaluating this cross-cultural competencies.

Educational Significance

Many researchers are interested in cross-cultural education as it pertains to attitudes of students and faculty. While the explicit aim of attitudinal studies is not to investigate whether a particular intervention is effective or not, many believe that perceptions may provide guidance for curriculum planning, as they are an indicator of what is learned and portray what medical professionals value and believe that they know. The results of this study offer a platform for discussions on how to measure cross-cultural competence within the profession. Even more, by developing such measures, it becomes possible to bridge the discrepancies between what health care learners report to believe and know and what the goals of cross-cultural education may be.

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