A Humanistic Environment for Dental Schools: What Are Dental Students Experiencing?

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Abstract: A Commission on Dental Accreditation (CODA) standard now requires that dental schools commit to establishing a “humanistic culture and learning environment” for all members of the academic environment. The aim of this study was to identify students’ perceptions of factors that affect the dental school environment and to test differences in their experiences in terms of gender and year. This picture of the existing environment was meant to serve as a first step toward creating and supporting a more humanistic academic environment. A mixed-methods approach was used for data collection during the 2009-10 and 2010-11 academic years at one U.S. dental school. Four focus groups were first conducted to explore challenges and conflicts faced by students during their dental education. A written survey informed by the focus group results was then used to obtain quantitative data. The survey response rate was 47 percent (N=188). Faculty inconsistency, cheating, and belittlement/disrespect were experienced by many of the responding dental students during their education, similar to what has been documented in medicine. These students also reported experiencing both constructive communication (90 percent) and destructive communication (up to 32 percent). The female students reported more gender discrimination and sexual harassment than their male peers, and the clinical students reported more experience with belittlement and destructive communication than the preclinical students. The results suggest that greater effort should be directed toward creating a more humanistic environment in dental schools. Based on the issues identified, steps academic institutions can take to improve these environments and student skills are outlined.

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Recognizing students as colleagues from the beginning of their education is a positive step toward mutual respect and a humanistic environment. The need for a positive, respectful, and safe learning environment is recognized by the dental profession. Beginning in July 2013, Commission on Dental Accreditation (CODA) standard 1-3 requires dental education programs to commit to a “humanistic culture and learning environment” and evaluate that environment regularly. The intent of this standard is stated as follows: “The dental education program should ensure collaboration, mutual respect, cooperation, and harmonious relationships between and among administrators, faculty, students, staff, and alumni. The program should also support and cultivate the development of professionalism and ethical behavior by fostering diversity of faculty, students, and staff, open communication, leadership, and scholarship.”

Previous research on hidden and informal curricula and on relationship-centered care informed this study of the dental learning environment. The hidden/informal curriculum is what happens outside of the formal curriculum. In interpersonal relationships, dental students often experience mixed messages. For example, it is taught that “the patient always comes first,” yet some faculty members arrive late to clinic, leave early, or are inattentive to student and patient needs. Such actions change the message to “The practitioner is most important.” Students are also taught to “always consider the whole patient.” At the same time, competency requirements focus on the number of procedures a student completes, and comprehensive care is an ideal often not fully met. The message in this case then becomes “numbers are everything.” Where mixed messages occur, conflict, stress, and anxiety often follow. Haidet and Stein examined the student-teacher relationship in medical

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education and found that such mixed messages are common. However, comparable studies in dental education are few, though some authors have called attention to the need for attention to the environment. Masella, for example, emphasized the importance of faculty behavior outside the formal curriculum as a potentially positive factor in student learning, and he discussed how challenges dental schools face when initiating change can affect the learning environment. Likewise, Haden et al. called attention to the dental education environment as an essential factor when it comes to curriculum change.

Respect is essential for productive relationships among dental students, patients, faculty, staff, and administration. If students are harassed, discriminated against, disrespected, belittled, or humiliated during their education, the profession cannot expect future dentists to foster healthy and respectful relationships with each other, their patients, and their communities. On the other hand, faculty, staff, and administrators who consistently model respect will have a positive effect on the learning and work environment, thereby strengthening the profession. This study served as an effort to identify factors that can help focus dental school activities to increase the likelihood of success in improving the learning environment and facilitating change. The aim of this study was to identify students’ perceptions of factors that may affect the existing dental school environment and to explore differences in their experiences in terms of gender and dental school year. This close look at the existing environment was intended to take a first step toward creating and supporting a more humanistic academic environment.

Materials and Methods

The University of Minnesota Institutional Review Board approved this study (Protocol No. 0911S74443). A mixed-methods approach was used to explore the academic environment and culture at one dental school: the University of Minnesota School of Dentistry. The two-phased study used qualitative data from focus groups to identify interpersonal challenges and then collected and analyzed quantitative data from a written survey based on Baldwin’s work studying medical residents and the Association of American Medical Colleges (AAMC) Graduation Questionnaire. The final survey was also informed by results from the focus groups.

Phase I: Focus Groups

Fifteen dental students from each class were identified at random from those enrolled in the 2009-10 academic year, out of a total predoctoral student population of 409. These students’ demographics were then examined to ensure heterogeneity in gender and race/ethnicity from each class. This cohort met the criteria needed for this part of the study. Approximately half of the invited students from each class accepted the invitation.

In this school, the first and second years of dental education are preclinical, while the third and fourth are clinical. Because the curricular structure is divided between preclinical and clinic years and similarities and differences by gender were to be explored in the discussions, four focus groups were assigned based on year and gender: Focus Group 1 consisted of first- and second-year men (n=8); Focus Group 2 consisted of first- and second-year women (n=7); Focus Group 3 consisted of third- and fourth-year men (n=7); and Focus Group 4 consisted of third- and fourth-year women (n=8).

Using a structured focus group facilitation guide (Table 1), a trained facilitator from outside the dental school conducted each focus group during spring semester 2010. The outside facilitator was used to create an environment for more open exchange. The goals of the focus groups were to gather data about the students’ experiences and interpersonal challenges during their dental school education; identify their most common and most challenging

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<th>Table 1. Focus group plan used in first part of study</th>
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<td>Category of Information to Be Covered</td>
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<td>Welcome, introductions, and ground rules for focus group</td>
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<td>Issue A: identify and rank types of interpersonal challenges</td>
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<td>Issue B: talk about the effects of these challenges</td>
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<td>Issue C: discuss ways to handle interpersonal challenges, individually and institutionally</td>
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<td>Issue D: wrap-up</td>
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interpersonal experiences; and understand the effects on them of interpersonal challenges. The focus group discussions were audiorecorded for later transcription and analysis. Content analysis to identify themes was done using NVivo software.

Phase II: Written Survey

All students enrolled in the dental school in the 2010-11 academic year were invited to participate in this phase of the study. Eight students (two per class) selected at random participated in a pilot of the survey earlier that year and were excluded from the sample population. A total of 401 dental students received the survey; of this group, 44 percent were women and 56 percent were men.

The survey was created using Baldwin’s Medical Resident Survey as a template. Questions from the AAMC’s Graduation Questionnaire were modified for dentistry and were also included. Information from the focus groups and the survey pilot informed the final survey as well. The survey consisted of forty-seven questions and was designed to take approximately seven to twelve minutes to complete. Responses to survey questions were yes/no, items along a never/always scale, or open-ended. The pilot survey tested the time and the clarity of questions, which led to some wording and format changes. Questions fell into five categories: demographics, observations, personal experiences, behaviors, and knowledge of school policies and procedures.

Data were collected in the late spring semester of 2011. An email describing the survey and consent procedures was sent to the students in advance of survey distribution. Hardcopies of the survey were delivered through student mail, and completed surveys were returned through locked slot boxes in secure locations at the school. One reminder email was sent. Basic summative and comparative statistics were calculated for this part of the study. Significant differences between men and women, as well as between preclinical and clinical student years, were identified using the chi-square statistic.

Results

Phase I: Focus Groups

The issues that emerged as particular challenges for all student groups were the following: inconsistency among faculty members in both the preclinical and clinical years, standardization of dental simulators, and student cheating. Questions were added to the written survey to explore these topics.

Phase II: Written Survey

The response rate to the written survey was 47 percent (188 of 401). Of the respondents, eighty-nine (47 percent) were women, and ninety-nine (53 percent) were men. Twenty-eight percent of the respondents were from years 1 and 2 (preclinical), and 72 percent were from years 3 and 4 (clinic). Given the exploratory nature of this project, the focus was on being able to describe and compare the experiences of students in the educational environment. Descriptive statistics, including comparison of responses by gender and school year, were developed.

Observations the students made about their learning environment included seeing someone working under a variety of compromised conditions. Emotional stress (83 percent), lack of sleep (77 percent), and overwork (77 percent) were the most commonly reported conditions. Thirty-nine percent of the responding students reported observing incompetence. A higher percentage of clinical students reported this (47 percent) as compared with preclinical students (17 percent) (p=0.05, X^2=14.29, d.f. 1). Concerns about cheating identified during the focus groups were validated by students’ responses to questions about cheating in the written survey. Twenty-six percent of the respondents reported observing cheating, and 47 percent reported knowing of cases of cheating. Across all respondents, the most interpersonal conflicts reported were with faculty members and patients (47 percent and 40 percent, respectively). Ninety-five percent of all respondents reported dealing with faculty inconsistency.

Discrimination based on gender was reported more by female than male students (16 percent vs. 6 percent) (p=0.05, X^2=4.61, d.f. 1). The type of discrimination reported most often was favoritism (21 percent). When asked about experiences of racial/ethnic discrimination, the most reported type was also favoritism (11 percent). Experiences of sexual harassment were reported more by female than male respondents (34 percent vs. 7 percent) (p=0.05, X^2=21.04, d.f. 1). The most common harassment experiences reported were sexual slurs (14 percent) and advances (9 percent).

These students reported experiencing a variety of communication styles when interacting with patients, staff, faculty, and each other (Figure 1). Nearly
all respondents reported experiences of constructive communication (90 percent); however, 26 percent also indicated experiencing some kind of destructive communication. Fifty-two percent reported being belittled or humiliated, with this being reported more by third- and fourth-year students (61 percent) than for students in the preclinical years (28 percent) \((p=0.05, X^2=16.04, \text{d.f. 1})\). Destructive communication was also reported more by third- and fourth-year students (32 percent) when compared with reports by preclinical students (9 percent) \((p=0.05, X^2=10.22, \text{d.f. 1})\). It is interesting to note that when students were asked if they had “experienced belittlement or humiliation during dental school” (certainly a destructive form of communication), 52 percent responded “yes,” whereas when asked if they had “experienced destructive communication,” only 26 percent responded “yes.”

Students may respond to the quality of the learning environment in both physical and emotional ways, and dental students participating in this project reported both physical and behavioral changes during dental school (Figure 2). Noticeable weight change was the most prevalent observation (36 percent), while taking over-the-counter medications to help with sleep was reported by 26 percent. Twenty-four percent of these students reported talking with a physician about stress. Increased alcohol use and taking over-the-counter medications to stay awake were both reported by 17 percent. When asked about their positive and negative feelings while in dental school, positive feelings were reported as occurring slightly more often than negative, as indicated on a scale from never to always. When asked about the school’s policy for dealing with student “mistreatment,” 42 percent of the respondents said they were aware the school has some kind of policy, but only 10 percent of those knew what the policy is.

**Discussion**

Across the board, these students, regardless of gender or year in dental school, reported faculty inconsistency throughout the school. This can be expected from students early in their professional development since they may interpret discussion of variations in dental practice as a mark of inconsistency. Nevertheless, for educators, the importance of faculty standardization and identification of common goals is critical. This is not achieved easily. Inconsistency and mixed messages have been found to lead to increased stress in previous studies of stress in dental students.\(^8\)\(^9\) In a systematic review published in 2014, Elani et al. identified inconsistent feedback from faculty members as a significant
leading to many more students’ knowing about the case. The knowledge of cheating is powerful and can affect attitudes and morale. It is also concerning that the students reported observing incompetence and patient mistreatment.

Whether observing incompetence, mistreatment, or cheating and dishonesty, these dental students’ experiences were similar to their medical school peers. The work of Baldwin et al.⁶ and Daugherty et al.¹² in the 1990s studying mistreatment in medical education reported similar results and is foundational to this study. Mistreatment continues to be a concern in medicine.¹³ Professionals are given the responsibility to self-regulate, and the message a student receives in the educational environment may hinge on whether or not the instances of cheating, incompetence, or mistreatment are addressed. If the school or faculty members do not model self-regulation, students may not carry that responsibility into their own professional practice.

Academic integrity is a concern of educators and the public, and these students appeared aware of this issue as it was reported during the focus groups and on the written survey. It is important to note that the study results do not identify the prevalence of cheating. It could be that several students observed the same incident of cheating, and word spread, leading to many more students’ knowing about the case. The knowledge of cheating is powerful and can affect attitudes and morale. It is also concerning that the students reported observing incompetence and patient mistreatment.

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Some gender differences were found in this study regarding reports of discrimination and harassment. The results indicate that the responding female dental students experienced gender discrimination more than their male classmates and that favoritism (of others) was the most common manifestation. In these results, sexual harassment was also reported as being experienced more by women than by men,
with sexual slurs the most common form. All of these experiences can add stress to an already stressful environment. Even with policies and processes in place for when such harassment occurs, students will not always report experiences for action. The written survey asked if incidents were reported and, if not, why. The responses showed that although students knew a policy exists for dealing with these kinds of issues at the school, very few knew what that policy is. This response is a clear sign that communication needs to improve and that a multifaceted approach may be required.

These students reported interpersonal conflicts that most often involved faculty members, patients, and fellow students. The dental school experience should not be without conflict since skills in conflict management and communication are essential for any health professional. However, helping students to develop these skills should be threaded throughout the dental school curriculum, as such skills are helpful in any number of contexts of dental practice. Mistreatment, whether through belittlement, harassment, or discrimination, can have negative effects. Beyond creating stressful environments, a study in medicine suggested that mistreatment can inhibit the ability to learn and increase student cynicism about the profession. Although this study was not designed to study effects, a future study should be.

Results from the written survey indicate that managing the dental school environment and experience is a challenge for dental students. Student responses varied from changes in weight over the course of their dental education to being hospitalized for stress (though very few). A student talking with a health provider (a physician or mental health professional) is a positive action step. Stress-management skills training can also be helpful to students during dental school and beyond. Because of small numbers and the potential to identify individuals via demographic data in regards to race and ethnicity and age, the school’s Institutional Review Board did not allow this type of data to be collected; this can be considered a limitation to the study. Another possible limitation is that the respondents may reflect a self-selection bias in that those with frustrations or complaints may have been more likely to respond to the survey. Since the study was limited to one school, its results may not be generalizable to all dental schools.

Among the next steps suggested by this study is to look at effects of the school environment and interpersonal interaction on student attitudes and professional behaviors. Other research may be directed toward program or curriculum evaluation. The study of bias and its effects on students, patients, and practitioners is likely to be important as dentistry struggles to reduce oral health disparities. If experiences influence attitudes and behaviors—there is an entire body of literature that suggests this is true—helping students understand and grow from those experiences during their school years is essential. A larger study in the future to look at race/ethnicity should include multiple sites across regions and school types. Such a study could help identify environmental differences and best practices. As many schools are examining their curricula and considering changes, it would be interesting to study the effects of these changes on the quality of the school environment.

Conclusion

This study examined a snapshot in time of what students at one dental school experienced during the educational process. It is clear that work needs to be done to improve this school’s environment. Consistent with the findings of this study, initial steps toward helping students and improving the dental school environment and experience include the following: teaching skills that help in understanding and managing, in healthy ways, situations of inconsistency, ambiguity, and uncertainty; helping students and faculty understand issues of bias and how to manage situations when they occur; helping students and faculty understand stress and stress management; teaching communication skills and skills in conflict management and resolution; and clearly communicating policies and procedures for students to address issues that negatively impact their learning and revising them as necessary. These steps apply to students, faculty, administrators, and staff equally. Patients will present with any number of inappropriate behaviors and attitudes, so addressing these issues as faculty and helping students develop their own skills to manage these patients are important. This school is already moving forward on several of these steps, and a second written survey is planned to assess progress.

CODA has added a standard requiring that schools create a humanistic environment, which suggests that the issues discussed here are not limited to a single school. At the core of a humanistic environment is a sense of mutual respect and trust. Approaches to creating this kind of environment
and measuring success are of widespread interest to dental schools. Further study is necessary, but not at the expense of action. Schools should continue working to develop healthier learning situations for students.

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