Academic Stress among Undergraduate Students at Al-Yarmouk University College, a Comparative Study

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Abstract

The present study investigates the perceptions of undergraduate students at the department of Medical laboratory Techniques (DMLT) of Al-Yarmouk University college to the sources of academic stress implemented on them.

The study was inspired by T3 test results derived from blood samples obtained from participated students before and after examination. ELESA was used for determining T3 .The mean level of T3 after examination (1.189 ηmol/L ± 0.03) was higher than mean level before examination (1.166 η mol /L ± 0.02).

Data regarding academic stress sources were collected with the aid of a questionnaire in which 50 students were participated. Participants vary in stage of college and gender. The questionnaire was consisted of 35 situations that are potentially stressful. These situations were divided into 4 areas of stressor sources. The areas were personal, fear of failure, interpersonal difficulties with lecturers, and the lecturer-student relationship/teaching methods.

Introduction

Improving the examination performances of students and reducing their failure rate are among the key expectations of teacher and student in any educational system. Finding out contributing factors of student's exam performance is important so that remedial measures can be taken to achieve the desired results [1]. Academic Stress is an important factor accounting for the variation in academic achievement [2].Therefore academic stress among undergraduate students has become a topic of interest in many European and North American countries [3] as well as in Asian countries [4,5]

Al-Zamely [6] investigated the effects of academic stress on some physiological parameters of college students .He reported that heart rate, systolic blood pressure and neutrophil count were significantly increased in all students groups compared with the control group. Ghadiri et.al[7] suggested that prolonged periods inescapable stress can reduce thyroid activity and serum levels of thyroid hormone.

In its 2006 survey of college students, the American College Health Association reported that academic stress was one of the greatest obstacles to college student's academic performance.[8].

Stress is viewed as a negative emotional, cognitive, behavioral and physiological process that occurs as a person tries to adjust to or deal with stressors [9]. The sources of academic stress are known as stressors.
Academic stress could include anxiety and stress that is emerge from studying and education demands. Undergraduate studies are often associated with a lot of studying, laboratory reports, home work, quizzes and tests. In medical studies, these demands are accompanied by the need to speak and write using a language other than the mother tongue. Academic stress is hard in particularly on college students who have to live away from home for the first time.[10]

The present study is an attempt to assess the possibility that triiodothyronine (T3) blood level would be affected by academic stress implicated upon undergraduate students at DMLT/Al-Yarmouk University College. In this respect, academic examinations were considered as a source of stress. Blood samples were taken from participated students before and after examination for comparison.

Moreover, this study was aiming, in part, at comparing awareness of academic stressors and reactions to these stressors between second year and third year students at DMLT. We assumed that second year students will perceive higher academic stress and exhibit greater reactions to stressors than third year students.

Material and Methods

1-T3 Measurements

Blood samples were obtained from anti-cubital vein of 20 assumed-healthy 4th year students of the DMLT /Al-Yarmouk University College. Blood samples were obtained twice; the first was 20-30 minutes before examination. The second was obtained after examination. Serum was separated and stored in a freezer at -20 ºC. Serum T3 were analyzed by Enzyme Immunosoassay (EIA) method using Foresight Total T3 test kits supplied by ACON Laboratories, San Diego, USA. The expected values for***T3*** ELISA test system (in ηmol/L) are: low range of 0.95 and high range of 2.77 ηmol/L .All samples were analyzed using a commercial ELISA (DRG Diagnostics, Germany) according to manufacturer's instructions.

2- Stress Sources

a. Participants

In this part of the study, participants were from second and third years students at the DMTL of Al-Yarmouk university college. Participants consisted of 50 students,25 from each academic level. Table 1 provides a summary of over all participants.

Table 1: participant characteristics

Variable	2nd year	3rd year	4th year
Male	18	14	12
Female	7	11	8
total	25	25	20

b- Tools

To investigate the undergraduate student's perception in relation to the sources of stress , an academic stress scale proposed by R.Balaji Rao [11]was adopted in this study. The adopted scale comprises of 35 items. Each item had five alternatives varying responses: '. "No Stress", "Slightly Stress", "Moderate Stress", " Highly Stress" and "Extremely High Stress".Each response carries a score of '1', '2', '3', '4' and '5' respectively. The items are classified into four areas, three areas contained 9 items each and one contained 8 items .The four areas are: Personal Inadequacy, Fear of Failure, Interpersonal difficulties with teachers, and Academic. A hand out containing the scale items (written in Arabic) was given to the participated students whom were requested to fill adequate spaces in the manner described on the hand out. The items of the questioner are given below

a. Personal inadequacy:
Lack of concentration during study hours, difficulty in remembering all that is studied, lack of self-confidence, not knowing how to prepare for the examinations, slow in getting along with the curriculum, unable to complete the assignment in time, difficulty in public speaking, feeling of inferiority, and not able to grasp the subject matter.

b. Fear of failure:
Progress reports to parents, worrying about the examinations, worry about results after examinations, examination syllabus is too heavy in some subjects, unable to discuss academic failures with parents, eleventh hour preparation for the examinations, importance of the subject matter, and lecturers give more punishment in the class.

c. Interpersonal difficulties with lecturers:
Lecturers are not humors towards us, lecturers do not listen to our ideas, Conflict with friends/college authorities , hesitate to ask the lecturers for detailed explanation, lack of opportunity to meet teachers, lack of communication between lecturers and students, lecturers shows socio-economic status on students, and lecturers lacking interest in students and biased attitude of the lecturers.

d. Academic
Teachers make too many extra demands on students, Exam papers are tough and not valued well, Monotonous (boring or tedious) teaching style by the teacher, Not enough discussion in the class, Lack of fluency while speaking the language other than the mother tongue**,** The teacher is fast and does not use blackboard legibly, Incomplete and confusing study material, Inadequate lab and

library facilities, Inadequate subject knowledge of the teacher.

Results and discussion

1. Effect of examination on T3 blood level

Twenty 4th year students of DMLT were participated in this part of the investigation .Blood samples were drawn from each and every one of them 20-30 minutes before immunology examination. The examination was known to be somehow difficult to pass, hence it was considered as an academic cause of stress. The selection of participates was random. Blood samples were collected before and after the examination for comparison purposes.

Level values T3 hormones for the twenty participates are presented in figure 1.The comparison presented in Figures 1 indicate that T3 level before the effect of the stressor is less than its level after the stressor effect. This is in agreement with findings of Helmreich et.al. [12] where they found that exposure to inescapable stress caused a decrease in T(3) levels .In another study, Helmreich et.al. have found that the stress condition was associated with decreases in peripheral T3 when compared with controls [12] .

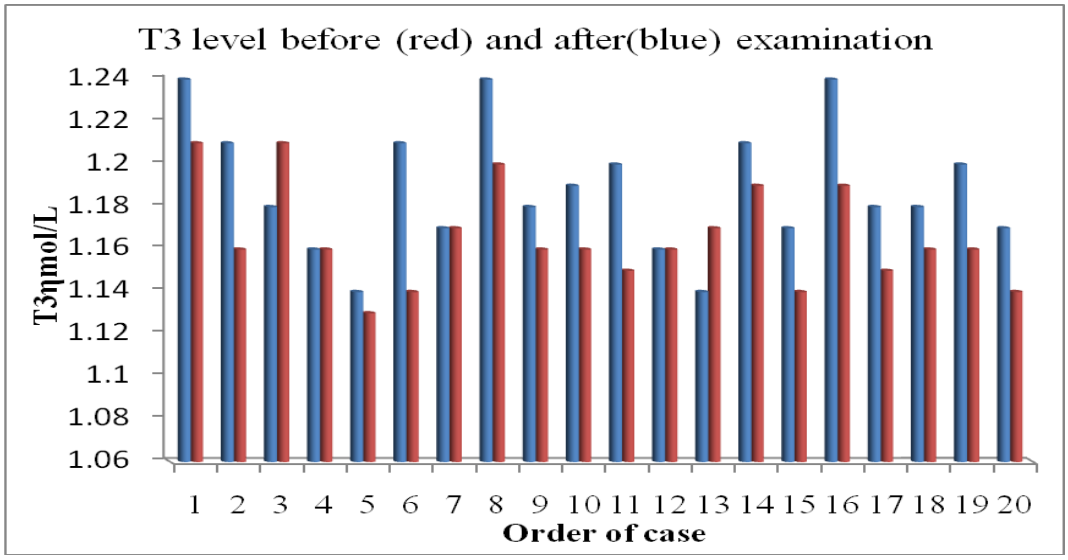

Figure 1-Acomparison of T3 levels values before and after examination

2. **Stress Results**

In table 2, the mean and standard deviation of response to potential sources of stress from all participated students is presented. Academic sources value was the highest beings 2.8 ± 0.54 (mean ± Standard Deviation, SD), while fear of failure has the lowest value, it was 2.21±0.17.

In table 3, the means and standard deviations for the four areas of stress sources according to gender are presented. Academic sources values were 2.77 ±0.56 and 2.80 ± 0.52 for male and female

respectively. There is no significant deference in reaction to this stress between male and female. These values are the highest in comparison to fear of failure values which were 2.15 ± 0.69 and 2.07 ± 0.75 for male and female respectively. Again, no significant deference was observed in reaction to this stress between male and female.

With the exception of 3rd grade female students, students showed the highest response to this stressor in

Table.2: Mean and standard deviation (SD) of participants' response to potential sources of stress.

	Students' response	
Potential sources of stress.	**Mean**	**SD**
Academic	2.78	0.54
Personal inadequacy	2.57	0.71
fear of failure	2.12	0.71
Interpersonal difficulties with lecturers	2.43	1.02

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Table.3: Mean and standard deviation of participants' response to potential sources of stress according to gender.

	Students' response			
Potential sources of stress.	Male		Female	
	Mean	SD	Mean	SD
Academic	2.77	0.560	2.80	0.522
Personal inadequacy	2.58	0.67	2.56	0.78
fear of failure	2.15	0.69	2.07	0.75
Interpersonal difficulties with lecturers	2.41	1.05	2.46	0.99

deference.

Table 4 contains the means and standard deviations for the four areas of stress sources according to gender and grade (year of college).The values presented in the table indicate the following:

1. Academic stressors-

2. Personal inadequacy (**PI**).

Across the reaction values to this stressor, Student responses showed no significant deference.

3. Fear of failure.

In general the student's reactions to

to this stressor were lower than the case of the previous two stressors. 2nd year female students showed the lowest response .This indication of response should be of concern .

4-Interpersonal difficulties with lecturers (**IDWL**).

Table 4 contains the means and standard deviations for the four areas of stress sources according to gender and level 2nd year male students showed the lowest response in comparison to other students and other stressors. While 3rd year male students showed the highest reaction in comparison to other students and other stressors. Third year students experienced highest stress levels due

perception and reaction to academic stressors For example, female students more often report letting out their feelings, whereas men more often report controlling their emotions, accepting the problem, not thinking about the situation, and engaging in problem-solving effort.

	Second year				Third year			
	Male		Female		Male		Female	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Academic	2.78	0.56	2.71	0.36	2.74	0.54	2.86	0.61
P I	2.44	0.64	2.46	0.63	2.76	0.66	2.62	0.89
Fear of failure	2.08	0.70	1.57	0.41	2.23	0.63	2.38	0.75
I D W T	1.92	0.83	2.37	0.85	3.03	1.03	2.51	1.11

to the increased class workload and having many hours of studies. In the same college level ,there was no significant deference between male and female undergraduate in regard to stressors 1 and 2 .However there were deference in that respect with regar to stressors 3 and 4.

Misra and Castillo [13] have argued that gender differences also influence a student's

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