

# Quality of work-life and its relationship with personality traits among nursing staff: Descriptive correlational study

Leila Alipour Dizaji<sup>1</sup>, Kobra Parvan<sup>1\*</sup>, Faranak Jabbarzadeh Tabrizi<sup>2</sup>, Maryam Vahidi<sup>3</sup>, Parvin Sarbakhsh<sup>4</sup>

<sup>1</sup>Department of Medical-Surgical Nursing, Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran. <sup>2</sup>Medical Education Research Center, Department of Medical-Surgical Nursing, Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran. <sup>3</sup>Department of psychiatric nursing, faculty of nursing and midwifery, Tabriz University of Medical Sciences, Tabriz, Iran. <sup>4</sup>Department of Statistics and Epidemiology, Faculty of Health Science, Tabriz University of Medical Sciences, Tabriz, Iran.

**Correspondence:** Kobra Parvan, Department of Medical-Surgical Nursing, Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran. ParvanK@tbzmed.ac.ir

## ABSTRACT

The Quality of work-life (QWL) of nurses is an essential factor affecting the care quality provided to patients and also, nurse recruitment and retention. This study aimed to examine the associations between QWL and personality traits among hospital nurses in Iran. The Brooks' QWL Scale and Neuroticism, Openness Five-Factor Inventory (NEO-FFI), Extraversion were administered to 198 nurses from May to July 2018 at Tabriz teaching hospitals. The data were analyzed using the STATA 13.0 statistical program by Pearson's correlation, independent t-test one-way ANOVA, and descriptive statistics. The mean score of QWL was  $160.46 \pm 16.59$ , and it had significant positive correlations with the total scores of personality traits and its extraversion and dimensions of conscientiousness. The total mean scores of QWL were significantly different among the participants with different gender, economic status, the status of employment, educational level, working shifts, and Affiliated wards. Still, they had no significant relationship with marital status. Nurses with extraversion and conscientiousness personality traits are expected to have a better feeling about their job and the work environment, and therefore have higher levels of QWL. Given the correlation between QWL and personality traits, they should be taken into account to recruit new nursing staff.

**Keywords:** Quality of work life, Personality traits, Nurses, Personality factor

## Introduction

Nurses, as the most prominent human resource in the health system, play an important role in providing quality patient care [1]. Due to their professional nature, the nursing staff is constantly exposed to stress which harms their (QWL) [2]. QWL is a multi-dimensional concept that shows employees' feelings about different aspects regarding his/her work. These

involve safe workplace conditions, job-related health care, suitable working time, and appropriate and fair salary [3-5]. From a nursing point of view, The QWL was defined as "the degree to which registered nurses can satisfy important personal needs through their experiences in their work organization while achieving the organization's goals" by Brooks [6]. What is the importance of QWL? Reviewing previous studies has shown that Quality of work-life positively affects employee and organizational performance, improves individuals and organizational productivity, provides job satisfaction, increases the Quality of care, and decreases burnout and organizational and individual turnover [5, 7-10].

Furthermore, to attract new employees and retain the workforce, a high QWL is important [4]. Health care organizations by achieving a high level of QWL, can deal with issues of recruitment and retention [3].

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Previous studies on QWL have identified differing work-related factors that affect nurses' QWL, such as economic status, work environment, job position, interaction with colleagues, workload, working shift, and personality traits [11-16].

Personality is defined as a “constant set of internal or intrapsychic characteristics and predisposition that directly determine psychological behavior”. Personality characteristics impact the way a person interacts and deals with the world and copes with stressful positions [17].

Literature searches did not yield any research that studied the relationship between the five-factor model of personality and our measured QWL domains of “work-life balance”, “work design”, “work context”, and “work environment” on nurses. Thus, the present study aimed to determine QWL and its relationship with personality traits. The results can be used in complementing the models of contributing factors to QWL.

## Materials and Methods

### Study design

We used a cross-sectional survey design. The data were collected from May to July 2018.

### Ethical considerations

The Human Research Ethics Committees (IR.TBZMED.REC.1397.108) of Tabriz University of Medical Sciences reviewed and approved the study protocol. All questionnaires were unnamed. The patients got the explanation for the objectives of the study before completing the questionnaires. Also, they were informed that participating in the study is voluntary. All participants signed written informed consent for participation.

### Sample and setting

The correlation between QWL and personality traits from the Mahmoudi *et al.* study on healthcare workers was selected as the primary outcome parameter and utilized in order to determine necessary sample size ( $r = -0.26$ ) (14), with a confidence level and a test power of 0.95 and 0.9, respectively. This led to an estimated sample size of 152 participants. We expected a 70% rate of response and 30% were considered as compensate for dropouts. Therefore, 198 questionnaires were distributed among nurses. Participants were selected through the stratified random sampling method. The list of nurses employed in the educational hospitals affiliated to Tabriz University of Medical Sciences (Shohada, Sina, Imam Reza, Taleghani, Al-Zahra) was considered as the strata. Some nurses were randomly selected from each stratum, based on its size, using a random number table.

### Inclusion and exclusion criteria

The inclusion criteria were having a nursing degree (an associate's, master's, bachelor's, or degree), a clinical work experience of more than one year in the study setting, and no history of taking hypnotic, sedative, or psychiatric medications. Unwillingness to stay in the study and working in more than one public or private medical center were the exclusion criteria.

### Instrument

Data collection instruments were a demographic characteristics checklist (marital status, gender, age, number of children, and educational level), the Brooks' QWL Scale, and the NEO Five-Factor Inventory.

Brooks' QWL Scale is a self-report scale with 42 items in four dimensions, namely work context, work environment, work-life balance, and work design. Each item is scored from 1 (“strongly disagree”) to 6 (“strongly agree”), leading to a possible total score of 42–252. A high overall score indicated a high QWL [6]. The Persian version of this scale was used, the psychometric properties of which were confirmed with a Cronbach's alpha of 0.97 in a previous study [18].

The NEO-FFI consists of 60 items for assessing the Big Five personality traits, namely agreeableness, extraversion, conscientiousness, neuroticism, and openness to experience. 12 items are used to assess each of these traits, which are scored using a 5-point scale: ranging from 1 (“completely disagree”) to 5 (“completely agree”), resulting in a total dimensional score of 0–48 [19]. Garousi *et al.* reported that the Cronbach's alpha values of the 5 dimensions of this inventory were 0.56–0.87 [20].

### Data analysis

The analysis of data was carried out using STATA version 13.0 (Stata Corp, College Station, TX, USA). Descriptive statistics were used to present total QWL and its subscales, personality traits, and the demographic characteristic of the nurses. Pearson's correlation, one-way ANOVA, and independent t-test. T-test of independent-sample and one-way ANOVA were applied to define the differences in the QWL and personality traits mean scores in terms of different categories of demographic variables. Pearson's correlation analysis was performed to identify the relationship between the study variables. All analyses were performed at a significance level of  $<0.05$ .

## Results and Discussion

Demographic characteristic of the nurses is presented in **Table 1**. In total, 198 nurses received and completed the distributed questionnaires. The average of their work experience and age were  $34.06 \pm 7.16$  and  $9.35 \pm 6.97$  years, respectively. Most of the participants were female (78.1%), married (66.8%). A majority of the participants held a bachelor's degree (84.8%), did rotating shifts (80.3%), had permanent employment (48.7%) and 36.3% had 2 children. More than 40% of respondents worked in ICUs wards.

Table 1. Participants' characteristics and their total mean scores of Quality of work-life (QWL)

Characteristics	n (%)	QWL Mean $\pm$ SD	P
<b>Gender</b>			# < 0.001
Male	43 (21.72)	153.11 $\pm$ 9.37	
Female	155 (78.28)	163.4 $\pm$ 15.06	
<b>Marriage Status</b>			# 0.45
Single	65 (32.83)	163.16 $\pm$ 19.64	
Married	133 (67.17)	157.79 $\pm$ 16.3	
<b>Educational Level</b>			* < 0.001
Associate	4 (2.02)	186 $\pm$ 0.00	
Bachelor's	168 (84.85)	161.21 $\pm$ 16.51	
Master's or PhD	26 (13.13)	143.3 $\pm$ 8.01	
<b>Employment status</b>			* 0.03
Permanent	96 (48.7)	162.34 $\pm$ 16.72	
Conditional	42 (21.3)	149.35 $\pm$ 20.49	
Contractual	59 (29.9)	158.37 $\pm$ 13.55	
<b>Number of Children</b>			* 0.48
No children	69 (34.8)	163.22 $\pm$ 12.56	
One Child	53 (26.7)	162.09 $\pm$ 7.39	
Two children or >	76 (38.3)	158.72 $\pm$ 17.18	
<b>Working shifts</b>			# 0.03
Routine Morning	39 (19.7)	171.3 $\pm$ 15.75	
Rotating	159 (80.3)	159.12 $\pm$ 16.69	
<b>Economic Status</b>			* < 0.001
Earnings > Expenditures	101 (51.01)	167.22 $\pm$ 12.65	
Earnings = Expenditures	83 (41.92)	155.27 $\pm$ 19.04	
Earnings < Expenditures	14 (7.07)	150.36 $\pm$ 14.75	
<b>Affiliated ward</b>			* < 0.001
Surgery	34 (17.17)	171.63 $\pm$ 14.5	
Internal Medicine	60 (30.3)	150.00 $\pm$ 0.00	
Emergency	27 (13.64)	153.75 $\pm$ 14.47	
ICU	70 (35.35)	153.84 $\pm$ 15.94	
CCU	4 (2.02)	162.75 $\pm$ 5.85	
Obstetrics and Gynecology	3 (1.52)	128.5 $\pm$ 8.21	

\*The results of the one-way ANOVA. #The results of independent samples *t*-test, SD: Standard deviation

The mean scores of the Quality of work-life were 160.46  $\pm$  16.95 (Table 2). The highest mean scores of Quality of work-life dimensions were related to the work context (4.12 out of 6) and the work design (3.9 out of 6) dimensions. Also, the highest mean score of dimensions in the trait of personality inventory was related to the dimension of conscientiousness (3.43 out of 4).

Table 2. The mean scores of Quality of work-life (QWL), its dimensions, and personality traits

Variables	Mean $\pm$ SD	Normalized mean score
<b>Quality of Work Life</b>		
Work-life balance	24.81 $\pm$ 3.47	3.54
Work design	39.07 $\pm$ 4.84	3.9
Work context	82.49 $\pm$ 14.06	4.12

Work environment	17.05 $\pm$ 3.71	3.41
Total	160.46 $\pm$ 16.95	3.82
<b>Personality Traits</b>		
Neuroticism	33.39 $\pm$ 5.27	2.78
Extraversion	35.49 $\pm$ 5.82	2.95
Openness to experience	37.72 $\pm$ 3.6	3.14
Agreeableness	39.67 $\pm$ 5.6	3.3
Conscientiousness	41.26 $\pm$ 8.33	3.43
Total	187.53 $\pm$ 5.72	3.12

Normalized mean = The sum of the scores obtained from each dimension was divided by the number of questions in that dimension

The total mean scores of QWL were significantly different among the participants with different gender, economic status, employment status, educational level, working shifts, and Affiliated wards ( $P < 0.05$ ). However, the differences in QWL

were statistically insignificant for participants with different marital statuses, and the number of children ( $P > 0.05$ ).

The total score of quality of work-life had significant direct correlations with the extraversion ( $r = 0.4$ ,  $P < 0.001$ ), consciousness traits ( $r = 0.35$ ,  $P < 0.001$ ), and total personality score ( $r = 0.32$ ,  $P < 0.001$ ). No significant relationship was found between other personality traits and the total score of QWL (**Table 3**).

**Table 3. Pearson's correlation coefficients of the correlations of Quality of work-life with personality traits**

Variable	Total QWL Score	
	r	P-value
Neuroticism	0.16	0.11
Extraversion	0.40	<0.001
Openness (to new experiences)	-0.16	0.14
Agreeableness	0.6	0.55
Conscientiousness	0.35	<0.001

The results of the present study showed that the QWL average score of 160.46 (3.43 out of 6), which was a moderate level. These results are consistent with other similar studies in Iran, Jordan, Taiwan, Canada, China, and Bangladesh [4, 15, 21-23], while the QWL as perceived by nurses in Nigeria, Egypt, and Ethiopia was at a low level [24-26]. This discrepancy can be justified by different measurement tools for QWL, different societal values and economic conditions, and different research environments.

Study findings revealed that female nurses have higher QWL scores than their male counterparts. This result correlates with the result of a previous study on nurses in Saudi Arabia [3]. In Iran throughout the history, generally QWL higher scores may be defined by the fact that women have dominated the nursing profession which is traditionally more acceptable for women compare men [27].

Also, our findings revealed that lower educational levels and economic status were correlated with higher QWL levels. These researches are consistent with the results of the previous study in Iran [5]. To justify this finding, it can be said that nurses with a higher level of education are likely to have higher expectations of their working life, and if these expectations are not met, they will experience more emotional exhaustion.

In line with a previous study's results [28, 29], Our findings showed the mean score of QWL among nurses working in rotating shifts was significantly lower than that of nurses working in routine morning shifts. There is considerable evidence that people who work shift work suffer from mental and physical disorders [30]. Working shifts with impaired circadian rhythm decrease the Quality of sleep, which in turn reduces the QWL [28].

The result of the current research revealed a significant correlation between nurses' QWL and employment status. Consistent with these findings, previous studies have reported a direct correlation between employment status and higher levels of QWL [15, 31]. In explaining this finding, it can be said that nurses with higher employment status may have fewer concerns

about the loss of jobs and hence feel the higher Quality of work life.

In the current research, the total QWL score among nurses having a better economic situation (earnings more than expenditures) was significantly higher than nurses who had income less than or equal expenditures. This is in agreement with the finding of Mosadeghrad *et al.*, which found that sufficient wages and salaries have a high correlation with QWL [9].

A possible explanation for this study's findings may be that nurses with higher earners can help fulfill the needs of themselves and other family members. Therefore, if nurses have a better economic status, they can manage their families very well, and both nurses and their families will have the energy to work towards organizational goals [15].

Our findings also indicated that the total QWL scores were significantly different among nurses with different working departments. In explaining this finding, it can be said that each ward has different degrees of stress depending on the intensity of care, which can potentially have different effects on nurses' QWL.

Following the findings of an earlier study [32], our results showed that QWL had significant correlations with personality traits. Based on the results of Pearson's correlation analysis, higher extraversion levels and conscientiousness were correlated with higher levels of QWL. This correlates with the results of a previous study which indicated the significant positive relationship of QWL with extraversion and conscientiousness personality traits among operational employees selected for Layoff [33]. Ajeli *et al.* also showed that extroversion and conscientiousness have a positive relationship with nurses' Quality of life [34].

Extraverted individuals are optimistic and energetic and tend to display their talents in the workplace and competitive environments [35]. Besides, a former study reported a strong negative correlation between extraversion and stress [36]. The workplace of nurses is inherently a stressful environment in which individuals with lower stress levels would naturally enjoy higher QWL [2, 37].

### Limitations

The present study had some limitations which should be noted. First, in this study, we assessed QWL and personality traits by self-report questionnaires only which might have resulted in recall bias. Second, the current study's design was cross-sectional, so future researchers are advised to use other designs to examine the relationship between these variables and to validate the results of the present study. Third, this study was carried out among nurses working in Tabriz teaching hospitals, and therefore, the results cannot be generalizable to all nurses in Iran.

### Conclusion

This study concludes that nurses with extraversion and conscientiousness personality traits are expected to have a better

feeling about their work and the work environment, and therefore have higher levels of QWL. Moreover, nurses that are female and those with higher employment status and economic status, and those with lower educational levels have better QWL. Therefore, the results can be utilized in selecting nurses in different departments. On the other hand, since QWL is a subjective concept affected by a combination of facilitating or inhibiting factors such as favorable and unfavorable work environment-related conditions, it is recommended that these factors be extracted and categorized and various personality traits are taken into account in the future studies to tip the balance in favor of the facilitating factors.

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