

ORIGINAL ARTICLE

Compassion satisfaction, compassion fatigue, burnout, working environments, and musculoskeletal disorders among nurses

Rujnan Tuna RN, PhD¹  | Feride Eskin Bacaksiz RN, PhD²  |
Birsen Kahraman RN, MSc³ 

¹Department of Nursing Administration,
Faculty of Health Sciences, Istanbul
Medeniyet University, Istanbul, Turkey

²Department of Nursing Administration,
Hamidiye Faculty of Nursing, University of
Health Sciences, Istanbul, Turkey

³Saglik Bilimleri University, Bakırköy Dr. Sadi
Konuk Training and Research Hospital,
Istanbul, Turkey

Correspondence

Rujnan Tuna, RN, PhD, Department of Nursing
Administration, Faculty of Health Sciences,
Istanbul Medeniyet University, Kartal, Istanbul
34685, Turkey.
Email: rujnantuna@yahoo.com

Abstract

Purpose: It was aimed to determine the perceptions of nurses' working environment and professional quality of life and to compare nurses with and without musculoskeletal discomfort.

Design and Methods: It is a descriptive and comparative study. The data were collected from 333 nurses working at different units.

Findings: Those, who did not have discomfort in their body parts, had a higher mean score in the Practice Environment Scale of the Nursing Work Index; whereas, those having discomfort in all parts of the body had a higher mean score in the Professional Quality of Life Scale ($p < 0.05$; $p < 0.01$; $p < 0.001$).

Practice Implications: Attempts to reduce nurses' musculoskeletal discomfort can positively increase perceptions of the working environment and professional quality of life.

KEYWORDS

musculoskeletal discomfort, nursing, quality of life, working conditions, working environment

1 | INTRODUCTION

Nursing is a stressful profession having intensive workload due to many negative factors related to working environment (Bolan et al., 2021; Kaushik et al., 2021). Many negative working conditions such as lack of social support perceived by managers and colleagues, providing care for terminally ill patients, overtime and shift work, heavy workload, role ambiguity, and role conflict (Duarte & Pinto-Gouveia, 2017b) are the main causes of stress on nurses. In addition, communication problems within the team, lack of materials and equipment were reported as other negative working conditions that create stress on nurses (Duarte & Pinto-Gouveia, 2017a; Xie et al., 2021).

It is stated that negative working conditions and stressors cause devastating effects for both nurses and healthcare organizations (Barr, 2018). These effects increase the intention of the nurses to

leave their job (Bolan et al., 2021), reduce their motivation and job satisfaction, and increase their burnout (Kelly & Lefton, 2017; Wang et al., 2020). In addition, it is stated that negative working conditions and high work stress cause the increasing number of work accidents, absenteeism, and late to work (Barr, 2018; Kaushik et al., 2021; Kelly & Lefton, 2017), decreased employee productivity, and impaired quality of patient care (Bolan et al., 2021). Also, unhealthy working conditions are the most important reason for the decrease in nurse labor in the world (Bolan et al., 2021).

An unhealthy working environment adversely affects the nurses in physical, mental, and social aspects (Ames et al., 2017). Research results report that individuals with more psychosomatic diseases work in more stressful and unfavorable working conditions and that there is a strong relationship between musculoskeletal complaints and working conditions (Clari et al., 2021; Xie et al., 2021; Zhang et al., 2018).

Musculoskeletal disorders, also known as repeated physical disorders, are one of the most common job-related health problems experienced by nurses (Baur et al., 2018). Besides, musculoskeletal disorders may affect employees for days, months or years (Tavakkol et al., 2020). In studies conducted with nurses, it was found that nurses with increased musculoskeletal complaints worked in high-stress and negative working conditions; it was reported that nurses mostly experience back, neck, and leg complaints (Baur et al., 2018; Clari et al., 2021). If these complaints cannot be brought under control, this will both increase the health problems of nurses and impair the quality of patient care (Duarte & Pinto-Gouveia, 2017a, 2017b; Yizengaw et al., 2021). The study was conducted to determine the perceptions of nurses' working environment and professional quality of life and to compare these perceptions according to nurses with and without musculoskeletal discomfort. Answers of four questions were sought in the study as follows:

- What are the nurses' perceptions about the working environment and professional quality of life?
- In which body parts do nurses experience mostly musculoskeletal discomfort?
- Does musculoskeletal discomfort cause a significant difference on the nurses' perceptions on working environment and professional quality of life?
- Does musculoskeletal discomfort according to gender and professional tenure cause a significant difference on nurses' perceptions of their working environment and professional quality of life?

2 | METHODS

2.1 | Design

This is a descriptive and comparative study.

2.1.1 | Participants and setting

The study was conducted with the nurses working in a public hospital located in Istanbul and having a minimum 1-year work experience. The data of the study were obtained from 333 nurses, who agreed to participate in the study, using a convenience sample method. Staff nurses and executive nurses working in two shifts in different wards of the hospital were included in the study.

2.2 | Data collection

The data of the study were collected between June 2018 and December 2018 with the nurses working in the mentioned hospital. In the study, a seven-question participant information form and three scales were used.

2.2.1 | Participant information form

It is a form composed of seven questions about the personal characteristics of the nurses (age, gender, marital status, educational level, work shift, position, working experience in hospital, and working experience in the profession).

2.2.2 | The Practice Environment Scale of the Nursing Work Index (PES-NWI)

Türkmen et al. (2011) carried out the Turkish adaptation of the scale, developed by Lake (2002). The scale consists of 31 items in five subscales. The subscales are "Nurse Participation and Development (9 items; $\alpha = 0.87$)," "Nursing Foundations for Quality of Care (10 items; $\alpha = 0.86$)," "Nurse Manager Ability, Leadership, and Support of Nurses (5 items; $\alpha = 0.80$)," "Staffing and Resource Adequacy (4 items; $\alpha = 0.80$)," and "Collegial Nurse-Physician Relations (3 items; $\alpha = 0.84$)." The Cronbach's α value of the scale was reported as 0.94. The items of the four-point Likert-type scale are scored between "I strongly disagree" (4) and "I strongly agree" (1). While evaluating the subscale scores of the scale, the score of all items is reversed. High scores signify that the attitudes toward the working environment also increase positively (Türkmen et al., 2011).

2.2.3 | Professional Quality of Life Scale (ProQOL Scale)

Stamm (2005) developed the scale and Yeşil et al. (2010) adapted it into Turkish. The scale is composed of 30 items and three subscales. The subscales are "compassion satisfaction (10 items; $\alpha = 0.87$)," "burnout (10 items; $\alpha = 0.72$)," and "compassion fatigue (10 items; $\alpha = 0.80$)." Total internal consistency coefficient of the scale was reported as $\alpha = 0.85$. The items are scored between "never" (0) and "very often" (5). Higher scores signify that the participants perceive higher levels of compassion satisfaction, burnout, and compassion fatigue (Yeşil et al., 2010).

2.2.4 | Cornell Musculoskeletal Discomfort Questionnaire (CMDQ)

Hedge et al. (1999) developed the questionnaire and Erdinc et al. (2011) conducted its Turkish validity and reliability study. In the questionnaire, the human body is shown as 20 separate parts and there are three sections for the participants' responses for "frequency of ache, pain or discomfort," "severity of the experienced pain," and "the status of the pain to interfere in working." In this study, nurses' responses given in the first section questioning the frequency of ache, pain, or discomfort in the body parts were used. The questions relate to status of the musculoskeletal discomfort in the previous week.

In comparison with Visual Analog Scale measurements to test the criterion validity of the questionnaire, Kappa agreement coefficients ranged from 0.62 to 0.92 and Spearman's correlation coefficients ranged from 0.46 to 0.83 for all body parts. In addition, it was reported that in the test–retest reliability measurements of the CMDQ, the Kappa coefficients varied between 0.56 and 0.97 for the overall questionnaire, and there was a moderate and almost perfect agreement between the test–retest responses for the body parts (Erdinc et al., 2011).

Table 1 shows Cronbach's α values for all measures in the present study.

2.3 | Data analysis

Analyses were performed using IBM SPSS Statistics 21. Descriptive (number, percentage, minimum, maximum, mean, and standard deviation), comparative (independent sample *t*-test and Mann–Whitney *U*), and internal consistency analyses were used in this study.

3 | ETHICAL CONSIDERATION

Before collecting the data, ethics committee approval was received and institutional permissions were obtained. In the study, the participants were informed about the study verbally and in written and their written consents were obtained.

4 | RESULTS

4.1 | Participants' demographic characteristics

The participants were mostly 30 years old and younger (60.3%), female (88.7%), and single (53.4%). The nurses had mostly a

bachelor's degree (73.1%) and were working in position of service nurse (91.0%) and in shifts (78.5%). While they had a professional experience of 3 years or less (32.2%), 97 (29.3) nurses worked for 15 years or more. They were also working in their institution mostly for 3 years and less (37.0%) but the number of nurses working for 15 years and more was 56 (16.7%).

4.2 | The PES-NWI and ProQOL measurements of the nurses

It was determined that PES-NWI total score of the nurses was 2.43 ± 0.40 points and the highest mean score was obtained from "Nursing Foundations for Quality of Care (2.73 ± 0.39)" subscale. When ProQOL Scale measurements were examined, it was observed that the total mean score of the participants was 2.05 ± 0.38 for ProQOL Scale; while the highest mean score was obtained from "Compassion Satisfaction (2.79 ± 0.76)" subscale, the lowest mean score was obtained from "Compassion Fatigue (1.40 ± 0.62)" subscale (Table 1).

4.3 | The distribution of the musculoskeletal discomfort based on the body parts of the nurses

Table 2 shows the presence of musculoskeletal discomfort in the various body parts of the nurses and the comparison of their discomfort mean scores in terms of the presence of discomfort. According to the results in Table 2, the first three parts of the body, which were reported to be the most common discomfort in nurses were "lower back ($n = 301$; 90.4%)," "upper back ($n = 285$; 85.6%)," and "neck ($n = 266$; 79.9%)," respectively. The least discomfort was found in "forearm (right $n = 116$; 34.8%; left $n = 100$; 30.0%)" and "upper arm (right $n = 125$; 37.5%; left $n = 115$; 34.5%)" regions (Table 2).

TABLE 1 Measurements and internal consistency obtained from the nurses ($N = 333$)

	α	SR	Min	Max	M	SD
The Practice Environment Scale of the Nursing Work Index	0.92	1–4	1.26	3.87	2.43	0.40
Nurse Participation and Development	0.80	1–4	1.22	3.89	2.34	0.47
Nursing Foundations for Quality of Care	0.77	1–4	1.60	4.00	2.73	0.39
Nurse Manager Ability, Leadership, and Support of Nurses	0.80	1–4	1.00	4.00	2.39	0.56
Staffing and Resource Adequacy	0.79	1–4	1.00	3.50	1.94	0.58
Collegial Nurse-Physician Relations	0.79	1–4	1.00	4.00	2.40	0.63
Professional Quality of Life Scale	0.86	0–5	1.23	2.97	2.05	0.38
Compassion Satisfaction	0.88	0–5	1.00	4.90	2.79	0.76
Burnout	0.62	0–5	0.60	3.60	1.98	0.51
Compassion Fatigue	0.72	0–5	0.00	3.30	1.40	0.62

Abbreviations: M, mean; Max, maximum; Min, minimum; SD, standard deviation; SR, score range; α , Cronbach's alpha.

TABLE 2 Comparison of PES-NWI and ProQOL measurements according to the presence of discomfort in body parts (N = 333)

Body parts	Discomfort	n	PES-NWI M (SD)	t-z/p	ProQOL M (SD)	t-z/p
Neck	No	67	2.40 (0.32)	$t = -0.502, p = 0.616$	2.08 (0.40)	$t = 0.529, p = 0.597$
	Yes	266	2.43 (0.41)		2.05 (0.38)	
Right shoulder	No	153	2.46 (0.42)	$t = 1.625, p = 0.105$	2.02 (0.42)	$t = -1.524, p = 0.129$
	Yes	180	2.39 (0.38)		2.08 (0.34)	
Left shoulder	No	169	2.52 (0.43)	$t = 4.767, p < 0.001^{***}$	1.99 (0.39)	$t = -3.216, p = 0.001^{**}$
	Yes	164	2.32 (0.33)		2.12 (0.36)	
Upper back	No	48	2.31 (0.31)	$z = 2.597, p = 0.009^{**}$	1.92 (0.27)	$z = 2.260, p = 0.024^{*}$
	Yes	285	2.45 (0.41)		2.08 (0.40)	
Right upper arm	No	208	2.45 (0.44)	$t = 1.297, p = 0.196$	2.00 (0.39)	$t = -3.636, p < 0.001^{***}$
	Yes	125	2.39 (0.33)		2.15 (0.36)	
Left upper arm	No	218	2.45 (0.43)	$t = 1.681, p = 0.094$	1.99 (0.39)	$t = -4.572, p < 0.001^{***}$
	Yes	115	2.38 (0.34)		2.18 (0.34)	
Lower back	No	32	2.56 (0.31)	$z = -2.737, p = 0.006^{**}$	1.98 (0.35)	$z = 0.716, p = 0.474$
	Yes	301	2.41 (0.41)		2.06 (0.39)	
Right forearm	No	217	2.45 (0.43)	$t = 1.383, p = 0.168$	2.01 (0.39)	$t = -3.219, p = 0.001^{**}$
	Yes	116	2.39 (0.33)		2.15 (0.36)	
Left forearm	No	233	2.45 (0.42)	$t = 1.688, p = 0.092$	2.00 (0.38)	$t = -4.056, p < 0.001^{***}$
	Yes	100	2.37 (0.35)		2.18 (0.36)	
Right wrist	No	223	2.47 (0.41)	$t = 2.674, p = 0.008^{**}$	2.01 (0.38)	$t = -3.090, p = 0.002^{**}$
	Yes	110	2.34 (0.36)		2.15 (0.37)	
Left wrist	No	218	2.46 (0.42)	$t = 1.929, p = 0.055$	2.01 (0.39)	$t = -2.588, p = 0.010^{*}$
	Yes	115	2.37 (0.34)		2.13 (0.36)	
Hip/Buttocks	No	165	2.34 (0.30)	$t = -4.022, p < 0.001^{***}$	2.03 (0.41)	$t = -1.299, p = 0.195$
	Yes	168	2.51 (0.46)		2.08 (0.36)	
Right thigh	No	169	2.34 (0.32)	$t = -4.226, p < 0.001^{***}$	2.01 (0.39)	$t = -2.212, p = 0.028^{*}$
	Yes	164	2.52 (0.45)		2.10 (0.37)	
Left thigh	No	181	2.39 (0.37)	$t = -2.033, p = 0.043^{*}$	2.00 (0.38)	$t = -2.903, p = 0.004^{**}$
	Yes	152	2.47 (0.43)		2.12 (0.38)	
Right knee	No	181	2.46 (0.41)	$t = 1.485, p = 0.138$	2.03 (0.41)	$t = -1.207, p = 0.228$
	Yes	152	2.39 (0.38)		2.08 (0.34)	
Left knee	No	199	2.49 (0.43)	$t = 3.744, p < 0.001^{***}$	2.03 (0.40)	$t = -1.159, p = 0.247$
	Yes	134	2.33 (0.33)		2.08 (0.35)	
Right lower leg	No	153	2.38 (0.29)	$t = -2.102, p = 0.036^{*}$	2.05 (0.37)	$t = -0.083, p = 0.934$
	Yes	180	2.47 (0.47)		2.06 (0.39)	
Left lower leg	No	150	2.44 (0.35)	$t = 0.544, p = 0.587$	2.02 (0.34)	$t = -1.516, p = 0.130$
	Yes	183	2.42 (0.43)		2.08 (0.42)	
Right foot	No	113	2.36 (0.29)	$t = -2.468, p = 0.014^{*}$	2.04 (0.37)	$t = -0.432, p = 0.666$
	Yes	220	2.46 (0.44)		2.06 (0.39)	

TABLE 2 (Continued)

Body parts	Discomfort	n	PES-NWI M (SD)	t-z/p	ProQOL M (SD)	t-z/p
Left foot	No	121	2.43 (0.36)	$t = 0.218, p = 0.828$	2.04 (0.34)	$t = -0.603, p = 0.547$
	Yes	212	2.42 (0.42)		2.06 (0.41)	

Abbreviations: PES-NWI, The Practice Environment Scale of the Nursing Work Index; ProQOL Scale, Professional Quality of Life Scale; t, independent sample t-test; z, Mann-Whitney U test.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

4.4 | The comparisons of PES-NWI and ProQOL based on the presence of musculoskeletal discomfort

When the PES-NWI and ProQOL measurements were compared according to the presence of musculoskeletal discomfort in the body parts of the nurses. As can be seen in Table 2, with a few exceptions, there were significant differences between those with and without pain in PES-NWI ($p < 0.05$; $p < 0.01$; $p < 0.001$). In addition, with a few exceptions, there were significant differences between those with and without pain in ProQOL (Table 2).

4.5 | The comparison of PES-NWI and ProQOL according to the gender and professional tenure among the nurses having musculoskeletal discomfort in body parts

In the study, PES-NWI and ProQOL measurements of the nurses having musculoskeletal discomfort in body parts were compared with gender and tenure variables. As can be seen in Table 3, with a few exceptions, there were significant differences between men and women and between tenure in PES-NWI. In addition, with a few exceptions, there were significant differences between men and women and between tenure in ProQOL (Table 3).

5 | DISCUSSION

5.1 | The PES-NWI and ProQOL measurements of the nurses

In this study, in which nurses' perceptions of the working environment and professional quality of life were determined and these perceptions were compared according to nurses with and without musculoskeletal discomfort, it was determined that the nurses perceived the working environment at a moderate level; while the most positive perception was observed in the "Nursing Foundations for Quality of Care" subscale, the most negative perception was observed in the "Staffing and Resource Adequacy" subscale and the results of the study are compatible with the literature. Similar results were obtained from the study conducted

by Bitek and Akyol (2017) with nurses using PES-NWI. Similar to the present study, the researchers have reported that the scale total mean score of the nurses was in moderate level and the highest and lowest scores were obtained from the "Nursing Foundations for Quality of Care" and the "Staffing and Resource Adequacy" subscales, respectively (Bitek & Akyol, 2017). Another study with similar results to the results of this study was conducted by Erdağı and Özer (2015). While the nurses participating in the study evaluated the working environment as medium in general, they evaluated the "Staffing and Resource Adequacy" subscale negatively (Erdağı & Özer, 2015). Many studies have reported that negative working conditions, overtime, heavy workload, and lack of labor are the most significant stressors on nurses (Bolan et al., 2021; Duarte & Pinto-Gouveia, 2017b; Xie et al., 2021). It is a fact that the most important issue that needs to be changed and corrected in the working environment of nurses is the regulations on labor and workload.

Many studies have reported that nurses' perceptions about professional quality of life are at moderate level (Duarte & Pinto-Gouveia, 2017a, 2017b). In this study, the nurses stated that their professional quality of life was at the low level and they perceived the "Compassion Satisfaction" at the high level, and perceived the "Compassion Fatigue" at the lowest level. As in the present studies; it was reported that nurses' perceptions about professional quality of life were frequently at moderate level in all of three subscales (Barr, 2018; Bolan et al., 2021; Wang et al., 2020). It was thought in the study that nurses were doing their job willingly and getting compassion satisfaction, which lowered their burnout and compassion fatigue levels.

As a result of the study, it can be asserted that high compassion satisfaction can be a protective factor against compassion fatigue and burnout unlike other studies. In other words, compassion fatigue and burnout levels were low in individuals with high compassion satisfaction.

The study conducted by Bitek and Akyol (2017) determined that there was a positive correlation between the nurses' perception about working environment and their job satisfaction ($P < 0.05$) and nurses' job satisfaction was affected by working environment. It was found in the present study that the compassion satisfaction level was the highest and the compassion fatigue level was the lowest as a result of positive perception of the working environment, which supports the study results.

TABLE 3 Comparison of PES-NWI and ProQOL according to the gender and professional tenure among the nurses having discomfort in body parts ($N = 333$)

	Body parts	Groups	<i>n</i>	PES-NWI <i>M</i> (<i>SD</i>)	<i>t</i> - <i>z</i> / <i>p</i>	ProQOL <i>M</i> (<i>SD</i>)	<i>t</i> - <i>z</i> / <i>p</i>
GENDER	Neck	Female	234	2.41 (0.36)	$t = -1.498, p = 0.144$	2.08 (0.37)	$t = 3.969, p < 0.001^{***}$
		Male	32	2.60 (0.70)		1.81 (0.37)	
	Right shoulder	Female	167	2.38 (0.38)	$z = 2.192, p = 0.028^*$	2.09 (0.34)	NS
		Male	13	2.53 (0.30)		1.97 (0.33)	
	Left shoulder	Female	153	2.31 (0.33)	$z = 2.345, p = 0.019^*$	2.13 (0.36)	NS
		Male	11	2.50 (0.30)		1.99 (0.36)	
	Upper back	Female	250	2.43 (0.36)	NS	2.13 (0.38)	$t = 5.481, p < 0.001^{***}$
		Male	35	2.58 (0.66)		1.75 (0.36)	
	Lower back	Female	263	2.38 (0.35)	$t = -2.143, p = 0.038^*$	2.10 (0.37)	$t = 5.235, p < 0.001^{***}$
		Male	38	2.61 (0.64)		1.77 (0.35)	
	Hip/Buttocks	Female	160	2.46 (0.38)	$z = 3.081, p = 0.002^{**}$	2.10 (0.35)	$z = -3.125, p = 0.002^{**}$
		Male	8	3.48 (0.75)		1.74 (0.19)	
	Right thigh	Female	150	2.47 (0.38)	$z = 3.248, p = 0.001^{**}$	2.13 (0.36)	$z = -3.509, p < 0.001^{***}$
		Male	14	3.06 (0.75)		1.81 (0.35)	
	Left thigh	Female	157	2.39 (0.37)	NS	2.04 (0.37)	$z = -2.781, p = 0.005^{**}$
		Male	24	2.35 (0.38)		1.74 (0.36)	
	Right lower leg	Female	162	2.43 (0.39)	NS	2.10 (0.37)	$z = -4.047, p < 0.001^{***}$
		Male	18	2.78 (0.87)		1.69 (0.44)	
	Left lower leg	Female	165	2.38 (0.34)	NS	2.12 (0.39)	$z = -4.102, p < 0.001^{***}$
		Male	18	2.78 (0.87)		1.69 (0.44)	
	Right foot	Female	191	2.44 (0.38)	NS	2.10 (0.38)	$z = -3.898, p < 0.001^{***}$
		Male	29	2.57 (0.72)		1.78 (0.38)	
	Left foot	Female	183	2.40 (0.35)	NS	2.11 (0.39)	$z = -3.813, p < 0.001^{***}$
		Male	29	2.57 (0.73)		1.78 (0.38)	
TENURE	Right shoulder	<15 years	127	2.35 (0.33)	$t = -2.369, p = 0.019^*$	2.12 (0.35)	$t = 2.226, p = 0.027^*$
		≥15 years	53	2.50 (0.46)		2.00 (0.32)	
	Left shoulder	<15 years	121	2.31 (0.34)	NS	2.16 (0.38)	$t = 2.168, p = 0.033^*$
		≥15 years	43	2.37 (0.31)		2.03 (0.32)	
	Upper back	<15 years	206	2.43 (0.41)	NS	2.11 (0.42)	$t = 2.603, p = 0.010^*$
		≥15 years	79	2.49 (0.40)		1.99 (0.30)	
	Right upper arm	<15 years	98	2.43 (0.31)	$z = -2.932, p = 0.003^{**}$	2.18 (0.37)	NS
		≥15 years	27	2.26 (0.35)		2.03 (0.31)	
	Left upper arm	<15 years	91	2.42 (0.32)	NS	2.21 (0.36)	$t = 2.341, p = 0.021^*$
		≥15 years	24	2.24 (0.35)		2.06 (0.24)	
	Right wrist	<15 years	94	2.35 (0.34)	NS	2.17 (0.36)	$z = -0.595, p = 0.034^*$
		≥15 years	14	2.29 (0.47)		1.98 (0.37)	
	Hip/Buttocks	<15 years	132	2.48 (0.47)	NS	2.12 (0.37)	$t = 3.322, p = 0.001^{**}$
		≥15 years	36	2.64 (0.45)		1.94 (0.25)	
	Right thigh	<15 years	121	2.48 (0.46)	NS	2.15 (0.38)	$t = 3.575, p = 0.001^{**}$
		≥15 years	43	2.63 (0.41)		1.95 (0.30)	

TABLE 3 (Continued)

Body parts	Groups	n	PES-NWI M (SD)	t-z/p	ProQOL M (SD)	t-z/p
Left knee	<15 years	38	2.49 (0.26)	NS	2.19 (0.30)	z = -2.994, p = 0.003**
	≥15 years	27	2.31 (0.37)		2.00 (0.23)	

Note: Only the body parts with significant difference are given in the table.

Abbreviations: NS, nonsignificant; PES-NWI, The Practice Environment Scale of the Nursing Work Index; ProQOL Scale, Professional Quality of Life Scale; t, independent sample t-test; z, Mann-Whitney U test.

*p < 0.05; **p < 0.01; ***p < 0.001.

5.2 | The distributions of the musculoskeletal discomfort based on the body parts of the nurses

In the study, it was determined that the nurses had discomfort mostly from lower back, upper back, and neck. In a previous study, it was reported that stressful working environment increased musculoskeletal disorders and the most prominent musculoskeletal disorder was upper back discomfort (Baur et al., 2018). In another study, it was stated that nurses experienced mostly back discomfort due to reasons such as positioning, rotating, and moving patients, and lifting heavy objects by nature of their duties (Clari et al., 2021; Tavakkol et al., 2020; Yizengaw et al., 2021) which also supports the result of the present study. As a result of the study, it is suggested that the difference between the right and left body parts may be due to more use or strain.

5.3 | The comparisons of PES-NWI and ProQOL based on the presence of musculoskeletal discomfort

In this study, when the discomfort status of the nurses was examined in terms of body parts and working environment, generally it can be asserted that working environment satisfactions of the participants who had discomfort in their body decreased. Again, in another study, upper back discomfort and neck discomfort were reported to be the most common musculoskeletal disorders experienced by nurses. Besides, it was expressed that musculoskeletal discomfort would not only increase medical errors and work accidents but also negatively affect physical and mental working performances (Rahman & Abdul-Mumin, 2017). As a result, generally it can be asserted that working environment satisfactions of individuals who had pain in their body decreased.

When the professional quality of life and discomfort in terms of body parts were evaluated, it was suggested that the nurses with discomfort in general experienced more compassion satisfaction, burnout, and compassion fatigue. In a study conducted with nurses, it was determined that they frequently had discomfort from upper back (56.8%), lower back (51.9%), and neck (49.4%). Furthermore, it was found that more than half of the nurses were adversely affected in their home/work life and were taking medication because of the discomfort they suffered (Kandemir et al., 2019). In parallel with the results of the study, it can be asserted that the professional quality of

life of nurses with more musculoskeletal discomfort impaired, their absenteeism increased and quality of life was impaired. However, the level of compassion satisfaction, which was determined well above the average in the study, suggests that the nurses devote themselves to their profession against negative and stressful working conditions. In this situation, it can be said that the satisfaction of compassion is higher for those who have more musculoskeletal discomfort.

Another study conducted with nurses revealed that while the most reported musculoskeletal disorders were localized in neck, upper back, knee, and shoulder, the minimal discomfort was found in the wrist and elbow. In addition, increasing demands and requirements of the patients and the increasing roles and responsibilities of the nursing profession are expressed as the reasons for the increase in the workload and stressful working environment of the nurses. As a result, it was stated that nurses with musculoskeletal discomfort worked in more negative working environment and perceived their working conditions and professional quality of life as more negative (Saberipour et al., 2018). It can be said that nurses who have musculoskeletal discomfort, which support the study finding, work in more unfavorable working environment.

5.4 | The comparison of PES-NWI and ProQOL according to the gender and professional tenure among the nurses having discomfort in body parts

In one study, it was reported that musculoskeletal discomfort was seen more frequently with age (Şimşek et al., 2017). On the other hand, the other study reported that age was not effective (Rathore & Rayan Attique, 2017). In additional, there was no statistically significant correlation between work-related musculoskeletal discomfort in nurses in terms of age, sex, professional experience, and working hours (Akodu & Ashalejo, 2019; Kandemir et al., 2019). In the study evaluating the professional quality of life of nurses, no statistically significant difference was found between the mean scores of ProQOL in terms of gender (Başkalet et al., 2016). Although male nurses and female nurses in this study undertake the same tasks and have similar socio-demographic characteristics; the results of this study suggest that male nurses have more positive attitudes towards the working environment, whereas female nurses have higher professional quality of life due to reasons such as motherhood, being

a woman, and so forth. Although they make up 11.3% of the sample, this suggests that male nurses have lower expectations in their working environment and are more easily satisfied. On the other hand, it brings to mind that female nurses are more self-sacrificing in patient care and that feelings of compassion satisfaction, burnout, and compassion are experienced more intensely.

In a study evaluating the working environment of the nurses, a statistically significant difference was found between the PES-NWI mean score and the professional experience. The job index mean score of the nurses working for 0–3 years was higher (Bitek & Akyol, 2017). In addition, another study found a statistically significant difference between the professional experience and burnout subscale of the ProQOL Scale. The burnout scores of the nurses with a professional experience of 10 years or more were significantly lower than the others (Başkale et al., 2016). In another study, there was no statistically significant difference between the quality of work life measures according to professional experience (Yu et al., 2016). In this study, the difference between nurses who have a professional tenure of less than 15 years and 15 years or more; it suggests that burnout, compassion fatigue, compassion satisfaction, and the approach and expectation to working conditions may result from the differentiation as they gain experience.

6 | LIMITATIONS

This study could not be conducted within the scope of a larger sample. In addition, the study was conducted in a single institution.

7 | CONCLUSIONS

Consequently, it was determined that the working environment of the nurses was at high levels and professional quality of life levels was at low. It was reported that the nurses experienced musculoskeletal discomfort in mostly in the lower back, upper back, and neck areas among the body parts. In general, it was determined that musculoskeletal discomfort experienced by nurses affect the working environment and professional quality of life. In addition, it was found that the perceptions of the working environment and professional quality of life of the nurses who felt discomfort in their body parts also differed according to their gender and professional tenure.

8 | IMPLICATIONS FOR NURSING PRACTICE

According to the results of the study, it can be recommended to

- Evaluate and improve the working environment and professional quality of life indicators of nurses regularly.
- Psychological support of nurses about burnout and compassion fatigue, which negatively affects their professional quality of life.

- Not ignore musculoskeletal discomfort that negatively affects both the professional and personal lives of the individual.
- Adjusting the working environment in line with the musculoskeletal discomfort of the individual and his individual and professional differences.
- Making arrangements to reduce stressors such as long working hours, excessive workload, insufficient manpower, and insufficient administrative support.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

All authors have made substantial contributions to all of the following: (1) the conception and design of the study, acquisition of data, analysis, and interpretation of data, (2) drafting the article, and (3) final approval of the version to be submitted.

DATA AVAILABILITY STATEMENT

Data available on request due to privacy/ethical restrictions.

ORCID

Rujnan Tuna  <http://orcid.org/0000-0002-5156-3781>

Feride Eskin Bacaksiz  <https://orcid.org/0000-0002-1627-7683>

Birsen Kahraman  <https://orcid.org/0000-0003-2065-1559>

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