



ANALYSIS OF THE RELATIONSHIP BETWEEN JOB, LIFE SATISFACTION AND TEAMWORK ATTITUDES OF INTENSIVE CARE NURSES WORKING IN A TURKISH PUBLIC HOSPITAL

Levent Ersoy¹, Züleyha Şimşek Yaban^{*2}, Sıddıka Ersoy³

¹Isparta City Hospital, Isparta, Türkiye; ²Kocaeli University, Faculty of Health Sciences, Nursing Department, Kocaeli, Türkiye; ³Süleyman Demirel University, Faculty of Health Sciences, Nursing Department, Isparta, Türkiye

ORCID ID: Levent Ersoy: 0000-0002-5319-6778; Züleyha Şimşek Yaban: 0000-0002-5079-2099; Sıddıka Ersoy: 0000-0001-8094-8042

***Sorumlu Yazar / Corresponding Author:** Züleyha Şimşek Yaban **e-posta / e-mail:** zuleyha.simsek@kocaeli.edu.tr

Geliş Tarihi / Received: 28.09.2023

Kabul Tarihi / Accepted: 10.01.2024

Yayın Tarihi / Published: 15.03.2024

Abstract

Objective: The aim of this study was to determine the relationship between work, life satisfaction levels, and teamwork attitudes of intensive care nurses who work in a public hospital in Turkey.

Methods: This was a descriptive and correlational study. The sample consisted of nurses working in intensive care units. Tools used to collect data were the “Sociodemographic Question Form,” “Nurse Job Satisfaction Scale” “Life Satisfaction Scale” and “Teamwork Attitudes Questionnaire” were used to collect the data.

Results: A total of 217 nurses participated. In the study were a mean age of 35.32 ± 7.70 . Most, 78.2% of the participants (n=170) were female, 65.90% (n=143) were graduates, 67.70% (n=147) were married, and 62.7% (n=136) had children. In this study, the LSS, NJSS, and T-TAQ scores for Intensive Care Nurses (ICNs) were determined to be 14.21 ± 4.28 , 84.34 ± 16.71 , and 99.11 ± 21.48 , respectively. The respondents reported moderate and high scores on all three scales, and these scores positively correlated at the same time.

Conclusion: In this study, which explores the interrelationships among these three distinct domains, is unusual in this regard. There was a positive correlation between the scores on the LSS, NJSS and T-TAQ in this study. It was determined that there was a positive relationship between LSS, NJSS and T-TAQ. Each scale score affects the scores of other scales. In our study, it can be said that ICNs' job satisfaction, life satisfaction and teamwork attitude levels are at medium level and above. Academicians, chief nurses, institution managers, and health system managers play important roles in the satisfaction of nurses whose satisfaction level is high.

Keywords: *Intensive care, nurses, job satisfaction, life satisfaction, teamwork.*

Introduction

Intensive care units care for patients in a critical condition and often may be in a life threatening situation. These patients are very closely monitored and cared for while supporting and improving their vital functions with special treatment and care teams.¹ The teams working in intensive care units (ICUs) consist of individuals from various professions collaborating in a multidisciplinary fashion. The primary objective of these teams is to deliver personalized and comprehensive healthcare services to patients. Active roles played by ICU nurses within the team, as well as the recognition of these roles by other team members, lead to an improvement in the quality of healthcare services and have a positive impact on the job satisfaction and overall life satisfaction of the nurses. Job satisfaction can be defined as the degree to which individuals feel positively or negatively about their job.² A good level of job satisfaction is a requirement for individuals to be able to be successful, productive and happy at work.³ Several factors have a negative impact on ICU nurses' willingness to continue working, decrease their job satisfaction, and consequently reduce their overall life satisfaction, including: 1) dealing with patients in severe and critical conditions; 2) the need for strong teamwork; 3) experiencing insomnia; 4) increased fatigue; 5) uncertainty regarding duties and responsibilities; 6) monotonous and intensive working conditions; 7) bureaucracy and challenging hospital policies; 8) poor leadership; 9) inefficient administrative work; and 10) encountering frequent challenges, such as caring for patients who are suffering and/or dying, which can lead to stress and burnout in nurses.^{2,4,5}

Good teamwork is also recognized as promoting healthy work environment in nursing as it supports optimal nurse and patient outcomes. In a healthy work environment, staffing is appropriate, nurses can practice to their full potential and job satisfaction is high.⁶ Efficient collaboration within a healthcare team enhances service quality through the continuous care of patients and results in time and cost savings by reducing the length of hospital stays. It has been observed that when healthcare team members have a better understanding of each other's roles and responsibilities and offer more realistic solutions to problems, the harmony within the team positively contributes to patient care outcomes and employee performance. Effective teamwork in relation to patient outcomes increases patient safety, decreases medical errors and reduce mortality rates. For ICNs, as for all team members, studies aimed at understanding their working conditions may lead to enhancing their adaptability and promoting a positive attitude towards teamwork. This will enable nurses to define their roles within the team, boost their confidence, and ultimately increase job and life satisfaction by reducing stress levels.^{1,7}

Methods

Aim and Study Setting

This study was designed as a descriptive correlational research project to investigate the connection between the work and life satisfaction levels, as well as the teamwork attitudes of ICNs employed in a public hospital.

The study population included all nurses working in the primary, secondary, and tertiary ICUs of Isparta City Hospital, within the period from August 2019 to January

2020. The sample group consisted of nurses who met the inclusion criteria (working as a nurse in the ICUs of the institution on the dates of the study, agreeing to participate in the research, filling out the data collection forms completely). The nurses who did not agreed to participate and meet these criteria, were not included in the study group.

Study Design and Data Collection

Questionnaires were used for data collection. The 'Sociodemographic Question Form' was employed to gather demographic information about the participating ICNs. The 'Nurse Job Satisfaction Scale (NJSS)' was used to assess the job satisfaction levels and the 'Life Satisfaction Scale (LSS)' was employed to evaluate the life satisfaction of participants. In addition, the 'Teamwork Attitudes Questionnaire (T-TAQ)' was used to determine the attitudes of the sample to teamwork.

Sociodemographic Question Form: This questionnaire comprised a total of 18 items, including descriptive characteristics of the ICNs related to variables thought to impact individual characteristics and the research subject. The form was developed by the researchers in line with the literature review.

Life Satisfaction Scale (LSS): This scale consists of five items and was originally developed by Diener, Emmons, Larsen, and Griffin in 1985 to assess the life satisfaction levels of ICNs.⁸ It was adapted into Turkish by Daglı and Baysal in 2016.⁹ The Likert-type scale (1–5) demonstrated a Cronbach's alpha internal consistency coefficient of 0.88, and a test-retest reliability of 0.97. Higher scores on the scale indicate greater life satisfaction (min-max scores at; 1-25).

Nurse Job Satisfaction Scale (NJSS): Developed by Muya et al. in 2014 to assess the job satisfaction levels of nurses, this scale consists of 28 items divided into 4 subscales.¹⁰ Turkish validity and reliability for the scale were established by Türe and Yıldırım in 2016.¹¹ It was adjusted to 27 items and 4 subscales with one item excluded. The four subscales are as follows: Positive Emotions Toward Work (1–8 items), Appropriate Support From Superiors (9–14 items), Perceived Significance in the Workplace (15–22 items), and Pleasant Working Environment (23–27 items). Higher scores on the five-point Likert-type scale indicate greater job satisfaction. The highest score on the scale is 135, while the lowest score is 27. The total Cronbach's Alpha value for the scale is $\alpha=0.90$, and the scale does not have a specific cutoff point.

Teamwork Attitudes Questionnaire: The Teamwork Attitudes Questionnaire (T-TAQ) was developed in 2008 by the Agency for Healthcare Research and Quality (AHRQ) and the United States Department of Defense (DoD) to assess individuals' attitudes about the components comprising the scale.¹² The Turkish validity and reliability study of the scale was conducted by Yardımcı et al. in 2012 and consists of 28 items divided into 5 subscales.¹³ These five subscales include Team Structure, Leadership, Situation Monitoring, Mutual Support, and Communication. The scale can be used as a whole or separately for each subscale. The highest score on the scale is 140, while the lowest score is 28.

Data Analysis

In the evaluation of data, frequency and percentage, and mean and standard deviation were used to describe the data. The analysis was performed in SPSS, version 24.0 (IBM Inc., Armonk, NY, USA). Analysis included use of the t-test and One-Way Anova for independent variables, and Bonferroni and Tukey tests were used for correlation analysis.

Results

A total of 217 (88.9%) of the total workforce of 244 ICNs participated. Of the participants 63.1% worked in the tertiary ICU, 20.8% in the secondary ICU, and 16.1% in the primary ICU.

The distribution of scores on the Life Satisfaction Scale (LSS), Nurse Job Satisfaction Scale (NJSS), and its subscales, and the Teamwork Attitudes Questionnaire (T-TAQ) and its subscales for the participating nurses is presented in Table 1. The mean total score on the LSS for nurses was 14.21 ± 4.2 , the mean NJSS score was 84.34 ± 16.71 , and the mean T-TAQ score was 99.11 ± 21.48 .

Table 1. Teamwork attitudes questionnaire, nurse job satisfaction scale, and life satisfaction scale scores

Total Score	Subscales Score	(Min-Max)	Mean ± SD	Cronbach Alpha
LSS Total Score	LSS Subscales 1	5-25	14.21±4.28	0.90
	LSS Subscales 2	8-40	24.99±5.27	
	LSS Subscales 3	6-30	17.99±6.19	
	LSS Subscales 4	8-39	27.58±5.06	
	LSS Subscales 5	5-24	13.77±4.04	
NJSS Total Score		27-135	84.34±16.71	0.85
	NJSS Subscales 1	6-30	20.61±4.98	
	NJSS Subscales 2	6-30	22.00±5.57	
	NJSS Subscales 3	6-30	21.98±5.15	
	NJSS Subscales 4	5-25	16.13±3.73	
	NJSS Subscales 5	5-25	18.39±4.43	
T-TAQ Total Score		28-140	99.11±21.48	0.87

LSS: Life Satisfaction Scale, NJSS: Nurse Job Satisfaction Scale, T-TAQ: Teamwork Attitudes Questionnaire

The sociodemographic characteristics of the participating nurses and the relationships of these data with the LSS, NJSS, and T-TAQ scores are provided in Table 2.

The ICNs in the study were aged between 21 and 50 years, with a mean age of 35.32 ± 7.70 (ranging from 21 to 50). Most, 78.20% of the participants (n=170) were female, 65.90% (n=143) were graduates, 67.7% (n=147) were married, and 62.7% (n=136) had children. Age was not found to significantly affect the LSS score ($p=0.133$), but age exhibited a significant effect on the NJSS and T-TAQ scores ($p=0.034$, $p=0.010$). Further analysis revealed a significant difference between age groups and the NJSS total score,

which was influenced by NJSS subscale 3 and NJSS subscale 4. A significant difference was also observed between age groups and all the total and all subscale scores of T-TAQ, including Team Structure ($F=2.366/p=0.05$), Leadership ($F=2.477/p=0.045$), Situation Monitoring ($F=3.134/p=0.016$), Mutual Support ($F=3.374/p=0.011$), and Communication ($F=3.168/p=0.015$). Married nurses were found to have higher LSS scores than single nurses, and marital status was positively associated with life satisfaction ($p=0.044$). However, the relationship between marital status and NJSS and T-TAQ scores was not statistically significant ($p=0.251$, $p=0.975$).

Table 2. Comparison of sociodemographic characteristics of nurses with scale scores

Sociodemographic Data		Number (n)	Percent (%)	LSS Score ±SD	LSS Analyze/p	NJSS Score ±SD	NJSS Analyze/p	T-TAQ Score ±SD	T-TAQ Analyze/p
Age	21-30	79	36.4	14.54±3.77		86.91±11.05		98.14±17.41	
	31-40	65	30	15.08±4.12	F=1.787	83.54±14.39	F=2.663	103.50±17.46	F=3.396
	41-50	73	33.6	13.77±4.43	$p^*=0.133$	83.95±18.71	$p^*=0.034$	97.64±23.66	$p^*=0.010$
Gender	Male	47	21.7	13.95±4.49	$t=0.451$	82.65±18.69	$t=0.776$	99.89±20.42	$t=0.797$
	Female	170	78.2	14.27±4.23	$p^\ddagger=0.652$	84.80±16.15	$p^\ddagger=0.438$	99.71±21.77	$p^\ddagger=0.426$
Marital status	Married	147	67.7	16.58±4.40	$t=1.989$	83.44±16.32	$t=-1.152$	99.07±21.48	$t=0.031$
	Single	70	32.3	13.43±3.94	$p^\ddagger=0.044$	86.23±17.48	$p^\ddagger=0.251$	99.17±21.63	$p^\ddagger=0.975$
Child	Yes	136	62.7	14.30±4.58	$t=-0.481$	83.47±17.03	$t=-0.980$	99.31±22.77	$t=0.186$
	No	81	37.5	14.05±3.75	$p^\ddagger=0.676$	85.77±16.15	$p^\ddagger=0.328$	98.75±19.24	$p^\ddagger=0.852$
Education status	High school	26	12	15.77±3.43		84.31±12.81		92.61±24.78	
	Associate degree	38	17.5	14.59±4.79	F=2.449	87.24±19.80	F=0.546	98.10±23.15	F=1.057
	Licence	143	65.9	13.16±4.23	$p^*=0.05$	83.79±16.60	$p^*=0.651$	100.30±20.57	$p^*=0.368$
	Graduate	10	4.6	14.10±4.06		81.20±15.35		102.60±17.80	

SD= standard deviation, *=Anova, †= independent t test

While there was no significant relationship between educational level and NJSS and T-TAQ scores, the correlation between educational level and LSS scores approached significance ($p=0.05$). This trend was that as the level of education increased, the T-TAQ scores of the nurses also increased.

The professional characteristics of the nurses were examined by comparing their LSS, NJSS, and T-TAQ scores (Table 3). Considering the professional characteristics of the participating nurses and the relationship between these data and scale scores, 63.1% (n=137) of the nurses worked in the

tertiary ICU unit, and 50.7% (110) provided care to two patients per day. While 24.0% (n=52) of the nurses had 1-5 years of experience in their profession, 69.1% (n=150) had worked in an ICU unit for 1-5 years. Additionally, 93.5% of the nurses provided one-on-one patient care, 89.4% (n=194) worked in shifts, 86.7% (n=188) worked more than 40 hours per week, and 52.1% (n=113) had not received any teamwork training. Of the participating nurses, 69.1% (n=150) had chosen their profession consciously, and 55.3% (n=120) were satisfied with their profession, while 71.0% (n=154) found their salaries for the service insufficient.

Table 3. Comparison of professional characteristics with scale scores

Occupational Sociodemographic Data		Number (n)	Percent (%)	LSS Score / p	NJSS subscale Score 1	NJSS subscale Score 2	NJSS subscale Score 3	NJSS subscale Score 4	NJSS Score / p	T-TAQ subscale Score 1	T-TAQ subscale Score 2	T-TAQ subscale Score 3	T-TAQ subscale Score 4	T-TAQ subscale Score 5	T-TAQ Score / p
ICU Level	1 st level ICU	35	16.1	F=1.270 p [*] =0.283	F=2.391 p [*] =0.094	F=6.009 p [*] =0.003	F=2.264 p [*] =0.106	F=2.187 p [*] =0.115	F=4.439 p [*] =0.013	F=1.292 p [*] =0.277	F=0.941 p [*] =0.392	F=0.393 p [*] =0.676	F=0.113 p [*] =0.893	F=1.825 p [*] =0.164	F=0.950 p [*] =0.388
	2 nd level ICU	45	20.8												
	3 rd level ICU	137	63.1												
The Number of Patients Cared for	2 patients	110	50.7	F=1.138 p [*] =0.340	F=1.165 p [*] =0.327	F=3.178 p [*] =0.015	F=2.889 p [*] =0.023	F=1.042 p [*] =0.386	F=2.133 p [*] =0.078	F=1.853 p [*] =0.120	F=2.386 p [*] =0.049	F=2.319 p [*] =0.05	F=1.995 p [*] =0.096	F=2.210 p [*] =0.069	F=2.538 p [*] =0.041
	3 patients	42	19.4												
	4 patients	24	11.1												
	5 or more patients	17	7.8												
	Different Mission	24	11.1												
Work in the Profession Time	1-5 year	52	24.0	F=1.361 p [*] =0.256	F=3.588 p [*] =0.015	F=1.528 p [*] =0.208	F=1.160 p [*] =0.326	F=3.732 p [*] =0.012	F=2.287 p [*] =0.070	F=0.806 p [*] =0.492	F=0.892 p [*] =0.446	F=1.277 p [*] =0.283	F=0.540 p [*] =0.655	F=0.473 p [*] =0.702	F=0.813 p [*] =0.488
	6-10 year	49	22.6												
	11-15 year	39	18.0												
	16 or more years	77	35.5												
Working in ICU Time	1-5 years	150	69.1	F=1.757 p [*] =0.156	F=1.802 p [*] =0.142	F=3.748 p [*] =0.012	F=5.285 p [*] =0.002	F=0.798 p [*] =0.496	F=4.028 p [*] =0.008	F=3.955 p [*] =0.009	F=4.911 p [*] =0.003	F=3.660 p [*] =0.013	F=5.105 p [*] =0.002	F=5.351 p [*] =0.001	F=5.612 p [*] =0.001
	6-10 years	40	18.4												
	11-15 years	15	6.9												
	16 or more years	12	5.5												
Study Shape	Day	23	10.6	t=2.855 p [*] =0.007	t=2.642 p [*] =0.012	t=2.871 p [*] =0.07	t=4.221 p [*] =0.000	t=2.061 p [*] =0.048	t=3.696 p [*] =0.001	t=2.052 p [*] =0.041	t=2.865 p [*] =0.007	t=2.431 p [*] =0.021	t=2.770 p [*] =0.010	t=2.845 p [*] =0.008	t=3.027 p [*] =0.005
	Shift	194	89.4												
in the unit Mission	Responsible Nurse	14	6.5	t=-1.742 p [†] =0.099	t=-1.907 p [†] =0.075	t=-1.371 p [†] =0.190	t=-2.436 p [†] =0.027	t=-0.418 p [†] =0.682	t=1.893 p [†] =0.077	t=-2.337 p [†] =0.033	t=-1.925 p [†] =0.073	t=-1.252 p [†] =0.212	t=-1.506 p [†] =0.134	t=-1.782 p [†] =0.076	t=1.883 p [†] =0.061
	Clinical Nurse	203	93.5												
Weekly Working Times	40 hours	29	13.4	t=0.670 p [†] =0.505	t=1.276 p [†] =0.203	t=1.854 p [†] =0.065	t=2.807 p [†] =0.006	t=1.036 p [†] =0.302	t=2.186 p [†] =0.030	t=1.998 p [†] =0.47	t=2.350 p [†] =0.020	t=1.863 p [†] =0.064	t=2.182 p [†] =0.030	t=2.455 p [†] =0.015	t=2.417 p [†] =0.017
	40 or more hours	188	86.7												
Team Study Training	Yes	104	47.9	t=3.222 p [†] =0.001	t=2.199 p [†] =0.029	t=1.119 p [†] =0.264	t=1.199 p [†] =0.232	t=1.516 p [†] =0.131	t=1.840 p [†] =0.067	t=-0.116 p [†] =0.908	t=0.049 p [†] =0.961	t=0.915 p [†] =0.846	t=0.039 p [†] =0.969	t=0.024 p [†] =0.981	t=0.044 p [†] =0.965
	No	113	52.1												
Conscious Career Choice	Yes	150	69.1	t=2.892 p [†] =0.004	t=5.627 p [†] =0.000	t=1.341 p [†] =0.181	t=1.306 p [†] =0.193	t=4.292 p [†] =0.000	t=3.648 p [†] =0.000	t=1.983 p [†] =0.049	t=2.402 p [†] =0.017	t=2.052 p [†] =0.041	t=1.515 p [†] =0.131	t=0.448 p [†] =0.654	t=1.989 p [†] =0.050
	No	67	30.9												
Job Satisfaction	Yes	120	55.3	F=7.631 p [*] =0.001	F=18.438 p [*] =0.000	F=2.544 p [*] =0.081	F=4.608 p [*] =0.011	F=13.935 p [*] =0.000	F=11.60 p [*] =0.000	F=5.726 p [*] =0.004	F=5.045 p [*] =0.007	F=6.571 p [*] =0.002	F=2.543 p [*] =0.081	F=1.933 p [*] =0.147	F=5.279 p [*] =0.006
	No	29	13.4												
	Partially	68	31.3												
Fee Adequate detection	Yes	63	29.0	t=4.827 p [†] =0.000	t=1.565 p [†] =0.121	t=0.109 p [†] =0.914	t=0.304 p [†] =0.762	t=5.819 p [†] =0.000	t=1.971 p [†] =0.050	t=0.050 p [†] =0.960	t=0.725 p [†] =0.469	t=0.386 p [†] =0.700	t=0.90 p [†] =0.928	t=-0.909 p [†] =0.364	t=0.113 p [†] =0.910
	No	154	71.0												

*=Anova, †= independent t test



A significant relationship was found between the ICU level where nurses worked and their total NJSS scores ($p < 0.05$). Further analysis revealed that this relationship stemmed from the primary care units. The total NJSS and T-TAQ scores were also related to the number of patients cared for per day, with statistical significance observed only for the total T-TAQ score ($p < 0.05$). There was a significant relationship between NJSS subscale 2 and subscale 3 scores and the number of patients cared for per day ($p < 0.05$), and further analysis showed that this difference was due to the variance between the group that cared for 4 patients per day and the groups with different patient care responsibilities. The relationship between the number of patients examined per day and the T-TAQ subscale 2 and subscale 3 showed statistical significance ($p < 0.05$), with further analysis revealing that this difference was also due to the variance between the group of nurses caring for 4 patients per day and the group of nurses with different responsibilities. Additionally, the statistical significance in the total T-TAQ score was found to be due to the difference between the nurses caring for 2 patients per day and the nurses with different responsibilities.

There was no significant relationship between the nurses' years of professional experience and the total LSS, NJSS, and T-TAQ scores ($p > 0.05$). However, a significant relationship was found between the duration of working in an ICU unit and the total NJSS scores and subscale scores, except for the first and fourth NJSS subscales, and the total T-TAQ scores and subscale scores ($p < 0.05$). Further analysis demonstrated that this difference was due to the variance between the groups with 6-10 years of experience and those with 16 or more years of experience. A significant relationship was also observed between the type of work undertaken and the total LSS, NJSS, and T-TAQ scores. Continuous daytime work was found to positively affect the scale scores. Regardless of the significance level, all scale scores were higher for head nurses. A significant relationship was observed between the weekly working hours variable in the unit and the total NJSS and T-TAQ scores. Those who worked more than 40 hours per week received lower scores on all scales. This result was also reflected in T-TAQ subscales 2, 4 and 5 (leadership, mutual support and communication).

A positive relationship was found between teamwork training and LSS scores ($p < 0.05$). Teamwork training also showed a positive relationship with the "Positive Emotions Toward Work" subscale of NJSS ($p < 0.05$). A positive trend was observed between the teamwork training variable and NJSS and T-TAQ scores, although it was not statistically significant.

A positive relationship was identified between the conscious choice of profession and LSS, NJSS, and T-TAQ scores ($p < 0.05$). A trend towards relationship was found between job satisfaction and total T-TAQ scores and between the total LSS and NJSS scores ($p < 0.05$). There was a trend towards relationship between perceiving wages to be sufficient and NJSS scores ($p = 0.05$). There was a trend towards correlation between perceiving wages as sufficient and both the NJSS score ($p = 0.05$) and the LSS score ($p < 0.001$). However, there was no significant relationship with adequacy of wages and the T-TAQ scores. Upon further analysis, it was found that the group who considered their wages sufficient had higher LSS and NJSS scores, while the T-TAQ scores remained at a similar level.

Discussion

In the existing literature, job satisfaction, life satisfaction, and teamwork attitudes among nurses and other healthcare professionals have typically been studied in isolation.^{12,13} Our study, which explores the interrelationships among these three distinct domains, is unusual in this regard. There was a positive correlation between the scores on the LSS, NJSS and T-TAQ in this study.

It can be inferred that respondents who report high scores on one of these tools would also be likely to report high scores on the others. As in other studies, our research indicates that ICNs generally exhibit moderate to high levels of life satisfaction, job satisfaction, and teamwork attitudes.¹⁴⁻¹⁹

The results of our study, consistent with prior research, revealed that LSS scores did not exhibit significant correlations with age^{18,20}, gender²¹, having children^{20,22} but showed an association with marital status^{23,24}. In our dataset, the lowest LSS scores in the 41-50 age group ran counter to Herzberg's (1968)²⁵ notion of interpersonal relationships and conformed to the "inverted-U curve." This could be attributed to the abundance of idealistic thoughts in youth and anxiety about not achieving expected goals, which might negatively affect life satisfaction. The gender-related differences in LSS scores may be linked to distinct gender roles. The impact of marital status on life satisfaction in our data is in line with findings from other studies.^{23,24} Although Diener's study²⁶ noted that marriage and family life do not significantly affect subjective well-being, individuals' life satisfaction may be positively influenced by variables such as the structured lifestyle introduced by marriage, which is a fundamental pillar of our society, additional responsibilities, interpersonal relationships, and the attainment of new achievements in coping with stress. While educational status and LSS scores exhibited merely a trend towards correlation, vocational high school graduates scored the highest. Although Arslan¹⁵ and Turgut²⁰ also reported significant differences in favor of graduate nurses in their studies, the prevailing consensus in the literature is that there is no substantial difference between them.^{21,27}

While there was no significant relationship between the number of patients cared for in a day, duration of work in the unit, occupational duration, employment status, and weekly working hours with the LSS scores, a strongly positive relationship was identified between the presence of teamwork training and income sufficiency and the LSS score. These results can be considered indicative of the professionalism of ICU nurses.^{21,27} In contrast, Arslan²³ reported that life satisfaction increases with the duration of work in the profession. When interpreted with the help of the answers given to open-ended questions asked to the participants; It was thought that the satisfaction of the nurses in the institution where the data were collected decreased as their working years increased, because they coped with the problems they encountered alone and did not think they were supported. Although there was no statistically significant relationship between the weekly working hours of ICU nurses and the LSS score ($p > 0.05$), all scale scores, in line with the findings of the study by Özgür *et al.*²⁸, were lower for nurses who worked more than 40 hours per week.

When job satisfaction was assessed, our study revealed that young nurses exhibit high job satisfaction, while gender and having children do not significantly affect job satisfaction,

consistent with some earlier studies^{14,16,20,29}. In contrast, Hezer³⁰ and Yıldız³¹ reported that job satisfaction levels of ICU nurses were higher for those who had children. High job satisfaction at a young age may be associated with an inability to set realistic expectations, the excitement of new employment, economic independence, and youthful vigor. The higher NJSS scores among single nurses align with the studies conducted by Bare³² and Günes and Söyük³³. The relatively fewer family responsibilities of single nurses may positively impact their job satisfaction.

Although the prevailing consensus in the literature suggests that job satisfaction levels increase with higher education levels, our study did not observe a corresponding increase in NJSS scores with increased education levels.^{32,33} It was noted that the type of intensive care unit had an impact on job satisfaction. Factors such as lower expectations from nurses working in primary care units, greater patient receptivity to communication, patient involvement in their own care, and a higher patient recovery rate may contribute to these results. In the literature, there are studies indicating that the number of patients cared for per day and the duration of professional experience have an effect on job satisfaction.^{16,24,34} When the number of patients cared for per day exceeds recommended standards, it may affect ICNs in physical, mental, and social aspects, increase their stress levels, and lead to job dissatisfaction, although this was not the case in our cohort.

While Yıldırım³⁵ reported no significant difference between weekly working hours and job satisfaction, other studies in the literature, similar to our findings, suggest that working hours are related to job satisfaction.^{29,34} It is argued that as the duration of work in the unit increases, the job satisfaction increases.^{36,37} In our study, the NJSS score was higher among those who considered their wages sufficient. However, Aksoy³⁸ indicated a negative relationship between income variability and job satisfaction.

While Bekmez¹⁴ reported that T-TAQ scores tend to increase with age due to accumulated experience and improved problem-solving abilities, there are also studies that find no significant correlation between age and teamwork attitudes.^{15,39} The findings of the present study, for which we could not find a comparable relationship between nurses having children and their teamwork attitude levels in the literature, is a novel finding.^{15,17,19}

T-TAQ scores tended to increase with the level of education, even though there was no significant relationship. This positive relationship underscores the essential role that education plays in the future of the nursing profession.^{15,39} Our study's findings contradict those of Çelik¹⁵ and Düzgün *et al.*¹⁷ that reported no difference between the number of patients cared for in a day and T-TAQ scores. In contrast to our findings, which found a relationship between weekly working hours and T-TAQ scores among ICNs, it was suggested that an increase in weekly working hours enhanced teamwork attitudes.¹⁷

The significant relationship between T-TAQ scores and job satisfaction level aligns with existing literature. Consistent with the findings of Bekmez¹⁴, no significant relationship was found between income status and T-TAQ scores ($p > 0.05$).

A significant relationship was identified between the work types of ICU nurses and the LSS, NJSS, and T-TAQ scores. Due to various factors such as working in the ICU, the obligation to work on public holidays, the effects of shift work on sleep and social life, staff shortages during shifts, and the demands of long night shifts, the T-TAQ, NJSS, and LSS scores of nurses may be adversely affected.^{23,29,36}

There was no relationship between the employment status of ICU nurses and their LSS, NJSS, and T-TAQ scores, but the scale scores were found to be higher for chief nurses, consistent with other studies.^{15,36,37} We believe that several variables, such as the respect and recognition due to chief nurses, their non-involvement in direct patient care, and their focus on administrative affairs, positively influence the scale scores.

While there was a positive correlation between ICNs receiving teamwork training and the LSS score ($p < 0.01$), the positive relationship between their T-TAQ and NJSS scores was not significant. Our findings concerning LSS and NJSS represent a novel contribution to the literature. In the literature, teamwork training is emphasized as a necessity for effective collaboration. With the help of training programs, ICNs' awareness within the team can increase, reducing their stress levels and ultimately resulting in higher T-TAQ, NJSS, and LSS scores.

In line with findings in the literature, the LSS, NJSS, and T-TAQ scores of ICNs who deliberately chose the profession were found to be higher.^{22,30,36} High job satisfaction and, consequently, high life satisfaction in professions highly esteemed by society and involving direct interactions with people are closely interlinked.²²

Conclusion

A positive relationship was observed between LSS, NJSS, and T-TAQ, probably due to the generally positive overall attitudes of the participants who reported moderate to better levels of job satisfaction, life satisfaction, and good teamwork attitudes.

Students pursuing nursing should receive training in teamwork, communication, and professional satisfaction as part of their education. Chief nurses should exhibit fair and egalitarian attitudes, support personal development, contribute to improving work environments, and engage in motivational activities. It is recommended that institutional management adhere to staffing standards, promote teamwork attitudes, incorporate related activities into in-service training programs, regularly assess nurses' satisfaction and teamwork levels, prioritize individual preferences in the field, support academic and personal development, implement mechanisms for recognition, and facilitate social collaborations to enhance motivation.

Acknowledgement

We would like to thank all the nurses who participated and supported the study.

Conflict of Interest

The author have no conflicts of interest to disclose.

Compliance with Ethical Statement

In order to apply the necessary data collection forms for the research, written permission was obtained from Süleyman Demirel University Faculty of Medicine Clinical Research Ethics Committee with the decision dated 19/07/2019 and numbered 114747 for the application of the data collection forms in the relevant public hospital.

Financial Support

The authors declared that no financial support was received for this paper.

Author Contributions

L.E, Z.S.Y, S.E: Study idea/Hypothesis; L.E, Z.S.Y, S.E: Design; L.E: Data Collection; L.E, Z.S.Y, S.E: Analysis; L.E, Z.S.Y, S.E: Literature review; L.E, Z.S.Y, S.E: Writing; Z.S.Y, S.E: Critical review.

References

- Ergün YA. Teamwork at intensive care unit. *Yoğun Bakım Hemşireliği Dergisi*. 2011;15(1):36–49. <https://dergipark.org.tr/tr/download/article-file/260141>. Accessed November, 2023.
- Altınöz Ü, Demir S. Intensive care nurses' perceptions of their work environment, psychological distress and the factors that affect them. *J Psy Nurs*. 2007;8(2):95–101. doi:10.14744/phd.2017.03016.
- Gonderen K, Yucens B. Job satisfaction, burnout, and depression in nurses working in level 2 and level 3 intensive care units. *Ann Med Res*. 2020;27(10):2688-94. doi:10.5455/annalsmedres.2020.05.420.
- Hesselink G, Branje F, Zegers M. What are the factors that influence job satisfaction of nurses working in the intensive care unit? A multicenter qualitative study. *J Nurs. Manag.* 2023;6674773, 8 pages. <https://doi.org/10.1155/2023/6674773>. Published April 14, 2023.
- Dogan HD. Examining sleep quality and job satisfaction of critical care nurses. *Clin Exp Health Sci*.2020;10:247-255. doi:10.33808/clinexphealthsci.639710.
- Bragadóttir H, Kalisch BJ, Flygenring BG, Tryggvadóttir GB. The relationship of nursing teamwork and job satisfaction in hospitals. *SAGE Open Nurs*. 2023;9:1-12. doi:10.1177/23779608231175027.
- Kavuran E, Ay E, Ay E, Aksoy M. Determination of team work and job satisfaction of nurses. *Turkish Journal of Science and Health*. 2021;2(1):45-56. <https://dergipark.org.tr/tr/pub/tfsd>.
- Diener E, Emmons R, Larsen R, Griffin S. The satisfaction with life scale. *JPA*. 1983;49:71-75.
- Dağlı A, Baysal N. Adaptation of the satisfaction with life scale into Turkish: The study of validity and reliability. *ESOSDER*. 2016;15(59):1250–1263. doi:10.17755/esoder.75955.
- Muya M, Katsuyama K, Özaki F, Aoyama F. Development of a scale measuring the job satisfaction of Japanese hospital nurses. *Jpn. J. Nurs. Sci*. 2014;11:160-170. doi:10.1111/jjns.12017.
- Türe Yılmaz A, Yıldırım A. Validity and reliability of the Nurse Job Satisfaction Scale in Turkish. *SHYD*. 2016;3(3):158–68. doi:10.5222/shyd.2016.158.
- Baker DP, Krokos KJ, Amodeo AM. TeamSTEPS Teamwork. Attitudes Questionnaire Manual. Rockville, MD, Agency for Healthcare Research and Quality; October 2008. [Included in the TeamSTEPS Instructors Guide.]
- Yardımcı F, Başbakkal Z, Beytut D, Muslu G, Ersun A. A reliability and validity study of Teamwork Attitudes Questionnaire. *Anadolu Psikiyatri Derg*. 2012;13(2):131–37. <https://www.researchgate.net/publication/233757910>.
- Bekmez F. *Impact of Team Work Attitude on Job Satisfaction in University Hospital Staff* [Yüksek Lisans tezi]. Sivas: Cumhuriyet Üniversitesi Sağlık Bilimleri Enstitüsü; 2018.
- Çelik Güler A. *Evaluation of the Effect of Nurse Motivation Levels on Teamwork* [Yüksek Lisans tezi]. İstanbul: İstanbul Bilim Üniversitesi Sağlık Bilimleri Enstitüsü;2016.
- Çiftçi Ö. Job satisfaction and affecting factors in the working nurses in surgical wards and intensive care unit. *Türkiye Klinikleri J Nurs Sci*. 2018;10(4):263–70. doi: 10.5336/nurses.2017-59149.
- Düzgün F, Yılmaz YU, Karaman D, Dikmen Y, Yılmaz D, Çınar HD. Investigation of teamwork attitude of intensive care nurses. *J Contemp Med*. 2019;9(1):32–36. doi:10.16899/gopctd.511231.
- Lee H, Hwanhg S, Kim J, Daly B. Predictors of life satisfaction of Korean nurses. *J. Adv. Nurs*. 2004;48(6):632–641. doi: 10.1111/j.1365-2648.2004.03251.x.
- Mohamed SA, Abed F. Perception of teamwork and missed nursing care among nurses in intensive care units at south valley university hospitals. *IOSR-JNHS*. 2016;5(6):89–97. doi: 10.9790/1959-0506078997.
- Turgut EM. İş Doyumu ve Yaşam Doyumu İlişkisi ve İstanbuldaki Devlet Üniversite Hastanelerinde Çalışan Ameliyathane Hemşirelerine Yönelik Bir Araştırma [Yüksek Lisans tezi]. İstanbul: İstanbul Üniversitesi Sosyal Bilimler Enstitüsü; 2010.
- Erdoğan E, Erdem R. Research of nurses' individual social responsibility levels and life satisfaction according to demographic variables. *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*. 2017;3(28):293-312. <https://dergipark.org.tr/en/download/article-file/2697189>. Accessed November 9, 2023.
- Vara Ş. *A Study on the Factors Affecting the Job Satisfaction and the Life Satisfaction on the Nurses Working at Intensive Care Services* [Yüksek Lisans tezi]. İzmir: Ege Üniversitesi Sağlık Bilimleri Enstitüsü; 1999.
- Arslan Eren T. *Job and Life Satisfaction Level of Oncology Nurses* [Yüksek Lisans tezi]. İstanbul:Marmara Üniversitesi Sağlık Bilimleri Enstitüsü; 2008.
- Dolan SL, Gosselin E. Job Satisfaction and Life Satisfaction: Analysis of a Reciprocal Model with Social Demographic Moderators. Barcelona: Universitat Pompeu Farba; 2000.
- Herzberg F. *One more time: How do you motivate employees*. 65.th Boston, MA: Harvard Business Review; 1968.
- Diener E. Subjective well-being. *Psychol.Bull*. 1984;95(3):542-575. <https://doi.org/10.1037/0033-2909.95.3.542>.
- Sönmez Benli S, Yıldırım A. Relationship between nurses' life satisfaction and attitudes towards death. *GÜSBĐ*. 2017;6(4): 167–179. <https://dergipark.org.tr/tr/download/article-file/386449>.
- Özgür G, Yıldırım S, Ökmen E. (2008). The view of nurses regarding to quality of life and their life satisfaction. *EGEHFD*. 2008;24(3):33–43. <https://dergipark.org.tr/tr/download/article-file/835457>.
- Aylaz R, Aydoğmuş N, Yayan EH. Determination of job satisfaction levels of nurses. *Ann Health Sci Res*. 2017;6(1):12–17. <https://dergipark.org.tr/tr/pub/annhealthscires/issue/65345/1006796>.
- Hezer M. *Evaluation of Nursing Work Satisfaction and Burnship Levels and Nursing Care Quality* [Yüksek Lisans tezi]. İstanbul: Biruni Üniveritesi Sağlık Bilimleri Enstitüsü; 2019.
- Yıldız N. *The Factors That Affect Job Satisfaction in Nurses Working in the Intensive Care Units* [Yüksek Lisans Tezi]. İstanbul: İstanbul Üniversitesi Sağlık Bilimleri Enstitüsü; 2001.
- Bare LL. Factors That Most Influence Job Satisfaction Among Cardiac Nurses in an Acute Care Setting [Master of Science Nursing]. West Virginia: Marshall University; 2004.
- Ören GB, Söyük S, Yürügen B. İş risklerinin nefroloji diyaliz ve transplantasyon ünitelerinde çalışan hemşirelerin iş doyumları üzerine etkisi. *Modern Hastane Yönetimi Dergisi*. 2001;5(4-5):36-56.
- Söylemez D, Sur H, Cebeci D. (2005). Hemşirelerin iş doyumunu ile ilgili bir metaanaliz çalışması. *Hastane Yönetimi Dergisi*. 2005:34-41.
- Yıldırım S. *Health Personnel Who Work in Shifts Correlation Between Sleep Disorder and Job Satisfaction* [Yüksek Lisans tezi]. İstanbul: Marmara Üniversitesi Sağlık Bilimleri Enstitüsü; 2010.
- Derin N. *The Job Satisfaction of the Staff Working at the State Hospitals and the Factors Affecting Their Job satisfaction* [Yüksek Lisans tezi]. Eskişehir: Eskişehir Osmangazi Üniversitesi Sağlık Bilimleri Enstitüsü; 2007.
- Aktaş B. *Examination of Job Satisfaction and the Factors of Operating Room Nurses* [Yüksek Lisans tezi]. İstanbul: Maltepe Üniversitesi Sağlık Bilimleri Enstitüsü; 2018.
- Aksoy NM. *Research of Job Satisfaction Levels of Nurses Working in Surgery Units of 3 Different Hospitals in Antalya*

Province [Yüksek Lisans tezi]. Afyon: Afyon Kocatepe Üniversitesi Sağlık Bilimleri Enstitüsü; 2005.

39. Tüney M. *The Relationship Between Nurses' Perceived Organizational Support and Teamwork Attitude: The Case of Surgical Services and Intensive Care Units* [Yüksek Lisans tezi]. Erzincan: Erzincan Binali Yıldırım Üniversitesi Sağlık Bilimleri Enstitüsü;2019.