

# The Prevalence of Academic Dishonesty in Texas Dental Hygiene Programs

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**Abstract:** The media has given much attention to the academic cheating crisis in America. A majority of college students believe that, in today's global environment, it is necessary to cheat in order to get ahead and to compete with their peers. The prevalence and attitudes concerning academic dishonesty of health professions students, including those in medical, dental, and nursing schools, have been extensively researched. No such studies exist in the discipline of dental hygiene. The purpose of this study was to investigate the prevalence of cheating in Texas dental hygiene programs. Four hundred surveys were mailed to twenty Texas dental hygiene schools for graduating students to complete. A total of 289 usable surveys was returned for a response rate of 72.25 percent. Data were analyzed using SPSS with frequencies and chi-square tests. Findings from this study reveal that 86.5 percent of graduating Texas dental hygiene students have cheated a minimum of one time during matriculation. Students identified the demands of what they considered academic overload as the primary justification for cheating behavior.

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In education, it is well known that cheating is an unsettling and pervasive problem that continues to grow.<sup>1-5</sup> Choosing to participate in academic dishonesty may be affected by students' demographics, attitudes, environment, situation, and/or technological savvy.<sup>6-13</sup> The ramifications of cheating include not only harm to the student, but in health professions education, breakdowns in academic integrity may result in substandard or inappropriate patient care because the dishonest student does not acquire the knowledge base or clinical experience necessary to deliver high-quality care.

Academic dishonesty is a broad, vague term that embodies many different forms and a variety of behaviors. No clear definition exists for what academic dishonesty encompasses. Furthermore, each educational institution may have an unequivocal, formal university policy that defines what constitutes academic dishonesty. In this study, academic dishonesty was categorized into either classroom or clinical cheating behaviors. Dishonesty in the classroom was defined as

- cheating on quizzes or exams,
- allowing students to copy or copying from others,

- turning in work that was not entirely self-authored,
- collaborating on assignments without permission,
- obtaining previous exams without instructor knowledge,
- altering grades, and
- signing attendance lists for absent classmates.

Dishonesty in the clinic was defined as

- forging faculty signatures,
- violating infection control procedures,
- falsely recording vital signs, and
- copying previous charting to use as current findings.

Academic dishonesty is prevalent in high schools, colleges, and allied health, medical, and dental schools.<sup>14-22</sup> However, no published research exists on dental hygiene students' attitudes towards cheating, and no studies have comprehensively explored whether or not diminished academic integrity is a problem in dental hygiene education. Due to the lack of information about the prevalence of cheating in dental hygiene schools, this study was conducted to determine if cheating does occur in dental hygiene

schools, assess why it occurs, and identify what interventions may be undertaken to ensure that an environment of academic integrity prevails.

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## Academic Dishonesty in Dental Schools

Pressures and demands that dental students experience throughout their academic years and the competitive nature of dental school may contribute to a breakdown in personal integrity. Data reported in 1979 by Fuller and Killip found that approximately 43 percent of dental students admitted to cheating, while 94 percent believed that their classmates had engaged in cheating.<sup>23</sup> The main reason students participated in cheating, according to this study, was to ensure that their answers were correct on examinations. A more recent survey that investigated academic dishonesty was sent to the deans of all U.S. dental schools. Cheating was reported in thirty-seven of the forty-six schools that responded.<sup>24</sup> The most common form of cheating was copying from another student during an exam. A major study published in 2007 found that almost 75 percent of dental students in the United States and Canada have cheated on tests or exam materials.<sup>14</sup>

News articles in 2006 and 2007 reported several cheating scandals at various dental schools. In one school, 25 percent of the senior class admitted to receiving credit for dental procedures that other classmates performed. These students also claimed that the entire class was involved.<sup>25-27</sup> At the same dental school, an elaborate scheme by one class to memorize exam questions, post them to a website using bogus email accounts, and then offer them as a gift for the following year's class was discovered.<sup>27</sup> Students from the first graduating dental class of another school used a part-time faculty member's computer access code to self-approve patient diagnoses and treatment plans.<sup>28</sup> In two other dental schools, students were provided access to exam materials prior to taking tests by students who hacked into password-protected files and by students who shared electronic files.<sup>29,30</sup>

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## Honor Codes Used to Discourage Cheating

Honor codes are designed to protect the institution and the rights of the individual and to provide an

equal opportunity for students to compete fairly and honestly. Honor codes define the behaviors expected of an institution's students, establish a disciplinary policy, and define the elements of due process.<sup>31</sup> Most schools require the student's signature on an honor code document.<sup>24,32,33</sup> Studies suggest that student understanding and acceptance of academic integrity policies affect their perceptions of peer behavior, which has the strongest influence on a decision to cheat.<sup>2,34-36</sup> When students internalize the values and principles of an academic integrity policy, they may perceive the number of occurrences of cheating to be lower, and this may influence their decision to not engage in cheating; therefore, reported cheating may be lower at schools with honor codes.<sup>35</sup>

Several studies yielded similar results when measuring cheating at honor code schools and non-honor code schools. Overall, reports of cheating behaviors are lower at honor code schools.<sup>7,32,35,37,38</sup> According to associate deans of academic affairs at dental schools with honor codes, most believe that honor codes have a positive influence on academic integrity.<sup>24</sup>

Many university honor codes include a responsibility on the student's part to report cheating incidents. Students from honor code schools have indicated that they are more likely to report cheating incidents than those from non-honor code institutions.<sup>39</sup> While 43 percent of students from honor code schools expressed the likelihood that they would report cheating, only 14 percent of students from non-honor code schools stated the same. This same study suggested that an obligation to disclose peer dishonesty may not have a strong influence on a student's decision to report cheating behavior. The actual reporting of cheating incidents was extremely low: 7.9 percent at the honor code schools and 4 percent at the non-honor code schools.<sup>39</sup> From the faculty perspective, those at honor code schools believe that students should be held responsible for peer reporting and were found to be more likely to follow established university policy than were the faculty of non-honor code schools.<sup>40,41</sup> Faculty members at non-honor code schools personally dealt with students suspected of cheating.

Previous research indicates that students are willing to develop rationalizations to justify cheating behaviors.<sup>2,11,14,23</sup> Regardless of a student's rationalization in defense of academic dishonesty, research indicates it is a pervasive, unmitigated problem throughout all levels of education. Although the Andrews et al. and the Fuller and Killip studies

were almost thirty years apart, both reported rampant cheating among dental students.<sup>14,23</sup> It is safe to assume therefore that dental hygiene schools may not be immune to academic dishonesty.

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## Materials and Methods

The survey instrument, which we developed, included yes/no, rank-order, open-ended, and Likert-type rating scale questions (see Appendix). The survey consisted of one demographic, four informational, twelve behavioral, two justification, and three critical thinking questions. Academic dishonesty was defined by the questions on the survey as specific cheating behaviors in both the clinical and classroom settings. The survey instrument was pilot-tested on five senior dental hygiene students. Each student offered suggestions, and minor revisions were made. The Institutional Review Board (IRB) at Baylor College of Dentistry approved the study with an exempt status.

The study population consisted of graduating dental hygiene students from the twenty-one accredited dental hygiene programs in the state of Texas. Each program director was contacted by email to obtain permission for the students to participate in the study in the fall semester of 2006. All but one of the directors responded affirmatively, and each provided the number of graduating students enrolled. At the time of this study, there were 400 graduating students in the twenty participating programs.

The applicable number of surveys and a confirmation letter were mailed to the program directors. The confirmation letter described the purpose of the study and instructions for distribution of the surveys. In order to maximize the response rate, it was requested that the survey be administered and completed during class time with no faculty or staff members present. It also requested that the class president distribute the surveys and, if possible, assign students to chairs with empty seats on either side to provide further privacy.

The survey instrument had a cover sheet to ensure privacy during completion and to provide instructions and statements that guaranteed anonymity. The students were instructed not to place their names on the survey and were assured that neither they nor the school would be identified. In addition, students were instructed to immediately insert the completed survey into the attached prepaid envelope to ensure anonymity.

Data were collected and responses entered into SPSS, v.15. Data analyses included measuring frequencies, chi-square statistics, Fisher's exact test, and cross-tabulations. Cross-tabulations were used to determine relationships between age range and the specific cheating behaviors. Cross-tabulations were also used to determine relationships between cheating and three different variables: honor code or non-honor code schools, ethics course completion or not, and faculty who have or have not discussed cheating. The significance level was set at  $\alpha \leq 0.05$ . Information data were treated as nominal, and responses to age and cheating behavior data were treated as ordinal variables. The responses to three open-ended questions (20, 22, and 23) were reviewed to determine if common themes existed.

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## Results

A total of 289 usable surveys were returned for an overall response rate of 73 percent. Responses to all questions in the surveys were included in the statistical analysis, with the exception of question 21, which measured frequencies on the justifications for student cheating behaviors in rank order of importance. The surveys of respondents who self-reported cheating and answered question 21 ( $n=116$ ) were used to determine the results for that specific question. Question 20 was answered by one respondent. Question 22 was open-ended with an 8.7 percent response rate ( $n=25$ ). Question 23 was open-ended with a 16.6 percent response rate ( $n=48$ ).

The majority of students were in the age range of twenty-two to twenty-five years ( $n=116$ ), with a minority of students over thirty-five ( $n=18$ ). Nearly 100 percent of the responding students (99.7 percent;  $n=288$ ) reported that the instructors discussed cheating with the class. Approximately 80 percent ( $n=225$ ) indicated they were aware of the existence of an honor code, and approximately 40 percent ( $n=115$ ) reported that they had taken an ethics course.

Overall, 86.5 percent ( $n=250$ ) of the students reported engaging in one type of cheating behavior a minimum of one time during their tenure in a dental hygiene program. Table 1 summarizes the frequencies of cheating occurrences for each of the twelve specific cheating behaviors.

The prevalence of academic dishonesty in Texas dental hygiene programs was analyzed according to the age range of students to determine which group self-reports the majority of cheating behaviors and to

**Table 1. Percentage (number) of students engaging in specific cheating behaviors (n=289)**

Classroom Behaviors	Never	1–2 Times	3–5 Times	>5 Times	Total Incidents
Cheated on quiz or exam.	80.6% (233)	16.3% (47)	2.4% (7)	0.7% (2)	19.4% (56)
Allowed students to copy my work.	47.8% (138)	42.2% (122)	7.6% (22)	2.4% (7)	52.3% (151)
Turned in work not entirely my own.	77.5% (224)	17.6% (51)	3.5% (10)	1.4% (4)	22.5% (65)
Copied assignments from another student.	52.6% (152)	39.8% (115)	6.2% (18)	1.4% (4)	47.4% (137)
Worked on assignment with another student that should have been done independently.	54.7% (158)	36.7% (106)	7.6% (22)	1.0% (3)	45.3% (131)
Obtained previous exams to study without instructor knowledge.	73.7% (213)	17.0% (49)	5.9% (17)	3.5% (10)	26.3% (76)
Altered grade and turned back in for a higher grade.	99.3% (287)	0.7% (2)	0	0	0.7% (2)
Signed attendance for absent friend.	95.8% (277)	3.5% (10)	0.3% (1)	0.3% (1)	4.2% (12)
Clinic Behaviors	Never	1–2 Times	3–5 Times	>5 Times	Total
Forged faculty signature on clinic document.	96.9% (280)	3.1% (9)	0	0	3.1% (9)
Violated infection control protocol.	47.1% (136)	39.4% (114)	8.0% (23)	5.5% (16)	52.9% (153)
Falsely recorded vital signs.	55.7% (161)	31.8% (92)	9.0% (26)	3.5% (10)	44.3% (128)
Copied previous periodontal charting to use as current periodontal findings.	76.1% (220)	21.5% (62)	2.1% (6)	0.3% (1)	23.9% (69)

Note: Students checked all that applied; therefore, the numbers total more than 289.

determine if age is a predictor for cheating behavior (Table 2). There was no statistical significance for any of the age groups (age ranges eighteen to twenty-one, twenty-two to twenty-five, twenty-six to thirty, thirty-one to thirty-five, and over thirty-five) with relation to the prevalence of cheating. Overall, the group

between the ages of twenty-two and twenty-five years self-reported the highest percentage of engaging in academic dishonesty in both the classroom and clinic settings, while the over-thirty-five age group self-reported the lowest percentage of engaging in academic dishonesty in both settings.

**Table 2. Percentage (number) of students engaging in each cheating behavior by age range (n=288)**

Classroom Behaviors	Age 18–21 n=39	Age 22–25 n=116	Age 26–30 n=73	Age 31–35 n=42	Age >35 n=18	Total Incidents
Cheated on quiz or exam.	16.1% (9)	48.2% (27)	23.2% (13)	7.1% (4)	5.4% (3)	56
Allowed students to copy my work.	16.6% (25)	48.3% (73)	18.5% (28)	8.6% (13)	7.3% (11)	150
Turned in work not entirely my own.	15.4% (10)	43.1% (28)	23.1% (15)	10.8% (7)	7.7% (5)	65
Copied assignments from another student.	17.5% (24)	44.5% (61)	20.4% (28)	8.0% (11)	9.5% (13)	137
Worked on assignment with another student that should have been done independently.	13.7% (18)	48.1% (63)	22.1% (29)	10.7% (14)	5.3% (7)	131
Obtained previous exams to study without instructor knowledge.	17.1% (13)	48.7% (37)	19.7% (15)	5.3% (4)	9.2% (7)	76
Altered grade and turned back in for a higher grade.	0	100% (2)	0	0	0	2
Signed attendance for absent friend.	16.7% (2)	8.3% (7)	25.0% (3)	0	0	12
Clinic Behaviors	Age 18–21	Age 22–25	Age 26–30	Age 31–35	Age >35	Total
Forged faculty signature on clinic document.	22.2% (2)	66.7% (6)	0	11.1% (1)	0	9
Violated infection control protocol.	12.5% (19)	48.0% (73)	21.1% (32)	13.2% (20)	5.3% (8)	152
Falsely recorded vital signs.	15.6% (20)	52.3% (67)	17.2% (22)	9.4% (12)	5.5% (7)	128
Copied previous periodontal charting to use as current periodontal findings.	17.4% (12)	45.0% (31)	24.6% (17)	8.7% (6)	4.3% (3)	69

Chi-square analyses were used to determine whether having an honor code, having taken an ethics course, or faculty having discussed cheating influenced the student's self-reported frequency of cheating. Analysis indicated that none of these variables was statistically associated with cheating frequency. Of the 268 students who responded that their instructor(s) discussed cheating, 87.7 percent (n=235) reported that they had participated in at least one cheating behavior. Of the 217 students who responded that their school had an honor code, 87.6 percent (n=190) were involved in at least one cheating behavior. Of the 115 students responding that they have taken an ethics course, 87.0 percent (n=100) admitted to cheating.

Students listed being "overloaded with demands at school" as the top reason for cheating due to academic success pressures. Adding the most important and important results together, 60 percent (n=70) excused their cheating due to excessive schoolwork. "To pass a course or clinic requirement" was the second highest reason listed, with 40 percent (n=46) using this justification to defend dishonest behavior (Table 3).

The situational factor that had the highest response was the need "to save time," which was identified by sixty-nine students. Believing that what

they were engaging in was not serious cheating, an attitudinal factor, had the second highest response, which was identified by forty-two of the students (Table 4).

Of the 61.6 percent of students (n=178) who reported that they had witnessed cheating behaviors, 9.5 percent (n=17) reported the incident(s) to a faculty member. Thirty-eight percent of students (n=110) reported that they never witnessed cheating.

Students were requested to identify any other forms of cheating techniques they may have observed or used themselves. Only one student responded; this student reported "forged patient initials in charting."

Question 22 asked the students to list other justifications for cheating not listed in the survey. Although several of the twenty-four responses were similar to behaviors already listed in the survey, some of the replies were unique as shown in Figure 1. Test anxiety, forgetfulness, and having difficulty in obtaining vital signs were some of the reasons that students voluntarily described for cheating.

Question 23 invited students to make suggestions for what they felt could deter them from cheating (Figure 2). Enforcing due process policy, computerized exams, and less busy work were some examples.

**Table 3. Percentage (number) of student justifications for cheating due to pressures for academic success (n=116)**

Justification	Most Important	Important	Least Important
Overloaded with demands at school.	35.3% (41)	25.0% (29)	12.1% (14)
To pass a course or clinic requirement.	25.0% (29)	14.7% (17)	14.7% (17)
Did not know the material.	9.5% (11)	13.8% (16)	20.7% (24)
Help classmate pass a course.	11.2% (13)	8.6% (10)	11.2% (13)
To raise GPA.	9.5% (11)	7.8% (9)	7.8% (9)
Family pressure to succeed.	0.9% (1)	5.2% (6)	5.2% (6)
Get even with unfair teacher.	1.7% (2)	4.3% (5)	0.9% (1)

**Table 4. Percentage (number) of student justifications for cheating due to attitudinal and situational factors (n=116)**

Justification	Most Important	Important	Least Important
To save time.	45.7% (53)	13.8% (16)	13.8% (16)
Did not feel it was serious.	16.4% (19)	19.8% (23)	11.2% (13)
Easy opportunity.	6.9% (8)	19.8% (23)	16.4% (19)
Know peers who cheat.	11.2% (13)	9.5% (11)	12.9% (15)
No fear of being caught.	0	2.6% (3)	5.2% (6)
Teacher ignores cheating.	0.9% (1)	0.9% (1)	1.7% (2)
Minimal punishment if caught.	0.9% (1)	1.7% (2)	0

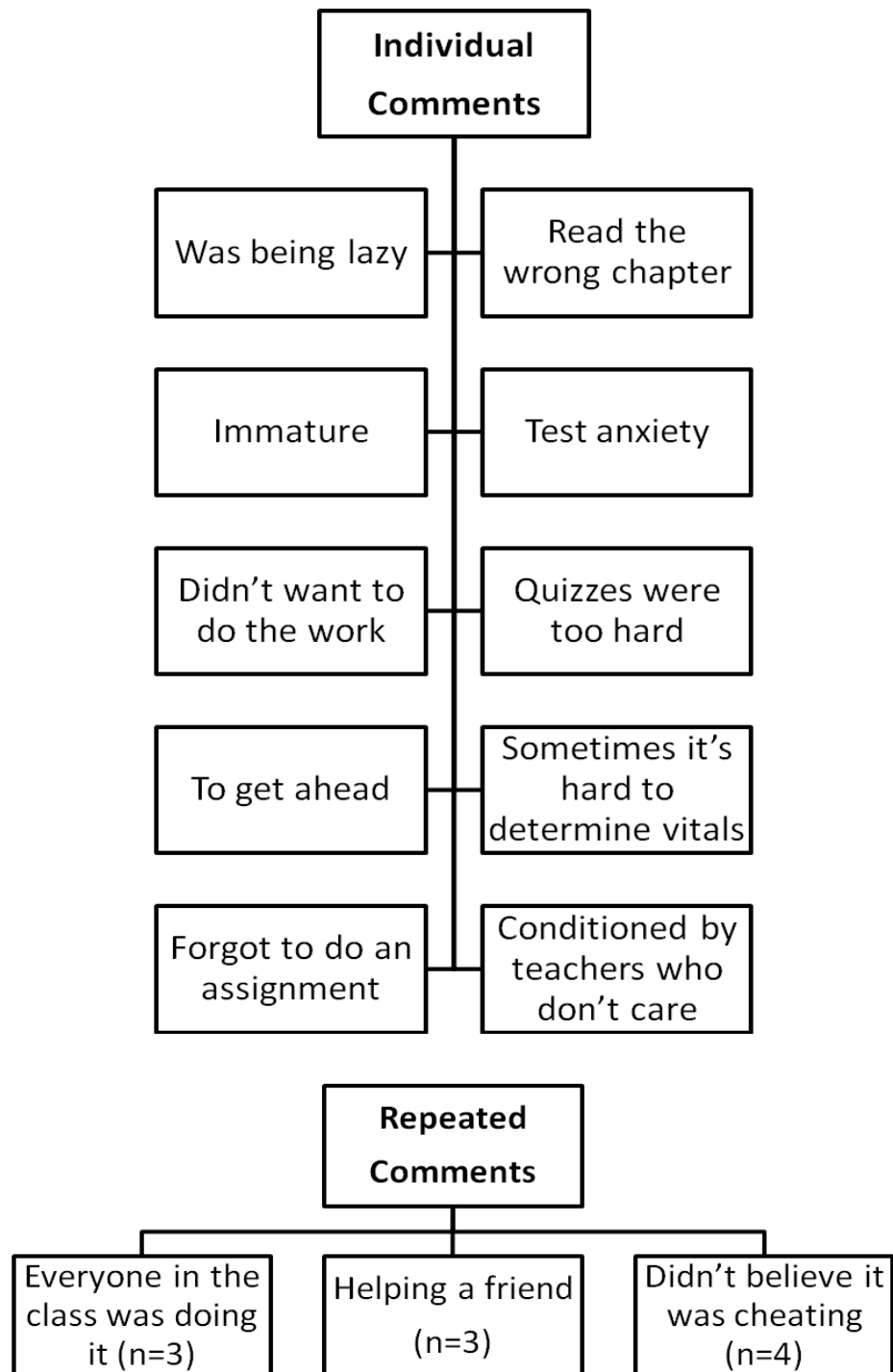


Figure 1. Student justifications for cheating provided by respondents (n=25)

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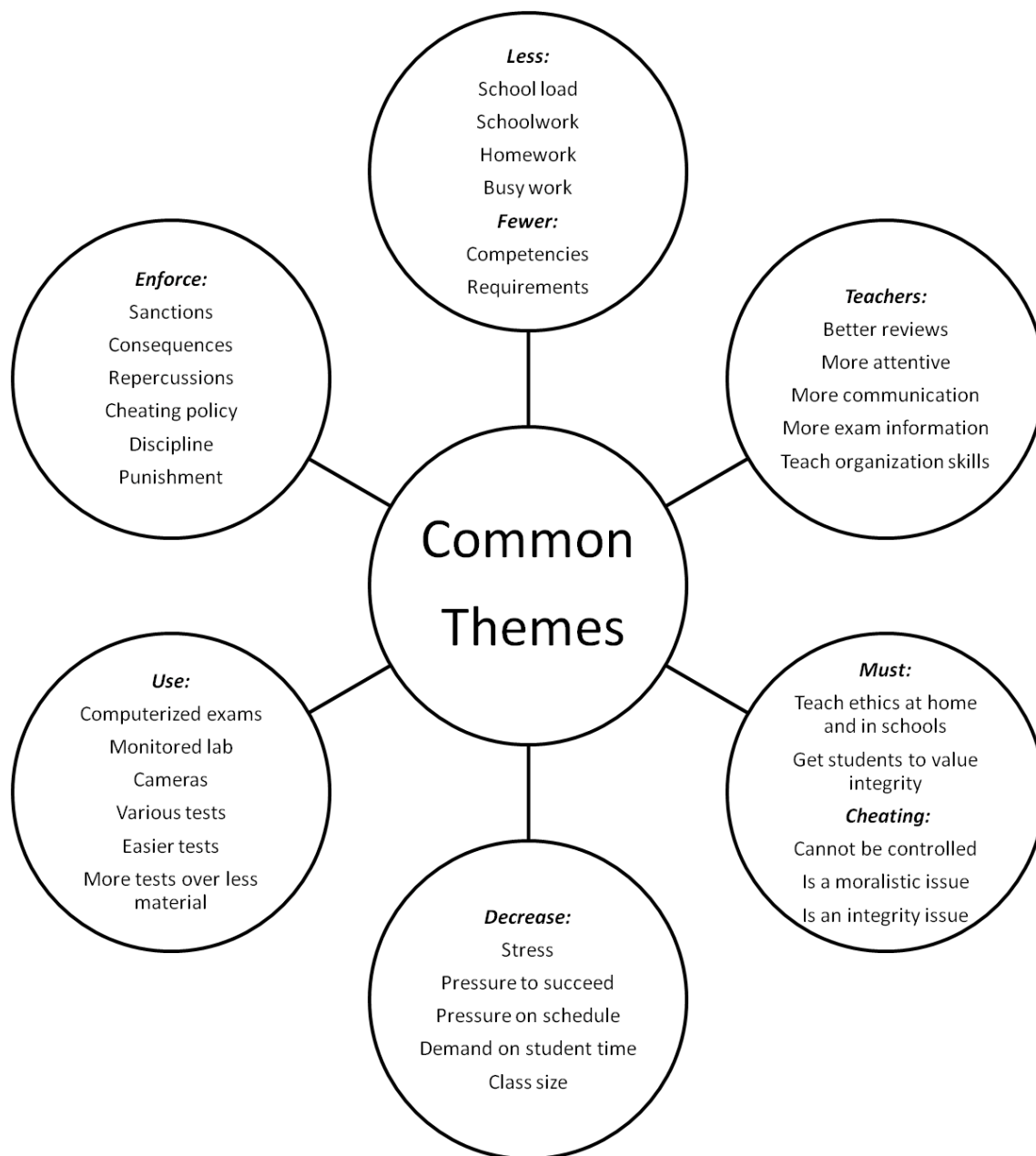


Figure 2. Common themes to deter student cheating provided by respondents (n=48)

## Discussion

This study surveyed graduating dental hygiene students at twenty programs in Texas on issues of academic dishonesty. Comparison of the results from this study to similar ones in dental hygiene

programs is not possible since there are no published studies on the prevalence of academic dishonesty in dental hygiene programs. The research in our study was developed not only to investigate the cheating prevalence and practices of graduating dental hygiene students in the state of Texas, but also to examine the

attitudes and justifications for those practices. The open-ended questions were incorporated in an effort to understand why students cheat and what strategies they believe could possibly decrease academic dishonesty.

## **Prevalence/Practices of Cheating in Didactic Courses**

Helping peers or friends to complete assignments appears to be common practice among dental hygiene students, even after being instructed to work independently.

Reasons cited for unethical collaboration include a belief that the work is not important or relevant to the profession. These self-rationalizations are similar to student responses from other studies.<sup>1,4,14,23,36</sup> Students may sometimes deem program requirements and competencies as an overload and may, therefore, conspire with each other to save time and relieve the stress that accompanies the demanding course load.

In our study, approximately one in five students reported cheating on a quiz or an exam. Other health education settings show similar results.<sup>14-16,23,38</sup> These findings may reinforce the urgency to closely proctor exams and use additional preventive measures to create an environment that promotes academic integrity.

Plagiarism is also prevalent in today's global technology environment.<sup>2,36</sup> Many young people believe that since all information on the Internet is public, it is not deceitful or unethical to use or purchase that information. Although the percentage of dental hygiene students in this study who self-reported plagiarizing was relatively low, students may not fully understand all the components that constitute plagiarism. If instructors define plagiarism and explain why it is a form of cheating, it may decrease the incidence.

## **Prevalence/Practices of Cheating in Clinical Courses**

The number of students who have falsely recorded vital signs and altered patient records demonstrated especially egregious behavior. This type of clinical cheating directly affects patient care. Implementing treatment with false information could precipitate an emergency situation in which baseline vital signs would be crucial to providing emergency care. One unsettling reason that a student offered for

falsifying vitals was that "sometimes it's hard to determine." Students may feel they would be perceived as incompetent by faculty members if they asked for help. In addition, students may feel pressured to complete requirements and thus take shortcuts such as omitting vital signs. It is the responsibility of the faculty to make certain that students appreciate the rationale, including the possible life-saving procedure, for taking vital signs. One approach to address this problem is for clinical faculty members to take vital signs randomly, after student documentation, but before implementation of treatment. Another approach may be to apply severe sanctions.

Other clinical cheating practices involved students who violated infection control protocol, forged a faculty or patient signature, and copied previously recorded periodontal findings to use for their own charting. In other studies, dental students have also presented other students' clinical findings and procedures as their own.<sup>24,26</sup> In other instances, dental students used a faculty member's computer password to self-approve diagnoses and treatment plans without knowledge of their instructors.<sup>24,28</sup> Respondents who commented on why students cheat believed that requirements were excessive and demanding, which may contribute to an indifferent attitude. Students may place their need to complete requirements ahead of policy, ethical standards, and the learning experience. Faculty supervision of students in clinical settings must include ensuring patient safety, and students should be held accountable for their misconduct.

## **Factors That May Discourage or Enable Cheating**

In our study, it does not appear that having an ethics course, an honor code, or faculty discussions of cheating had an impact on students' decisions to cheat or were effective in curbing academic misconduct. Contrary to these findings, numerous studies suggest that less cheating occurs at honor code schools and when students sense the importance faculty members place on academic integrity.<sup>7,32,35,37,42</sup> The students in our study may have been aware of an honor code, but were not adequately exposed to it. If faculty members do not pursue ongoing discussions about the honor code with students and place a high value on upholding it, students may not gain an understanding and an acceptance of it.<sup>1,35</sup>

Approximately 10 percent of students who claimed to have observed cheating behaviors reported



the incident to faculty or the student honor council. Unfortunately, this study did not determine why approximately 90 percent of the students did not report. Some reasons students chose not to report cheating might include that they were uncomfortable approaching faculty members, feared their identity would be revealed, or viewed the classmate as a friend. Classmates in dental hygiene programs are together for approximately two years, during which time bonds and friendships develop as they grow into a tightly woven community. Students may believe they would be shunned if they reported, or they may believe that, by not telling on a classmate, they can get away with the same behaviors. These findings are supported by other studies that show one of the major reasons students do not report is peer influence and peer approval of cheating.<sup>2,10,12,17,24,34,39,42</sup>

A common viewpoint shared by many respondents in this study was the lack of punishment or lack of enforcement of the school's due process policy when a student was caught cheating. One student stated that a teacher ignored a cheating incident, and another stated the class simply received a lecture after a cheating incident and indicated that the penalty administered to that student was minimal. Faculty reluctance to report cheating to the appropriate authority is not limited to dental hygiene programs.<sup>1,18,24</sup> If students perceive or sense that faculty members are not concerned with maintaining academic integrity, they may be less likely to report an observed cheating incident and may be more likely to engage in academic dishonesty themselves. When students believe that the administration and the student body are not connected to the learning process, they may fail to develop a sense of commitment to maintaining a climate of academic integrity at the institution.<sup>42</sup> Several studies of the academic and social environment at academic institutions have documented the existence of these collective attitudes among college students.<sup>1,5,42</sup>

In our study, 26 percent of students (n=76) reported studying from past exams that the instructor did not know were circulating. Other studies have also found that if students have an opportunity to obtain previous exam materials to study for current exams, they will do so without the instructor's knowledge.<sup>4,17,22,27,29</sup> In addition, technology has made it easy for students to cheat through information exchange. Cell phones or other digital devices come equipped with cameras and may be used to take pictures of exams, or test questions can be sent as text messages.<sup>13</sup>

In several studies of college and nursing students, younger students were more likely to engage in academic misconduct.<sup>6-8,19</sup> In our study, when the age ranges were collapsed into two groups—students under age thirty and students over age thirty—there was no statistically significant difference, although those under age thirty self-reported a higher incidence of cheating than the older group, which is consistent with the literature.

Students may attempt to excuse or defend academic misconduct for a variety of reasons. Reasons for cheating found in our study are similar to those found in other studies.<sup>2,4,11,14</sup> The most important reasons cited by responding students to cheat for academic success were a sense of being overloaded with course demands, desire to pass a course or complete clinic requirements, and attempt to help classmates. The most important reasons cited by students to cheat due to attitudinal or situational factors were a belief that cheating is not serious, the pervasive perception that their peers cheat, and a need to save time. Students justified their cheating behavior by trying to save time or “cut corners” as opposed to fear of punishment. Students may not be as concerned with punishments if they believe or know of instances when their school's academic dishonesty policy was not enforced or the student(s) who cheated received minimal consequences. Several of the comments from the open-ended question regarding deterrents to cheating listed enforcement of due process policy and imposing sanctions on those caught cheating. The comments that certain types of cheating are not serious show a gap between student and teacher beliefs as to what constitutes cheating and the seriousness of cheating.<sup>4,12,18-20</sup>

## Strategies for Decreasing Cheating

Based on the findings from this study, we can propose some general recommendations to decrease the prevalence of academic dishonesty in dental hygiene programs. The institution can

- determine the core values and ethical competency of incoming students;
- develop an applied professional ethics module that can be incorporated into each didactic and clinical course;
- ensure that students understand and accept the institution's honor code and are exposed to the honor code throughout their tenure;
- calibrate all members of the faculty and administration on what constitutes academic dishonesty

- and be explicit in ongoing discussions about academic dishonesty with students;
- enforce the due process policy;
- establish strategies to decrease students' stress levels;
- apply all preventive measures to discourage students from cheating; and
- promote an educational environment in which upholding academic integrity becomes a program-wide custom.

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## Limitations and Future Research Needs

Owing to the sensitive nature of this study, some personal bias on the part of the respondents is inevitable. With self-reported surveys, response bias or underreporting can be expected. Due to the nature of the questions and fears of potential disclosure, students may not have been completely honest. If students perceived that their anonymity could be violated in any way while completing the survey, it may have affected the manner in which the questions were answered. The possibility that the procedures were not executed as requested in the confirmation letter may also be considered a limitation.

Other limitations of the study may have included students who chose not to participate or non-participation from students who were absent the day of survey distribution. Because the individual programs were not identified, it is impossible to correlate the responses with how many of the twenty participating programs have an honor code, how many of the programs have incorporated an ethics course into the curriculum, or how many and how often instructors incorporate discussions on academic misconduct either in the classroom or in the syllabi. Because the study included only Texas dental hygiene students, the results are limited to programs located in this state and thus may not be representative of other states or geographic regions.

Further research is warranted on this subject. The following issues should be addressed in future research employing a larger sample randomly selected from all U.S. dental hygiene programs:

1. Student and faculty differences on what constitutes academic misconduct.
2. Attitudes, values, and belief systems of younger generation dental hygiene students.
3. Moral development and core values of entering dental hygiene students.

4. Student and faculty attitudes about the types of sanctions for different offenses.
5. If the prevalence of cheating would decrease if ethics were taught every semester.
6. Exploring teaching methodologies that would integrate, relate, and accommodate teaching ethics with younger generations and the generational diversity in the classroom.
7. Techniques or approaches educators could use to transform students' cynical attitudes.
8. How and why peer influence plays a major role in students' decisions to cheat and to report observed cheating.

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## Conclusions

The results of this study show that cheating is widespread in Texas dental hygiene programs and occurs in both didactic and clinical courses. The highest percentage of cheating incidents in the classroom involved student collaboration on assignments that were intended to be completed independently; in the clinic setting, it involved falsifying vital signs and patient records. Although more than half of the respondents observed one or more cheating incidents, just one in ten students reported the incident to a faculty member or student honor council. An honor code, an ethics course, and discussion of cheating by faculty members did not have an impact on the prevalence of academic dishonesty. Students cited several reasons for engaging in academic misconduct; being overloaded with academic demands and needing to save time were the primary justifications. In the written comments section, several students reported that stress was a major factor in the student's decision to engage in academic misconduct. Decreasing stress and decreasing pressures to succeed were reported as possible deterrents to cheating. Proctored computerized exams and better communication with instructors were also cited as ways to decrease cheating behaviors.

The results of this study may enable dental hygiene faculty members to become more cognizant of the problems of academic dishonesty in their programs, so that interventions to eliminate cheating behaviors can be pursued. In addition, it may enable dental hygiene programs to propose guidelines or policies consistent with high ethical standards to ensure an environment of academic integrity. Because personal values, attitudes, and ethics should be fostered throughout the educational process, students should not be exposed to the academic integrity

policy on one occasion alone, such as at new student orientation. If the academic community expects a climate of academic integrity to be sustained, exposure and discussion need to be continuous. This study may also encourage faculty members to become calibrated on what constitutes academic dishonesty, so that definitions and policy may be communicated to students in a unified way and manner. If standards are in place, enforced, and supported by all faculty members, it may deter students from participating in cheating behaviors.

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## APPENDIX

**Instructions: please choose one response per question using a check mark.**

1. Age: \_\_\_\_\_ 18–21 \_\_\_\_\_ 22–25 \_\_\_\_\_ 26–30 \_\_\_\_\_ 30–35 \_\_\_\_\_ Over 35
2. Have you had an ethics course/module in college? List total number of hours \_\_\_\_\_  
\_\_\_\_\_ Yes \_\_\_\_\_ No
3. Does your school have an honor code?  
\_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_ Don't know
4. Has your faculty discussed cheating with your class?  
\_\_\_\_\_ Yes \_\_\_\_\_ No
5. Does your program have a student honor council?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

**The following questions apply only to your enrollment in the dental hygiene program. Please use the rating scale to answer the following questions by circling one answer. 1=never; 2=one to two times; 3=three to five times; 4=more than five times**

6. I have cheated on a quiz or exam in a dental hygiene lecture course.  
1          2          3          4
7. I have allowed other students to copy my work.  
1          2          3          4
8. I have turned in a written assignment that was not entirely my own work.  
1          2          3          4
9. I have copied assignments from another student.  
1          2          3          4
10. I worked with another student on an assignment that should have been done independently.  
1          2          3          4
11. I obtained previous exams without instructor knowledge to study for an exam.  
1          2          3          4
12. I have altered a grade and turned it back in for a higher grade.  
1          2          3          4
13. I have signed another student's name on an attendance record.  
1          2          3          4

(continued)

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**APPENDIX (continued)**

14. I have forged a faculty signature in a patient's dental chart or other clinic documents.

1            2            3            4

15. I have violated infection control protocol in the clinic.

1            2            3            4

16. I have falsely recorded vital signs.

1            2            3            4

17. I have copied previously recorded periodontal findings to use as current findings.

1            2            3            4

18. Have you observed any students engage in the cheating behaviors listed above?

\_\_\_\_\_ Yes \_\_\_\_\_ No

19. Did you report the cheating incident to a faculty member or student honor council member?

\_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_ Never saw anyone cheat

20. List any other forms of academic dishonesty you may have engaged in.

\_\_\_\_\_

**21. If you have participated in academic dishonesty, please rank the top three reasons why (or only those that apply), with 1 being the most important and 3 being the least important. Do the same for both sections.**

**Section 1:**

- \_\_\_\_\_ A. To raise my GPA
- \_\_\_\_\_ B. To pass a course or clinic requirement
- \_\_\_\_\_ C. To help classmate pass a course
- \_\_\_\_\_ D. To get even with an "unfair teacher"
- \_\_\_\_\_ E. Overloaded with demands at school
- \_\_\_\_\_ F. Did not know the material
- \_\_\_\_\_ G. Family pressure to succeed

**Section 2:**

- \_\_\_\_\_ A. To save time
- \_\_\_\_\_ B. No fear of being caught
- \_\_\_\_\_ C. Minimal punishment if caught
- \_\_\_\_\_ D. Did not feel it was serious
- \_\_\_\_\_ E. Know peers who cheat
- \_\_\_\_\_ F. Easy opportunity
- \_\_\_\_\_ G. Teacher ignores cheating

22. List any other reasons why you participated in academic dishonesty.

\_\_\_\_\_

23. Please list anything that you feel would decrease the likelihood of cheating.

\_\_\_\_\_

**Thank you for participating in this survey.**