

PEER REVIEWED

# Student Perceptions of Cultural Competency

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## Abstract

**Background:** Cultural competence is one approach to reducing healthcare disparities, yet few publications have evaluated cultural competency education in optometry. Our study assesses student perceptions of cross-cultural training in optometric education. **Methods:** Optometry students were surveyed on cultural self-awareness, skills and preparedness. **Results:** Most students reported confidence in self-awareness and general preparedness. Many identified being least prepared to examine patients with a history of domestic violence and least skillful at identifying religious and cultural beliefs that may impact care. **Conclusion:** Systematic evaluation of teaching methods is crucial to ensure optometry students are adequately trained to manage patients with various cultural backgrounds.

**Key Words:** cultural competency, optometric education, language barriers, healthcare disparities

## Background

Healthcare disparities among people of different racial and ethnic backgrounds have been well-documented in the United States for more than 30 years.<sup>1-5</sup> These disparities, which include differences in treatment, unnecessary testing, increased rates of disease and worse overall outcomes, are often the result of cultural or linguistic barriers and unexplored socioeconomic differences between patients and physicians.<sup>1,2</sup> Cultural competence in health care can be described as having the knowledge, skills and adaptability to provide care to patients with various social, cultural and linguistic needs.<sup>6,7</sup> As the U.S. population rapidly becomes more diverse, interest increases in cultural competency education in health care and assessing the impact of such training.<sup>1,8</sup> Providing culturally competent care has the potential to reduce healthcare disparities and improve overall health outcomes via services provided, access to care and increased treatment compliance.<sup>1-5</sup>

In an attempt to reduce inequalities within our nation's healthcare system, national standards were developed requiring medical schools to include cultural competency education within the curriculum.<sup>4,5,12</sup> Despite these standards, fewer than 50% of residents across various medical specialties at academic health centers reported being well-prepared to provide culturally competent care when surveyed in their final year of training in 2003.<sup>1,8,12</sup> In optometry, "Guidelines for Culturally Competent Eye and Vision Care" were created by the Association of Schools and Colleges of Optometry (ASCO) to be used by optometry schools as a framework for their education programs. According to a 2004 survey, 53% of optometry institutions provide cultural competency training for students.<sup>6,16</sup> However, to our knowledge, there have not been any investigations into students' perceptions of cultural competency training in optometry school.

The objectives of this study are to assess New England College of Optometry (NECO) students' perceptions of cultural self-awareness, cross-cultural preparedness to examine culturally diverse patients, and opinions of current NECO cultural competency teaching methods within the didactic and clinical education program.

## Methods

### *Optometry curriculum*

The four-year OD program at NECO is delivered through four academic departments (Vision Science, Biomedical Science and Disease, Primary Care, and Specialty and Advanced Care) and the Clinical Education Department (**Appendix A**). First-year (OD1) didactic coursework centers on anatomy, physiology, basic sciences, public health and policy, fundamentals of vision and optics, and clinical reasoning. Second-year (OD2) coursework focuses on advanced optics, general medicine, pharmacology, ocular disease, patient communication and practice management. Third-year (OD3) course concepts include advanced ocular disease and diagnostic techniques, pediatric eye care, low vision, community health, advanced care and management and patient care. Students' clinical experiences consist of pediatric vision screenings and clinical observation during their first year followed by placement at two to four different externship sites for both second- and third-year students. The fourth year (OD4) consists entirely of clinical rotations, with placement at three to four different practices among more than 150 options including private practices, group OD/MD practices, academic medical centers, Veteran's Administration hospitals, special populations rotations, and a mandatory community health center.

At NECO, there is no single course, workshop or universal clinical standards for teaching cultural competency topics to students. Education methods and messages vary based on preceptor, practice type and patient demographics. Various strategies used to teach about healthcare disparities include case discussion, observation, use of translated written materials, use of in-person, telephone and video interpreters, and review of the literature.

### *Sample selection*

The NECO didactic curriculum does not have one course dedicated to cultural competency. Rather, the concept is integrated within various lecture courses with laboratory sessions throughout the OD1, OD2 and OD3 years of the four-year program. Students participate in clinical experiences and formal rotations throughout each academic year of the program; therefore, all students at NECO were included in this study. Each student (N=518) was sent a web-based survey to assess their self-reported understanding, attitudes and skills pertaining to their cultural competency education and clinical experiences. The web-based survey was electronically distributed to the study participants by e-mail using Qualtrics survey software (Qualtrics, Provo, Utah) during the academic year 2016-2017, as part of their end-of-semester requirements in Spring term (May 2017). Response-enhancement techniques included setting a five-day deadline to complete the survey and sending students a reminder e-mail to complete it prior to the deadline. The protocol was approved by the Institutional Review Board at NECO.

### *Survey design and administration*

A draft of the survey instrument was developed based on a literature review that included questions from the ASCO Guidelines for Culturally Competent Eye and Vision Care "Student Assessment for Self-Awareness," as well as Betancourt et al.'s Cross-Cultural Care Survey.<sup>2,3,11,12</sup> The survey was initially sent to all optometry residents in the 2015-2016 NECO residency program (N=36). Feedback was obtained from those who completed the survey (N=5) and then survey questions were condensed and rephrased for clarity based on comments from the pilot study group. Respondents were asked to keep their participation confidential and not to discuss the survey with students who would make up the cohort of the study. The finalized survey (**Appendix B**) consisted of 30 questions, the first five of which were demographic questions.

### *Self-awareness, attitudes, preparedness and skills*

Four variables related to cultural competency were measured: (1) cultural and self-awareness, (2) attitudes about the importance and impact of cross-cultural patient care, (3) self-reported preparedness to evaluate and manage specific types of patients, and (4) self-assessment of skills. Lower numerical responses indicated little to no confidence, preparedness, skillfulness and frequency. Higher numerical responses indicated complete confidence, very well-prepared, very skillful and often for frequency (Appendix B).

1. To assess cultural awareness, students were asked to complete the ASCO Self-Assessment from the Guidelines for Culturally Competent Eye and Vision Care.<sup>6</sup>
2. To assess overall attitudes about cross-cultural care, students were questioned about their perceptions of the impact of providing cross-cultural eye care. Students were asked how often in their clinical experience cross-cultural issues (including language barriers) had consequences for longer than average patient visits, unnecessary patient visits, delays in obtaining patient consent, errors in obtaining refractive endpoint, patient non-compliance, and a lower quality of care.
3. To assess preparedness to provide culturally competent eye care, students were asked to indicate how prepared they believed they were to care for different types of patients, including new immigrants, members of racial and ethnic minorities, victims of domestic violence, those who receive alternative or complimentary medical treatments, and those with cultures different from their own, health beliefs at odds with Western medicine, a distrust of the U.S. healthcare system, limited English proficiency, religious beliefs that might affect treatment, and substance use disorders. Questions about psychosocial issues of substance abuse and domestic violence were included based on previous research and their prevalence at practices within the clinical system.<sup>12</sup> The responses of “very unprepared” or “somewhat unprepared” were combined to indicate lack of preparedness, while the other responses combined to create a dichotomous variable indicating preparedness.
4. Students were also asked to assess their skill level in the following areas when delivering cross-cultural care: how to address patients from different cultures, taking a history, assessing English proficiency, working with interpreters, performing an eye exam, identifying the mistrust of healthcare system or optometrist, assessing patients’ understanding of their illness, negotiating treatment plans, identifying patients’ religious beliefs and cultural customs that may impact care, and recognizing decision-making roles within the family.

#### *Quantity of training, assessment of education climate and other variables*

To assess the quantity of cultural competency training received during their optometric education, students were asked how much additional training beyond what they received in their didactic coursework was devoted during clinical rotations to teaching them the cross-cultural aspects of each of the skills listed previously.

To assess the education climate, three sets of questions were posed. Because clinical training is accompanied by formal evaluation, students were asked how often they were formally evaluated with respect to doctor-patient communication. For those who gave a response other than “never,” a follow-up question was asked about how much attention was paid to their ability to handle cross-cultural issues. Because optometric training includes both didactic training and applied clinical practice for each academic year, students were asked to identify problems they had in delivering cross-cultural care, including lack of practical experiences, lack of time, lack of training, limited access to interpreters, lack of materials written in other languages, lack of good role models, and dismissive attitudes among clinical preceptors and fellow interns. Because good role models may contribute to education outcomes, students were asked to report the number of preceptors skilled in providing cross-cultural care that they had worked with in their training.<sup>1</sup>

Other questions were asked about student characteristics including gender, ethnicity, ability to speak a

language other than English, student year, birth country, current practice modality and number of community health center clinical rotations.

## Results

### *Analysis*

Our analyses were primarily intended to be descriptive with the goal of contrasting answers given by respondents of different academic years in the four-year optometry program for particular questions. Only complete survey responses were used in our analysis, which reduced our sample size. Therefore, many of the results are provided as tabulations by academic year without multivariable adjustment. For analytic purposes, some answers were collapsed into dichotomous variables: “unprepared” (responses of 1 or 2) compared with other (responses of 3, 4 or 5) and “low skill level” (responses of 1 or 2) compared with other (responses of 3, 4 or 5). For the ASCO Self-Awareness questions, confidence levels were also collapsed into dichotomous variables: “not confident” (responses of 1 or 2) compared with “confident” (responses of 3, 4 or 5). All statistical analyses were performed using R (R Core Team, Vienna, Austria).

### *Respondent characteristics*

Of the 518 students in the original sample, 420 submitted responses to the survey (81% response rate), and 224 completed the survey in its entirety (43% completion rate). Characteristics of the study sample are displayed in **Table 1**. The majority of respondents were female (72.3%). Racial/ethnic characteristics reported were non-Hispanic white (58.5%), Asian (32.1%), Hispanic (2.7%), non-Hispanic black (0.5%) and other (6.3%). The distributions of sex and ethnicity were similar to those of all U.S. optometry students as reported by the ASCO Student Data Report.<sup>18</sup>

### *Student assessment for self-awareness*

The ASCO Student Assessment for Self-Awareness response summary is displayed in **Table 2**. The vast majority of responses among all academic years (>93%) indicated students were confident in understanding their own cultural beliefs, biases and differences within one’s own cultural group. A majority (>79%) also reported they were “very confident” in their awareness of prejudicial treatment, traditional and professional caring behaviors and the perceived role of optometrists among patients of different backgrounds. More than 97% of respondents reported accepting differences and similarities among different cultural groups, as well as having an appreciation of cultural sensitivity and awareness. Of note, recognition of the importance of home remedies and folk medicine among patients of different cultural backgrounds was least commonly reported among all academic years (75% of OD1s, 51% of OD2s, 55% of OD3s, and 67% of OD4s).



#### **Table 1.**

[Click to enlarge](#)



**Table 2.** Breakdown of students (%) by academic year reporting confidence levels of “moderate,” “very,” or “completely” for the “ASCO Student Assessment of Self-Awareness” questions.

[Click to enlarge](#)



**Table 3.** Percentages of students by academic year who reported low levels of preparedness (“not at all” or “somewhat”) to care for specific types of patients.

[Click to enlarge](#)



**Table 4.** Percentages of students by academic year who perceived they had low skill levels (“not at all” or “somewhat” skillful) for various aspects of cross-cultural encounters. [Click to enlarge](#)

### *Attitudes, preparedness and skills*

Many optometry students believed that cross-cultural issues “often” resulted in negative consequences for clinical care, including longer office visits (82%), unnecessary visits (35%), patient non-compliance (54%), delays in obtaining consent (40%) and lower quality of care (31%).

Few optometry students reported being “very” or “somewhat” unprepared to treat patients from diverse cultures (9.4%). When asked about specific types of patients in cross-cultural encounters, such as those with a history of domestic violence or substance abuse disorder, a greater percentage of students reported being unprepared (>40% of OD1s and OD2s, >33% of OD3s, and >14% of OD4s). In assessing responses from all years, more than one in three students reported a lack of preparedness to manage patients who have religious beliefs that may affect treatment or practices that are at odds with Western medicine. OD4 students reported being least prepared to treat patients who use alternative or complementary medicine (24%), are victims of domestic violence (24%) or distrust the healthcare system (21%). A breakdown of responses by academic year are displayed in **Table 3**.

The percentage of students reporting low skill levels for various aspects of cross-cultural encounters ranged from 10% to 71% depending on the skill area and student year (**Table 4**). As a whole, approximately one in four students indicated they possessed low skills (responses of “not at all” or “somewhat” skillful) for taking a history (25%), working effectively through a medical interpreter (25%) and identifying whether a patient can read or write in English (27%). More than half of respondents reported low skill levels in identifying cultural customs that may affect care (54%), mistrust of healthcare providers (57%) and religious beliefs that may affect care (60%), with OD4s alone reporting similar low skill levels (38%, 40% and 48% respectively).

#### *Quantity of training*



**Table 5.** Percentage of students by academic year who reported little to no cross-cultural training on specific topics in clinic. [Click to enlarge](#)



**Table 6.** Percentage of students by academic year who reported not receiving instruction on interpreter topics. [Click to enlarge](#)

A large number of optometry students reported receiving little to no cross-cultural training in their clinical rotations in specific areas important for delivering cross-cultural care (**Table 5**). More than half reported receiving little or no training in identifying cultural customs (57%), patient mistrust (59%) and religious beliefs that might affect clinical care (62%). Less than half reported little or no training in identifying decision-making structure (44%), negotiating a treatment plan (42%) and determining how a patient wants to be addressed (39%). Approximately one in four students reported difficulty assessing patients’ understanding of illness (29%), taking a history (25%) and using a medical interpreter (23%). Assessment of responses from the OD4 students alone showed approximately half reported the same areas as being taught least frequently in clinic: identifying relevant cultural customs (49%), identifying patient mistrust (46%) and identifying relevant religious beliefs that might affect clinical care (48%). When asked specifically about instruction on various interpreter topics (**Table 6**), more than half of the OD1 students reported not receiving instruction on a patient’s legal right to an interpreter, how to use interpreters at specific clinic sites, the importance of eye contact with patients while using interpreters, potential dangers of using untrained interpreters, and how to respond to interpreter misinterpretation. The OD2 students’ responses showed a decrease by at least 40% in each of these questions, and OD3

and OD4 percentages decreased even further.

### *Education climate and evaluation*

Students of all academic years reported on-the-job training in a community health or hospital-based setting as most useful for their education. The second-most useful experience varied by academic year. OD3 and OD4 students reported diversity of colleagues being useful; OD2s reported case-based discussions; and OD1s reported case discussion and colleague diversity. When asked specifically about their clinical assignments, approximately 15% of students reported “never” being formally evaluated on patient-physician communication, and 19.6% reported they were “rarely” evaluated. OD1 students were far more likely to report “never” being evaluated (n=23) on communication, more than twice the number of respondents from all other academic years combined (n=10). The percentage of students who reported cross-cultural issues were “never” or “rarely” paid attention to was 34.64% (40% OD1, 23% OD2, 24% OD3 and 9% OD4). Although 51% of OD1 students reported never having a mentor skilled in providing cross-cultural care, that percentage increased significantly for all other academic years: 79% of OD2, 88% of OD3 and 84% of OD4. Some of the student comments highlighting the benefits of community health center experiences, clinical preceptors and faculty mentors are displayed in **Table 7**.



**Table 7.** Survey respondents' comments related to cultural competency training. [Click to enlarge](#)

Some of the most frequently reported obstacles to delivering cross-cultural care (presenting as moderate or major problems) were poor access to interpreters (40%), lack of appropriate written materials translated in other languages (health education pamphlets, consent forms, etc.) (38%), and lack of time (35%). Although previous studies have identified dismissive attitudes of attending physicians or colleagues as an encountered problem, only 22% of students reported this of clinical preceptors and 15% of student colleagues.<sup>1</sup> Language barriers between students and patients were “often” encountered by 46% of OD4s, 71.7% of OD3s, 34.9% of OD2s and 0% of OD1s.

## **Discussion**

### *Analysis of student responses*

Overall, few students (<10%) reported a lack of preparedness to care for patients of diverse backgrounds. However, when asked about specific scenarios, such as caring for those who distrust the U.S. healthcare system or use alternative medicine, far more reported being unprepared. Many reported they were unskilled in managing key aspects of effective cross-cultural care, such as the ability to assess how a patient prefers to be addressed during an examination or identifying relevant cultural beliefs and customs that may impact care. The gap between perceived preparedness in a general sense compared with specific cross-cultural situations has similarly been identified among resident physicians practicing in various specialties and has been suggested to be a result of “failure to incorporate these key concepts into their working definition of cross-cultural care.”<sup>1</sup> Though our study focuses on several aspects of culture such as race, language and ethnicity, we recognize the importance of educating students on how to care for various groups of people that may share common beliefs such as those with disabilities and gender diverse communities.

There was also a disconnect between students' responses about how frequently they were evaluated compared to frequency of required faculty evaluations, which possibly influenced student perceptions of attention paid to cross-cultural matters. Several students reported they were “never” or “rarely” evaluated on patient-doctor communication; however, this is a category on the grading rubric for all academic years that is submitted by clinical faculty a minimum of two to four times each year. Additionally, cross-cultural

issues are evaluated by faculty within the categories of technical skills, communication, treatment and management, and professionalism for each clinical evaluation submitted. This gap in student understanding of the clinical evaluation system in place can be lessened with greater emphasis from faculty and more frequent verbal feedback with specific observations, in addition to their final written evaluations.

### *Implications for cultural competence training in optometry*

Our data suggest that the education experiences of students vary, but the trends indicate that self-reported comfort levels generally increase as students progress through the four-year program. By assessing responses from each academic year, the results can be used as a platform to strategically integrate additional education opportunities at specific times throughout the curriculum. More than half of the OD1 respondents reported lack of cross-cultural scenarios, interpreter instruction and mentors with sufficient cross-cultural skills, likely reflecting the design of the clinical program in which OD1 students are not yet in a traditional clinic setting. Because most students of all other years responded more positively, this data can be used to support implementation of new mentorship programs and education opportunities for OD1 students. For example, creating a workshop involving mock patients with language barriers would provide students an opportunity to practice using interpreters and available resources and to discuss social determinants of health with teaching faculty prior to entering a formal clinic setting in their second year.

Many students reported lack of time as a barrier to addressing cross-cultural issues. This may reflect the current healthcare climate with demands on preceptors to examine a high volume of patients while using electronic health records, which increases charting time and decreases teaching time.<sup>19</sup> We suggest providing students with self-directed learning materials in the form of article review, online modules or video instruction prior to starting at a new clinic site and throughout the semester, with content that highlights patient demographics and prominent cultural beliefs that may impact care during clinical rotation.

Lack of access to translated materials and interpreters were identified as problems, which may reflect differences in financial resources, electronic medical records, and staffing among clinical sites or perhaps lack of student awareness of resources available to them. Despite these issues, no student from any academic year reported “often” feeling helpless about what to do when managing patients from diverse cultures, and the majority denied dismissive attitudes of clinical preceptors as a problem. These data indicate that students are given the knowledge and tools to prepare for diverse clinical encounters and that clinical preceptors and training sites model culturally competent care. Also, the data can provide insight to clinical faculty when teaching students about resources in clinic.

An area of concern identified by many OD4s was difficulty identifying cultural customs and religious beliefs that may impact care. This may be a result of the survey focusing on technical abilities rather than interpersonal skills, or perhaps due to language barriers or a perceived lack of access to translators. Other commonly identified patient characteristics that students reported low levels of preparedness to manage included those who use alternative medicine, have a distrust in the U.S. healthcare system or are victims of domestic violence. These data can be used by clinical preceptors as topics to focus on during their clinical discussions, specifically with fourth-year students before graduation.

### *Limitations*

Our study had limitations that may affect to what extent it can be generalized across optometry programs, including the lack of validated tools for measuring cultural competence training in eye care as well as a small sample size from one optometry school. Our low survey completion rate may have introduced a sampling bias if those who completed the survey were inherently prepared, skillful or

confident compared with those who did not complete the survey in its entirety. Another limitation was the reliance on self-reported data, which may not be suggestive of actual abilities nor predictive of future competency in clinical practice.

### *Education interventions and future considerations*

In 2007, ASCO identified cultural competency topics that were not prevalent in the curricula of ASCO institutions.<sup>2</sup> The quantitative and qualitative data from this study indicated which specific areas that NECO students reported receiving little training on, suggesting there is room for development and uniformity in their optometric education, both didactically and clinically. As a result of this study, various cultural competency handouts and resources were created and shared electronically with students and clinical preceptors. The materials included content related to areas in which students reported needing more instruction or preparation. A new two-hour lecture on cultural competency was developed and made digitally available to all students and faculty to view asynchronously online. These resources provide widespread teaching material available for use across the entire clinical network, regardless of the geographic location or preceptor at each clinical site.

The results of this study can be used to create additional lecture content, courses and workshops focused around cultural competency and healthcare disparities, while guiding optometric institutions as they evaluate their curriculum. As with any course or curriculum change, the long-term impact on student performance and perceptions should be measured to provide insight on its educational effectiveness. Future research including validation of a tool to assess cultural competency preparedness, expansion to optometry students nationwide, and evaluation of long-term impact of curriculum changes on student performance will benefit optometry schools when developing their curriculum and clinical education program.

### **Conclusion**

As educators in optometry, we are tasked with training the future generation of clinicians to deliver culturally competent care to reduce healthcare disparities. Our findings indicate that upon completion of each academic year and graduation, the vast majority of NECO students generally feel well-prepared to examine patients from diverse backgrounds. Further, students specified key concepts and skills for which they would like more tailored instruction, such as non-racial examples of cross-cultural scenarios and identifying patients' cultural customs, religious beliefs and decision-making structures that may impact care. Future research is needed to better understand the impact of our teachings on student perceptions and performance, including a thorough mapping of the didactic curriculum, investigating the specific types of training received by clinical faculty and exploring which clinical settings have the greatest impact on students' learning. With additional research measuring education outcomes, teaching strategies involving cultural competency education can be further developed and used by optometry schools nationally.

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[of-the-impact-of-electronic-medical-and-health-records-in-optometric-education-in-the-united-states-and-puerto-rico/?pdf=5266](#)



**Appendix A.** [Click to enlarge](#)



**Appendix B.** [Click to enlarge](#)

Dr. Lewandowski [[lewandowskic@neco.edu](mailto:lewandowskic@neco.edu)] is an Assistant Professor of Clinical Optometry at the New England College of Optometry. She is also the Clinical Director of Vision Services at North End Waterfront Health and NEW Health Charlestown. She is a clinical preceptor to optometry students of all academic years. Her areas of interest include optometric education, diabetic eye care and public health.

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