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Original Article

Impact of Job Satisfaction on Greek Nurses' Health-Related Quality of Life

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ABSTRACT

Background: Employee job satisfaction and its relationship with health and quality of life has been an issue of major concern over the past decades. Nurses experience difficult working conditions that affect their job satisfaction, health, and quality of life.

Methods: A cross-sectional study was undertaken in three general hospitals and their respective health centers. Stratified random sampling by level of education was used, and 508 nurses and nursing assistants were included. A self-administered anonymous questionnaire, which included the Measure of Job Satisfaction, the 36-item Short Form Health Survey, as well as demographic details, education, and work conditions data, was used.

Results: Greek nurses were found to be dissatisfied with their job according to the total score of the job satisfaction scale, although personal satisfaction and satisfaction with support had had higher scores. Their general health was reported as average, because of physical and mental health problems, low vitality, low energy, and increased physical pain. Multivariate linear regression analysis revealed that males and those wishing to stay in the job had higher physical and mental health. Increased job satisfaction was related to increased physical and mental health.

Conclusion: Although Greek nurses are not satisfied with their work, those with high levels of job satisfaction had better health-related quality of life. The findings suggest that improvement of the work environment would contribute to a healthier and more satisfied nursing workforce.

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1. Introduction

Employee job satisfaction, regardless of occupation or sector of employment, has been an issue of concern and of thorough research during the past decades. The degree of employee satisfaction is evaluated in relation to the overall working environment. For overall working environment, we refer to the employee's interest in the job, the rewards obtained, the interpersonal relationships with colleagues and management, the work hazards, including stress and fatigue, and other profession-specific factors.

More recently, job satisfaction has been studied in relation to the employees' health and quality of life [1,2]. The working environment involves a plethora of risks for the psychosomatic integrity of the employees. It is therefore considered necessary that safe and satisfying working conditions are indispensable for both quality and quantity of employee performance.

Nurses experience difficult professional conditions (work schedules, plethora of patient/work load, infectious environments). Professional burnout, the impact of shift work, musculoskeletal disorders, job satisfaction, and many other factors are often studied separately or in combination in order to examine their impact and propose solutions for improving the working conditions [3,4]. In Greece, although studies have been conducted on specific work hazards [5–8] and on job satisfaction [9–11], no researcher has explored the impact of job satisfaction on nurses' health and well-being. How satisfied is the contemporary Greek nurse with his or her work, and how this affects his or her health and quality of life, was the main focus of the present study.

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Table 1
Descriptive statistical analysis of the subscales of MJS ($N = 508$)

Subscales MJS	Mean	Standard deviation	Cronbach α
Personal satisfaction	3.36	0.63	0.85
Satisfaction with work load	2.68	0.62	0.81
Satisfaction with support	3.23	0.69	0.88
Satisfaction with education	2.64	0.84	0.82
Satisfaction with salary and prospects	2.42	0.62	0.83
Total job satisfaction scale	2.89	0.53	0.94

MJS, Measure of Job Satisfaction.

Table 2
Descriptive statistics of the subscales of the questionnaire SF-36 ($N = 508$)

Subscales SF-36	Mean	Standard deviation	Cronbach α
Physical functioning*	74.74	22.46	0.90
Role physical*	60.16	39.70	0.83
Role emotional†	63.99	39.34	0.76
Vitality†	50.84	20.97	0.82
Mental health†	60.62	19.71	0.82
Social functioning†	59.87	26.52	0.75
Bodily pain*	60.13	27.26	0.88
General health*	57.19	20.10	0.76
Summary measure: physical health	62.84	21.83	0.77
Summary measure: mental health	58.30	21.76	0.79

* Physical health.
† Mental health.
SF-36, 36-item Short Form Health Survey.

The aim of the study was threefold: (1) to investigate the degree of job satisfaction of Greek nurses working in public hospitals and primary healthcare centers and determine the factors that affect it; (2) to study the health-related quality of life and the factors that affect it; and (3) to study the relationship between job satisfaction and the health-related quality of life.

2. Materials and methods

A cross-sectional study was conducted in two public tertiary general hospitals and one county general hospital, and in their respective primary health centers, which were under these hospitals' administration.

2.1. Sample

The study population comprised all nursing staff, including registered nurses, health visitors, and assistant nurses regardless of the employment contract. The study sample was a level of education-stratified random sample of the total nursing population in the three hospitals and three primary health centers. The final sample comprised 508 participants (response rate 68.46%).

2.2. Measurements

An anonymous questionnaire was prepared for this study. It included the Measure of Job Satisfaction (MJS) by Traynor and Wade [12], the 36-item Short Form Health Survey (SF-36) [13], demographic details, education, and data on work conditions.

The MJS for the measurement of nurses' job satisfaction consists of 41 statements answered in a 5-point Likert scale. The tool has been found to possess high internal consistency ($\alpha = 0.89–0.93$) and high validity (0.83) [12,14]. The first 40 questions of the MJS are grouped to form six subscales and internal consistency for the total scale and subscales, as measured in this study, are shown in Table 1. The MJS was translated, back-translated, and culturally adapted into Greek for the present study following permission by the first author.

The SF-36 Health Survey (version 1) for the measurement of the perceived health-related quality of life is a widely used questionnaire. The SF-36 has been translated and its psychometric properties tested for a Greek population by Pappas et al [15]. The questionnaire includes 36 questions, 35 of which form eight subscales and these subscales are summed up to form two summary measures: physical health and mental health. Internal consistency, measured in this study, for the total questionnaire and subscales are presented in Table 2.

2.3. Ethical permission

The study was approved by the Ethics committee of the Faculty of Nursing, of the National and Kapodistrian University of Athens (Athens, Greece) and the Scientific Committees and Nursing Directors of each participating hospital. The questionnaire was anonymous, and all participants were informed about the aim of this study through an attached letter, in which it was also stated that they could opt not to participate if they wished not to. Completed questionnaires were returned in sealed envelopes.

2.4. Data analysis

Continuous variables are expressed as mean (± standard deviation) and categorical variables as absolute and relative frequencies. The Kolmogorov–Smirnov test and graphs (histograms and normal Q–Q plots) were used to test the normality of the distribution of the continuous variables. Because continuous variables followed normal distribution, parametric methods were used. In particular, independent *t* tests, analysis of variance (with *post hoc t* tests adjusted for multiple comparisons), and Pearson's correlation coefficient were used. Multivariate linear regression analysis with enter method was applied for the identification of the predictive factors that were associated with quality of life. Variables with $p < 0.20$ in univariate analysis were included in multivariate modeling. The predictive variables were identified in terms of coefficients beta and 95% confidence intervals. A two-sided *p* value of less than 0.05 was considered statistically significant. The Statistical Package for Social Sciences (SPSS) program, version 16.0 (Chicago, IL, USA) was used for statistical analysis.

3. Results

The nursing staff were mainly women (85.4%), married (66.1%), with children (65%), and aged between 22 and 64 years (mean = 39.35, standard deviation = 7.45). The majority were registered nurses (64.8%), of whom 4.5% had a university degree, 6.9% had a postgraduate degree, 19.9% had a specialization, and 49.8% reported participation in continuing education. Sixty-three percent declared that they would like to change workplace if offered an opportunity, and 60% would like to change profession. Of the total sample, 30.9% reported that they were off-sick 1–3 days during the preceding year, whereas 23.4% reported more than 4 days of sick leave.

The mean values of the five subscales and the total job satisfaction are presented in Table 1. With possible values ranging from 1 to 5, it is evident that only in the aspects of personal satisfaction and satisfaction with support, were nurses moderately satisfied.

The subscales of the health-related quality of life are measured in a scale from 0 to 100 (Table 2). Grades that tend toward 100

imply better health-related quality of life on the total scale and on each separate dimension, whereas 50 is the median. Values below the median indicate a worse health-related quality of life. From the findings shown in Table 2, it is evident that nurses had medium to good health-related quality of life.

In Table 3, the independent variables that affect the summary measures of job satisfaction, physical health, and mental health are presented. From this table, it is evident that ward managers, those who had the possibility to attend continuous education, those working mornings only during weekdays, and those willing to stay in the same job and profession were the most satisfied. Concerning physical health, male nurses, technological education graduates, those with the possibility to attend continuous education, those working during weekdays only, those working in an urban hospital, those willing to stay in the same job and profession, and those who had none or less than 4 days off-sick had higher physical health scores. Higher scores in mental health were observed for male nurses, those with the possibility to attend continuous education, those working during weekdays only, those working in an urban hospital, those who were willing to stay in the same job and profession, and who had none or less than 4 days off-sick.

Subscales of MJS and SF-36 were correlated using Pearson's coefficient. All subscales of the MJS were positively and significantly, although weakly, correlated with the subscales of SF-36 ranging from $r = 0.11$ between personal satisfaction and physical functioning to $r = 0.46$ between total job satisfaction and vitality. In any case, the higher the values of job satisfaction, the better the health-related quality of life of the respondents (Table 4).

Table 3
Job satisfaction and health-related quality of life according to demographic and work conditions data

Independent variables	MJS Mean (SD)	*p*	SF-36 physical health Mean (SD)	*p*	SF-36 mental health Mean (SD)	*p*
Sex						
Male	2.89 (0.53)	0.67	72.92 (20.98)	<0.001	66.37 (22.04)	0.001
Female	2.86 (0.54)		61.22 (21.54)		56.99 (21.42)	
Age (y)						
<30	2.88 (0.59)	0.88	63.87 (19.57)	0.94	59.42 (22.61)	0.53
30–39	2.84 (0.49)		63.73 (21.95)		58.24 (21.23)	
40–49	2.90 (0.53)		62.57 (21.65)		58.15 (21.77)	
50+	3.13 (0.68)		64.43 (23.97)		65.57 (16.18)	
Marital status						
Single	2.79 (0.54)	0.75	64.06 (22.56)	0.51	60.08 (22.55)	0.18
Married	2.90 (0.54)		62.37 (21.55)		57.85 (21.22)	
Widowed	3.03 (0.56)		68.94 (23.75)		63.13 (23.91)	
Divorced	2.71 (0.30)		58.42 (20.75)		49.70 (21.97)	
Children						
No	2.82 (0.54)	0.12	65.04 (22.00)	0.09	60.51 (22.14)	0.09
Yes	2.90 (0.54)		61.57 (21.65)		57.08 (21.53)	
Education						
University	2.75 (0.47)	0.33	59.81 (22.24)	0.017	54.71 (23.68)	0.32
Technological	2.89 (0.55)		64.95 (20.97)		59.38 (21.57)	
Secondary	2.84 (0.52)		59.12 (22.99)		56.65 (21.86)	
Work position						
Assistant nurse	2.82 (0.54)	<0.001	59.60 (23.16)	0.17	56.80 (22.24)	0.73
Registered nurse	2.84 (0.51)		63.64 (21.12)		58.14 (21.51)	
Deputy	2.85 (0.49)		64.42 (23.21)		58.39 (22.80)	
Ward manager	3.19 (0.63)		66.28 (19.38)		61.04 (20.52)	
Work contract						
Permanent	2.86 (0.53)	0.51	62.59 (22.00)	0.64	58.15 (21.70)	0.89
Long term	3.14 (0.50)		63.00 (18.41)		61.22 (22.50)	
Short term	2.93 (0.71)		68.41 (15.19)		55.93 (23.28)	
Continuous education						
No	2.81 (0.52)	0.01	59.72 (22.28)	0.001	55.81 (21.87)	0.01
Yes	2.93 (0.55)		66.05 (20.95)		60.67 (21.37)	
Work schedule						
Morning only	3.02 (0.61)	<0.001	64.11 (22.76)	0.39	60.20 (22.90)	0.18
Rotating shift	2.80 (0.48)		62.31 (21.38)		57.41 (21.19)	
Nights						
No	3.02 (0.59)	<0.001	63.94 (22.00)	0.42	60.25 (22.02)	0.14
Yes	2.79 (0.49)		62.29 (21.71)		57.22 (21.55)	
Weekends						
No	3.06 (0.62)	<0.001	66.71 (22.30)	0.04	62.25 (21.84)	0.04
Yes	2.82 (0.50)		61.94 (21.46)		57.27 (21.57)	
Hospital						
Urban	2.89 (0.51)	0.12	64.19 (22.61)	0.007	59.81 (21.81)	0.003
Prefectural	2.80 (0.59)		57.75 (20.25)		52.75 (20.76)	
Change workplace						
No	3.16 (0.51)	<0.001	69.04 (20.72)	<0.001	65.78 (20.58)	<0.001
Yes	2.70 (0.48)		59.26 (21.68)		53.98 (21.31)	
Change job						
No	3.09 (0.51)	<0.001	69.08 (20.77)	<0.001	66.11 (20.65)	<0.001
Yes	2.73 (0.50)		58.72 (21.57)		53.20 (20.98)	
Days off-sick						
0	2.89 (0.57)	0.64	65.32 (21.16)	<0.001	59.72 (21.93)	0.07
1–3	2.85 (0.52)		64.89 (21.72)		59.20 (21.72)	
4 or more	2.84 (0.48)		55.32 (21.75)		54.28 (21.76)	

MJS, Measure of Job Satisfaction; SD, standard deviation; SF-36, 36-item Short Form Health Survey.

Table 4
Pearson's correlation coefficient between the MJS and SF-36 subscales

MJS	SF-36									
	Physical functioning	Role physical	Role emotional	Vitality	Mental health	Social functioning	Bodily pain	General health	Physical health	Mental health
Personal satisfaction	0.11*	0.16‡	0.16‡	0.37‡	0.35‡	0.19‡	0.19‡	0.25‡	0.22‡	0.32‡
Satisfaction with workload	0.20‡	0.26‡	0.22‡	0.41‡	0.37‡	0.33‡	0.33‡	0.25‡	0.33‡	0.38‡
Satisfaction with support	0.18‡	0.16‡	0.20‡	0.35‡	0.35‡	0.24‡	0.24‡	0.26‡	0.25‡	0.35‡
Satisfaction with training	0.18‡	0.21‡	0.19†	0.33‡	0.30‡	0.25‡	0.25‡	0.21‡	0.27‡	0.33‡
Satisfaction with pay prospects	0.18‡	0.19‡	0.22‡	0.39‡	0.35‡	0.28‡	0.28‡	0.24‡	0.28‡	0.37‡
Overall job satisfaction	0.23‡	0.23‡	0.24‡	0.46‡	0.43‡	0.32‡	0.32‡	0.30‡	0.34‡	0.43‡

* Correlation is significant at the 0.05 level (2-tailed).
† Correlation is significant at the 0.01 level (2-tailed).
‡ Correlation is significant at the 0.001 level (2-tailed).
MJS, Measure of Job Satisfaction; SF-36, 36-item Short Form Health Survey.

Finally, multivariate linear regression analysis was applied for the identification of the predictive factors that were independently associated with quality of life (Table 5). Male nurses and those wishing to stay in the same job had higher scores in physical and mental health. Increased job satisfaction was related with increased physical and mental health. Moreover, increased days off-sick was associated with lower physical health scores.

4. Discussion

The first aim of the study was to determine the degree of job satisfaction of the nurses working in the Greek public hospitals and health centers and explore the factors that affect it. The findings showed that the nurses are unhappy with the workload, the education they receive, the salary, and the prospects of their profession. However, they reported they were satisfied with their work on a personal level as well as with the support they received from their work environment, findings that are in agreement with those reported by Karanikola et al [10]. With regard to their overall sense of job satisfaction, nurses were found to be dissatisfied. These findings confirm those reported by Chirwa et al [16] and Korac et al [17], who also used the MJS with a large sample of nurses and found similar results. Satisfaction level in relation to cooperation with other colleagues and the support they received, with professional challenges and prospects, salary, and the provided education was poor—as it has also been shown in a literature review [4]. The factors affecting job satisfaction, as found in this study, are related to the responsibility, the possibility for continuous education, working mornings only during weekdays, and willingness to stay in the same job and profession—respondents who fared well in these areas were the most satisfied. These findings correspond to the findings of other researchers in Greece [10] and in other countries [4]. Although level of education has been found in other studies to affect job satisfaction [8], this was not supported by our findings, which, however, correspond well with those of an earlier Greek study [10].

Table 5
Multivariate linear regression analysis with health-related quality of life—physical and mental health—as dependent variable

Independent variable	Coefficient beta	95% confidence interval for coefficient beta	*p*
Physical health*			
Sex	−9.34	−14.42 to −4.26	<0.001
Children	2.89	−1.09 to 6.86	0.15
Education (U/TE/DE)	−3.62	−7.38 to 0.14	0.06
Work position	−0.44	−3.31 to 2.42	0.76
Continuous education	−2.79	−6.68 to 1.09	0.16
Working weekends	−1.11	−6.44 to 4.22	0.68
Hospital	−1.57	−3.75 to 0.61	0.16
Change workplace	3.96	−0.52 to 8.43	0.09
Change job	5.28	1.02 to 9.53	0.015
Days off-sick	−3.78	−6.09 to −1.48	0.001
Job satisfaction	9.57	5.76 to 13.38	<0.001
Mental health†			
Sex	−7.26	−12.31 to −2.21	0.005
Children	1.82	−3.05 to 6.69	0.46
Marital status	−2.06	−5.53 to 1.41	0.25
Continuous education	−2.98	−6.71 to 0.74	0.17
Work schedule	0.09	−7.52 to 7.70	0.98
Working nights	−0.15	−7.27 to 6.97	0.97
Working weekends	−0.34	−6.98 to 6.31	0.92
Hospital	−1.57	−3.74 to 0.61	0.16
Change workplace	3.77	−0.61 to 8.14	0.09
Change job	5.44	1.26 to 9.62	0.01
Days off-sick	−1.76	−4.02 to 0.51	0.13
Job satisfaction	14.14	10.38 to 17.89	<0.001

* $R^2 = 20.3\%$, p value for ANOVA <0.001.
† $R^2 = 24.0\%$, p value for ANOVA <0.001.
ANOVA, analysis of variance; DE, assistant nurses; TE, technological institute graduates; U, university graduates.

The second aim of the study was to investigate the factors affecting health-related quality of life of nurses. The findings showed that nurses perceived their health-related quality of life as average, and they expected further deterioration in the near future. The factors that positively influence physical health, as found in this study, include male sex, technological education, the possibility to attend continuous education, working during weekdays only in an urban hospital, willingness to stay in the same job and profession, and 0 days or less than 4 days off-sick. Higher scores in mental health were generally found among male nurses, those with the possibility to attend continuous education, those working during weekdays only, those working in an urban hospital, those who were willing to stay in the same job and profession, and those who had none or less than 4 days off-sick. Our findings correspond with those reported by Karanikola et al [10], Kheiraoui et al [18], Lindo et al [19], Westphal-Guitti et al [20], Bellali et al [21], Shen et al [22], and Pappas et al [23], who also reported average levels of health, especially with regard to mental health dimensions.

Finally, positive linear correlations were observed between all scales of MJS and SF-36. This suggests that job satisfaction affects the nurses' health-related quality of life. The findings of the present study correspond to the findings reported in the international literature; Faragher et al [1], in a systematic review and analysis of 485 studies, with a cumulative study sample of 267.995 employees, found that the correlation between job satisfaction and health was positive and statistically significant but weak ($r = 0.312$).

Furthermore, multivariate linear regression analysis revealed the predictive factors that are independently associated with health-related quality of life. Male sex remained one of the strongest predictive factors of health-related quality of life, and this may be explained by the traditional roles each sex adopts, a finding that corresponds with other studies [8,18,23]. The finding that those wishing to stay in the same job had better physical and mental

health is related to increased job satisfaction, which is also a strong predictor of higher health-related quality of life, and these findings are in accordance with results from other studies [1,18]. This relationship between job satisfaction and health-related quality of life may mean that nurses who work in positive work environments feel better both in terms of physical and mental health. We can also suggest that nurses who are satisfied with their job value their health more and evaluate it more positively, because they compare it with the ill health of the patients they care for in their everyday practice. Finally, the finding that increased days off-sick was associated with lower physical health is an expected relationship between reported illness absence and perceived physical health.

According to our findings, Greek nurses were satisfied on a personal level as well as with the support they receive at work, but were displeased with the workload, the salary, their professional prospects, and the provided education. In addition, the health-related quality of life was perceived as average, with limitations being experienced both in physical and mental health. Considering that job satisfaction is linked with health-related quality of life, nurses' managers should examine the work environment and improve it so that nurses will not only feel valued but will also be encouraged to provide better services to those who need them.

4.1. Limitations of the study

There are two issues for consideration in the present study. First, although random sampling was used in all three hospitals, results represent only nurses who are working in public healthcare institutions, which, nevertheless, form the vast majority of the hospital sector in Greece. Second, the MJS questionnaire, which was translated and applied in a Greek nursing sample, was used for the first time. The reliability and the validity of the questionnaire were satisfactory, but we believe that it needs to be used further to be able to support its value.

Conflicts of interest

The authors declare no conflict of interest.

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