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The Impact of Self-Reported Anxiety and Body Image on Female Sexual Function

Kalliopi Kourtidou[1], Maria Tsironi[2], Paraskevi Theofilou[3]

[1] Department of Psychology, University of Central Lancashire, UK

[2] Department of Nursing, University of Peloponnese, Tripoli, Greece

[3] Ministry of Health, General Direction of Health Services, Athens, Greece

ABSTRACT

ABSTRACT: Over the past years, female sexual function and dysfunction has acquired a growing body of research. Some studies have indicated that links may exist among the sexual function of women, their body image and anxiety. The purpose of this study is to examine the direct impact of self-report anxiety and body image on female sexual function but also the potential association of the age, the marital status, the occupation, the education level and the existence of a psychological disorder diagnosis with the self-reported anxiety, the body-esteem and the female sexual function. The sample consisted of sixty women from general population. Three questionnaires were used to measure each variable (Greek version of Zung's Self Anxiety Scale, Body–Esteem Scale for Adolescents and Adults, Female Sexual Function Index GR). The results showed that the correlations among anxiety, body image and sexual function were not statistically significant. From the demographic characteristics, only occupation status was significantly associated with the sexual function which was found significantly greater for private employees compared to university students (p = .001), with the last's total score in FSFI being below the cutoff point. This result is constant with previous researched which have found women University students at risk of experiencing a sexual dysfunction.

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INTRODUCTION

Sexual function plays a central role in human well-being and through multiple mechanisms improves mental and physical health (Diamond & Huebner, 2012). Through the experience of affection, sexual activity benefits both the individual and the couple with positive affect in generally and daily life (Debrot et al., 2017). Female sexual function is a coordinated physiological response resulting from complex neurovascular possesses, controlled by psychological and hormonal inputs (Allahdadi, Tostes, & Webb, 2009). It was first studied by William Masters and Virginia Johnson, who examined the anatomical and physiological responses of the female human and reported the four phases of the female sexual response cycle: excitement, plateau, orgasm and resolution (Masters & Johnson, 1966).

According to American Psychiatric Association (2013), sexual dysfunctions in women include the sexual interest/arousal disorder, the orgasmic disorder and the genito-pelvic pain/penetration disorder. Epidemiologic research has found that the prevalence of sexual dysfunction for women in reproductive age is 40.9% worldwide. More specifically, according to the Global Study of Sexual Attitudes and Behaviors, the prevalence for Europe countries is distributed as following: sexual interest-desire disorder - 17%, lubrication difficulties - 12%, the orgasmic disorder - 10%, sexual pain associated problems - 5% (McCool et al., 2016).

The impact of these sexual dysfunctions on women could be very negative, since by their definition they are associated with clinically significant personal distress (American

Psychiatric Association, 2013). The impaired sexual function in women cause distress through negative affect because it decreases the physical pleasure, prevents them from involving in sexual activity and reduces the pleasure of their partner (Stephenson & Meston, 2015). Consequently, it seems critical to explore and understand the factors which influence this essential part of a woman's self-concept.

It is well established that as the age increases, sexual activity and functioning are declining along with physical and mental health (Ishak, Low, & Othman, 2010). A large study of 1235 women participants was consistent with this statement, but also reported that sexual satisfaction does not seem to follow the age cohort in the same way. The results indicated that sexual satisfaction, subjective successful-aging and quality of life remained stable through the age-related physical decline of postmenopausal women (Thompson et al, 2011).

The education level has also appeared to impact sexual functioning. More precisely, a negative relationship between high education level and the likelihood of experiencing a sexual problem has been revealed, especially in female population. College graduates were half as likely to refer sexual anxiety and difficulties in achieving orgasm, compared to women who had not graduate high school. In addition, the marital status has appeared to be a risk factor for the experience of sexual problem. Women who were never married were more likely to refer difficulties in achieving orgasm and sexual anxiety compared to married women (Laumann, Paik, & Rosen, 1999). However, another study revealed that low sexual desire is more prevalent in married, compared to single women (Kadri, Alami, & Tahiri, 2002). In addition, unemployment has also been related to sexual dysfunction (Çayan et al, 2004).

The psychological status is also a risk factor for sexual dysfunctions (McCabe et al., 2016). Anxiety and mood disorders have found to affect sexual function. The first researches on the field focused on concerns about sexual performance (performance anxiety) which was found to be, along with attitudes towards sex, the main predictor of sexual dysfunction in women (McCabe, 2005). There are a few studies which have explored the relationship among the female sexual dysfunction and anxiety, but mainly in specific types of anxiety disorder patients. For example, the simultaneous existence of sexual desire disorder and dyspareunia (sexual pain disorder) has been associated with social phobia diagnosis in women. In another study, decreased sexual desire has been found more prevalent in women diagnosed with panic disorder and co-morbidity with obsessive compulsive disorder or depression compared to non-clinical female population. Furthermore, women with generalized anxiety disorder have presented higher rates of sexual desire and orgasmic disorders (Brotto et al., 2016).

A large national survey in United States conducted in 1992 referred among others that stress or emotional problems predicted significantly sexual problems in women such as arousal disorders, low desire, and sexual pain disorders (Laumann, Paik, & Rosen, 1999). Moreover, another study concluded that there was a strong association of anxiety and depression with arousal problems, orgasmic dysfunction, lack of pleasure, vaginal dryness and sexual pain (Dunn et al 1999). Van Minnen and Kampman (2000) stated that female anxiety patients were more likely to report sexual desire problems and have lower frequency of sexual activity compared to healthy women. Further, Figueira et al (2001) reported that sexual aversion was the most usual sexual dysfunction in men and women diagnosed with panic disorder.

Body image has been associated with physical and mental health outcomes. Men and women with more positive body image have found to report greater self-esteem, less depressive symptoms, less unhealthy and more self-care behaviors (Gillen, 2015). Another large survey with 9.667 women participants reported that subjective happiness was strongly predicted by body appreciation (Swami et al, 2015). Furthermore, Cash and Fleming (2002) revealed that body image attitudes can affect with a positive or a negative way many domains of life, such as the feelings about self and life in general, the emotional state, interpersonal relationships and sexual experiences. So, it is clear that the construct of body image influences a wide range of thoughts, emotions and behaviors.

As for the impact on sexual contexts, Pujols, Meston and Seal (2010) found that body image-related variables during sexual activity accounted for 15% to 20% of the variance of sexual satisfaction. Several studies have explored the relationship between body image and female sexual function. The results have demonstrated that sexual problems were more likely to be reported by women with negative feelings related to their external appearance. Specifically, women with greater body dissatisfaction experienced lower sexual esteem, more sexual anxiety and sexual assertiveness. In contrast, women with body satisfaction engaged more frequently in sexual behaviors (Weaver & Byers, 2006). On the other hand, greater body appreciation was found to positive predict sexual satisfaction, arousal and orgasm in non-clinical sample of women (Satinsky et al, 2012).

There are also researches which have found links between the female sexual function, body image and anxiety. Woertman and van den Brink (2012) concluded that greater body image self-consciousness during dyadic sexual activity was associated with decreased sexual self-esteem, greater anxiety and avoidance. Other findings suggested that physical self-worth was significantly related to self-esteem, especially in women (Lowery et al., 2005). It has also been revealed that for both men and women, disturbances in body image are associated with depressive and anxiety symptoms in late adulthood (Davison & McCabe, 2005). Moreover, self-esteem has found to predict anxiety and anxiety has been found to predict self-esteem (Sowislo & Orth, 2013).

There is a gap of knowledge about the impact of self-reported anxiety state and body image on sexual function in non-

clinical samples. As we explained above, there are indications that negative body image attitudes increase the anxiety state and that both variables have a bidirectional relationship with sexual function in women. The present study will examine the impact of self-reported anxiety, body-image, age, marital status, occupation, education level and psychological disorder diagnosis on the female sexual function. We hypothesized that greater self-reported anxiety and lower body image satisfaction will predict lower sexual function in women. Moreover we hypothesized that younger age, higher education level, the existence of a partner and occupation and the absence of a psychological disorder diagnosis will predict greater female sexual function.

METHODS

Design

The study followed a cross sectional design in order to examine the potential association of the self-reported anxiety, the body-esteem, the age, the marital status, the occupation, the education level and the existence of a psychological disorder diagnosis with the female sexual function (Schinka, Velicer, & Weiner, 2003). The female sexual function was defined as the dependent variable and as independent variables the self-reported anxiety, the body-esteem, the age, the marital status, the occupation status and the education level and the psychological disorder diagnosis were set.

Participants

Sixty women from general population participated on the study. In the demographics section they were asked to categorize themselves in categories according to their age (18-25, 26-35, 36-45, 46-55 and 56-65), their marital status (Single, In a relationship, Married, Divorced), their current occupation status (State Employee, Private Employee, Freelancer, Retired, Household, University Student, Unemployed), their education level (Primary School, Junior High School, High School, Short-Cycle Tertiary Education, Bachelor Degree, Master's Degree, Doctorate) and the existence of a psychological disorder diagnosis (None, Mood Disorder, Anxiety Disorder, Personality Disorder, Eating Disorder, Psychotic Disorder, Obsessive Compulsive Disorder, Other). The exclusion criteria were the following: (i) being ≤ 18 years of age, (ii) the inability of the participant to read and write in Greek, (iii) the impairment of the perceptual capacity and (iii) the diagnosis of a psychiatric disorder that could make the completion of the questionnaires impossible.

Materials

Three questionnaires were used for the data collection. The first one was the Greek version of Zung's Self Anxiety Scale (SAS) which has been used in many cases for the detection of anxiety in both research and clinical practice (Samakouri et al, 2012). The Greek version of SAS has very satisfactory psychometric properties, both in terms of reliability and validity (α = 0.897). It is composed by 20 items, the answers to which are rated in a 1 to 4 likert-type scale. The total score ranges from 20 (no anxiety at all) to 80 (severe anxiety). Five of the scale topics describe anxiety-related emotional responses, and the other fifteen described physical anxiety symptoms. The participants are asked to choose for each of the 20 questions, which answer represents better their personal emotional responses for the last week (1 = not at all or rarely, 2 = sometimes, 3 = several times, 4 = many times / always). In order to identify inconsistencies and to reduce the likelihood of prejudices regarding the responses, five items of the questionnaire contain a positive statement that reveals less anxiety (eg. breathing without difficulty) while the rest fifteen contain a negative statement that is related to anxiety (eg. I feel terrified for no reason). The scores for those five items are reversed compared to the other fifteen so that the lowest score in each item always suggests less anxiety. The total rating of the scale is deriving from the sum of the scores of the individual in the 20 items. The SAS indicator (SAS index) is defined by dividing the total score by 80, expressed in percentage.

The second questionnaire applied was the Body–Esteem Scale for Adolescents and Adults (Mendelson, Mendelson, & White, 2001). Although the scale it is not officially standardized and validated in Greek population, the translation that was used in the present study has been used in previous researches with Greek population (Karamintziou, 2008; Kosmidou, 2014) and demonstrates satisfactory psychometric properties, both in terms of reliability and validity. It consists by 22 questions, which form 3 sub-scales. The responses are given in a 1 to 4 likert-type scale (0 = never, 1 = rarely, 2 = sometimes, 3 = often and 4 = always). The 3 sub-scales evaluate the individual's assessment of external appearance, weight and the evaluations attributed to others about the individuals' body and appearance. Positive and negative items are used, so as to identify inconsistencies and to reduce the likelihood of prejudices regarding the responses. The scores of negative items are reversed. The first factor, "BE-Appearance", consists by 10 questions (4 positively and 6 negatively formulated), which assesses the participants' feelings about her external appearance. The factor questions are the following: 1, 6, 7, 9, 11, 13, 15, 17, 20, 22. The inner coherence was Cronbach α = .86. The second factor, "BE-Attribution", consists by 4 positively formulated questions that evaluate the way the individual thinks that others perceive her appearance. The inner coherence was Cronbach α = .71. The factor questions are the following: 2, 5, 12, 14. The third factor "BE-Weight", consists by 8 questions (5 negatively and 3 positively formulated), evaluating the participants' satisfaction from her body weight. The factor questions are the following: 3, 4, 8, 10, 16, 18, 19, 21. The inner coherence was Cronbach α = .87. The overall score, ranges from 0 to 88, with the highest scores suggesting highest body-esteem.

The third questionnaire that was used was the Greek Version of the Female Sexual Function Index (Zachariou, Filiponi, &

Kirana, 2017). The sexual function of women was measured with 19 questions, formed by six domains, which were assessing the sexual functioning for the past four weeks (α = .92). The six domains include sexual desire, arousal, lubrication, orgasm, satisfaction and pain during activity. Sexual desire, consisted by 2 items (question 1, 2) with score range 1-5 and calculating factor 0.6. Arousal consisted by 4 items (question 3, 4, 5, 6) with score range 0-5 and calculating factor 0.3. Lubrication consisted by 4 items (question 7, 8, 9, 10) with score range 0-5 and calculating factor 0.3. Orgasm consisted by 3 items (question 11, 12, 13) with score range 0-5 and calculating factor 0.4. Satisfaction consisted by 3 items (question 14, 15, 16) with score range 0-5 or 1-5 and calculating factor 0.4. Pain consisted by 3 items (question 17, 18, 19) with score range 0-5 and calculating factor 0.4. The total score was derived by adding the scores from the items of each domain and multiplying the sum by the specific given calculating factor. The sum of all the domains after the multiplication constitutes the total score of the Female Sexual Function Index. Therefore, the total score rages from 2.0-36.0 and scores below 26.5 are an indication for some degree of sexual dysfunction.

Procedure

The data were collected through online administration of the questionnaires provided by the authors' personal Google Forms account. Before starting answering the questionnaires a consent form was given, where significant information about the procedure were provided such as: the title of the study, the purpose of the study, the name and e-mail of the author, the supervisor's name and e-mail, a brief description of the questionnaires that will be used, an estimation of the time that will be needed, a reminder that participants can withdraw from the study any time before the statistical analysis takes place by contacting the author, a reassurance that the data are confidential and the identity of the participants will be protected and that they should ask any questions about the study.

Statistical Analyses

In order to exam the relationship between the female sexual function, the self-reported anxiety and the body image, a Spearman's Rank Order Correlation was conducted. This non parametric statistical criterion was chosen because the variables did not appear to be normally distributed but displayed a monotonic relationship between them (See Appendix A, figures 1-3). The Shapiro-Wilk control did not reveal normality neither for the female sexual function variable (p = .00 < .05), nor the self-reported anxiety variable (p = 0.025 < .05), nor the body esteem variable (p = 0.022 < .05) (See Appendix A, table 20). Moreover, to determine if there are statistically significant differences between the categories of the age, marital status, occupation status, education level and psychological disorder diagnosis on the female sexual function, the self-reported anxiety and the body image, Kruskal-Wallis H tests were conducted. This specific test was chosen because we have independence of observations and more than two categories of the independent variables (Gibbons & Fielden, 1993). For the statistically significant Kruskal-Wallis H tests, post-hoc Mann-Whitney tests were run to reveal which exact groups differed significantly from each other (Hayes, 2007).

RESULTS

Descriptive Statistics

The majority (40%) of the participants categorized themselves in the 26-35 age group (n = 24), 30% in the 18-25 age group (n = 18), 15% in the 46-55 age group (n = 9), 13.3% in the 36-45 age group (n = 8) and 1.7% in the 56-65 age group (n = 1).

Table 1.

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	18	30.0	30.0	30.0
	26-35	24	40.0	40.0	70.0
	36-45	8	13.3	13.3	83.3
	46-55	9	15.0	15.0	98.3
	56-65	1	1.7	1.7	100.0
	Total	60	100.0	100.0	

The marital status of the sample as was comprised in the demographics section showed that 56.7% of the participants were in a relationship (n = 34), 20% were single (n = 12), 16.7% were married (n = 10) and 6.7% divorced (n = 4).

Table 2.

Marital Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	12	20.0	20.0	20.0
	In relation	34	56.7	56.7	76.7

	Married	10	16.7	16.7	93.3
	Divorced	4	6.7	6.7	100.0
	Total	60	100.0	100.0	

As for the current work status of the sample, the majority (35%) were currently University students (n = 21), 28.3% were private employees (n = 17), 21.7% were freelancers (n = 13), 5% were state employees (n = 3), 5% were unemployed (n = 3), 3.3% were housewives (n = 2) and 1.7% were retired (n = 1).

Table 3.

Profession					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Civil servant	3	5.0	5.0	5.0
	Private employee	17	28.3	28.3	33.3
	Freelancer	13	21.7	21.7	55.0
	Pensioner	1	1.7	1.7	56.7
	Housework	2	3.3	3.3	60.0
	Student	21	35.0	35.0	95.0
	Unemployed	3	5.0	5.0	100.0
	Total	60	100.0	100.0	

Furthermore, the education level information showed that most of the participants (38.3%) belonged in the master's degree level (n = 23), 36.7% in the bachelor (n = 22), 13.3% in the short-cycle tertiary education (n = 8), 8.3% in the high school (n = 5), 1.7% in the doctorate graduates (n = 1) and 1.7% in the primary school level (n=1).

Table 4.

Education level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary education	1	1.7	1.7	1.7
	Lyceum	5	8.3	8.3	10.0
	IEK – Higher School	8	13.3	13.3	23.3
	TEI-University	22	36.7	36.7	60.0
	Master	23	38.3	38.3	98.3
	Phd	1	1.7	1.7	100.0
	Total	60	100.0	100.0	

When the women were asked if they are diagnosed with a psychological disorder and the 83.3% responded negatively (n = 50), 11.7% of the participants were diagnosed with an anxiety disorder (n=7), 3.3% were diagnosed with a mood disorder (n=2) and 1.7% of the sample were diagnosed with obsessive compulsive disorder (n=1).

Table 5.

Mental_Disorder					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	50	83.3	83.3	83.3
	Anxiety Disorder	7	11.7	11.7	95.0
	OCD	1	1.7	1.7	96.7
	Mood Disorder	2	3.3	3.3	100.0
	Total	60	100.0	100.0	

The total score on the Female Sexual Function index ranged from 2.0 to 35.70 (M = 26.27, SD = 8.98). The total score on the Zung's Self Anxiety Scale ranged from 27.50 to 72.50 (M = 44.56, SD = 10.59). The total score on the Body Esteem Scale ranged from 10.00 to 79.00 (M = 54.06, SD = 16.23)

Table 6.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
total_fsf	60	2.00	35.70	26.2733	8.98067
total_anx	60	27.50	72.50	44.5625	10.59367
total_be	60	10.00	79.00	54.0667	16.23019
Valid N (listwise)	60				

Correlations

A Spearman's rank-order correlation was run in order to determine the relationship between the Female Sexual Function, the Self-Reported Anxiety and the Body-Esteem total scores. There was found a weak negative correlation between the Female Sexual Function and the Self-Reported Anxiety scores, which was not statistically significant (r_s = -.225, p = .084) and a weak positive correlation between the Female Sexual Function and the Body-Esteem scores (r_s = .250, p = .054), which was not statistically significant either. Moreover, the results revealed, a weak negative correlation between the Body-Esteem scores and the Self-Reported Anxiety scores (r_s = -.105, p = .423), which was also not statistically significant.

Table 7.

Correlations					
			total_fsf	total_anx	total_be
Spearman's rho	total_fsf	Correlation Coefficient	1.000	-.225	.250
		Sig. (2-tailed)	.	.084	.054
		N	60	60	60
	total_anx	Correlation Coefficient	-.225	1.000	-.105
		Sig. (2-tailed)	.084	.	.423
		N	60	60	60
	total_be	Correlation Coefficient	.250	-.105	1.000
		Sig. (2-tailed)	.054	.423	.
		N	60	60	60

Female Sexual Function, Self-Reported Anxiety Body-Esteem and Age Groups

A Kruskal-Wallis H test suggested that there was not a statistically significant difference in the Female Sexual Function among the different age groups, $\chi^2(4) = 7.759$, p =.101, with a mean rank Female Sexual Function score of 29.03 for 18-25 age group, 34.08 for 26-35 age group, 36.81 for 36-45 age group, 17.17 for 46-55 age group and 40.50 for 56-65 age group.

The results of a Kruskal-Wallis H test revealed that there was not a statistically significant difference in the Self-Reported Anxiety among the different age groups, $\chi^2(4) = 9.367$, p = .053, with a mean rank Self-Reported Anxiety score of 38.94 for 18-25 age group, 29.31 for 26-35 age group, 19.69 for 36-45 age group, 29.06 for 46-55 age group and 6.50 for 56-65 age group.

The results of a Kruskal-Wallis H test indicated that there was not a statistically significant difference in the Body-Esteem among the different age groups, $\chi^2(4) = .385$, p = .984, with a mean rank Body-Esteem score of 28.89 for 18-25 age group, 30.58 for 26-35 age group, 33.19 for 36-45 age group, 30.72 for 46-55 age group and 34.00 for 56-65 age group.

Table 8.

Ranks			
	Age	N	Mean Rank
total_fsf	18-25	18	29.03
	26-35	24	34.08
	36-45	8	36.81
	46-55	9	17.17
	56-65	1	40.50
	Total	60	
total_anx	18-25	18	38.94
	26-35	24	29.31
	36-45	8	19.69

	46-55	9	29.06
	56-65	1	6.50
	Total	60	
total_be	18-25	18	28.89
	26-35	24	30.58
	36-45	8	33.19
	46-55	9	30.72
	56-65	1	34.00
	Total	60	

Table 9.

Test Statistics[a,b]			
	total_fsf	total_anx	total_be
Kruskal-Wallis H	7.759	9.367	.385
df	4	4	4
Asymp. Sig.	.101	.053	.984
a. Kruskal Wallis Test			
b. Grouping Variable: Age			

Female Sexual Function, Self-Reported Anxiety Body-Esteem and Marital status Groups

A Kruskal-Wallis H test showed that there was not a statistically significant difference in the Female Sexual Function among the different marital status groups, $\chi^2(3) = 5.148$, $p = .161$, with a mean rank Female Sexual Function score of 23.75 for single group, 34.22 for in relationship group, 23.85 for married group and 35.75 for divorced group. The results of a Kruskal-Wallis H test suggested that there was not a statistically significant difference in the Self-Reported Anxiety among the different marital status groups, $\chi^2(3) = .096$, $p = .992$, with a mean rank Self-Reported Anxiety score of 30.83 for single group, 30.87 for in relationship group, 29.65 for married group and 28.50 for divorced group.

The results of a Kruskal-Wallis H test indicated that there was not a statistically significant difference in the Body-Esteem among the different marital status groups, $\chi^2(3) = .854$, $p = .837$, with a mean rank Body-Esteem score of 28.38 for single group, 29.76 for in relationship group, 34.50 for married group and 33.13 for divorced group.

Table 10.

Ranks			
	Marital_Status	N	Mean Rank
total_fsf	Single	12	23.75
	In relation	34	34.22
	Married	10	23.85
	Divorced	4	35.75
	Total	60	
total_anx	Single	12	30.83
	In relation	34	30.87
	Married	10	29.65
	Divorced	4	28.50
	Total	60	
total_be	Single	12	28.38
	In relation	34	29.76
	Married	10	34.50
	Divorced	4	33.13
	Total	60	

Table 11.

Test Statistics[a,b]			
	total_fsf	total_anx	total_be
Kruskal-Wallis H	5.148	.096	.854
df	3	3	3
Asymp. Sig.	.161	.992	.837
a. Kruskal Wallis Test			
b. Grouping Variable: Marital_Status			

Female Sexual Function, Self-Reported Anxiety Body-Esteem and Occupation Groups

A Kruskal-Wallis H test showed that there was a statistically significant difference in the Female Sexual Function among the different occupation groups, $\chi^2(6) = 15.939$, $p = .014$, with a mean rank Female Sexual Function score of 23.00 for state employee group, 39.82 for private employee group, 27.73 for freelancer group, 40.50 for retired group, 21.50 for household group, 22.81 for University student group and 53.67 for unemployed group.

The results of a Kruskal-Wallis H test revealed that there was not a statistically significant difference in the Self-Reported Anxiety among the different occupation groups, $\chi^2(6) = 9.885$, $p = .130$, with a mean rank Self-Reported Anxiety score of 10.83 for state employee group, 27.59 for private employee group, 29.92 for freelancer group, 6.50 for retired group, 36.75 for household group, 37.29 for university student group and 25.50 for unemployed group.

The results of a Kruskal-Wallis H test indicated that there was not a statistically significant difference in the Body-Esteem among the different occupation groups, $\chi^2(6) = 3.827$, $p = .700$, with a mean rank Body-Esteem score of 43.50 for state employee group, 32.82 for private employee group, 31.23 for freelancer group, 34.00 for retired group, 34.25 for household group, 27.19 for University student group and 20.67 for unemployed group.

Table 12.

Ranks			
	Profession	N	Mean Rank
total_fsf	Civil Servant	3	23.00
	Private Employee	17	39.82
	Freelancer	13	27.73
	Pensioner	1	40.50
	Housework	2	21.50
	Student	21	22.81
	Unemployed	3	53.67
	Total	60	
total_anx	Civil Servant	3	10.83
	Private Employee	17	27.59
	Freelancer	13	29.92
	Pensioner	1	6.50
	Housework	2	36.75
	Student	21	37.29
	Unemployed	3	25.50
	Total	60	
total_be	Civil Servant	3	43.50
	Private Employee	17	32.82
	Freelancer	13	31.23
	Pensioner	1	34.00
	Housework	2	34.25
	Student	21	27.19
	Unemployed	3	20.67
	Total	60	

Table 13.

Test Statistics[a,b]			
	total_fsf	total_anx	total_be
Kruskal-Wallis H	15.939	9.885	3.827
df	6	6	6
Asymp. Sig.	.014	.130	.700
a. Kruskal Wallis Test			
b. Grouping Variable: Profession			

After the Kruskal-Wallis H test revealed a statistically significant difference in the Female Sexual Function among the different occupation groups, a series of post hoc tests with Mann Whitney were conducted to determine between which groups lays the difference. Moreover, Bonferroni adjustments to the *p* value were made, by dividing the α = .05 with the number of the comparisons which had to be made (Salvendy, 2012). The number of the comparisons was 21, which results to *a'* = .0023.

The results of a Mann-Whitney test indicated that the Female Sexual Function was significant greater for private employees (Mdn = 31.20), than for University students (Mdn = 25.90), z = -3.083, *U* = 73.500, *p* = .001 < *p* = .0023 (See Appendix A, table 21).

Table 14.

Ranks				
	Profession	N	Mean Rank	Sum of Ranks
total_fsf	Private Employee	17	25.68	436.50
	Student	21	14.50	304.50
	Total	38		

Table 15.

Test Statistics[a]	
	total_fsf
Mann-Whitney U	73.500
Wilcoxon W	304.500
Z	-3.083
Asymp. Sig. (2-tailed)	.002
Exact Sig. [2*(1-tailed Sig.)]	.001[b]
a. Grouping Variable: Profession	
b. Not corrected for ties.	

Female Sexual Function, Self-Reported Anxiety Body-Esteem and Education Levels

A Kruskal-Wallis H test showed that there was not a statistically significant difference in the Female Sexual Function among the different education levels, $\chi^2(5) = 5.504$, *p* = .357, with a mean rank Female Sexual Function score of 13.50 for primary school, 21.00 for high school, 29.44 for short-cycle tertiary, 29.25 for bachelor, 33.76 for master and 56.00 for doctorate level.

The results of a Kruskal-Wallis H test revealed that there was not a statistically significant difference in the Self-Reported Anxiety among the different education levels, $\chi^2(5) = 6.885$, *p* = .229, with a mean rank Self-Reported Anxiety score of 58.00 for primary school, 35.00 for high school, 31.88 for short-cycle tertiary, 33.93 for bachelor, 25.39 for master and 11.50 for doctorate level.

The results of a Kruskal-Wallis H test indicated that there was not a statistically significant difference in the Body-Esteem among the different education levels, $\chi^2(5) = 6.030$, *p* = .303, with a mean rank Body-Esteem score of 57.00 for primary school, 24.00 for high school, 29.19 for short-cycle tertiary, 27.59 for bachelor, 34.76 for master and 13.00 for doctorate level.

Table 16.

Ranks			
	Educational_Level	N	Mean Rank
total_fsf	Primary education	1	13.50
	Lyceum	5	21.00
	IEK – Higher School	8	29.44
	TEI-University	22	29.25
	Master	23	33.76
	Phd	1	56.00
	Total	60	
total_anx	Primary education	1	58.00
	Lyceum	5	35.00
	IEK – Higher School	8	31.88
	TEI-University	22	33.93
	Master	23	25.39
	Phd	1	11.50
	Total	60	
total_be	Primary education	1	57.00
	Lyceum	5	24.00
	IEK – Higher School	8	29.19
	TEI-University	22	27.59
	Master	23	34.76
	Phd	1	13.00
	Total	60	

Table 17.

Test Statistics[a,b]			
	total_fsf	total_anx	total_be
Kruskal-Wallis H	5.504	6.885	6.030
df	5	5	5
Asymp. Sig.	.357	.229	.303
a. Kruskal Wallis Test			
b. Grouping Variable: Educational_Level			

Female Sexual Function, Self-Reported Anxiety Body-Esteem and Psychological Disorder Diagnosis Groups

A Kruskal-Wallis H test showed that there was not a statistically significant difference in the Female Sexual Function among the different psychological disorder diagnosis groups, $\chi^2(3) = 3.206$, $p = .361$, with a mean rank Female Sexual Function score of 31.27 for no diagnosis group, 22.43 for anxiety diagnosis group, 52.50 for obsessive compulsive group and 28.50 for mood disorder diagnosis group.

The results of a Kruskal-Wallis H test indicated that there was not a statistically significant difference in the Self-Reported Anxiety among the different psychological disorder diagnosis groups, $\chi^2(3) = 4.907$, $p = .179$, with a mean rank Self-Reported Anxiety score of 28.75 for no diagnosis group, 42.57 for anxiety diagnosis group, 46.00 for obsessive compulsive group and 24.25 for mood disorder diagnosis group.

The results of a Kruskal-Wallis H test revealed that there was not a statistically significant difference in the Body-Esteem among the different psychological disorder diagnosis groups, $\chi^2(3) = 3.543$, $p = .315$, with a mean rank Body-Esteem score of 31.27 for no diagnosis group, 32.07 for anxiety diagnosis group, 2.00 for obsessive compulsive group and 20.00 for mood disorder diagnosis group.

Table 18.

Ranks			
	Mental_Disorder	N	Mean Rank
total_fsf	No	50	31.27
	Anxiety Disorder	7	22.43
	OCD	1	52.50

	Mood Disorder	2	28.50
	Total	60	
total_anx	No	50	28.75
	Anxiety Disorder	7	42.57
	OCD	1	46.00
	Mood Disorder	2	24.25
	Total	60	
total_be	No	50	31.27
	Anxiety Disorder	7	32.07
	OCD	1	2.00
	Mood Disorder	2	20.00
	Total	60	

Table 19.

Test Statistics[a,b]			
	total_fsf	total_anx	total_be
Kruskal-Wallis H	3.206	4.907	3.543
df	3	3	3
Asymp. Sig.	.361	.179	.315
a. Kruskal Wallis Test			
b. Grouping Variable: Mental_Disorder			

DISCUSSION

The purpose of this study was to examine the direct impact of body image and self report anxiety on female sexual function, but also the potential association of the age, the marital status, the occupation, the education level and the existence of a psychological disorder diagnosis with the self-reported anxiety, the body-esteem and the female sexual function. We hypothesized that greater self-report anxiety and lower body-esteem will predict lower sexual function. Moreover we hypothesized that younger age, higher education level, the existence of partner and occupation and the absence of a psychological diagnosis will predict greater female sexual function.

The novel aspect of the present study is that we explored the relationship between anxiety, body image and female sexual function in a sample which consisted by non-clinical and clinical population. Moreover, there are few studies to our knowledge which have explored the female sexual function in Greek mainly-clinical population and a research which investigates these matters is legitimate so as to be able to design new interventions according to the population' needs (Papaharitou et al, 2005; Ferenidou et al, 2008; Assimakopoulos et al, 2006; Nakopoulou et al, 2010).

The correlation analyses suggested that there was a weak negative correlation between the sexual function and the anxiety scores, which indicates that lower sexual function was associated with greater anxiety. As for the sexual function and the body-esteem scores a weak positive correlation was found, which suggests that greater body esteem was associated with greater sexual function. Further, a weak negative correlation between the body-esteem scores and the anxiety scores was revealed, which means that greater anxiety is associated with lower body esteem. Hence, all the correlations were weak and none of them was statistically significant.

The results of the Kruskal-Wallis tests showed that there were not statistically significant differences neither in the sexual function nor the anxiety nor the body-esteem among the different age, marital status, education levels and psychological disorder diagnosis groups. The only statistically significant difference in the sexual function was found among the different occupation groups. Post hoc analyses revealed that the sexual function was significantly greater for private employees compared to university students.

Even though the results of our study did not found a significant relationship between female sexual function, anxiety and body image, there are findings which indicate otherwise. Anxiety has been found to be a major cause of sexual dysfunction. Sexual avoidance's pattern, which have high incidence in panic disorder patients, along with sexual desire disorder, includes performance anxiety and fear of partners' disapproval. Women diagnosed with social phobia have found to report major problems associated with their desire, arousal, sexual activity and satisfaction. Also, anorgasmia and arousal difficulties have been found more prevalent in women with OCD diagnosis (Waldinger, 2015). Furthermore, for the impact of body image in female sexual function, Wallwiener and colleagues (2016) stated that body self-acceptance was positively correlated with higher sexual function in young women, but also added the partnership quality.

Moreover, although the effect of the demographic characteristics on the female sexual function did not appear significant on the present study, it is clear that more research

needs to be done because of the disagreements in the previous literature findings.

Older age always comes with higher rates of sexual problems in previous studies (Çayan et al, 2004; Papaharitou et al, 2005; Nakopoulou et al, 2010; Jaafarpour et al, 2013). For the marital status, some findings have indicated that married women experienced significantly lower sexual desire compared to those who were not married and that being in a relationship has been associated with higher rated of sexual dysfunction compared to single women (Oksuz & Malhan, 2006; Addis et al, 2006). On the other hand, Papaharitou and colleagues stated that both single and married women were likely to experience sexual desire problems. The lower education level has been associated with sexual dysfunction (Çayan et al, 2004; Jaafarpour et al, 2013). Hence, Addis and colleagues (2006) concluded that higher education level was associated with higher rates of sexual dysfunction. The explanation given by the authors was that women with different education levels could experience different stressors in the lives or differ in the expectations for sexual activity and priorities.

As for the occupation status, our findings suggested that University students reported significantly less sexual function compared to private employees. More specifically, University students' mean in FSFI, were below the cutoff point which indicates the possibility of some degree sexual dysfunction. This result is supported by Wallwiener and colleagues (2010) who also revealed that women medical student had a high prevalence of sexual dysfunction (32%) and attributed this finding in stress-related factors which had direct associations with decrease in sexual function, in relationship and hormonal factors. A more recent study by Wallwiener and colleagues (2017) referred that 40% of female medical students were under the cutoff point on the FSFI, suggesting being at risk of experiencing a sexual dysfunction. Lifestyle, relationship and self-esteem and physical factors were associated with this result.

Our result could also be explained by the fact that the existence or absence of work may affect the sexual function. One explanation could be that University students are currently unemployed and in this case the results are supported by other literature findings which indicate that sexual dysfunction is more prevalent in unemployed women (Çayan et al, 2004; Jaafarpour et al, 2013). On contrary, if students are currently working, the lack of free time and the increased stressors may affect the sexual function.

The limitations of the study were the small sample size and the fact that the relationship duration and quality, physical health and lifestyle information were not included in the data collection. Nevertheless, the results offer a new insight in the female sexual function, which is still considered to be a low priority, by demonstrating the impact of occupation on sexual function. Further researches should explore the factors associated with female sexual dysfunction especially in female University student population, including the anxiety, body image, partnership duration and quality, physical health, lifestyle and work variables.

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