back

Burnout Syndrome in Students of a Distance Learning Program: The Open University of Cyprus Experience

Andreas Pavlakis [a.pavlakis@ouc.ac.cy], Open University of Cyprus, Cyprus
Dafni Kaitelidou [dkaitelid@nurs.uoa.gr], University of Athens, Athens, Greece

Abstract

Introduction: Distance learning seems to have a crucial impact on the social and emotional life of students. Within the framework of distance learning at the Open University of Cyprus, the "Healthcare Management" department conducted a study regarding the levels of stress, anxiety and depression reported by the student population.

The aim of the study was to record the emotional state of the students and possible factors affecting it.

During the second academic year (2007-8), a questionnaire was disseminated at the first and last student group meetings to all 142 students enrolled in the "Healthcare Management" course. All students present were asked to complete the questionnaire.

The response rate at the first meeting was 73% of enrolled students and at the last meeting the response rate was 52%. More than 47% of the participants were 30-45 years of age, female, and married with children. Most were pleased with their course choice but also felt that their enrolment in the course was a source of stress for them. Ten percent of students experienced stress and depression. In addition, more than one third of participants experienced high levels of burnout which subsequently decreases during the academic year and in parallel, there is a decrease in the number of students experiencing high personal achievements.

Regardless of age, studying at the OUC is a source of stress to the students, a finding that should be taken into consideration so that measures are taken to address this problem in order to decrease it. There is a clear need for further research using specialized inventory tools and within the wider student population.

Key words: burnout syndrome, distance learning, Cypriots students

Topics

Introduction

Over the last few years, internet-based education has bloomed rapidly at an international level providing easier access to life-long education and satisfying the increasing demand at the same time (Lewis & Price, 2007; Li & Shearer, 2005; Sapp & Simon, 2005). Distance education appears to gain ground in many countries over the world as the arrival of modern technology provided the opportunity to study subjects that until now demanded the student's physical presence, like, for example nursing (Christianson et al., 2002).

Since 2003, Cyprus seems to follow the current trend when the Open University of Cyprus (OUC) was founded to provide distance education to Cypriots and EU citizens. The establishment of the Open University in Cyprus provided the opportunity to people long-removed from the conventional education

process to access university education, hence acquiring or furthering their knowledge and qualifications. (Pavlakis & Kaitelidou, 2007).

During the University's first year of operation, the distance learning experience was evaluated through the students' sentiments. All data were recorded through personal interviews with students, monthly diaries completed by the students and mails received from students. The research's findings revealed the variety of the students' sentiments and emotions during the distance learning experience. The issues of social and emotional communication proved to be crucial during the distance learning experience (Zembylas et al 2008).

Based on published article and the discussion about factors affecting the psychological profile of open distance students, the study's main aim was the recording and understanding of the OUC students' psycho-emotional state and any possible affecting factors.

Methods

At the first and fifth (last) Group Counselling Sessions (GCS) during the second academic year (2007-2008), a questionnaire was disseminated to all the students (142) of the aforementioned course. The response percentage of the first CGS was 73% and for the last one 52%. Participation was voluntary and the distribution and collection of the questionnaires was performed by the supervising professors. The students were asked to place the completed questionnaire in an anonymous envelope.

The questionnaire was divided into three parts. The first part contained demographic information, questions regarding students' employment, life styles and behaviour (e.g. tobacco and alcohol consumption) and questions regarding levels of stress and satisfaction in relation to the course. The second part contained questions verifying the students' current stress and depression levels and it does not deal with any previous mood disturbances (Bedford et al., 1976). This part was adapted from a similar questionnaire (Liketsos et al., 1978), where the evaluation of the participants' situation is made by them and the results were found to be highly reliable. The questionnaire consisted of 14 items and the participants may scale every question from zero to three. High ranking scores indicate high levels of stress and/or depression.

The Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986) comprised the third part of the questionnaire, which is a burnout measuring tool, used widely at an international level, and it was translated and adapted accordingly (Anagnostopoulos et al., 1992). It consists of 22 statements which evaluate burnout syndrome and its three aspects: (a) emotional fatigue and lack of energy, EF, (b) depersonalization (DP, depersonalized approach to the users of health services) and (c) lack of personal achievement (PA, inability to offer help to the users of health services). The respondent could rate each statement from zero to six. High scores at aspects (a) and (b) and low scores at (c) indicates a high level of burnout syndrome. The results of every aspect are grouped in low, intermediate and high levels.

The fully-completed questionnaires were included in the data analysis using the statistical package SPSS-v.16 (Chicago, IL, USA). Descriptive and deductive methods of data analysis were used for comparing and defining the statistical difference between two groups. The coherence of the questionnaire was evaluated using Cronbach's alpha reliability test.

Results

Demographic and social

Gender, age and service

The response rate at the first meeting was 73% (N=103) of enrolled students and at the last meeting the response rate was 52% (N=73). As mentioned before the questionnaire was disseminated to the same group of students in both CGS. The female participants outnumbered the male participants (56,3% vs. 43,7% at the first CGS) while most of them were between 30-45 years of age (34,8% at the first CGS). The majority was married (more than 73% of the respondents) and they had one to two children (more than 50%)

Most of them had more than 11 years of service in their field and many (73.2%) state to be happy (a lot and enough) at their work, a percentage, however, that changes significantly in the last GCS (Table 1)

Table 1: Years of service – satisfaction from their work and course (%)

	1st GCS	5th GCS

Gender	43,7	34,2
Male	56,3	65,8
Female		
Age	33,7	36,2
<35	34,8	34,5
36-40	13	13,8
41-45	12	10,3
46-50	6,5	5,2
51+		
Years in Service		
< 10	37,9	34,3
11- 20	50,5	52,3
> 21	12,6	13,4
Job Satisfaction		
Very much	16,8	5,6
Much	56,4	6,9
Moderately	18,8	13,9
Little	5,0	55,6
Not at all	3,0	18,1
Is the Course a source of stress?	90,0	77,5
Reason		
Course requirements	64,1	36,2
Time pressure	30,8	46,8
Anxiety about the unknown	5,1	---
Family obligations	----	10,6
Small number of Group Counseling Sessions		2,1
Negative Feelings	---	4,3

CGS: Counseling Group Session

Stress from the Course

Ninety percent of last year's students supported that their course is a source of stress to them. This percentage is reduced to 77.5% at the fifth CGS. Students reveal as the main reasons for their stress is the course requirements, time pressure and other obligations (Table 1).

Smoking and alcohol

Regarding non medical determinants of health in terms of life styles, many students seem to have adopted

unhealthy behaviours since 27,2% were smokers (of which 57.1% were men and 42.9% women). These percentages were slightly higher than the respective figures of the general population (26,5%, men 39.2% and women 14.3%) (Statistical Service of Cyprus, 2010). Most of them stated that they smoke more than ten cigarettes per day (64%) and almost three out of four have been constant smokers for more than 11 years. A significant percentage of them had tried to quit smoking. On the other hand, alcohol consumption by students remained at low levels since most of them rarely consumed alcoholic drinks, while many stated that they do not consume alcohol at all. Wine was the popular alcoholic drink of choice (46.6%) and the relative consumption level was one drink per week. Approximately one out of ten students consumed one drink per day.

Medication and health problems

Many students consume medication without prescription, particularly with painkillers (87.6%) which is relevant to the respective figures for self-medication of the general population (Statistical Service of Cyprus 1992 & 2010). However, many stated that they take antibiotics (29.8%) and fewer reported the use of antidepressants (4.8%). Muscle and skeletal problems, headaches, stress and cardiovascular problems are the main psychosomatic ailments experienced by the students.

Job satisfaction and Occupational problems

The respondents seemed quite satisfied in their profession at the beginning of the course since the majority of individuals surveyed (73.2%) conceded to being largely satisfied with their job (Very much and much satisfied). However, the results regarding job satisfaction were fully reversed during the 5th GCS, during which only 12,5% of the respondents stated very much and much professionally satisfied.

The main occupational problems reported by the respondents were the lack of professional development (80.6%), the lack of chances for development (79.6%), and the lack of substantial cooperation with their colleagues and their superiors.

Stress and depression

Many students reported serious levels of stress and depression during the first CGS (7.5% and 17.1% respectively). However, these percentages were decreased at the last GCS (3.8% and 12.0% respectively). In Table 2, mean values and standard deviation of stress and depression levels of students between the two GCSs are shown.

Table 2: Mean values of stress and depression

1st GCS				5th GCS			
Subscales	**Mean**	**low**	**high**	**Subscales**	**Mean**	**low**	**high**
Anxiety	3,52±3,02	92,5%	7,5%	Anxiety	3,90±2,32	96,2%	3,8%
Depression	3,23±3,21	82,9%	17,1%	Depression	2,84±2,15	88,0%	12,0%

Low (≤6), High (≥7)

The main factors which seem to worsen any stressful situations were the family status, as single people experienced more stress than their married fellow students (F=5.19 p=.003), and the working environment as people stating that their current profession was a source of stress experienced higher levels of stress and depression (F=5.19 p=.003) compared to the rest of the respondents (Table 3).

Table 3: Mean value and factors affecting burnout syndrome

1st GCS			5th GCS		
	Anxiety	Depression		Anxiety	Depression
Gender					
Men	3.70±2.42	2,79±2,22	Men	4,75±2,73	2,62±1,84
Women	3.45±3.27	3,52±3,76	Women	3,40±1,93	2,94±2,33
	p=0.773	p=0.514		p=0.112	p=0.740

Marital status					
Married	3,26±2,80	2,69±2,49	Married	3,54±1,96	2,73±1,98
Unmarried	3,88±2,31	4,00±3,27	Unmarried	5,00±3,46	2,66±2,25
Divorced/separate	--	7,50±9,19	Divorced/separate	4,00±1,41	4,00±3,60
	F=5,19 p=.003	F=2.53 p=0,09		F=,67 p=,574	F=,336 p=.800
Profession					
Physician	3,33±2,12	2,50±2,07	Physician	3,60±1,81	1,66±0,81
Nurse	3,24±2,63	3,32±3,23	Nurse	4,12±2,72	3,83±2,58
Other	4,36±4,25	3,75±4,27	Other	3,72±2,00	2,14±1,34
	F=,69 p=.,503	F=,30 p=.740		F=,139 p=.871	F=2,94 p=.074
Job satisfaction					
Very much + much satisfied	3,75±3016	2,88±3,16	Very much + much satisfied	2,60±0,89	1,66±0,57
Moderately satisfied	2,09±1,30	3,00±1,41	Moderately satisfied	4,5±1,37	1,40±0,54
Little + not at all satisfied	5,00±4,18	6,66±5,13	Little + not at all satisfied	4,04±2,67	3,47±2,34
	F=1,97 p=.149	F=1,98 p=.154		F=1,03 p=.369	F=2,59 p=.09
Course satisfaction*					
Very much + much satisfied	3,66±2,74	3,42±3,09	Very much + much satisfied	3,00±2,64	1,50±0,70
Moderately satisfied	4,5±2,12	2±0	Moderately satisfied	2,00±0	2,00±0
Little + not at all satisfied	0	0	Little + not at all satisfied	4,07±2,32	3,00±2,24
	F=,22 p=,636	F=,20 p=.660		F=,62 p=.544	F=,50 p=.612
Course as anxiety source					
Yes	3,66±2,65	3,35±3,03	Yes	3,84±2,29	2,65±1,98
No	---	---	No	4,80±2,38	3,60±2,88
	p=0.332	p=0.459		p=0.404	p=0.389
Smokers					
Yes	3,69±2,75	2,63±2,73	Yes	4,62±2,97	3,50±2,81
No	3,46±3,15	3,50±3,43	No	3,66±2,07	2,63±1,94
	p=0.804	p=0.469		p=0,319	p=0,505
Profession as anxiety source					

Yes	3,74±3,16	3,19±3,27	Yes	4,39±2,34	2,61±1,85
No	2,55±2,18	3,66±3,05	No	2,66±1,80	3,42±2,87
	p=0.287	p=0.809		p=0.05	p=0.03

* Health Care Management MSc Course

Burnout syndrome

Burnout syndrome is associated with mental and physical fatigue of individuals whose work is attached and directly related to the people they service (Freudenberger, 1974). Burnout syndrome is characterized by the workers' negative feelings and a low self esteem. Individuals with burnout also lose interest for their job, they report very low satisfaction rates and they no longer feel positively towards the people to whom they provide their services. Table 4 presents the mean value of the three factors that facilitate burnout syndrome [emotional fatigue (EF), depersonalization (DP) and personal achievement (PA)] and the distribution of the respondents into three categories based on their personal scores during the first and last Group Counselling Sessions.

Table 4: Mean value of the three burnout syndrome factors

	1st GCS				**5th GCS**			
Subscales	Average	Low	Moderate	High	Average	Low	Moderate	High
Emotional exhaustion	20,19±10,11	21,8%	42,6%	35,6%	19,11±9,54	22,2%	45,8%	31,9%
Personal accomplishment	35,04±10,77	14,7%	40,2%	45,1%	34,90±13,37	6,9%	48,6%	44,4%
Depersonalization	6,21±4,76	26,6%	47,9%	25,5%	6,62±4,34	20,0%	51,7%	28,3%

Emotional exhaustion: high (≥24), Moderate (12-23), low(≤11)
Personal accomplishment: high (≤37), Moderate (38-44), low (≥45)
Depersonalization: high (≥9), Moderate (3-8), low (≤2)

As shown on Table 2, a large percentage of students were studying during the whole year under: a) high Emotional Fatigue (36.6% and 31.9%), b) high Depersonalization levels (25.5% and 28.3%) and lack of Personal Achievements (45.1% and 44.4%).

Even if one may not attribute burnout syndrome to the courses' requirements, there is a possibility that its requirements may contribute to the situation. Additionally, the factors that seem to be related to burnout syndrome in both first and last CGS are the students' profession (F=3.73, p=.02 and F= 3.25, p=.045), their work satisfaction (F=4.18, p=.018 and F=5.29, p=.007) and the stress deriving from the students' profession (p=0.02 and p=0.012) (Table 5). Consequently, individuals who reported low satisfaction levels from their profession, also reported higher EF (F=8.98, p=0.000) and DP (F=4.18, p=0.018).

Table 5: Factors affecting burnout syndrome (Mean Values ± Standard Deviation)

	1st GCS			5th GCS		
	EE	PA	D	EE	PA	D
Gender						
Male	20,61±9,43	35.25±10.38	6.34±4.93	21,00±10,41	32,46±13,59	5,88±4.67
Female	19,87±10,68	34.89±11.14	6.11±4.66	18,17±9,06	36,13±13,23	5,43±4.70
	p=0.715	p=0.867	p=0.819[1]	p=0.238	p=0.276	p=0.703[1]
Marital status						
Married	20,74±10,12	35,62±10,25	6,37±4,68	18,81±9,24	34,51±11,11	5,85±4,72

Unmarried	21,06±10,47	34,90±11,37	6,06±5,43	21,08±11,39	32,00±13,34	4,23±4,07
Divorced/ separate	12,86±7,64	32,86±12,41	4,22±1,89	14,6±6,19	44,60±29,33	7,50±5,97
	F=1.45 p=.223	F=2.03 p=.115	F=.45[2] p=.718	F=1.19 p=.320	F=1,30 p=.281	F=.84[2] p=.477
Profession						
Physicians	20,82±9,30	**39,45±7,71**	6,71±5,67	18,35±9,13	40,59±17,66	6,24±5,06
Nurses	21,55±11,12	**35,05±9,55**	6,87±4,85	18,63±9,79	33,20±9,78	6,79±4,84
Other	18,07±8,84	**31,37±13,47**	4,85±3,63	20,20±9,82	33,08±13,22	3,76±3,65
	F=1,10 p=.337	**F=3,73 p=.027**	F=1,61[2] p=,205	F=,248 p=.781	F=2,07 p=.133	F=3,25[2] p=,045
Job satisfaction						
Very much + much satisfied	18,40±9,13	36,13±9,95	5,66±4,35	17,24±8,37	34,64±14,28	5,53±4,75
Moderately satisfied	22,53±9,02	33,36±11,27	6,78±4,47	23,40±9,88	36,40±9,74	4,00±3,53
Little + not at all satisfied	33,57±13,31	31,14±12,75	10,85±7,03	27,00±12,15	33,88±12,77	7,78±5,09
	F=8,98 p=.000	F=1,12 p=.330	F=4,18[2] p=.018	F=5,29 p=.007	F=,091 p=.913	F=1,58[2] p=.213
Course satisfaction						
Very much + much satisfied	21,10±10,37	33,58±11,57	7,03±5,25	19,64±9,71	34,33±14,26	5,59±4,54
Moderately satisfied	18,5±11,62	36±2,58	5,25±3,77	14,16±8,57	38,00±3,34	6,67±6,83
Little + not at all satisfied	0	0	0	20,33±8,14	38,00±5,29	3,67±3,79
	F=,22 p=.,636	F=,17 p=.681	F=,43[2] p=.515	F=,91 p=.,406	F=,28 p=.752	F=,40[2] p=.670
Course as anxiety source						
Yes	22.01±10.10	33.41±11.32	6.93±5.11	19,96±9,54	35,35±13,65	5,64±4,84
No	14.6±7.63	35.4±11.39	5.2±4.92	17,00±9,75	32,20±13,00	5,75±4.31
	p=0.120	p=0.711	p=0.478[1]	p=0.292	p=0.427	p=0.936[1]
Smokers						
Yes	21,46±11,18	37,05±7,28	6,23±5,22	20,06±11,75	33,47±12,10	5,60±4,05
No	19,70±9,71	34,28±11,78	6,21±4,62	19,05±9,07	35,20±13,98	5,56±4,92
	p=0.437	p=0.249	p=0.982[1]	p=0,721	p=0,667	p=0,975[1]
Profession as anxiety source						

Yes	22,51±9,7	34,71±11,04	7,13±4,84	23,17±10,43	34,12±15,29	6,68±4,57
No	14,30±8,83	35,93±10,38	3,75±3,57	13,70±4,36	35,67±10,52	3,90±4,22
	p=0.000	p=0.620	p=0.002[1]	p=0.000	p=0.635	p=0.012[1]

1=T-test analysis 2=Anova
EE=emotional exhaustion
PE = personal accomplishment
D=depersonalization

Conclusions and Discussion

According to our findings Open University of Cyprus students complete their studies experiencing various forms of psycho-emotional distress. These feelings of stress and insecurity may not be attributed entirely to the courses' requirements since they were also associated with their profession and family status. However, it is a fact that the postgraduate course is an important source of stress to the students too and this should be handled properly from all open learning courses.

Our findings coincide with other studies as there is evidence from the literature that distance learning education entails high levels of stress for the students involved since the assignment of projects and the exams are significant sources of stress. Scrubs' (1997) results derived from her dissertation showed that doctoral students in a distance learning program experience significant levels of stress. The factor perceived as the greatest stressor was time which actually indicated the lack of time to dedicate to the demands of the course as well as concern about time to fulfill other obligations as for example family responsibilities.

In a study contacted by Zembylas et al. (2008) it was shown that the successful admission of the university's first students and the potentiality of distance learning provoked multiple and oscillating sentiments, which climax according to the social and educational background wherein they exist. The students' initial emotional state - joy, gratification, excitement - that comprises the emotional field of a new beginning, such as the offset of a postgraduate program, clashes with the unknown territory inherent in distance learning, and therefore, it is an important source of the students' feelings of stress, fear and insecurity. Similar clashes of emotions were observed during the initial stages at other distance learning programs (Conrad, 2002; Hara & Kling, 2003). The fact that profession is a factor affecting the stress levels experienced by the students in our study is also confirmed by other studies according to which stress seems to be more affective on specific professional groups, such as health professionals in particular (Papanis & Giavrimis, 2008).

Knowledge regarding the management of stress and stress-decreasing techniques could improve significantly the students' stressful situation. Open Cyprus University's website could be complemented with simple advice on stress-management following the example of other distance-learning universities that had very positive results like the Open University in UK.

Ten percent of students experienced stress and depression. However, it should be noted that stress and depression were decreased at the last GCM, and this may be attributed to the fact that the students were at the end of the academic year and the before mentioned-stressful factors (e.g. the course's requirements and the distance learning methodology) were at last familiar procedures. The profession of students is also a source of stress and worsens the already hectic situation. Findings are similar with other studies according to which, certain professional areas were associated with stress related factors. Students working in the field of administration and education for example showed higher levels of work-related stress and the main stressors were the additional working hours (beyond the scheduled program), meetings, committees, staffing responsibilities etc. (Scrub, 1997). Additionally, according literature, the isolation of students during their studies could explain partly the increased stress. According to the literature review this is to be expected and cannot be dealt with close supervision but with open discussion between the students and their supervising professor on the subjects that provoke uncertainty and confusion (Lockwood, 2007). The Open University of Cyprus acted on this idea and created a modern tele-education platform through which it is expected to improve the communication between students and adjunct professors. Yet, more research is required regarding the results of tele-education and the possible ways for improving distant education.

According to our findings more than one third of participants' experienced high levels of burnout which subsequently decreases over time but in parallel, there is a decrease in the number of students experiencing high personal achievements. Although we are not in a position to explain the decrease in personal achievements, it could be related to the gap between the knowledge and the theoretical background on contemporary health management techniques they are taught in the course and the very different reality they are facing in they everyday working environment. According to our findings, physicians score higher than the rest of health professionals, regarding Personal Achievements. This may be attributed to their predominant role inside the hospital and the health care system. Burnout syndrome in students / health care professionals is very high and the results, unsurprisingly, correspond to the

results of similar research (Donohoe et al., 1993; Ogiwara & Hayashi, 2002; Li Calci et al., 2006). Considering the increased feeling of personal achievement of doctors, providing support to the rest of health care professionals will help to reduce the absence of personal achievements and the burnout syndrome in general.

Regarding job satisfaction levels, although the respondents were largely satisfied their profession at the first group counselling session (73.2% stated much and very much satisfied), the situation was totally reversed at the end of the year with 12.9% reporting much and very much satisfied. Although we are not in a current position to explain this deviation, one of the reasons could be that the health care management students who in the largest percentage work in health care organizations may realize the gap between the theory and practice and that fact may constitute a cause of frustration. Additionally, working responsibilities probably function as a stressor during the course and this could attribute to lower levels of job satisfaction. Yet all these assumptions should be investigated through further research.

Our students reported increased use of tobacco products compared to the general population. The use of psychoactive substances, especially tobacco products used in greater extent than the general population, may be used as anti-stress therapy, despite the fact that smoking is not scientifically proven to decrease stress. Our findings are similar with findings from other studies according to which some people use legal and illegal substances such as alcohol, tobacco, cocaine, marijuana to adjust their mood and overcome their stressful situation (Cooper et al., 1992; Jaffe & Kilbey, 1994; Schafer & Brown, 1991; Ikard et al., 1969). Additionally, almost all smokers claim they are smoking because of tobacco's antidepressant and relaxing action (Spielberger, 1986), However, as it was noted by Pomerleau and Pomerleau (1991) "The relation between stress and smoking and the corresponding connection between smoking and the decrease of stress is so established that it came to be perceived as true".

According to our findings, the well-being of non-smokers and their work satisfaction is significantly higher than ex smokers, who are more emotionally fatigued and less satisfied by their occupation than the previous. These results coincide with other studies according to which, smokers tend to experience higher levels of occupational stress than non- and ex smokers, which results to poorer health conditions (Kirkcaldy et al., 2006).

However, there were a number of limitations that may have influenced the findings of this study. One limitation is that the findings can only be generalized to the participants of distance-learning within the specific country. Another limitation is the rather small sample of the study and the fact that only second year students were surveyed.

In conclusion, it is a fact that examining the distance-learning students' emotional state, as well as targeting stressful situations, should be subject to further research, as should be the study of various ways to provide support to the students. Fostering the tutor – student relationship and also support from peers could be encouraged as a way of aiding students. Advice on stress-management should be easy to find and available for students even on the university's website in order to strengthen the coping skills of the students.

References

1. Anagnostopoulos, F.; Papadatou, D.; Monos, D. (1992). Factors and internal consistency of questionnaire measuring burnout among nurses. *Psychological Issues, 5 (3)*, (pp. 183-202).
2. Bedford, A; Foulds, G.A. and Sheffield, B.F. (1976) A new Personal Disturbance Scale. *Br.J Soc. Clin Psychol., 15Q*, (pp 387-394).
3. Christianson, L.; Tiene, D. and Luft, P. (2002). Examining online instruction in undergraduate nursing education. *Distance Education, 23(2)*, (pp. 213-229).
4. Conrad, D. (2002). Engagement, excitement, anxiety and fear: Learners' experiences of starting an online course. *The American Journal of Distance Education, 16(4)*, (pp. 205-226).
5. Cooper, M.L.; Russell, M.; Skinner, J. B. and Windle, M. (1992). Development and validation of a three-dimensional measure of drinking motives. *Psychological Assessment, 4*, (pp. 123-132).
6. Donahoe, E.; Nawawl, A.; Wllker, L.; Schlndler, T.; Jette, U.D.E. (1993). Factors associated with burnout of physical therapists in Massachusetts rehabilitation hospitals. *Phys Ther 73*, (pp. 750-761).
7. Freudenberger, H.J. (1974) Staff Burnout. *Journal of Social issues, 30*, (pp. 159-165).
8. Hara, N. and Kling, R. (2003). Students' distress with a web-based distance education course: An ethnographic study of participants' experiences. *Turkish Online Journal of Distance Education, 4 (2)*, Retrieved on May 15 2009 from http://tojde.anadolu.edu.tr/tojde10/articles/hara.htm
9. Ikard, F.F.; Green, P.E. and Horn, D. (1969). A scale to differentiate between types of smoking as related to the management of affect. *International Journal of the Addictions, 4*, (pp. 649–659).
10. Jaffe, A.J. and Kilbey, M.M. (1994). The Cocaine Expectancy Questionnaire (CEQ): Construction and predictive utility. *Psychological Assessment, 6*, (pp. 18–26).
11. Lewis, P.A. and Price, S. (2007). Distance education and the integration of e-learning in a graduate program. *The Journal of Continuing Education in Nursing, 38(3)*, (pp. 139-143).
12. Kirkcaldy, B.B.; Cooper, L.C.; Brown, J.; Athanasou, J. (2006). Job stress and health profiles of smokers ex-smokers and non-smokers. *Stress Medicine, 10 (3)*, (pp. 159-166).

13. Li, D. and Shearer, R. (2005). Project management for online course development. *Distance Learning, 2(4)*, (pp. 19-23).
14. Li Calzi, S.; Farinelli, M.; Alianti, L.; Manigrasso, V.; Taroni, A.M. (2006) Physical rehabilitation and burnout: different aspect of the syndrome and comparison between healthcare professionals involved. *Eur Med Phys, 42*, (pp. 27-36)
15. Maslach, C. and Jackson, S. E. (1984). Burnout in organizational settings. *Applied Social Psychology Annual, 5*, (pp. 133-153)
16. Liketsos, G.; Mouzakis, D. and Bergiannaki, N. (). "Dominance and aggressive behaviour, and mood symptoms in a sample of Greek population". Ippokrates 6(6) pp 415 – 426 in Vaslamatzis G (1982) "Comparative study of anxiety, depression and deviations of the personality of students nurses". PhD Thesis, Athens (National and Kapodistrian University)
17. Lockwood, F. (2007). *Improving your students' learning-Reflections on the experience of study*, London, Routledge.
18. Ogiwara, S. and Hayashi, H. (2002) Burnout amongst Physiotherapists in Ishikawa Prefecture. *J.Phys. Ther. Sci,. 14*, (pp. 7-13)
19. Papanis, E. and Giavrimis, P. (2008) *Self-esteem and stress* in http://education.feedfury.com /content/19893063-.html (access 30/05/2010)
20. Pavlakis, A. and Kaitelidou, D. (2007) *Open and Distance Education and Cyprus Reality From idea to Materialization*, Proceedings of 4th International Conference in Open and Distance Learning "Forms of Democracy un Education: Open Access and Distance Education". Editor Antonis LionarakisVolume B, pages 582-592
21. Pomerleau, O.F. and Pomerleau, C.S. (1991). Research on stress and smoking: Progress and problems. *British Journal of Addiction, 86*, (pp. 599–603).
22. Sapp, D.A., and Simon, J. (2005). Comparing grades in online and face-to-face writing courses: Interpersonal accountability and institutional commitment. *Computers and Composition, 22(4)*, (pp. 471-489).
23. Schafer, J. and Brown, S.A. (1991). Marijuana and cocaine effect expectancies and drug use patterns. *Journal of Consulting and Clinical Psychology, 59*, (pp. 558–565).
24. Scrub M. (1997). *An examination of the Doctoral Stress Survey as an Instrument for measuring the effects of stress as perceived by Doctoral Students in Distance Learning University*. Doctoral Dissertation, Walden University, USA
25. Spielberger, C.D. (1986). "Psychological determinants of smoking behavior." In R.D. Tollison (ed.), *Smoking and society: Toward a morebalanced assessment* (pp. 89–134). Lexington, MA: Heath
26. Statistical Services (1992). Medicine Taking in Cyprus, *Research Papers and Reports, Series II, Report 22*, Printing Office of the Repuplic of Cyprus
27. Statistical Services (2010). European Health Survey 2008, *Health Statistics, Series II, Report Nr 7*.
28. Zempylas, M., Theordou, M., Pavlakis, A. (2008) The role of emotions in the experience of on line learning: challenges and opportunities, *Educational Media International Vol. 45, No.2 June*, (pp. 107-117).