Evaluation of the Sources of Stress in Dominican Dental Students: a cross-sectional study

Juan Manuel Aragonese

Universidad Federico Henríquez y carvajal

Juan Algar

Universidad Europea de Madrid

Ana Suarez (✉ ana.suarez@universidadeuropea.es)

Universidad Europea de Madrid <https://orcid.org/0000-0003-2448-6669>

VA Brugal

Universidad Autónoma de Santo Domingo

M Fernández-Domínguez

Universidad San Pablo CEU

R Pérez

Universidad Europea de Madrid

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Abstract

Background The dentistry practice has long been considered a highly stressful health-science profession. Stress in dental students has been addressed by a number of international studies, but it has never been studied specifically in students in the Dominican Republic. The purpose of this cross-sectional study is to evaluate the sources of stress in Dominican dental students so as to establish a link between said stressors, and school term and sex. **Methods** For measurement purposes, a survey (our modified Dental Environment Stress (DES) questionnaire) was conducted on 103 dental students pursuing clinical practica. We analyzed our data using a one-way ANOVA, t-test, factor analysis and VARIMAX. **Results** All dental students in their final six terms of school suffered stress, with the 12th term ranking highest. The sources of stress differed among students in varying terms. Exams, fear of failing, interaction with teaching staff, as well as responsibilities associated with patient care, obtained the most points. Women obtained greater scores in certain items when compared to the academic factor. **Conclusions** The various sources of stress act independently in dental students, with those with greater values being exams, fear of failing subjects, different assessment criteria among teaching staff, responsibilities associated with patient care, fear of failing a term and job prospects. Women demonstrated a more acute response to stress with regards to the academic factor, end of university studies and self-esteem.

Background

The dentistry practice has long been considered a highly stressful health-science profession.¹⁻⁴ The academic training of dentists involves a variety of events, which may spur primary emotions (such as fear, disgust, surprise, anger, happiness, sadness, etc.), cognitive attitudes (anxiety) and psychological processes (stress).

Individuals are constantly required to adapt to the ever-evolving demands of their work environment. To do so, they must undergo allostasis, or the process of achieving internal stability. This biological process involves activating one's resources to face both predictable and unpredictable events. Stress appears when a given situation is perceived as threatening or dangerous. In the case of stress, additional resources are required to help the individual in question decide whether the situation is a false alarm, calls for an immediate response, or evokes emotions and experiences. This learning process will assist the individual in anticipating future events.⁵

The term stress was introduced by Selye⁶ as the organism's non-specific response to any demand (source of stress). A source of stress is any stimulus, external or internal (physical, chemical, acoustic, somatic or socio-cultural), that destabilizes the internal balance of the organism in a direct or indirect way.⁷ The psychological implications of these sources vary among individuals, and personal characteristics will condition one's vulnerability to stress.

Stress in dental students has been addressed by a number of international studies,^{2,4,8-20} but it has never been studied specifically in students in the Dominican Republic. The coexistence of several potentially

stressful factors, including relationships between students, professors, patients and administrative staff, may bear an impact on dental students. Previous authors have approached stress in dental students through detection and measurement of the sources generating stress;^{9,21-23} the student's vulnerability due to his or her own life and personality;²⁴ the appearance of clinical manifestations;²⁵ interactive models of the agents that co-occur in the development of such stress;²⁶ and behavior-modification techniques that may help students mitigate stress.²⁷

Dental education programs in the Dominican Republic consist of 12 terms and are divided into two periods: a basic period covering general, pre-clinical courses, and a second, professional period including clinical practica. Previous studies show that the peak onset of stress generally appears in the transition from pre-clinical courses to clinical ones, or the second period of the program.²⁸⁻³⁰ This clinical component could be of great relevance in terms of stress generation.

The present study is relevant because, according to the literature, no previous studies had been conducted on dental students in the Dominican Republic. We were also interested in evaluating the potential correlation between the varying sources of stress. When stressors are exposed, direct intervention is made possible, with the ultimate goal being to eliminate or relieve the negative effects of said stressors on students. It could also be helpful to teach students behaviour-modification techniques, so that they are better equipped to confront stress in the future.

Methods

Sample

One hundred and three undergraduate students (80 women, 23 men) from Federico Henríquez y Carvajal University participated in the present study. The students volunteered to take part in the study, which was conducted anonymously. The personal information obtained was age, sex and school term. Of the 103 clinical students, 31 were in their sixth term, 36 were in their ninth term, and 36 were in their twelfth term. The participants had a mean age of 21.86 years (Standard Deviation, S.D., 1.53).

Measuring Instruments

A modified Dental Environment Stress (DES) questionnaire was used for evaluation (Tables 1 and 2). It consists of 58 items following a Likert-type scale (1. Not stressful, 2. Slightly stressful, 3. Moderately stressful, 4. Very stressful, 5. Extremely stressful). This questionnaire was based on the Dental Environment Stress questionnaire,²¹ although we included new items gathered from bibliographical review and personal interviews conducted randomly with students. This new questionnaire was submitted to an expert committee for validation. The questionnaire response rate was 96%.

Procedure and Statistical Analysis

Once the committee had validated the questionnaire, we obtained the licenses required from the Dentistry Department of the Faculty of Health Sciences, Federico Henríquez y Carvajal University, to begin this cross-sectional study. Assessments took place during an exam-free period. Initially, students were unaware as to why they were meeting with us, but upon arrival, an instructor explained the purpose of the survey in general terms, and they then proceeded to provide consent before filling out the questionnaire.

All data analyses were conducted using SPSS version 24.0 (SPSS Inc., Chicago, IL). A descriptive analysis of the averages and frequencies was carried out, as was an analytical analysis using one-way ANOVA, t-test, factor analysis and VARIMAX.

Results

In the mean modified DES analysis, we discovered that the main stressors were (Table 3): exams (Mean (M):4.44, S.D. 0.652), fear of failing subjects (M:4.06, S.D. 0.998), different assessment criteria among teaching staff (M:4.06, S.D.1.083), responsibilities for patient care (M:3.84, S.D. 0.883), fear of failing a term (M:3.80, S.D. 1.360), job prospects (M:3.73, S.D. 1.012), the fact that the administration does not meet the needs of the students (M:3.71, S.D. 1.016), carrying out treatments that may imply irreversible actions (M:3.59, S.D.1.043), insecurity concerning professional future (M:3.54, S.D. 1.101) and wasting time on administrative issues (M:3.50, S.D. 1.305).

The term producing the highest level of stress was the 12th (M=2.85), followed by the 6th (M=2.82) and the 9th (M=2.81). Comparing the mean modified DES scores for each item, we found that there were significant statistical differences ($p<0.05$) in each term (Table 4).

Review of the mean modified DES scores regarding sex yielded significant differences (particularly among women), as seen in Table 5.

Due to the large number of items under study, a factor analysis was carried out to determine whether the variables in question demonstrated correlation. The program grouped the items into 10 dimensions or factors as per correlation. Following this analysis, the dimensions were named accordingly (Tables 6-15: factor analysis).

After this step, the various dimensions were examined to determine the weight of each with regard to stress generation. This was completed using VARIMAX (Table 16).

We observed that the items were grouped into ten factors explaining 57.40% of the total variance. Taking into account the mean values, the academic factor was identified as the most relevant in terms of stress, followed by the atmosphere in the clinic and personal insecurities. The t-test (Table 17) yielded relevant differences for the academic factor, end of university studies and self-esteem, where women obtained the highest score.

Discussion

The greatest difficulty we encountered when evaluating stress levels in dental students was the wide range of potentially stressful sources or stressors.³¹ In this study, we measured potential sources of stress in Dominican students pursuing courses with clinical practice, as previous studies concluded that factors causing dental students significant stress were relationships with patients, administrative and support staff, as well as the professors of the clinical practice.^{21,28,29,32-35} Authors like Alhaji et al⁹ and Alzahem et al² have added that stress levels increase progressively the farther along a student is in the program. In this study, students in their 12th term demonstrated the highest stress levels, obtaining significant values for items referencing proximity to end of program, final exams, increased interaction with patients, and teaching and admin staff,^{29,30} insecurity about the job market, lack of confidence in future as a dentist without professor supervision, and even doubts as to their true calling. Abu-Ghazaleh et al have highlighted the importance of family expectations with regard to academic success.⁸ Other studies^{11-14,16,20} yet have stated that clinical requirements are significant stressors. The present study did not take this item into account, as it was not part of the clinical evaluation. As for increased uncertainty and insecurity,³⁴ students may very well experience anticipatory anxiety because of it, although it generally tends to subside with experience.^{36,37} Other authors have found that anticipatory anxiety sets in in the third term, when students are first exposed to patients.^{11,12,16,18,20,23,35,38,39} With regard to sex, our data shows greater stress levels in women, with significant differences for certain items (Table 3). As for the bibliography reviewed, women, as a rule, demonstrated greater values across varying scales.^{4,19,20} However, a number of studies^{8,9} posit that this could in fact be cultural in nature, claiming that women in the populations studied are more likely to be open about their feelings, whereas men are more likely to bottle up their emotions when faced with challenges.⁹ Conversely, other authors claim that,^{12,29,30} generally speaking, men present greater stress levels, while Inquimbert et al affirmed in 2017 that there are no significant differences between the sexes.¹⁷

When analyzing the total mean value of each specific item in the present study, we found that the exams item obtained the highest score (M: 4.44, S.D.: 0.652). Table 2. Generally speaking, evaluations can provoke intense stress levels in students and require a high level of responsiveness,^{22,40-43} given that they must pass said exams to complete the terms and program. These results coincide with numerous works published in the literature that establish that exams and evaluations are among the top five most stressful factors faced by students.^{2,3,8,9,11,14,16-18} Grades alone may also generate stress, as there is generally a fair amount of competition associated with them.⁴⁴

The item with the second-highest score in our research was fear of failing, which may be linked to poor test results, carrying out a clinical procedure incorrectly or facing the consequences of said error, as well as clashes with parents.³ These results coincide with other studies that have placed this element among the top five most stressful factors faced by dental students.^{9,18,20,34}

Professors play a key role in ensuring the quality of treatments patients receive and alleviating any discomfort they may suffer.⁴⁵ Some students believe that professors are, at times, a source of

considerable stress,² as they receive contradictory instructions from them when treating patients.^{9,11} This leads to lowered self-esteem in students when required to make clinical decisions, and increased mental distress.⁴⁶ Students observe that their professors are not consistent in their ways, and that their requests are not always reasonable. As a result of this, students may adopt a passive attitude, and attempt to fly below the radar. This may compromise students' progress, as obtaining passing grades becomes their only focus.²¹ In response to this, Muirhead and Locker concluded that it would be helpful to train clinical staff and attempt to unify evaluation criteria to minimize this source of stress.³⁹ Conversely, authors like Fonseca et al¹³ and Ersan et al¹² believe varying staff criteria and the environment created by clinical professors to be irrelevant as a source of stress in students.

In the vast majority of surveys, there is no allusion made to the fact that variables are correlated using factor analysis, and that groups may have been established in an arbitrary way. In our survey, factor analysis followed by VARIMAX enabled us to group together and score the sources of stress across ten dimensions, which, however, could not explain 100% of the stress generated (as with Sanders and Lushington,⁴⁶ also using VARIMAX). This occurs because stress is a multidimensional concept with variables acting independently in each individual. Yet we can affirm that the academic factor is the most relevant stressor, as reflected in other studies.^{22,35,40,41,47,48}

That being said, this factor is not exclusive, as it interacts with others. If a student fails his or her exams, he or she will not pass their courses, will have to face their parents and professors after a failing grade, and may have subsequent personal problems (daily life factor), as described by Yap et al.⁴⁰

Furthermore, the atmosphere in the clinic item is essential to distinguishing the first period from the second, and reflects the transition from basic sciences to clinical sciences.⁴⁷ The fact that the responsibilities associated with patient management scored higher in our sample than the opinions that patients may have regarding the treatments received suggests that what actually causes stress among dental students is carrying out treatments, not patient management per se. Students' inexperience and professors' high expectations may increase treatment-related stress.

The primary obstacle we encountered during this study was the potential subjective nature of the responses given. In order to validate the tools applied here, we suggest carrying out a multicentric study in all of the dental schools in the Dominican Republic.

Conclusions

The various sources of stress act independently in dental students, with those with greater values being exams, fear of failing subjects, different assessment criteria among teaching staff, responsibilities associated with patient care, fear of failing a term and job prospects. Women demonstrated a more acute response to stress with regards to the academic factor, end of university studies and self-esteem.

Further research about specific sources of stress should incorporate multicentric surveys within Dominican universities to standardize criteria (survey results show great dispersion). We would also like to highlight the need for a proper assessment of teaching staff, so as to establish a consensus regarding theory/practice issues arising in their courses. A protocol for treatment proceedings in the university clinic should also be put in place. Finally, offering dental students the option to take part in workshops about anxiety and stress management, and urging dental institutions to develop surveys alongside psychology professionals, may lead to further improvements.

Abbreviations

DES: Dental Environment Stress; S.D.: Standard Deviation; M: Mean

Declarations

Ethics approval and consent to participate.

Approval was obtained for this study from Federico Henriquez y Carvajal University's institutional review board. Written consent was obtained from all participants.

Consent for publication.

Not applicable.

Availability of data and material

The data and material are available from the corresponding author.

Competing interests

The authors declare that they have no competing interests.

Funding

Not applicable.

Authors' contributions

JMA, JA, AS designed the study, participated in its coordination and drafted the manuscript. VB helped draft the manuscript. RP, M-FD participated in the data analysis. All authors read and approved the final manuscript.

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Tables

Table 1. Sources of stress in dental students. Original table from the 1980 Garbee et al article.²¹

Source of stress
Atmospheres created by clinical professors
Examinations and grades
Amount of classwork
Patient care responsibilities
Administrative response to student needs
Difficulty of classwork
Difficulty in learning precision manual skills
Peer competition
Difficulty in learning clinical procedures
Financial responsibilities

Table 2. The modified Dental Environment Stress (DES) ES questionnaire.

1. Amount of coursework.	2. Difficulty of coursework.
3. Exams.	4. Competitiveness with classmates.
5. Responsibilities associated with patient care.	6. Difficulty learning clinical procedures.
7. Patient attitude toward student.	8. Patient attitude toward dental field.
9. Atmosphere created by professors in practica.	10. Difficulty learning the various levels of manual accuracy required in pre- clinical practica and/or lab.
11. Laboratory taking too long returning assignments.	12. Administration not meeting the needs of students.
13. Patients missing appointments.	14. Relationship with classmates of the opposite sex.
15. Assignments being criticized.	16. Low self-esteem regarding capacity to be a good dentist down the road.
17. Fear of failing subjects.	18. Indecisiveness when carrying out clinical assignments.
19. Thinking they may have to take a course over.	20. Low self-esteem regarding future career.
21. Attitude of the faculty toward women.	22. Need to postpone starting a family.
23. Students who have forged bonds/friendship with teaching or management staff.	24. Discrepancies regarding courses.
25. Too many courses during the first cycle.	26. Elective courses.
27. Too many people in the cafeteria at the same time.	28. Difficulty obtaining explanations from professors.
29. Low self-esteem regarding potential to excel as a student.	30. Relationship between students and faculty staff.
31. Relationship with classmates.	32. Alcohol consumption.
33. Drug consumption.	34. Tobacco consumption.
35. Questioning whether dentistry is their true calling.	36. Relationship with practica partner.
37. Marital or spousal problems.	38. Childcare.
39. Personal health problems.	40. Health problems in the family.
41. Financial responsibilities.	42. Relationship with parents.

43. Other personal problems.	44. Working on patients with a small mouth.
45. Bad relationship with roommates.	46. Theft in the locker room.
47. Bachelor's thesis/test.	48. Work expectations.
49. Discrimination based on race or social class.	50. Work-study balance.
51. Varying professor evaluation criteria.	52. Library being used by students from other faculties.
53. Irrelevant courses.	54. Having to go from one place to another to resolve issues.
55. Representatives from establishments selling dental products.	56. Assign note-taking to those who don't often attend class.
57. Patient attitude regarding pain.	58. Clinical situations requiring irreversible actions.

Table 3. Overall questionnaire scores.

ELEMENTS	Mean	Median	Standard Deviation	Minimum	Maximum
Amount of coursework.	3.34	3.00	0.823	1	5
Difficulty of coursework	3.34	3.00	0.761	1	5
Exams.	4.44	5.00	0.652	3	5
Competitiveness with classmates.	3.05	3.00	1.224	1	5
Responsibilities associated with patient care.	3.84	4.00	0.883	1	5
Difficulty learning clinical procedures.	3.20	3.00	0.943	1	5
Patient attitude toward student.	3.05	3.00	1.232	1	5
Patient attitude toward dental field.	2.74	3.00	0.918	1	5
Atmosphere created by professors in practica.	3.42	4.00	1.225	1	5
Difficulty learning the various levels of manual accuracy required	3.30	3.00	0.979	1	5
Laboratory taking too long returning assignments.	3.04	3.00	1.204	1	5
Administration not meeting the needs of students.	3.71	4.00	1.016	1	5
Patients missing appointments.	3.11	3.00	1.260	1	5
Relationship with classmates of the opposite sex.	1.98	1.00	1.393	1	5
Assignments being criticized.	3.19	3.00	1.067	1	5
Low self-esteem regarding capacity to be a good dentist down the road.	2.95	3.00	1.389	1	5
Fear of failing subjects.	4.06	4.00	0.998	2	5
Indecisiveness when carrying out clinical assignments.	2.93	3.00	1.050	1	5
Thinking they may have to take a course over.	3.80	4.00	1.360	1	5
Low self-esteem regarding future career.	3.54	4.00	1.101	1	5

Attitude of the faculty toward women.	2.01	2.00	1.142	1	5
Need to postpone starting a family.	2.35	2.00	1.266	1	5
Students who have forged bonds/friendship with teaching or management staff.	2.71	3.00	1.355	1	5
Discrepancies regarding courses.	3.19	3.00	1.394	1	5
Too many courses during the first cycle.	2.89	3.00	1.119	1	5
Elective courses.	2.40	2.00	1.132	1	5
Too many people in the cafeteria at the same time.	2.02	2.00	1.155	1	5
Difficulty obtaining explanations from professors.	3.01	3.00	0.995	1	5
Low self-esteem regarding potential to excel as a student.	2.56	2.00	1.218	1	5
Relationship between students and faculty staff.	2.52	3.00	1.179	1	5
Relationship with classmates.	2.39	2.00	1.416	1	5
Alcohol consumption.	1.54	1.00	0.789	1	4
Drug consumption.	1.54	1.00	1.036	1	5
Tobacco consumption.	1.91	1.00	1.261	1	5
Questioning whether dentistry is their true calling.	2.97	3.00	1.445	1	5
Relationship with practica partner.	2.55	2.00	1.558	1	5
Marital or spousal problems.	2.02	2.00	1.163	1	5
Childcare.	1.50	1.00	1.009	1	5
Personal health problems.	2.24	2.00	1.240	1	5
Health problems in the family.	2.92	3.00	1.480	1	5
Financial responsibilities.	2.46	2.00	1.341	1	5
Relationship with parents.	2.41	2.00	1.396	1	5
Other personal problems.	2.63	3.00	1.321	1	5

Working on patients with a small mouth.	3.22	3.00	1.146	1	5
Bad relationship with roommates.	1.86	1.00	1.189	1	5
Theft in the locker room.	2.50	2.00	1.596	1	5
Bachelor's thesis/test.	2.55	3.00	1.405	1	5
Work expectations.	3.73	4.00	1.012	1	5
Discrimination based on race or social class.	2.08	2.00	1.161	1	5
Work-study balance.	3.00	3.00	1.328	1	5
Varying professor evaluation criteria.	4.06	4.00	1.083	1	5
Library being used by students from other faculties.	1.95	1.00	1.183	1	5
Irrelevant courses.	2.79	3.00	1.169	1	5
Having to go from one place to another to resolve issues.	3.50	4.00	1.305	1	5
Representatives from establishments selling dental products.	2.58	3.00	1.168	1	5
Assign note-taking to those who don't often attend class.	2.65	3.00	1.446	1	5
Patient attitude regarding pain.	3.12	3.00	1.003	1	5
Clinical situations requiring irreversible actions.	3.59	4.00	1.043	1	5

Table 4. One-way ANOVA: Significant differences between mean scores of perceived sources of stress and overall mean modified DES scores by school term.

Items	6 th	9 th	12 th	P value	D.M.S.
	mean±s.d.	mean±s.d.	mean±s.d.		
Amount of coursework.	3.56±0.773	3.42±0.841	3.00±0.775	0.16*	6>12, 9>12
Laboratory taking too long returning assignments.	2.81±0.980	2.81±1.117	3.58±1.385	0.010*	12>6, 12>9
Patients missing appointments.	2.44±1.054	3.28±1.210	3.68±1.222	0.000***	12>6, 9>6
Personal health problems.	2.47±1.404	1.81±1.009	2.48±0.168	0.031*	12>9, 6>9
Discrimination based on race or social class.	2.25±1.180	1.67±0.862	2.35±1.330	0.027*	12>9, 6>9
Varying professor evaluation criteria.	3.67±1.042	4.28±1.031	4.26±1.094	0.025*	12>6, 9>6

*Significant difference at 0.05

** Significant difference at 0.01

*** Significant difference at 0.001

Table 5. Significant differences (p<0.05) between mean scores of perceived sources of stress and overall mean modified DES scores by sex.

Items	Female	Male	F	Y	g.l.	P value
	mean±s.d.	mean±s.d.				
Patients missing appointments.	3.25±1.298	2.61±0.988	3.344	-2.192	101	0.031*
Assignments being criticized.	3.35±1.057	2.65±0.935	0.107	-2.860	101	0.005**
Fear of failing subjects.	4.20±0.986	3.57±0.896	1.127	-2.774	101	0.007**
Thinking they may have to take a course over.	4.00±1.312	3.09±1.311	0.001	-2.942	101	0.004**
Too many people in the cafeteria at the same time.	2.13±1.216	1.65±0.832	5.222	-2.146	51.877	0.037*
Tobacco consumption.	3.41±0.688	3.09±0.949	8.749	-2.205	46.118	0.032*
Relationship with parents.	2.60±1.402	1.74±1.176	4.745	-2.958	41.696	0.005**
Bachelor's thesis/test.	2.73±1.432	1.96±1.147	1.891	-2.363	101	0.020*
Work expectations.	3.88±0.973	3.22±0.998	0.022	-2.841	101	0.005**

*Significant difference at 0.05

** Significant difference at 0.01

Tables 6-15. Factor analysis.

RELATIONSHIP WITH SURROUNDINGS	Cor.
Relationship with classmates.	0.817
Relationship with classmates of the opposite sex.	0.812
Relationship with practica partner	0.807
Attitude of the faculty toward women.	0.768
Questioning whether dentistry is their true calling.	0.750
Relationship with parents.	0.717
Relationship between students and faculty staff.	0.645
Patient attitude toward student.	0.601
Competitiveness with classmates.	0.391

DAILY LIFE	Cor.
Other personal problems.	0.761
Personal health problems.	0.673
Marital or spousal problems.	0.671
Health problems in the family	0.602
Childcare	0.561
Financial responsibilities.	0.424
Clinical situations requiring irreversible actions.	0.418
Working on patients with a small mouth.	0.397

PERSONAL INSECURITIES	Cor.
Low self-esteem regarding capacity to be a good dentist down the road.	0.731
Low self-esteem regarding potential to excel as a student.	0.723
Indecisiveness when carrying out clinical assignments.	0.699
Low self-esteem regarding future career.	0.602
Discrepancies regarding courses.	0.479
Difficulty learning clinical procedures.	0.479
Difficulty obtaining explanations from professors	0.478

ACADEMIC FACTOR	Cor.
Fear of failing subjects	0.723
Thinking they may have to take a course over.	0.645
Exams.	0.584
Amount of coursework.	0.534
Difficulty of coursework.	0.410
Patient attitude regarding pain.	0.388
Elective courses.	0.370

ADMINISTRATIVE FACTOR	Cor.
Representatives from establishments selling dental products.	0.747
Having to go from one place to another to resolve issues.	0.555
Library being used by students from other faculties.	0.538
Irrelevant courses.	0.517
Difficulty learning the various levels of manual accuracy required in pre- clinical practica and/or lab.	0.463
Administration not meeting the needs of students.	0.439
Bad relationship with roommates.	0.398
Too many people in the cafeteria at the same time.	0.372

SUBSTANCE USE	Cor.
Alcohol consumption.	0.671
Drug consumption.	0.671
Tobacco consumption.	0.588
Need to postpone starting a family.	0.526
Laboratory taking too long returning assignments.	0.299

END OF BACHELOR'S DEGREE	Cor.
Work expectations.	0.616
Theft in the locker room.	0.579
Varying professor evaluation criteria.	0.489
Discrimination based on race or social class.	0.432
Bachelor's thesis/test.	0.358

WORKLOAD	Cor.
Assign note-taking to those who don't often attend class.	0.742
Work-study balance.	0.605
Too many courses during the first cycle	0.397

SELF-ESTEEM	Cor.
Students who have forged bonds/friendship with teaching or management staff.	0.694
Patients missing appointments.	0.513
Assignments being criticized.	0.445

CLINIC ATMOSPHERE	Cor.
Responsibilities associated with patient care.	0.687
Patient attitude toward dental field.	0.593
Atmosphere created by professors in practica.	0.436

Table 16. VARIMAX.

Rotation sums of squared loadings			Extraction sums of squared loadings			
Component	Total	%Variance	%Cum.	Total	%Var.	%Cum.
1 RELATIONSHIP WITH SURROUNDINGS	8.812	15.194	15.194	5.995	10.336	10.336
2 DAILY LIFE	5.932	10.227	25.421	4.116	7.097	17.434
3 PERSONAL INSECURITIES	3.756	6.476	31.897	3.967	6.840	24.274
4 ACADEMIC FACTOR	2.713	4.677	36.574	3.295	5.682	29.955
5 ADMINISTRATIVE FACTOR	2.594	4.472	41.046	3.184	5.490	35.445
6 SUBSTANCE USE	2.413	4.160	45.206	2.994	5.161	40.607
7 END OF BACHELOR'S DEGREE	2.097	3.616	48.822	2.803	4.833	45.440
8 WORKLOAD	1.788	3.084	51.905	2.543	4.384	49.824
9 SELF-ESTEEM	1.655	2.853	54.759	2.266	3.907	53.731
10 CLINIC ATMOSPHERE	1.527	2.633	57.391	2.123	3.660	57.391

Table 17. Statistically significant differences between the sexes following factor analysis.

Academic factor					
F	Sig.	T	g.l.	Sig. (bilateral)	Mean Difference
0.526	0.470	-3.113	101	0.002**	-0.4252

** : $p \leq 0,01$

End of bachelor's degree					
F	Sig.	T	g.l.	Sig. (bilateral)	Mean Difference
0.938	0.335	-2.650	101	0.009**	-0.4950

** : $p \leq 0,01$

Self-esteem					
F	Sig.	T	g.l.	Sig. (bilateral)	Mean Difference
0.462	0.498	-2.792	101	0.006**	-0.5453

** : $p \leq 0,005$