

# Exploring Dental Students' Perceptions of Cultural Competence and Social Responsibility

**Richard W. Rubin, D.D.S., M.P.H.; Luis O. Rustveld, Ph.D., R.D.; Robert J. Weyant, M.S., D.M.D., D.R.P.H.; John M. Close, M.A.**

*Abstract:* The improvement of basic cultural competency skills and the creation of a greater community-minded spirit among dental students are important parts of dental education. The purpose of our study was to assess changes in dental students' attitudes and beliefs about community service and changes in cultural competencies after participation in a two-year program of non-dental community service (Student Community Outreach Program and Education, SCOPE). During 2003–07, two identical twenty-eight-item surveys were administered to SCOPE participants/completers. In the first, students reported on their attitudes after program completion. In the second, students reported retrospectively on their attitudes prior to starting the program. One hundred twenty-six post- and pre-intervention surveys were matched and assessed for changes in student attitudes after program participation. Based on factor analysis, four distinct scales were identified: 1) community service, 2) cultural competence, 3) communication, and 4) treatment perspective. Over time, statistically significant changes ( $p < .05$ ) in student attitudes and beliefs were found for scales 1 ( $p = .017$ ), 2 ( $p = .001$ ), and 3 (borderline significance,  $p = .057$ ). Scale 4 showed no significant difference ( $p = .108$ ). These scales indicate main focus areas to help guide future dentists in acquiring relevant sociocultural competencies and enabling community-minded attitudes. Overall, this study provides support for the addition of a non-dental community service-learning program into the preclinical curriculum.

Dr. Rubin is Assistant Professor and Director of Student Community Outreach Program and Education (SCOPE), Department of Dental Public Health, School of Dental Medicine, University of Pittsburgh; Dr. Rustveld is Postdoctoral Fellow, Department of Family and Community Medicine, Baylor College of Medicine; Dr. Weyant is Professor and Chair, Department of Dental Public Health, School of Dental Medicine, University of Pittsburgh; and Mr. Close is Assistant Professor, Department of Dental Public Health, School of Dental Medicine, University of Pittsburgh. Direct correspondence and requests for reprints to Dr. Richard W. Rubin, Department of Dental Public Health, School of Dental Medicine, University of Pittsburgh, 3501 Terrace Street (Salk Hall), Pittsburgh, PA 15261-1933; 412-648-2069 phone; 412-383-8662 fax; rrubin@pitt.edu.

*Key words:* dental education, cultural diversity, competency-based education, educational models

*Submitted for publication 2/27/08; accepted 6/24/08*

Changing demographics in the United States and globalization have resulted in U.S. medical and dental schools relying more heavily on the teaching of core values such as professionalism, altruism, and dutifulness.<sup>1</sup> For example, the increase in at-risk and underserved populations has made necessary the exploration of new health care delivery and insurance models and has required professionals to respond to consumer demands to place the interest of the public paramount. Students should be prepared to understand the needs and perspectives of culturally diverse populations, be able to recognize multiple determinants of health, and be capable of communicating with people across a variety of cultural settings.<sup>2</sup> This preparation is commonly referred to as the development of cultural competency skills.

There is a mounting body of literature that proposes the need for improvement in these skills among health care professionals and the enhancement of social responsibility that it fosters.

Social responsibility is closely related to students' attainment of cultural competency skills, and this is reflected in their outcomes of community awareness, involvement, and a commitment to service.<sup>3</sup> Core skills such as participating in racially and culturally diverse societies, caring for the community's health, and understanding the role of the patient and family in the decision-making process are important for health professionals to develop.<sup>4</sup> Similarly, students need to understand the social, environmental, and cultural influences on patients' health beliefs and behaviors and know how these beliefs and behaviors

interact at multiple levels of health care delivery.<sup>5</sup> In recent years, educators have diligently attempted to develop educational models able to achieve these ends, yet this is not an easy task.

The development of Student Community Outreach Program and Education (SCOPE) is our attempt to help create this desired atmosphere and enable the development of the core skills. SCOPE was created at the University of Pittsburgh in 2001 and is one of several ongoing investigative projects at the Center for Oral Health Research in Appalachia (COHRA). SCOPE's mission is to increase the workforce of dental professionals who are willing to treat underserved and at-risk populations. To accomplish this mission, the educational goals of SCOPE are to 1) enable development of student cultural competence and communication skills; 2) create a more empathetic, personally committed dentist; and 3) create an atmosphere of community-minded dentists. The purpose of our current study is to evaluate student gain in attainment of these goals after participation in the SCOPE preclinical program.

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## Materials and Methods

In SCOPE, it is mandatory for all entering dental students to perform forty hours of non-dental, public health-related services in a variety of community settings generally in the Pittsburgh area. SCOPE activities may begin as early as the first few weeks of dental school and must be completed by the end of students' second year. By working in non-dental settings, students encounter a broad range of patient, family, and community desires and demands. In these settings, students can more directly experience the multidisciplinary link among public health, medicine, and dentistry as they are exposed to both racially and culturally diverse environments and perspectives. Examples of services selected include volunteering for groups addressing disaster relief, treating individuals with mental and physical disabilities, working with families of sick children, and participating in fundraisers for groups targeting AIDS, diabetes, and breast cancer. At the end of their second year, students are required to submit a written journal reflecting on their community experiences and how their personal and professional attitudes and beliefs were affected. The SCOPE project is described in more detail in a recent publication by the first author (RWR).<sup>6</sup>

## Study Design and Population

We carried out a descriptive study, derived from the SCOPE project, to assess dental students' attitudes and beliefs regarding community service and cultural sensitivity. In the period 2003–07, 339 dental students (representing 94 percent of the 362 total dental students in the combined classes of 2005, 2006, 2008, and 2010) filled out a twenty-eight-item survey (Table 1) that was handed in along with their journals as post-intervention (post-SCOPE) surveys. Of these, 292 students completed responses on all twenty-eight survey items (81 percent of all students), and these responses were used to define latent traits among the items. The data from the class of 2010 (first-year students) are included in all of the factor structure results, but are not included in any results comparing the post-SCOPE survey to the retrospective pre-SCOPE survey. The demographic description of the classes, taken from school records, was rather homogeneous; combined information for all classes is shown in Table 2. The average age of students at entrance to dental school was 25.9 years. Ethnicity was Caucasian (71 percent), Black or African American (1 percent), Hispanic (6 percent), and Other (22 percent, including Asian and Middle Eastern). Sixty-three percent were male. Students volunteered to fill out surveys, and approval for this study was obtained from the Institutional Review Board (IRB) at the University of Pittsburgh.

For those who took this as a post-SCOPE survey (all students except class 2010,  $n=286$ ), an identical survey was then given three weeks later as a retrospective pre-SCOPE survey (also referred to as post-then-retrospective pretest, or RPT), in which students were asked to fill out the survey based upon their recall of attitudes and beliefs when they first entered dental school. It was emphasized to students that the purpose of the retrospective pre-SCOPE survey was not to recall and reproduce their previous answers given on the post-SCOPE survey, but instead students were asked to provide answers that reflected a separate judgment upon reflection (“knowing what you know now, tell us what you would have thought when you entered dental school”). The rationale for the use of the RPT is described in the next section of this article. Due to the non-mandatory nature of survey completion, student absenteeism (retrospective pre-program surveys were given in a non-related classroom setting during the last twenty minutes of class time), and incompletely filled out surveys, data were available on completed matched sets of

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**Table 1. Survey items (twenty-eight items, given as both post- and retrospective pretest)\***

1. People who miss appointments and ignore health recommendations do not have a right to continued health care.
2. Families from different cultures will have different expectations of their children for acquiring oral hygiene and other self-help skills.
3. A patient's cultural background/beliefs will influence the creation and development of his/her dental treatment plan.
4. The quality of the dental services performed is generally lower for patients of a low socioeconomic status.
5. Approaches to oral health care, such as altering hygiene and diet, are influenced by the culture of the individual.
6. I respect the decisions of my patients when they are influenced by their culture, even when I disagree.
7. If I need more information about the patient's culture, I would feel comfortable asking the patient or family member.
8. If I need more information about the patient's culture, I would feel comfortable asking other health professional colleagues.
9. I feel somewhat uncomfortable working with the families of patients from cultural backgrounds different from my own.
10. I feel confident interacting with people of different ethnic/racial/cultural backgrounds.
11. For family members who speak languages and dialects other than English, I attempt to learn and use key words in their language so that I am better able to communicate with them during assessment and treatment.
12. I will attempt to determine any familial colloquialisms used by children and families that may impact on assessment, treatment, or other interventions.
13. Communication is a critical skill needed for clinical success.
14. A patient's circumstances (socioeconomic status) should not detract from the quality of the services performed.
15. A dentist's interpersonal skills are important in providing clinical success.
16. Working with different cultures has influenced my view of private practice.
17. I empathize with people who are disabled.
18. I picture myself clinically aiding people with behavioral and developmental disabilities.
19. Disregarding legal mandates, I picture myself clinically treating people who have AIDS.
20. After graduation, I will choose to take Continuing Education courses regarding the treatment of individuals with disabilities.
21. An important office protocol is to maintain collaboration with a variety of health care professionals within the community.
22. I picture myself volunteering my dental services to members of the community.
23. Dentists should reserve a percentage of their office time to treat low-income families.
24. Disregarding legal mandates, dentists have an obligation to do community service.
25. A dentist should generally limit his/her volunteerism to those activities within the field of dentistry.
26. Given the choice, I see no reason to volunteer my clinical services if other dentists in my community are available to treat AIDS patients.
27. Community service helps me prepare for my role as a dentist.
28. I picture myself volunteering time away from my practice for performing a variety of community services.

\*Students rated all items on a scale from 1=strongly disagree to 5=strongly agree.

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post- then pre-program surveys for 126 students (44 percent). Although student identification was needed for matching purposes, they understood that any personal information was to be kept confidential and the results had no influence on grading nor were used for any other purpose. Responses were rated on a five-point scale from strongly disagree to strongly agree. Three negatively worded questionnaire items were reverse-coded. A high score defined a more positive change in attitude/belief towards community service or related cultural issues.

## Post-Then-Retrospective Pretest

In general, the post-then-retrospective pretest (RPT), described throughout the article as the post-then-retrospective pre-SCOPE survey, is a well-documented and widely used technique.<sup>7</sup> The choice to use the RPT in our methodology was based upon two major considerations. First, the RPT is used when the goal of the evaluation is to assess the participant's perception of change and when reflection on personal growth related to the program is desired. Thus, the

RPT is recommended as more appropriate for examination of subjective experiences of the program-related changes.<sup>8</sup> Second, due to the phenomena of response-shift bias (participants' change in understanding of the dimension being measured, which can result in adjustment of criteria for self-rating), the RPT may be better suited for evaluation of the impact of interventions on self-ratings.<sup>9</sup> Response-shift bias frequently confounds traditional pretest analysis, and research has produced strong evidence in support of the RPT over the traditional pre/posttest approach to measure meaningful change.<sup>10</sup> Retrospective pretest and posttest ratings have been shown to maximize consistent criteria for pre- and post-intervention self-assessments (both ratings are made with the same internal judgment standards, making retrospection less susceptible to response shift bias).<sup>11-13</sup> This "provides a powerful method of analysis and unbiased estimate of treatment effect."<sup>14</sup>

## Definition of Cultural Competence

For the purposes of this project, cultural competence is defined as a process whereby students progress along a continuum reflecting changes in behaviors, attitudes, and beliefs that enable them to function more effectively in cross-cultural settings. Along this continuum, professionals may go through various stages such as pre-competency, competency, and ultimately proficiency. Included among criteria needed in order to move toward proficiency, students need to 1) value diversity, 2) understand their own cultural biases, 3) be conscious of these dynamics when they interact with patients and colleagues, and 4) internalize cultural knowledge.<sup>15</sup>

Similar to these criteria are the domains set forth by the U.S. Health Resources and Services Administration (HRSA) that are considered important measures of cultural competence, such as the following: values and attitudes (improved understanding, knowledge, and respect for various cultures); cultural sensitivity (heightened knowledge of the needs of community members and how best to deliver health care to individuals); family and community participation (role of the family and community in achieving quality health care); and communication (flow of information via interpersonal exchange).<sup>16</sup> The survey questions used in our study attempted to closely address these criteria and measures; towards this end, previously published questionnaires were used as a guide in our survey development.<sup>3,16-18</sup>

**Table 2. Background characteristics of all classes\***

| Demographic                          | Percentage |
|--------------------------------------|------------|
| Male                                 | 63%        |
| Female                               | 37%        |
| Caucasian                            | 71%        |
| Black or African American            | 1%         |
| Hispanic                             | 6%         |
| Other (Middle Eastern, Asian, other) | 22%        |
| Average age at entrance: 25.9 years  |            |

\*Combined classes of 2005, 2006, 2008, 2009, 2010 (n=362)

## Data Analysis

**Factor Analysis.** One of the goals in this study was the construction and evaluation of conceptual constructs within SCOPE's sociocultural competency survey. Factor analysis is designed precisely for this purpose. Factor analysis identifies relatively independent subsets of variables based on correlations among the total set.<sup>19</sup> Variables that are highly correlated within a subset and relatively uncorrelated with other variables are clustered into factors.<sup>20</sup> A principal components exploratory factor analysis with varimax rotation was performed on all survey items for all classes combined. All items whose loaded values were greater than 0.5 were used to describe the factors. Internal consistency of the scales constructed from identified factors was determined with Cronbach's alpha coefficient. A coefficient greater than or equal to 0.7 was considered a credible level of reliability.<sup>21</sup>

**Analysis of Survey Responses.** Responses to survey questionnaires were coded and entered into SPSS statistical software. Initial analysis involved examination of variable frequencies to identify outliers and to check for data entry errors. Statistical significance of the differences between attitudes before and after the community service experience was determined using a repeated-measures MANOVA with  $p < 0.05$ . Also, to estimate test-retest reliability, the twenty-eight-item survey was initially given to nineteen students of the class of 2009, and a retest was given to them one week later.

## Results

Factor analysis revealed four factors that explained 41 percent of the variance in the data. The four factors were labeled as the following scales (Table 3): 1) community service (six items; Cronbach's alpha=0.90); 2) cross-cultural communication (four items; Cronbach's alpha=0.74); 3) dutifulness (three items; Cronbach's alpha=0.60); and 4) treatment perspective (three items; Cronbach's alpha=0.72). All scale solutions were unique, which

**Table 3. Rotated component matrix of twenty-eight-item survey (n=292)**

| Survey Items<br>(S1-S28) | Scales*     |             |             |             |
|--------------------------|-------------|-------------|-------------|-------------|
|                          | 1           | 2           | 3           | 4           |
| S1                       | .297        | .051        | .359        | -.161       |
| S2                       | -.041       | .081        | .111        | <b>.653</b> |
| S3                       | .032        | .260        | -.105       | <b>.704</b> |
| S4                       | .101        | -.114       | -.044       | .281        |
| S5                       | .029        | .091        | .142        | <b>.695</b> |
| S6                       | .000        | .407        | .159        | .060        |
| S7                       | .055        | <b>.625</b> | .090        | .121        |
| S8                       | -.178       | .431        | .146        | .210        |
| S9                       | .034        | -.283       | -.460       | .184        |
| S10                      | .065        | <b>.561</b> | .221        | -.234       |
| S11                      | .367        | <b>.540</b> | .105        | -.205       |
| S12                      | .363        | <b>.539</b> | .146        | .094        |
| S13                      | -.001       | .218        | <b>.732</b> | .118        |
| S14                      | .186        | .133        | <b>.667</b> | -.023       |
| S15                      | .060        | .222        | <b>.645</b> | .128        |
| S16                      | .331        | .400        | -.094       | .253        |
| S17                      | .256        | .389        | .082        | .201        |
| S18                      | <b>.563</b> | .399        | -.031       | .063        |
| S19                      | .353        | .465        | .122        | -.012       |
| S20                      | .437        | .482        | -.039       | -.082       |
| S21                      | .268        | .387        | .368        | .114        |
| S22                      | <b>.660</b> | .145        | .339        | .131        |
| S23                      | <b>.656</b> | .140        | .055        | .019        |
| S24                      | <b>.744</b> | .024        | .070        | -.007       |
| S25                      | .219        | -.122       | .491        | .123        |
| S26                      | .401        | .106        | .348        | -.155       |
| S27                      | <b>.679</b> | .098        | .117        | .095        |
| S28                      | <b>.662</b> | .035        | .177        | .082        |

Extraction method: principal component analysis.  
Rotation method: varimax with Kaiser normalization.  
Rotation converged in seven iterations.

\*Scale components (>.5) shown in bold per column.

Scales: 1) community service, 2) cross-cultural communication, 3) dutifulness, 4) treatment perspective.

meant that all corresponding items loaded only once under each scale. The corresponding survey items, as indicated in Table 1, for each scale are as follows: scale 1—survey items 18, 22, 23, 24, 27, and 28; scale 2—survey items 7, 10, 11, and 12; scale 3—survey items 13, 14, and 15; and scale 4—survey items 2, 3, and 5.

The MANOVA on all four scales showed no statistical differences in the scale scores between classes ( $p=.129$ ). The results of the comparison of the students' responses on the post-SCOPE survey to their retrospective pre-SCOPE survey are displayed in Table 4, where "1" represents retrospective pre-SCOPE survey data and "2" represents post-SCOPE survey data for each of the four scales. This table shows the positive changes in the mean scores over time for each scale, from school entry to completion of their first two years of dental school and SCOPE, and the corresponding statistical significance ( $p<.05$ ). Scales 1 and 2 show statistically significant changes in student responses from the retrospective pre-SCOPE survey to post-program survey. Comparison of responses for scale 3 may indicate a borderline change, and scale 4 did not exhibit statistical significance.

A test-retest paired sample correlation ( $n=19$ ) of the four scales ranged from .70 to .87 (Table 5).

## Discussion

In our previous study,<sup>6</sup> we demonstrated a potential relationship between dental student participation in SCOPE and the enabling of their cultural competence and social responsibility.

In that study, a description of students' reaction to the non-dental experiences of the program, as seen in a sample of their journal responses, was captured. Also, a qualitative analysis of student journals suggested that their attitudes and beliefs regarding these topics may be arranged in the following categories: 1) compassion (caring, altruism); 2) propriety (understanding needs and perspective of cultures, sympathetic care); 3) wisdom (knowledge, communication skills); and 4) righteousness (placing interests of the patients first).

Utilizing these preliminary findings, our current study involved designing and implementing an alternative pre/post-intervention student survey in order to further explore changes in student attitudes and beliefs during the course of the SCOPE experience. Factor analysis identified four underlying categories

for measuring students' cultural competency skills and commitment to service-learning. These factors were used to form scales for 1) community service, 2) cultural competence, 3) cross-cultural communication, and 4) treatment perspective. We suggest that these four scales subjectively relate well to the previous qualitative categorization.

Analysis of the post-then-retrospective pretest data indicated significant positive changes in the scales related to community service (scale 1) and cultural competence (scale 2), and borderline significance was found in the scale labeled communication (scale 3). Treatment perspective (scale 4) did not show significant changes, but this may be attributable to the nonclinical nature of the program and overall lack of clinical experience at this stage of students' dental school careers. In scale 1, three out of six items begin statements with "I picture myself volunteering (or aiding)" and continue either by stating that they will perform dental services or a variety of other services to people with disabilities or to other members of the community (items 18, 22, and 28). In another related item, they suggest that they will provide office time to low-income families (item 23). One item (item 27) directly links community service with students' role as dentists, and item 24 directly indicates their attitude towards dentists having an obligation to do community service. Scale 2 indicates students' willingness to identify particular patient needs and to seek out information about a patient's culture, language and dialect, and family colloquialisms (items 10, 11, and 12). This willingness includes seeking out aid and information directly from patients and their family members (item 7). Scale 3 represents student understanding of the need for general communication skills. Although this scale received high scores both in the pre- and post-analysis (pretest mean of 4.6), changes were still seen over time as borderline significant. Students indicated changes in understanding the need to develop interpersonal skills (item 15) and the need for obtaining communication skills for successful practices (item 13). Although communication skills (scale 3) are generally not considered separate from overall cultural competency development (scale 2), these loaded separately and were distinct. We suggest that these distinctions illustrate the underlying importance of a holistic understanding of cultural sensitivities not seen in the mere attainment of languages and/or facts as generally seen in scale 3. In scale 2, we are concerned with an understanding of the overall individual's needs based upon that person's culture

**Table 4. Comparison of students' responses on the post-SCOPE survey to their retrospective pre-SCOPE survey responses: mean changes over time per scale (n=126)**

|         | Period* | Mean  | Std. Error | P values |
|---------|---------|-------|------------|----------|
| Scale 1 | 1       | 3.402 | .103       |          |
|         | 2       | 3.651 | .087       | .017     |
| Scale 2 | 1       | 3.671 | .069       |          |
|         | 2       | 3.900 | .068       | .001     |
| Scale 3 | 1       | 4.597 | .058       |          |
|         | 2       | 4.724 | .059       | .057     |
| Scale 4 | 1       | 3.844 | .092       |          |
|         | 2       | 3.995 | .091       | .108     |

\*Period 1: time of entry to dental school and pre-SCOPE (taken as retrospective pre-SCOPE survey).

Period 2: time at end of second year and post-SCOPE.

Mean responses rated on a five-point scale from strongly disagree to strongly agree.

**Table 5. Test-retest paired sample correlations\***

|                 | N  | Correlation | Sig. |
|-----------------|----|-------------|------|
| Scale 1 (T1-T2) | 19 | .70         | .001 |
| Scale 2 (T1-T2) | 19 | .74         | .000 |
| Scale 3 (T1-T2) | 18 | .87         | .000 |
| Scale 4 (T1-T2) | 19 | .85         | .000 |

\*Period of time between T1 and T2 is one week.

and the respect given to that culture. Although scale 4 did not show significant changes over the course of SCOPE, possibly due to the preclinical nature of the program, we believe that these items still may represent important concepts in student development (such as cultural backgrounds influencing the development of treatment plans). In general, we believe that these four scales are important underlying constructs of sociocultural competencies among dental students.

As stated previously, the enabling of volunteerism and cultural competency skills in health care professionals and obtaining outcome measurements of those processes are considered difficult tasks by many health care educators. This may be partially related to the use of the traditional pre/posttest. Traditional pretest response-shift bias is responsible for substantial reductions in power and may account for the small treatment effects commonly found in some areas of psychometric research. Thus, analysis of the post-then-retrospective pretest may be a highly effective

tive method of analysis of estimated treatment effect based upon described change and personal growth of intervention participants.<sup>14,22</sup> The post-then-retrospective pretest is not without its own threats to validity. Biases such as recall, social desirability, effort justification, and cognitive dissonance are potentially damaging to test validity,<sup>23</sup> so if the goal is to provide more objective mean program effects, a true pretest should be used.<sup>8</sup>

A related article reported that statistical significance was found in student attitudes about volunteering in the community over the course of a dental-related program designed to enrich ethics instruction.<sup>24</sup> However, in that study, no significant changes were seen in other scales, including those dealing with cultural competency issues. In contrast, our study used a non-dental criterion over a two-year period, limited response-shift bias by using a post-then-retrospective presurvey, and had each scale with at least three components; consequently, statistical significance was found in cultural competency changes, as well as borderline significance seen in changes of the scale representing cross-cultural communication.

Our results may illustrate the importance of providing students with experiences outside of the dental environment. In our opinion, unless students directly partake in diverse community and family cultural experiences, they may not get the holistic experience needed to improve cultural competency skills. Non-dental service was stressed for the following reasons:

- 1) This program for preclinical students was modeled after programs in other health care professional schools and was designed to link public health, medicine, and dental care. There was a perceived need to develop multiple attributes, including cultural competence, empathy, multiculturalism, etc.; therefore, a broad spectrum of community service was an important element.
- 2) Dental school provides abundant dental-related experiences but often fails to give students a non-dental perspective on health issues.
- 3) Working outside of dentistry provided a broad scope of patient, family, and community desires and demands. A high degree of student reflection and insight was therefore required in these unique settings.

A few study limitations merit mention. First, this study was a cross-sectional observational study using a dental student population from one facility, which means that findings may reflect institutional

characteristics not representative of dental students elsewhere in the United States. Most importantly, because of the cross-sectional nature of this study, and the post-then-pre-intervention (RPT) methodology, we are unable to infer whether students' attitude and belief changes over time are directly attributed to their participation in the SCOPE project. That said, difficulties using a traditional pre-intervention survey, as discussed, may make use of the RPT a more workable approach for this type of study. Also, changes in students' attitudes do not necessarily mean that their personal actions and professional practice approaches will reflect and integrate cultural competencies once they have graduated. To help reinforce this study, a long-term plan would be to evaluate graduates, both those who participated in SCOPE and equivalent nonparticipants from similar communities, after two or three years in practice to see if they are demonstrating behaviors in practice management and personal commitments consistent with the attitudinal changes found in this study. Finally, evaluation of the survey quality has shown fair to good results with regard to construct, discrimination, and predictive validity; however, more work on improving the validity of the survey is important. It is fair to say that this survey may be a promising tool for further research in measuring programmatic changes in student attitudes and beliefs towards community service and cultural competencies.

The twenty-first century has placed many new demands on health care professionals that include a greater public/community health perspective on cultural issues that extend to the family and individual patient level. No health profession is immune to these demands, and dentistry has begun to take a close look at itself and has realized the importance of developing students to meet these criteria. This is not an easy task, and constant efforts have been made to identify and quantify workable teaching programs. When the SCOPE program was initiated, the *raison d'être* was to create an environment for dental students where the development of important attitudes, beliefs, and values regarding cultural issues could be enabled in the hopes that future dental professionals may be more willing to help underserved and vulnerable groups. However, no program works in a vacuum, and broad institutional and professional support, enthusiasm, and leadership are required for success in the ultimate behavioral development of these skills in dental students. Student buy-in depends upon whether they believe that other dental professionals, on all levels,

perceive these behaviors as worthy. As suggested in the Gies report, “The value of liberal education in the development of mental quality, personal character, and social intelligence may be inestimable. The perspective of cultural study guards the mind and the spirit against the relative narrowing influences of a professional education, and yet adjusts them to its exactions.”<sup>25</sup>

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## Conclusion

Participation in the SCOPE program resulted in an improvement in student cultural competence and an increase in students’ sense of social responsibility, regardless of the level of cultural competence exhibited upon entry into the program.

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