Assessing Cultural Competence in Graduating Students

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Abstract
Twofold purpose of this study was to develop a framework to understand cultural competence in graduating social work students, and test that framework for appropriateness and predictability using multivariate statistics. Scale and predictor variables were collected using an online instrument from a nationwide convenience sample of graduating social work students (n = 513) from 43 institutions accredited by CSWE. Results revealed that there was a good fit between the statistical model and data collected. The best fit model suggested that different demographic variables of respondents had varying effects on knowledge, attitude and belief, and skill components of cultural competence. Amount of education in human diversity and age were the two variables that affected their cross-cultural knowledge. Amount of education in human diversity, political affiliation, and years of education affected their own attitudes and beliefs while working with diverse populations. The amount of education in human diversity, gender, ethnicity, spirituality, political affiliation, and years in social work job were the 6 demographic variables of the respondents that influenced their skills when working with people from diverse backgrounds. Implications for education and practice are discussed.

Keywords – cultural competence, Cross-Cultural Inventory, multivariate statistics

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Introduction

We live in a multicultural society where people from different ethnic, socio-cultural, and geographic backgrounds live together. One in every 3 residents in the U.S. currently identify themselves as part of an ethnic group other than single race non-Hispanic White, 1 of every 5 Americans will be 65 years of age or older by 2030, in 2002, around 18% of the population reported as having some level of differential ability, and 11% were reported to have severe disabilities (U.S. Census Bureau, 2006). Nevertheless, overt and covert prejudice, hatred, and discrimination are still ugly realities, and there is division and conflict between people of various racial and cultural groups (Sue, 1999). Despite continuous efforts to fight oppression and racist ideologies, inequalities are still blatant and explosive. In this context, human service providers face several dilemmas when providing services to people from different groups. To provide ethically sound services, practitioners need to be equipped with cultural knowledge and cross-cultural skills.

Current emphasis on teaching human diversity is based on the assumption that teaching about diversity leads to awareness, knowledge, understanding, acceptance, and sensitivity of differences. These attributes are seen as prerequisites for empowering clients from diverse cultural and social environments (Sue, Ivey, & Pedersen, 1996). In addition to educational experiences, students' own socio-politico-cultural and behavioral characteristics influence their perspectives on diversity. However, these assumptions need to be tested in professional programs in higher education. Despite the continued attention that diversity education has received, not many empirical studies have contributed to our understanding of the processes involved in the development of cultural competence.

Purpose of the Study

The twofold purpose of this study was to develop a framework to understand cultural competence in graduating social work students, and test that framework for appropriateness and predictability using multivariate statistics. An instrument (Cross Cultural Inventory, CCI) was developed to measure the three major components of cultural competence: (a) knowledge, (b) attitudes and beliefs, and (c) skills. The psychometric properties of CCI were tested on a nationwide sample of graduate social work students. Individual background variables that affect cultural competence were also collected. We then tested the fit of the actual data with the hypothesized model using structural equation modeling. The article is organized in the following order: (a) conceptualization and theoretical foundations of cultural competence, (b) development of CCI, (c) research design, (d) results, (e) discussion and applications to education and practice and (f) limitations and suggestions for future research.

Conceptualization and Theoretical Foundations of Cultural Competence

Becoming a culturally competent professional involves: (a) the development of attitudes and skills that cut across cultures, and (b) culture-specific education that avoids stereotypes (Imber-Black, 1997). While sensitizing students to diversity issues, it seems imperative to initiate a dialogue on culture because people do not thrive in isolation, and culture shapes how people experience their worlds. Culture plays a substantial role in influencing worldviews of both professionals and clients

(Harper & McFadden, 2003). This basic tenet is a vital component of how services are delivered and received. If professionals have positive self-identities, they are better able to value and respect their clients' identities (Pinderhughes, 1989). In this section we define culture, competence, and cultural competence as they pertain to this study, followed by major unifying themes emerging from psychology and social work theories.

Culture

Although sometimes limited to social class and race, culture implies a way of life in which the people of different groups absorb and assign specific meaning to their actions over time (Marger, 2003). For the purpose of this study, a very broad and universal definition of culture was chosen, where all forms of social and biological identities or shared experiences are included (Ramsey, 2000). It embraces the way in which variables like ethnicity, gender, sexual orientation, class, religion, political affiliation, physical and mental abilities, and geographic location, intermingle to influence the values, beliefs, attitudes, and practices of people (Mitchell, 1999).

Competence

Competence refers to ways of living acquired by various groups to survive in their environments and includes their abilities to function successfully (Aponte, 1995). Applied to the competency of professionals, they too, need to acquire ways to practice that honor diverse clients. In the next section we define cultural competence.

Cultural Competence

Cultural competence can be defined as the ability of professionals to function successfully with people from different cultural backgrounds, including, but not limited to, race, ethnicity, culture, class, gender, sexual orientation, religion, physical or mental ability, age, and national origin (Appleby, Colon, & Hamilton, 2001). A set of similar attitudes, actions, and procedures are compiled by professionals to enable them to work efficiently in multicultural environments (Cross, 1988; Rice, 2007). Cultural competence begins with an awareness of one's own cultural beliefs and practices, and the recognition that others believe in different truths/realities than one's own. It also implies that there is more than one way of doing the same thing in a right manner. Awareness of one's own biases/prejudices is essential to this process and is rooted in respect, validation, and openness toward differences among people (Green, 1999).

Major contributions of psychology theories

The psychology models developed to understand cultural competence are dynamic in nature. They all emphasize the effects of the interaction of human beings with their unique environments. There is continuous apprehension in the counseling and educational psychology literature regarding the nature of culturally competent practice (Arbona, 1998; Fischer, Jome, & Atkinson, 1998). Emic (culturally specific) and etic (universal) are two approaches to counseling the culturally different. Three-dimensional models for multicultural counseling and the process oriented models for

cultural competence are based on emic approaches. The worldview theories, on the other hand, are etic or universal in nature. The multicultural movement began with the aim to provide culturally sensitive services, whereas earlier, emphasis was placed on making clients fit into the service categories (Harper & McFadden, 2003). The focus shifted with the increased awareness about diversity issues and understanding that no particular ways of adaptation/intervention were much better than others. Rather, the social-political-economic-cultural situations in which people are embedded define/color their perceptions of reality.

In essence, cultural competence of professionals is affected by the processes that shape their cultural identities, which are, in turn, influenced by their own worldviews and the worldviews of their clients. The differences between the clients and the workers in any helping relationship cannot be ignored, but need to be brought to the forefront to develop trust and acceptance in the professional relationship. In order to reach that level of cultural competence, workers need to be aware of their own attitudes and beliefs, and develop knowledge and skills to effectively work with clients from diverse backgrounds. The major contributions from the psychology literature toward the development of the cultural competence framework for this study are summarized in Figure 1.

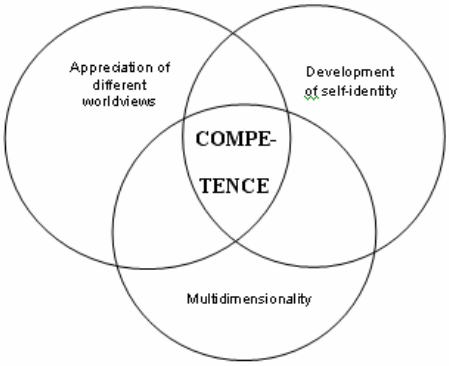

Figure 1. **Psychological frameworks for understanding cultural competence.**

Major contributions of social work theories

Anderson (2003) depicted a cultural framework with three major perspectives on human diversity: (a) ethnocultural diversity, (b) oppression, and (c) vulnerable life situations (Figure 2). This classification matches perfectly with the development of cultural competence in the social work literature. Two central frameworks have been the strengths and the empowerment approaches, with a vision that all human beings receive social justice. In order to provide justice to all, we need to (a) fight oppression, (b) value and recognize worldview differences among people, and (c) enable people in vulnerable life situations to maximize their potential even in times of adversity, by providing support and resources for them (Anderson, 2003; Krentzman & Townsend, 2008; Lum 2003; Teasley, 2005). Other frameworks can be seen as different manifestations of these core ideas. In the next section we describe the development of Cross Cultural Inventory (CCI) for collecting data on the predictor and scale variables.

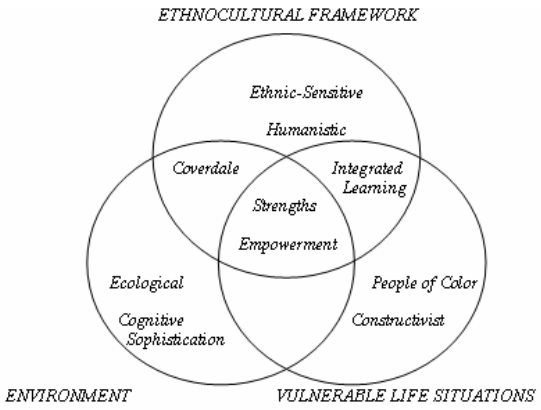

Figure 2. **Social Work frameworks for understanding cultural competence.**

Development of CCI

In order to develop CCI it was imperative to define the different components of cultural competence. We incorporated these 3 components based on the literature review: (a) knowledge, (b) attitudes and beliefs, and (c) skills that were identified in the literature (Boyle & Springer, 2001; Holcomb-McCoy & Meyers, 1999; Krentzman & Townsend, 2008; Lum, 2003; Manoleas, 1994; Sue et al., 1996). Using social constructivist and postmodern perspective for integrating cross-cultural issues in teaching social work, instructors aim to combine students' theoretical understanding with personal experiences in a reflective manner (George & Tsang, 1999; Lee & Greene, 1999). First step is try to create self awareness among the students about their own socio-cultural worldviews, followed by emphasis on appreciation of varied ways of handling diverse situations through input of knowledge and skills.

Competence includes both the knowledge as well as the experiential components, not an either/or approach. Students need to be sensitized about diversity issues not only on the knowledge level, but also on understanding and insight levels. It involves the development of understanding culture and cultural variations, and application of the knowledge while working with clients from diverse backgrounds (Hurdle, 2002). Hence, cultural competence can never be learned in a vacuum, but requires active learning and application over a long period of time (Vonk, 2001). Conceptual and operational definitions for the 3 components of cultural competence that guided the development of CCI are now elucidated.

Knowledge

Conceptual definition

In the context of cultural competence knowledge is defined as the specific information (facts, theories, and principles) taught in the course on human diversity/social justice/oppressed populations to facilitate culturally diverse social work (Lum, 2003). Ponterotto, Rieger, Berrett, and Sparks (1994) combined the knowledge and skills component to measure universal counseling knowledge and detailed multicultural counseling knowledge. LaFramboise, Coleman, and Hernandez

(1991) also measured a composite score of cultural competence. Sodowsky, Taffe, Gutkin, and Wise (1994), however, included a specific knowledge component that measures treatment planning, case conceptualization, and research related to cross-cultural counseling. This component included the pedagogic proficiencies that are needed by therapists to be culturally effective.

Operational definition

For the purpose of this research, knowledge was defined as the act or state of knowing. It is a clear perception of fact, truth, or duty, and cognition. In terms of cultural competence, the knowledge component includes the case conceptualization, treatment planning, and research related to cultural competence. It also includes the abilities of workers to actively attempt to understand the worldview of culturally different clients, as well as the political and institutional barriers that may affect each of them differently.

Attitudes and Beliefs

Conceptual definition

Even though most researchers have adapted Sue, et al.'s (1996) framework for understanding and empirically measuring cultural competence, different labels have been suggested for the attitudes and beliefs component, such as awareness and values. Ponterotto et al. (1994) identified a separate component — an awareness subscale that includes cultural awareness of multicultural issues. Lum (2003) identified cultural awareness as "crucial to an awareness of ethnicity and racism and its impact on professional attitude, perception, and behavior" (Lum, 2003, p. 64).

Operational definition

Attitudes/beliefs refer to a positive or negative evaluation, at some level of intensity, toward an attitude object—nothing more, nothing less. They play important roles in our social adaptation and functioning in personal and professional spheres. Our awareness is affected by our ability to understand and change our beliefs and attitudes. When working with different cultural beliefs, our attitudes and beliefs (based on our past personal and professional exposure) shape how we interact with and provide services to clients. Hence the attitudes and beliefs component of cultural competence measures whether individuals are actively engaged in the process of gaining awareness regarding their own assumptions about different human behaviors, values, attitudes, biases, and preconceived notions.

Skills

Conceptual definition

There has been an ongoing debate - whether the skills component is an independent component or is inseparable from the knowledge and awareness components. Counselors might be culturally self-aware and culturally competent, but still need skills in collecting, organizing, and evaluating cultural data (Ridley, Li, & Hill, 1998). Sodowsky et al. (1994) included a specific skills component to measure

both emic (culturally specific) and etic (universal) multicultural counseling skills. According to Manoleas (1994) the skills component includes the development of strategies for conducting effective interviews, assessment, and evaluation. It also involves effective communication that facilitates a positive rapport that strengthens the helping relationship and enables both clients and professionals to navigate all cross-cultural barriers.

Operational definition

The skills component is measured through the ability of the worker to actively acquire appropriate and relevant clinical skills and techniques in working with diverse clients, i.e. alertness of workers' own communication styles and barriers. Research and sampling design are outlined in the following section.

Research Design

The psychometric properties of CCI were tested on a nationwide sample of graduate social work students using a cross-sectional research design. Individual background variables that affect cultural competence were also collected. EZSurvey, an Internet based program, was used to put CCI online for 2 months. SPSS 15.0 was utilized for testing the reliability and validity calculations. Purposive sampling was employed and the unit of analysis was graduate level social work students in CSWE accredited institutions. The deans/directors of all 147 CSWE accredited Schools of Social Work were asked via email to invite their students to participate. After gaining their agreement, technology specialists in each school were asked to forward an invitational email to all of their graduate social work students. CCI was put online and after 3 weeks, a reminder email was sent to the deans/directors. Students from 29% of the CSWE accredited Schools of Social Work (43) participated in the study, and Figure 3 shows participation of the schools by geographic location.

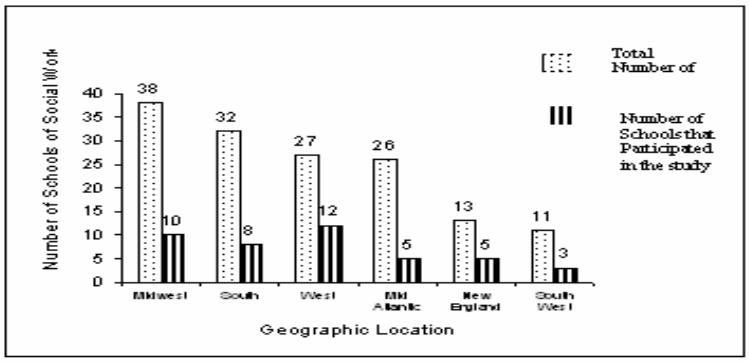

Figure 3. **Participation of social work schools by geographic location.**

An anonymous web based survey allowed us to reach out to a larger sample (n =513) from diverse geographic locations in a very short period of time (6 weeks). It was cost effective, and completed by the respondents at their convenience. After testing the psychometric properties of CCI, structural equation modeling (SEM) was utilized to generate the best fit model that assessed the development of cultural

competence in graduating masters level social work students using Analysis of Moment Structures (AMOS) software (Aurbuckle & Wothke, 1999).

Results

Demographics of the Respondents

The convenience sample (n =513) of graduate social work students was from 43 CSWE accredited Schools of Social Work in the U.S. Women constituted 90% of the sample, 78% of the respondents identified themselves as European American, 43% were single, about 78% reported that they were very spiritually oriented, and only 15% of respondents reported having a disability of any kind. Around 12% of responding students identified themselves as Republican, 18% as Independents, and 42% as Democrats. Nearly 12% identified themselves with the others category, i.e. liberal, Green Party, progressive, radical, socialist democrat. More than half of the respondents lived in urban areas, 25% resided in suburban areas, and only 13% were from rural areas.

Students were asked to record amount of diversity content to which they have had in their higher education curriculum. Twelve percent of the responding students reported that they did not have any diversity content in their higher educational experience, and approximately 18% reported that not a lot of diversity content had been covered in their educational careers, although 70% indicated that diversity education had been an important component in their professional training.

The mean age of the group was 31.19 (SD 8.76), with a range from 22 to 67 years. The sample was predominantly heterosexual (88%), 4% identified themselves as bisexual and 6% as homosexual. The monthly family income of the respondents ranged from 0 to $68,000, with a mean of $30,557 in the first analysis. All of the cases with no income were included as it was assumed that one might be a dependent full time student with no personal income. The group had around 18 years of education on average (SD 1.33), and a mean of 3.81 years of social work employment, with a range of 0 to 30 years (SD 4.33).

Psychometric Characteristics of CCI

CCI (originally 57 items) contained three unidimensional scales: (a) knowledge (16 items), (b) attitudes and beliefs (23 items), and (c) skills (18 items). CCI items were reduced to increase scale validity and reliability based on these criteria: (a) item correlations > 0.30 consistently, (b) single item-total correlations > 0.45, (c) corrected item-total correlations mean > 0.50, and (d) acceptable value of Cronbach's alpha coefficient of 0.80 and above. The pool of items was thus reduced to 22 items (Table 1). The knowledge and skills components of CCI had high reliability (0.80 and 0.88), and the reliability for attitudes and beliefs was 0.76, which is acceptable to use in group analyses. The validity results for the three subscales are detailed below.

Table 1
Items in the 3 Subscales

Subscale and #	Items
Knowledge 1	I understand people from a different racial background than mine.
Knowledge 3	I understand people of a different gender than mine.
Knowledge 4	I have knowledge of characteristics of the clients whom I serve.
Knowledge 6	I understand people from a different age group than mine.
Knowledge 9	I understand people from a different social class than mine.
Knowledge 11	I understand people with different abilities (mental/physical).
Attitudes and Beliefs 6	I am comfortable discussing gender issues.
Attitudes and Beliefs 8	I am empathetic to the problems faced by homosexuals.
Attitudes and Beliefs 9	I am comfortable discussing political issues different from mine.
Attitudes and Beliefs 11	I am comfortable with the differences between my clients and myself.
Attitudes and Beliefs 14	I respect indigenous helping practices in different cultural communities.
Attitudes and Beliefs 17	I am comfortable working with people from various religious backgrounds.
Skills 1	I brainstorm various techniques that would be helpful when working with culturally diverse clients.
Skills 2	I know what to do when there is value conflict between my client and myself.
Skills 4	I identify the multicultural variables (e.g. ethnicity, age, gender) that may influence the intervention process.
Skills 5	I know how to terminate with clients/systems in a way that links them to culturally sensitive community resources.
Skills 8	I know how to establish intervention goals jointly with clients.
Skills 9	I know how to formulate culturally appropriate intervention strategies.
Skills 11	I have the ability to deal with conflicts between my clients' values and organizational policy.
Skills 12	I know how to assess cultural strengths.
Skills 15	I know how to establish follow-up strategies when working with culturally diverse clients.
Skills 16	I have the skills to use cultural differences as strengths in my intervention.

Subscale 1: Knowledge

Table 2 shows the values for all of the criteria being measured for item selection and to calculate the content validity of the knowledge subscale. The six knowledge items correlated highly with each other, and not with the attitudes and

skills subscales, thereby validating the content validity of the knowledge subscale. The coefficient alpha was 0.83, indicating a respectable level of internal consistency (Springer, Abell, & Nugent, 2002).

Table 2
Content Validity of Knowledge Subscale

Item #	Knowledge (Total Correlations)	Knowledge (Corrected Item Total Correlations)	Attitudes (Total Correlations)	Skills (Total Correlations)
K1	0.758	0.618	0.275	0.389
K3	0.762	0.632	0.299	0.323
K4	0.634	0.499	0.409	0.530
K6	0.761	0.631	0.286	0.372
K9	0.800	0.691	0.476	0.512
K11	0.687	0.531	0.334	0.387
Mean	0.734	0.600	0.346	0.418

Subscale 2: Attitudes and Beliefs

Table 3 lists the 6 items that constitute the attitudes and beliefs subscale and reports the criteria used for measuring the content validity as 0.48. One major problem in the attitudes and beliefs scale was that some of the items from the attitudes and beliefs subscale correlated well with the knowledge and skills subscales. For example, note that A-14 in Table 5 correlates more strongly with Skills than with Attitudes and Beliefs; however, upon examination by the authors and a panel of experts a professional judgment was made for content validity that the statement itself (I respect indigenous helping practices in different cultural communities) clearly indicates a respectful attitude. The confirmatory factor analysis technique only aids us in finding whether the items are highly correlated and loading together; it cannot help us build theories or constructs (Nunnally & Bernstein, 1994). Even though the Coefficient alpha of 0.75. is not seen as a desirable value of alpha in the practice scenarios, it is acceptable when conducting analyses on group level data (Springer, Abell, & Nugent, 2002).

Table 3
Content Validity of Attitudes and Beliefs Subscale

Item	Attitudes and Beliefs (Total Correlations)	Corrected Item Total Correlations	Knowledge (Total Correlations)	Skills (Total Correlations)
A6	0.692	0.526	0.351	0.432
A8	0.655	0.469	0.253	0.311
A9	0.716	0.508	0.297	0.357
A11	0.633	0.469	0.383	0.456
A14	0.657	0.491	0.293	0.545
A17	0.627	0.443	0.297	0.369
Mean	0.663	0.484	0.312	0.412

Subscale 3: Skills

Table 4 reports the criteria used for the skills subscale content validity. All of the criteria were met, with content validity of 0.60. Coefficient alpha was 0.88, again a respectable level of internal consistency (Springer, Abell, & Nugent, 2002).

Table 4
Content Validity of Skills Subscale

Item #	Skills (Total Correlations)	Skills (Corrected Item Total Correlations)	Knowledge (Total Correlations)	Attitudes and Beliefs (Total Correlations)
S1	0.607	0.495	0.348	0.346
S2	0.632	0.528	0.430	0.377
S4	0.667	0.581	0.379	0.415
S5	0.738	0.646	0.372	0.399
S8	0.688	0.604	0.369	0.442
S9	0.797	0.738	0.451	0.457
S11	0.624	0.520	0.366	0.448

S12	0.687	0.605	0.381	0.441
S15	0.751	0.675	0.414	0.488
S16	0.719	0.641	0.379	0.421
Mean	0.691	0.603	0.389	0.423

All three components together explained 40% of the variance, and the correlations were moderately strong (ranging from 0.41 to 0.74) (Table 5). We now discuss the findings from the best fit model on cultural competence.

Table 5
*Confirmatory Factor Analysis Factor Loading Estimates**

	Factors		
Item #	1 (Knowledge)	2 (Attitudes)	3 (Skills)
K1	.655	7.214E-02	.215
K3	.708	.150	9.329E-02
K4	.429	.217	.400
K6	.694	.111	.161
K9	.649	.299	.293
K11	.512	.180	.228
A6	.185	.568	.237
A8	.103	.546	.141
A9	.137	.585	.164
A11	.211	.417	.332
A14	5.019E-02	.428	.482
A17	.157	.411	.244
S1	.193	.160	.474
S2	.302	.176	.463
S4	.196	.230	.535
S5	.164	.154	.659
S8	.174	.247	.579
S9	.227	.181	.736
S11	.194	.312	.442
S12	.169	.242	.585
S15	.176	.227	.686
S16	.166	.162	.661

* Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.

Statistical Fit between the Theoretical Framework and the Data

Relationships were examined within cultural competence, a latent variable with three indicators: knowledge, attitudes and beliefs, and skills, along with other background variables of the respondents. The hypothesized model is presented in Figure 4. Ovals represent latent variables, rectangles represent measured variables, and the small round circle show the estimated error factor. The absence of a line connecting variables implies a lack of a hypothesized direct effect.

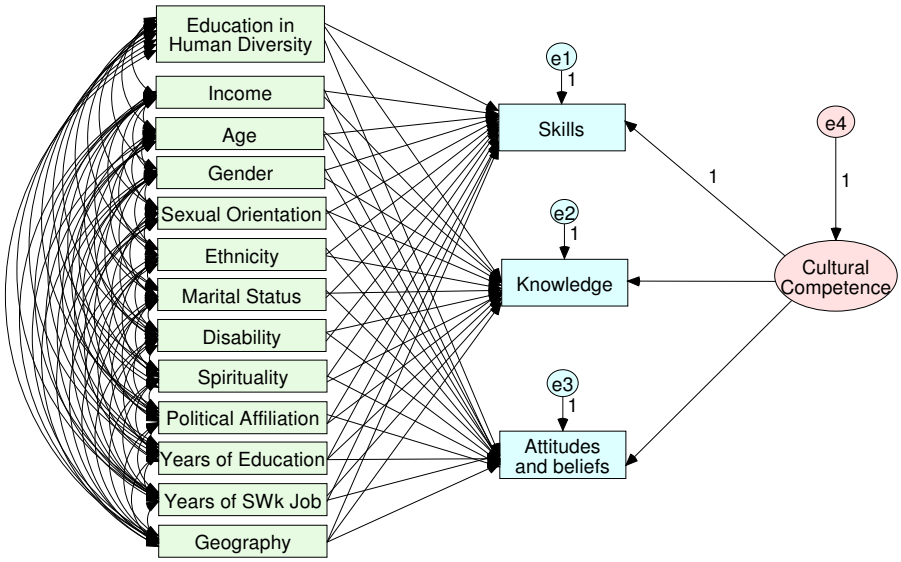

Figure 4. Model to assess cultural competence in graduating social work students.

The statistical model proposed that despite the inclusion of diversity education for development of culturally competent practitioners, their individual differences in age, income, gender, sexual orientation, spirituality, political affiliation, race/ethnicity, physical and mental abilities, years of education, and years of work experience (independent variables), strongly impact levels of cultural competence (the dependent variable).

Measures of fit

The model was recursive, and the total number of distinct parameters was estimated to be 136. The number of distinct sample parameters was equal to the number of distinct sample moments (136). Hence, the degrees of freedom was zero. The chi-square value was 0, and the probability level could not be identified. This implies that the model was just identified. All possible paths were initially included in the saturated model. In the next step, identifying the best fit model, some of the constraints among the parameters were removed. The obtained solutions of the statistical model (based on the C.R. and p. values of the regression coefficients) were

used to modify the model to improve its fit to the observed data (Hoyle, 1995; Maruyama, 1998; Tabachnick & Fidell, 2001). The parameters that were not statistically significant were gradually deleted and goodness of fit was improved, based on the significance levels obtained through testing the interactions of each variable one by one. The final reduced model was generated (hereafter referred to as *the Best Fit Cultural Competence Model*) where few indicators explained maximum variations in the development of cultural competence.

The overall fit information for the Best Fit Model is: 13) ² א, N = 513) = 12.761, p > 0.466, GFI = 0.966, AGFI = 0.977, TLI = 1, CFI = 1, and RMSEA = 0. Table 6 briefly summarizes the abbreviations and acceptable ranges for all the measures of fit that were used as modeling criteria. The Best Fit Model fit the data well as the ² א value was not significant (0.466). The model is further supported by the power inherent in the sample size of 513. Even with that level of power, the chi square did not yield differences between the data and the model.

Table 6
Model Fit Indices Adapted from Dilalla (2000) and Hoyle and Panter (1995)

Test Name	Ideal Score	Brief Explanation
Absolute Fit Indices		
Chi-square statistic (² א)	p > 0.05	"Statistical test of the lack of fit resulting from over-identifying restrictions placed on a model. Contrary to common belief, the ² א evaluates the fixed rather than the free parameters in SEM" (Hoyle & Panter, 1995, p. 166). "It is useful for comparing groups" (Dilalla, 2000, 452).
Goodness-of-fit index (GFI)	> 0.90	"Indexes the relative amount of the observed variances and covariances accounted for by a model. Analogous to R² commonly used to summarize results of multiple regression analyses" (Hoyle & Panter, 1995, p. 166). "Behaves consistently across estimation methods" (Dilalla, 2000, 452).
Adjusted goodness-of-fit (AGFI)	> 0.90	"Adjusts GFI for degrees of freedom" (Dilalla, 2000, 452).
Root mean square error of approximation (RMSEA)	< 0.05	"Measures absolute fit but adds penalty for lack of parsimony" (Dilalla, 2000, 452).
Relative Fit Indices		
Tucker-Lewis Index (TLI)	> 0.90	"Compares the lack of fit of the target model to the lack of fit of a baseline model, usually the independence model. Value estimates the relative improvement per degree of freedom of the target model over a baseline model. Only recommended for large samples (n > 150)" (Hoyle & Panter, 1995, p. 166). "It performs best with maximum likelihood (ML)

		method" (Dilalla, 2000, 452).
Incremental Fit Index (IFI)	> 0.90	"Same as TLI, but more consistent across different estimation methods" (Hoyle & Panter, 1995, p. 166).
Comparative Fit Index (CFI)	> 0.90	"Indexes the relative reduction in lack of fit as estimated by the noncentral ² א of a target model versus the baseline model" (Hoyle & Panter, 1995, p. 167).

The Best Fit Model is depicted in Figure 5. The Best Fit Model suggested that different demographic variables have varying effects on the knowledge, attitudes and beliefs, and skills components of cultural competence. The amount of education in human diversity, gender, ethnicity, spirituality, political affiliation, and years in social work job were the 6 demographic variables of the respondents that influenced their skills when working with people from diverse backgrounds. Amount of education in human diversity and age were the two variables that affected their cross-cultural knowledge. Amount of education in human diversity (hereby also referred to as diversity education), political affiliation, and years of education affected their own attitudes and beliefs while working with diverse populations.

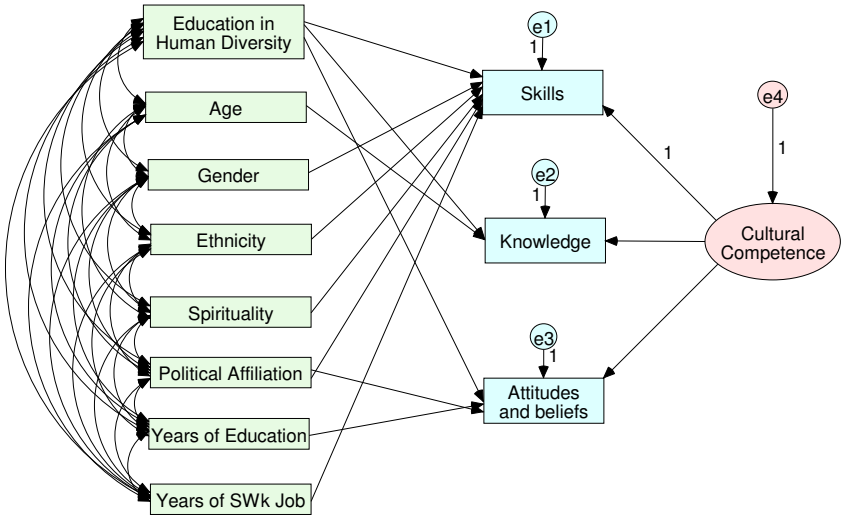

Figure 5. **Best Fit Model to assess cultural competence in graduating social work students.**

Correlation matrix

Table 7 lists the sample correlation estimates of all the parameters in the Best Fit Model. The correlation matrix shows the strengths of the relationship between diversity education and the knowledge, attitudes and beliefs, and skills components of cultural competence. Hence, diversity education interacts with all three components

of cultural competence, although the correlations are not very strong. This can be explained by the presence of residual errors in the model. This implies that even though knowledge, attitudes and beliefs, and skills are important components of cultural competence, there are other components that were not measured in CCI.

Table 7
Sample Correlation Estimates

	DE	AG	GE	ET	SA	PA	YJ	YE	AT	KN	SK
DE	1										
AG	0.040	1									
GE	0.026	0.224	1								
ET	0.005	-0.044	-0.057	1							
SA	0.157	0.279	0.057	-0.132	1						
PA	0.049	-0.030	0.036	-0.097	-0.133	1					
YJ	0.086	0.394	0.104	-0.084	0.128	0.013	1				
YE	0.051	0.005	0.014	0.080	-0.051	0.065	0.044	1			
AT	0.236	0.075	-0.018	0.022	0.024	0.196	0.054	-0.064	1		
KN	0.201	0.111	-0.032	0.006	0.102	-0.033	0.096	-0.044	0.454	1	
SK	0.350	0.117	-0.058	-0.11	0.142	0.138	0.192	-0.045	0.614	0.562	1

Note. DE = Diversity Education; AG = Age; GE = Gender; ET = Ethnicity; SA = Spiritual Affiliation; PA = Political Affiliation; YJ = Years of Social Work Job; YE = Years of Social Work Education; AT = Attitudes and beliefs; KN = Knowledge; SK = Skills

Total effects

The total standardized effects of the Best Fit Model are presented in Table 8. This model explains approximately 77% of variance in the skills component, followed by 53% of variance in the attitudes and beliefs, and 43% of variance in the knowledge component of cultural competence. For this sample, it is evident that the strongest effects of all three components of cultural competence (knowledge, attitudes and beliefs, and skills) are from education that they receive on human diversity issues all through their educational careers. Age has a slight positive effect on knowledge; one unit increase in age results in 0.06 units increase in knowledge toward diversity. The more Democratic the views of the students from the sample, the more they become aware of and are sensitive to their own attitudes and beliefs by 0.205 units. There was an inverse relationship between total number of years of education and attitudes and beliefs of the students. For every one unit increase in their age, their attitudes and beliefs towards working in diverse settings became more negative by 0.047 units.

Table 8
Standardized Estimates of Best Fit Model

Endogenous Variables	Exogenous Variables	Standardized Total Effects
Knowledge	Education in Human Diversity	0.198
(R^2 = 0.43)	Age	0.065
Attitudes and beliefs	Education in Human Diversity	0.227
(R^2 = 0.53)	Political Affiliation	0.205
	Total Number of Years of Education	-0.047
Skills	Education in Human Diversity	0.326
(R^2 = 0.77)	Political Affiliations	0.142
	Years of Social Work Employment	0.121
	Spirituality	0.062
	Ethnicity	-0.105
	Gender	-0.064

Political affiliation had a positive relationship with the skills of the students. One unit increase in the thinking towards democratic views increased the skills by 0.142 units. Moreover, one unit increase in total number of years of work experience in social work related jobs resulted in an increase in skills by 0.121 units. Similarly, spirituality had a positive relationship with skills. One unit increase in the level of spirituality resulted in an increase in the skills by 0.062 units. The inverse relationship between the skills component and ethnicity explains that people from other minority groups were more skilled than Caucasians in working with diverse populations. As men were coded as 1 and women as 0, the inverse relationship between gender and skills implies that women were more skilled when working with diverse populations than men by 0.064 units.

Discussion and Applications to Education and Practice

The focus of this cross sectional research was to raise our understanding about the development of cultural competence in graduate social work students. CCI was developed to measure the three components of cultural competence: (a) knowledge, (b) attitudes and beliefs, and (c) skills, and a factor analysis confirmed these three factors. The knowledge and skills components of CCI had high reliability (0.80 and 0.88), and the reliability for attitudes and beliefs was 0.76, which is acceptable to use in group analyses. Moderately high correlations were observed for the three subscales indicating that the participants were very culturally competent (knowledge: 0.734, attitudes and beliefs: 0.663, and skills: 0.691).

The Best Fit Model predicted that amount of education in human diversity as well as the graduate social work students' own background variables influence cultural competence. *Amount of* e*ducation in human diversity* was strongly correlated with all three components of cultural competence (knowledge, attitudes and beliefs, and skills). Therefore, education about diversity issues is an important construct in the process of understanding the development of cultural competence.

Political affiliation was directly related to students' attitudes and beliefs as well as their skills when working with clients from diverse backgrounds, with more liberal students demonstrating more cross-cultural competence. Inclusion of diversity education has always resulted in a heated debate in both academic and political circles (Marger, 2003). Some liberals and radicals argue that multiculturalism, as a movement, does nothing to fight injustices inherent in social structures (Alexander & Smelser, 1999). They believe that focus on human diversity education should be toward making practitioners aware and respectful of differences among people. Moreover, their attitudes and beliefs about working with people who are different are more open and respectful than people with conservative thinking. This implies that the more conservative and less liberal the students, the more fixed their ideas become.

The total number of years of education of the respondents was inversely related to students' attitudes and beliefs. This implies that the higher the number of years of education they received, the more conservative their thinking becomes. This finding is in contrast to general assumptions that more education leads to increased cultural competence. In this sample, however, more education was connected to less cultural competence. It could be interpreted that with more number of years of education people become firm in their attitudes, and may even more rigid in their thinking and attached to their own theoretical frameworks. Another possible explanation of this finding is that people whose professional education began several years ago might not have been exposed to diversity issues, although age appears to have enhanced cultural competence. Historically, teaching about working with diverse populations was not always seen as important. Only in the late 1970s and early 1980s did the focus on human diversity issues gain importance. Hence, students who earned their bachelor's degrees earlier might not have experienced the current focus on diversity.

Caucasian students in this sample perceived themselves to be less skilled in working with diverse populations than students from other ethnic groups. This supports Mitchell's (1999) finding that non-White counselors were more skilled than their White counterparts. We can theoretically explain that people from other minority groups who experienced some form of racism/discrimination themselves, appear to be more skilled in helping culturally different clients. However, this finding cannot be lifted out of context and it would be imprudent to make such a statement because the interaction among the different background variables was not studied here.

Female students perceived themselves to be more skilled than men in working in cross-cultural environments, and older students perceived themselves to be more skilled than their younger peers. This age factor is in contrast to Mitchell's (1999) finding that younger people were more skilled in working with people from diverse cultural backgrounds. Students in this study who reported more years of experience in social work also reported higher skill levels. This also contrasts with Mitchell's (1999) findings. Current data imply that as professionals gain experience and learn over the years, they become more culturally competent. Spirituality was also related to the skills: those who reported being more spiritual also perceived themselves to be more skilled in working with diverse populations.

The demographics that best explained the different components of cultural competence were amount of education in human diversity, ethnicity, political affiliation, and years of social work employment. Years of education, age, and gender also explained a small proportion of cultural competence. These results, however, need to be understood in context of the sample of this population and be interpreted with caution, as the residual errors were very high. Even though these relationships were significant at 0.000, correlations were relatively low. This suggests that there are other variables that account for within and between group differences that were not evident in the literature.

Limitations and Suggestions for Future Research

One major limitation of this study is that the sample for this study was self-selected. Second, the internet based format might have skewed the results and affected the degree to which the participants are representative of the population of graduate social work students. Thirdly, CCI depended on self-report and there might have been some degree of social desirability of response choices, which is hard to correct. Moreover, there was high correlation among the different subscales (knowledge, attitudes and beliefs, and skill) that measured cultural competence and only 40% of the variance was explained by these three subscales, indicating that there are other variables that were not indicated in the current literature on cultural competence. There may be other variables that accounted for individual differences that have not been found in the literature.

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