## **ORIGINAL RESEARCH**

# Investigate the anxiety between undergraduate and postgraduate nursing students and its relation to their socio-demographic characteristics

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#### ABSTRACT

**Objective:** Anxiety is a warning sign for an upcoming risk and is a common reaction of most people reacting to stressful events. The purpose of this study was to investigate anxiety between undergraduate and postgraduate students in nursing and its relation to their socio-demographic characteristics.

**Methods:** This is a cross-sectional, quantitative study with a study sample of comprised of n = 177 nursing students, n1 = 121 undergraduate students and n2 = 56 postgraduate students. The collection of the empirical data was carried out using a fully structured and Self-reported questionnaire which recorded their individual characteristics and the State-Trait Anxiety Inventory (STAI). The statistical analysis was conducted using the software package SPSS.

**Results:** State anxiety was not found to differ significantly between undergraduate and postgraduate students. While Trait and Total Anxiety differed significantly, showing higher mean levels for undergraduate students. Moreover, the students of the last two years of study had a higher mean level of State Anxiety compared to the students of the first year of study.

**Conclusions:** The majority of undergraduate and postgraduate students showed relatively low levels of anxiety. Animportant factor to predict anxiety in undergraduate students was the year of study, while for the postgraduate students were age and marital status.

Key Words: Anxiety, Personality disorders, STAI, Adult students

### **1. INTRODUCTION**

According to American Psychological Association (APA), anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure.<sup>[1]</sup> The Anxiety and Depression Association of America (ADAA) adds that anxiety is a reaction to the stress. When stress lasts, becomes chronic and it can affect people's health by causing a number of symptoms such as headache, high blood pressure, chest pain, palpitations, skin rashes and sleep loss.<sup>[2]</sup>

Although the distinction between transient anxiety and anxiety as a personality trait began to emerge in the 1950s, Spielberger (1966) was the one who formed the theory of transient and permanentanxiety.<sup>[3]</sup> According to Spielberger state anx-

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iety refers to an existing or immediate emotional state characterized by anxiety and tension. Trait anxiety refers to the predisposition to perceive specific situations as threatening and to react to them with varying levels of transient anxiety. State anxiety is characterized by subjective, perceived feelings of anxiety and tension, accompanied or associated with the activation or stimulation of the autonomic nervous system. Trait anxiety is an acquired behavioral predisposition that makes the individual perceive a set of objectively non-threatening situations as threatening and reactive to them with anxiety disproportionate in intensity relative to the size of the objective risk. Individuals with high trait anxiety perceive more situations as threatening and respond to threatened situations with higher levels of state anxiety status or both.

The beginning of student life is an important period of transition from adolescence to young adulthood. It is a period with various lifestyle changes that start with moving away from home and independence from the family.<sup>[4]</sup> This situation marks a change in the way of living, with the management of everyday economic problems, new social surroundings, academic requirements as well as physical and emotional problems.<sup>[5]</sup>

Several times, anxiety leads to the adoption of harmful health methods such as smoking, alcohol, substance abuse, lack of sleep, and limited physical activity.<sup>[6]</sup> Thus, the mental health of students is affected by stressful stimuli throughout the academic years.Of courseeach student faces anxiety in a different way. It depends on his personality, character, and elements such as self-awareness and self-confidence that limit the chances of anxiety attacks.<sup>[7]</sup>

The purpose of this study was to investigate anxiety levels between undergraduate and postgraduate nursing students and their relationship to their socio-demographic characteristics.

#### Background

Academic stress is the most common emotional and mental state experienced by students during their student years. Stress is the result of a wide range of issues. It involves a challenging path with a different education system, high social expectations, given the later competition in the labor market, emotional and mental burden including test examinations.<sup>[8]</sup>

Anxiety among undergraduate and postgraduate students is a multi-faceted situation, arising both from academic and non-academic factors, including socio-cultural, environmental and psychological characteristics. Stress levels can be staggered in significant proportions by a multitude of students and show signs of anxiety.<sup>[9]</sup> In some students, anxiety can

cause negative emotions, both academic and personal, discomfort and affect their career. However, a proportion of students may be positively motivated to be associated with the anxiety.<sup>[10]</sup>

In a survey conducted to investigate quality of life in postgraduate students, it was found that they are experiencing more stress during their training. They are emotionally vulnerable especially during the first year of studies and face adaptation problems. Additionally, students belonging to this category are among the high-risk groups for the development of emotional disorders during their postgraduate studies.<sup>[11]</sup>

During the examination period, student anxiety is increasing. It is a period where the individual is experiencing an evaluation process with possible failure or success result. Irrespective of age, gender, economic and social status anxiety can occur with a continuous increase in the youth population, mainly in the student, which stems from the requirements of the academic career. The most common forms of anxiety are transient or instantaneous (state anxiety) and generalized anxiety associated with the overall academic performance of students.<sup>[12, 13]</sup>

In particular, several surveys for students, mostly early years of studies, have shown that anxiety during this period is due to poor organization and poor preparation to participate in the examination process. Furthermore, the transitional situation, from secondary education to university, has a major role in adaption difficulties to new requirements. It has been found that state anxiety, which occupies the students, increases more at the time of the examination whether it is oral or written in relation to the generalized anxiety prevailing throughout the examination period. In addition, state anxiety before the start of the examination period is associated with nervousness and anxiety reactions and is significantly reduced at the end of the exam or/and the positive performance of the students in the course. However, even after the exam, anxiety is an important risk factor for physical and emotional exhaustion of students.[14,15]

Students appear to have consistently high levels of anxiety and depression in relation to the general population throughout their studies as they are burdened by stressors factors that affect physical and mental health.<sup>[16]</sup> High levels of anxiety are often associated with low self-esteem, economic problems, oppression from the family environment, and exhaustion during the exam, and lack of time. Consequences of the accumulated stress of the students are physical and mental exhaustion, anxiety that is often unmanageable, depression, increased alcohol and nicotine use.<sup>[17]</sup> Consequently, students may develop dysfunctional management modes and solving the aforementioned problems with an impact on both interpersonal relationships and on health and academic obligations. If there is no timely treatment, there may be a risk of interruption of studies.<sup>[13]</sup> Healthcare specialists and healthcare students, have higher levels of anxiety compared to other occupations because of their high job demands and responsibilities. Higher levels of anxiety are noted in clinical training with increased blood pressure and heart rate.<sup>[18]</sup>

#### 2. METHODS

#### 2.1 Study design and sample

This is a Descriptive correlational Cross-Sectional Study. The study sample was comprised of Undergraduate and Postgraduate Nursing Students. Most specifically a total of 177 nursing students, took part in the study. They are undergraduate students from the Nursing Department of the Technological Educational Institute (TEI) of Thessaly (n:121) and Postgraduate students from the Postgraduate Program in Mental Health/Nursing Department/TEI of Thessaly and the Postgraduate Program in Primary Health Care/Medicine Department of Medicine/University of Thessaly and Nursing Department/TEI of Thessaly (n:56). The sampling method applied was that of the Non-Probability Sampling, and in particular the Convenience Sampling technique.

#### 2.2 Instrument

The collection of the empirical data of the research was carried out using a fully structured and self-completed questionnaire. In particular, the questionnaire consisted of two parts: (A) Form of recording theirof individual characteristics. This part included questions about the socio-demographic characteristics (gender, age, marital status, year of study, place of permanent residence and working status) of undergraduate and postgraduate nursing students. (B).

The State-Trait Anxiety Inventory (STAI) of Spielberger et al., (1970) was used as a measure of Anxiety. Spielberger's STAI Scale is a self-report questionnaire that has been used in numerous surveys around the world as a tool for measuring anxiety. The State-Trait Anxiety Inventory (STAI) is a psychological inventory based on a 4-point Likert scale and consists of 40 questions on a self-report basis. The STAI measures two types of anxiety - state anxiety, or anxiety about an event, and trait anxiety, or anxiety level as a personal characteristic. Direct expressions state negative feelings while reverse expressions state positive feelings. There are ten reverse expressions in the state anxiety sub-scale, items no. 1, 2, 5, 8, 10, 11, 15, 16, 19 and 20. There are seven reverse expressions in the trait anxiety sub-scale, items no. 21, 26, 27, 30, 33, 36 and 39. The scores obtained from both scales can theoretically vary between 20 and 80. Higher scores are positively correlated with higher levels of anxiety. The minimum score of each Subscale is 20 and the maximum is Published by Sciedu Press

80, while the score for the sum scale ranges from 40 to 160. Higher scores indicate higher levels of Anxiety.<sup>[19]</sup>

The Greece-adapted version of the STAI Scale used in this research work was done by Liakos and Giannitsi (1984).<sup>[20]</sup>

#### 2.3 Procedure

The survey data collection took place between November and December 2017. The questionnaire was provided to the students and the appropriate instructions for completing it were given at the university facilities. Purposive sampling procedure was applied and 177 students comprised the study sample. The participation of the students was voluntary, anonymous and all ethical rules of research were ensured. This paper was approved by the human subjects board of the Committee of Education and Research of TEI of Thessaly and was conducted in accordance with the Helsinki Declaration of 1975, as revised in 2013.

#### 2.4 Data analysis

The empirical research material was processed and statistically analyzed with the "SPSS (Statistical Package for the Social Science) 19.0 for Windows" software package, using methods of Descriptive and Inferential Statistics.

In particular, descriptive analysis included the frequency distribution for the qualitative variables (absolute and relative% frequency) as well as estimations of the position and variance parameters for the quantitative variables (mean, standard deviation, median, minimum and maximum). Induction analysis applied in order to investigate possible correlations. Reliability of STAI Anxiety Scale was tested using Cronbach alfa (see Table 1) .More in detail, the Pearson Correlation Coefficient (r), *t*-test for independent samples, one-way analysis of variance (ANOVA), chi-square test for independency and multiple linear regression were used. The levels of significance (*p* value) were twofold and the level of acceptable statistical significance was set to *p* < .05. Normality was tested using Kolmogorov-Smirnov and Shapiro-Wilk (see Table 2).

**Table 1.** Reliability test for STAI Anxiety Scale ofUndergraduate and Postgraduate Nursing Students (n = 177)

STAI Scale	Cronbach's alpha	Mean ± SD	Median	Min-Max
State anxiety	0.88	$41.64 \pm 9.49$	41.00	20-70
Trait anxiety	0.86	$42.82\pm8.89$	43.00	21-67
Total anxiety	0.92	$84.46 \pm 16.86$	83.00	41-137

### **3. RESULTS**

#### 3.1 Sample

The socio-demographic characteristics of undergraduate and postgraduate nursing students are given in Table 3.

STAI Scale and Subscales	Kolmogorov	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.	
STAI (Stateanxiety)	.065	177	.068	.989	177	.174	
STAI (Traitanxiety)	.062	177	.092	.990	177	.277	
STAI (Totalanxiety)	.053	177	.200	.991	177	.364	

#### Table 2. Tests of Normality

Table 3. Socio-demographic character	ristics of undergraduat	te and postgraduate i	nursing students $(n = 177)$
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Characteristics	Undergraduate students (n = 121)	Postgraduate students (n = 56)	Statistical test	p value
Gender	()	(		
Male	27 (22.3%)	13 (23.2%)	$\chi^2 = 0.018$	.894
Female	94 (77.7%)	43 (76.8%)		
Age (years)	$20.37\pm3.66$	$35.23\pm8.82$	<i>t</i> = 12.135	< .001
Marital status				
Single	119 (98.3%)	27 (48.2%)	$\chi^2 = 66.689$	< 001
Married	2 (1.7%)	25 (44.6%)	$\chi = 66.689$	< .001
Divorced or Widowed	0 (0.0%)	4 (7.1%)		
Year of studies				
1st half of study	67 (55.4%)	0 (0.0%)		
2nd half of study	54 (44.6%)	56 (100%)		
1° year	67	0	$\chi^2 = 49.895$	< .001
2° year	0	56		
3° year	27	-		
4° year	27	-		
Place of permanent residence				
City	78 (64.5%)	47 (83.9%)	$\chi^2 = 8.461$	015
Small town	17 (14.0%)	6 (10.7%)	$\chi = 8.401$	.015
Village	26 (21.5%)	3 (5.4%)		
Work situation				
Full-time employee	2 (1.7%)	41 (73.2%)	$\chi^2 = 109.581$	< .001
Part-time employee	12 (9.9%)	5 (8.9%)	$\chi = 109.581$	< .001
Unemployed	107 (88.4%)	10 (17.9%)		

Note. The data is given as n (%) for the qualitative variables and mean  $\pm$  sd for the quantitative variables.

#### 3.2 Levels of anxiety

Descriptive analyses for the STAI are reported in Table 1. undergraduate and postgraduate nursing students (n = 177) Both Undergraduate and Postgraduate Nursing students report relatively low levels of overall as well as state- and trait-anxiety.

## 3.3 Anxiety difference of undergraduate and postgraduate nursing students

Table 4 shows bivariate analysis using t-test. Undergraduate students show higher level of both trait- and total anxiety than Postgraduate students (p < .01 and p < .05, respectively). No significant differences were found in state-anxiety levels between the two groups.

## Table 4. Comparisons of Anxiety levels between

Level of education	STAI				
Nursing Students	State anxiety	Trait anxiety	Total anxiety		
Undergraduate (n = 121)	$42.30\pm8.85$	$44.08 \pm 8.61$	$86.38 \pm 15.86$		
Postgraduate (n = 56)	$40.23\pm10.69$	$40.09\pm8.94$	$80.32\pm18.32$		
t	1.350	2.835	2.249		
p value	.179	.005	.026		

Note. The data is given as mean  $\pm$  sd.

### 3.4 Anxiety and socio-demographic characteristics of undergraduate nursing students

From the investigation of the relation between the sociodemographic of the undergraduate students of Nursing and Anxiety emerged that the only significant factor for state anxiety is the year of study, (t test = 2.052, df = 119; p = .042) (see Table 5). More in detail, the students of the last two years had a higher mean level of state anxiety versus the

first-year students (44.11  $\pm$  9.59 vs. 40.84  $\pm$  7.98). Also, analysis shows that there are no significant factors for trait and total anxiety for undergraduate nursing students.

Characteristics	STAI		
Characteristics	State anxiety	Trait anxiety	Total anxiety
Gender			
Male	$41.85\pm10.46$	$42.70\pm10.68$	$84.56 \pm 20.28$
Female	$42.43 \pm 8.39$	$44.48 \pm 7.94$	$86.90 \pm 14.43$
Т	0.296	0.944	0.677
<i>p</i> value	.768	.347	.500
Age (years)			
R	-0.038	-0.074	-0.062
<i>p</i> value	.675	.420	.502
Year of studies			
1st half of study	$40.84 \pm 7.98$	$43.54\pm8.40$	$84.37 \pm 14.66$
2nd half of study	$44.11 \pm 9.59$	$44.76\pm8.90$	$88.87 \pm 17.05$
Т	2.052	0.775	1.560
<i>p</i> value	.042	.440	.121
Place of permanent residence	e		
City	$41.92\pm8.48$	$43.64\pm8.30$	$85.56 \pm 15.09$
Small city/Village	$42.98 \pm 9.55$	$44.88 \pm 9.20$	$87.86 \pm 17.25$
Т	0.626	0.758	0.761
<i>p</i> value	.533	.450	.448
Work situation			
Employee	$44.57 \pm 8.36$	$47.21 \pm 8.43$	$91.79 \pm 15.86$
Unemployed	$42.00\pm8.90$	$43.67\pm8.60$	$85.67 \pm 15.80$
Т	1.023	1.454	1.361
<i>p</i> value	.308	.149	.176

Table 5. Anxiet	y and socio-demo	graphic characte	ristics of Undergr	aduate Nursing	Students $(n = 121)$

*Note.* The data is given as mean  $\pm$  sd.

## **Postgraduate Nursing Students**

Using the multivariate analysis for the investigation of the relationship between the socio-demographic characteristics of the undergraduate students of Nursing and State Anxiety,

**3.5** Anxiety and socio-demographic characteristics of revealed that the year of study is a significant predictor of state anxiety. In particular, the mean state anxiety for undergraduate nursing students in the last two years was 3.27 higher than in the first year of study (adjusted b = 3.275; p =.042) (see Table 6).

Table 6. Multiple linear regression (stepwise method) with dependent variables the State Anxiety of the STAI Scale and independent variable characteristics of undergraduate nursing students (n = 121)

State anxiety			
Adjusted b	SE	95% CI	p value
37.561	2.441	32.726 up to 42.395	< .001
0			.042
3.275	1.596	0.114 up to 6.436	
	37.561 0	37.561     2.441       0     3.275       1.596	37.561       2.441       32.726 up to 42.395         0

*Note*. Adjusted  $R^2 = 2.6\%$ ; F = 4.209; p = .042

## **Postgraduate Nursing Students**

From the investigation of the relationship between the sociodemographic of postgraduate nursing and Anxiety Students,

**3.6** Anxiety and socio-demographic characteristics of revealed that there are two significant factors for state anxiety, age (r = -0.303, df = 54; p=0.023) and marital status (F=4.571, df1 = 2; df2 = 53; p = .023) (see Table 7). More in detail, the results showed that as the age of the students

increased, the levels of state anxiety reduced. Moreover, married students showed a lower mean level of stateanxiety compare tosingle students (36.64  $\pm$  10.68 versus 44.41  $\pm$  9.12). Also, divorced/widowed students showed a lower mean level of state anxiety compare to single students (34.50  $\pm$  12.40 versus 44.41  $\pm$  9.12).Using the multivariate analysis for the investigation of the relationship between the sociodemographic characteristics of the postgraduate students of

Nursing and state anxiety, revealed that the marital status is a significant predictor of state anxiety. In particular, the mean value of the state anxiety of married and divorced/widowed postgraduate nursing students was 7,767 units and 9,907 units, respectively, smaller than single students (adjusted  $\beta = -7.767$ ; p = .007 and adjusted  $\beta = -9.907$ ; p = .070, respectively) (see vTable 8).

Table 7. Anxiet	y and socio-demograp	hic characteristics	of Postgraduate	Nursing Studen	ts (n = 56)

Characteristics	STAI				
Characteristics	State anxiety	Trait anxiety	Total anxiety		
Gender					
Male	$41.31 \pm 11.24$	$40.46\pm10.51$	$81.77\pm20.07$		
Female	$39.91 \pm 10.63$	$39.98 \pm 8.55$	$79.88 \pm 17.99$		
Т	0.411	0.170	0.323		
<i>p</i> value	.683	.866	.748		
Age (years)					
R	-0.303	-0.277	-0.312		
<i>p</i> value	.023	.039	.019		
Marital status					
Single (1)	$44.41 \pm 9.12$	$42.96 \pm 9.18$	$87.37 \pm 16.81$		
Married (2)	$36.64 \pm 10.68$	$38.32 \pm 7.67$	$74.96 \pm 17.09$		
Divorced or Widowed (3)	$34.50 \pm 12.40$	$31.75\pm8.50$	$66.25 \pm 20.32$		
F	4.571	4.022	4.844		
<i>p</i> value	.015	.024	.012		
Post Hoc Test (LSD)	(1)>(2) p = .007	(1)>(2) p = .050	(1)>(2) p = .012		
	(1)>(3) $p = .070$	(1)>(3) $p = .017$	(1)>(3) <i>p</i> = .026		
Place of permanent residence					
City	$40.83\pm10.74$	$40.45\pm8.72$	$81.28 \pm 18.02$		
Small city/Village	$37.11 \pm 10.45$	$38.22 \pm 10.40$	$75.33 \pm 20.17$		
Т	0.955	0.680	0.890		
<i>p</i> value	.344	.499	.377		
Work situation					
Full-time employee	$39.24 \pm 10.44$	$39.54 \pm 8.37$	$78.78 \pm 17.43$		
Part-time employee	$41.60 \pm 9.13$	$43.40\pm5.60$	$85.00 \pm 12.27$		
Unemployed	$43.60 \pm 12.61$	$40.70 \pm 12.46$	$84.30 \pm 24.34$		
F	0.705	0.435	0.535		
<i>p</i> value	.499	.649	.589		

*Note.* The data is given as mean  $\pm$  sd.

**Table 8.** Multiple linear regression (stepwise method) with dependent variables the State Anxiety of the STAI Scale and independent variables the characteristics of Postgraduate Nursing Students (n = 56)

Independent variables	State anxiety	State anxiety					
Independent variables	Adjusted b	SE	95% CI	p value			
Constant (a)	44.407	1.936	40.525 - 48.290	< .001			
Marital status							
Single (1)	0						
Married (2)	-7.767	2.792	-13.3672.168	.007			
Divorced or Widowed (3)	-9.907	5.388	-20.715 - 0.900	.070			

*Note.* Adjusted  $R^2 = 11.5\%$ ; F = 4.571; p = .015

The results regarding trait anxiety revealed as significant factors age (r = -0.277, df = 54; p = .039) and marital status (F = 4.022, df1 = 2; df2 = 53; p = .024) of students (see Table 7). More in detail, the results showed that as the age of the students increased, the levels of trait anxiety reduced. Furthermore, married students showed a lower mean level of trait anxiety compare to single students (38.32 ± 7.67 vs. 42.96 ± 9.18). Also, divorced/widowed students showed a lower mean level of state anxiety compare to single students (31.75 ± 8, 50 versus 42.96 ± 9.18). Using the

multivariate analysis for the investigation of the relationship between the socio-demographic characteristics of the postgraduate students of Nursing and trait anxiety revealed that the marital status is a significant predictor of trait anxiety. In particular, the mean value of the trait anxiety of married and divorced/widowed postgraduate nursing students was 4.64and 11.21, respectively, smaller than single students (adjusted  $\beta$  = -4.643; *p* = .050 and adjusted  $\beta$  = -11.213; *p* = .017, respectively) (see Table 9).

**Table 9.** Multiple linear regression (stepwise method) with dependent variables the Trait Anxiety of the STAI Scale and independent variables the characteristics of Postgraduate Nursing Students (n = 56)

Trait anxiety					
Adjusted b	SE	95% CI	<i>p</i> value		
42.963	1.633	39.687 up to 46.239	< .001		
0					
-4.643	2.355	-9.367 up to 0.080	.050		
-11.213	4.547	-20.333 up to -2.093	.017		
	Adjusted b           42.963           0           -4.643	Adjusted b         SE           42.963         1.633           0         -4.643           2.355	Adjusted b         SE         95% CI           42.963         1.633         39.687 up to 46.239           0         -4.643         2.355         -9.367 up to 0.080		

*Note*. Adjusted  $R^2 = 9.9\%$ ; F = 4.022; p = .024

Finally, results regarding total anxiety revealed as significant factors age (r = -0.312, df = 54; p = .019) and marital status (F = 4.844, df1 = 2; df2 = 53; p = .012) of students (see Table 7). More in detail, the results showed that as the age of the students increased, the levels of total anxiety reduced. Furthermore, married students (74.96 ± 17.09 vs. 87.37 ± 16.81) and divorced/widowed students (66.25 ± 20.32 vs. 87.37 ± 16.81) showed a lower mean level of total anxiety compare to single students. Using the multivariate analysis

for the investigation of the relationship between the sociodemographic characteristics of the postgraduate students of Nursing and total anxiety, revealed that the marital status is a significant predictor of total anxiety. In particular, the mean value of the total anxiety of married and divorced/widowed postgraduate nursing students was 12.41and 21.12, respectively, smaller than single students (adjusted  $\beta = -12.410$ ; p= .012 and adjusted  $\beta = -21.120$ ; p = .026, respectively) (see Table 10).

<b>Table 10.</b> Multiple linear regression (stepwise method) with dependent variables the Total Anxiety and	d independent
variables the characteristics of Postgraduate Nursing Students ( $n = 56$ )	

Independent variables	Total anxiety				
	Adjusted b	SE	95% CI	<i>p</i> value	
Constant (a)	87.370	3.302	80.747 up to 93.993	< .001	
Marital status					
Single (1)	0				
Married (2)	-12.410	4.762	-21.962 up to -2.859	.012	
Divorced or Widowed (3)	-21.120	9.192	-39.558 up to -2.683	.026	

*Note.* Adjusted  $R^2 = 12.3\%$ ; F = 4.844; p = .012

### 4. DISCUSSION

Anxiety is an integral part of human life. It is a phenomenon that affects people regardless of age, gender and socioeconomic background and has a negative impact both at the mental, social and physical level.

Literature reveals that anxiety has a huge impact on learning. Verifying anxiety level in nursing students is highly important for the nurse educational process, because the first contact with the hospital setting itself can bring fear and impotence. The negative impact of anxiety may be reduced when faculty acknowledges anxiety and provide a supportive learning environment for nursing students where mistakes are accepted as a part of the learning process.

In our studyas far as the socio - demographic characteris-

tics of undergraduate and postgraduate nursing students are concerned, there were no gender differences in the survey, while there were differences in the year of study, place of residence, age, work and family situation. Similarly, in a survey conducted in Bosnia and Herzegovina among undergraduate nursing students, there were no gender differences in the onset of anxiety.<sup>[5]</sup>

The mean state anxiety scores of both undergraduate and postgraduate nursing studentswas low. Although the number of students who presented low anxiety level is small the need of support to these students is essential and can be decisive when it is realized that the anxiety is severe enough to damage their learning or their clinical training. Traitanxiety and total anxiety score of undergraduate nursing students was found to be higher than that of postgraduate nursing students. A previous study conducted in 2009 amongst undergraduate students in Spain also showed higher rates of anxiety.<sup>[21]</sup> An important factor for high anxiety rates of undergraduate nursing students is the clinical part of their studies as they come into contact with the human body for the first time, they feel a lot of insecurity as they are not prepared for challenging situations as nursing programs are intense, complex, and require long hours in the clinical setting.<sup>[22]</sup>

This study found that the year of study is a significant predictor of state anxiety. This finding can be explained by the fact that the experience of taking care of the sick, interacting with patients, and dealing with death during clinical placement may have caused psychological problems for our undergraduate nursing students as it was similarly shown in a study conducted by Chen et al. (2015).<sup>[23]</sup>

### Limitations

A significant limitation of the present study was the small sample size and sample selection from a particular geographical area of Greece. For this purpose, you will consider future research into a larger sample size by recording more social-demographic characteristics of the students.

### 5. CONCUSSION

In conclusion, there have not been many researches involving nursing students. For this research, the majority of undergraduate and postgraduate students showed relatively low levels of anxiety. An important factor for undergraduate students was the year of study; while for the postgraduate students were marital status and age.

#### **CONFLICTS OF INTEREST DISCLOSURE**

The authors declare that there is no conflict of interest.

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