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# The mediating role of professional values and self-efficacy in the relationship between organizational justice and quality of working life among nurses in southwestern Iran

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## Abstract

**Background** An optimal quality of working life (QWL) is crucial for the preservation and maintenance of employees. Organizational justice, as a significant organizational factor, leads to the improvement and enhancement of QWL in organizations, promoting organizational commitment, job satisfaction, and ultimately increased productivity. A variable that can be influenced by organizational justice is self-efficacy, which strengthens the flexibility of nurses in challenging operating room environments. Professional values form the foundation of the nursing profession, enabling nurses to manage conflicts and prioritize actions. This study aimed to determine the relationship between organizational justice and QWL, emphasizing the mediating role of professional values and self-efficacy among operating room and anesthesia nurses.

**Methods** This cross-sectional study was conducted in the operating rooms of hospitals affiliated with Shiraz University of Medical Sciences, Iran, including Namazi, Khalili, Shahid Faghihi, Shahid Rajaei, Shahid Chamran, and Amir al-Momenin (AS) in 2023–2024. Through quota sampling, 376 operating room and anesthesia nurses participated in this study. Data were collected in person using five questionnaires: demographic characteristics, organizational justice (Niehoff & Moorman), QWL (Walton), professional values (Schank & Weis), and job self-efficacy (Riggs). To perform structural equation modeling (SEM) considering the sample size, we used Smart PLS version 4, and to determine the role and strength of the mediating effects of professional values and self-efficacy, we utilized Sobel tests and the Variance Accounted For (VAF) statistic.

**Results** 376 operating room nursing and nurse anesthetists with a mean age of  $33.92 \pm 7.02$  years and a mean work experience of  $9.98 \pm 7.76$  years participated in this study; most of them were female, married, and held a bachelor's degree. The mean overall score for organizational justice among participants in the study was  $43.53 \pm 4.91$ , indicating that 57.8% had a moderate level of organizational justice. The mean overall score of QWL was  $79.90 \pm 6.86$ , showing that the QWL of operating room personnel was at a moderate level. Furthermore, the results showed that the mean score of professional nursing values for the participants in the study was  $112.21 \pm 6.87$ , indicating that 98.7% of the operating room personnel had a high score in professional values. The mean self-efficacy score of the participants in

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the study was  $103.51 \pm 6.26$ ), indicating that 96% of the operating room personnel had a high level of self-efficacy. The results of the Sobel test and VAF statistics also confirmed the mediating role of professional values and self-efficacy in the relationship between organizational justice and QWL. About 87.2% of the total effect of organizational justice on QWL was explained indirectly by the mediating variable of professional values. Also, the mediating effect of self-efficacy in the relationship between organizational justice and QWL was significant, and approximately 63.9% of the total effect of organizational justice on QWL was explained indirectly by the mediating role of professional values.

**Conclusion** Organizational justice not only directly impacts QWL but also indirectly affects it through professional values and self-efficacy. Given that the scores for organizational justice and QWL among operating room nurses were at a moderate level, hospital managers need to implement strategies such as organizing periodic training classes and workshops on stress management, effective communication skills, and the development of professional ethics to improve the working conditions of personnel in these areas. Policymakers in the healthcare system and hospital managers can enhance QWL and promote a fairer work environment in operating rooms by increasing their self-efficacy levels and respecting nursing professional values.

**Keywords** Organizational justice, Quality of working life (QWL), Professional values, Self-efficacy, Operating room nurse, Anesthetists nurse

## Background

Nowadays, the success and achievement of organizational goals heavily depend on the performance level of employees [1]. This is of greater importance in service organizations such as hospitals, where the efficiency and effectiveness of such organizations are closely linked to the way the services are delivered by the staff. Therefore, paying attention to the quality of working life (QWL) in organizations, where employees are required to perform demanding and responsible tasks, is one of the important managerial skills [2].

The presence of an optimal QWL in the healthcare system is a very important factor for retaining motivated, skilled, and high-quality employees [3]. The optimal level of quality of working life enables healthcare workers to provide high-quality services to patients. This is only possible if they enjoy mental health, job satisfaction, and satisfaction in various aspects of life. Therefore, the quality of working life for a nurse, as someone who cares for others in the community, requires special attention [4].

One of the key organizational factors that contributes to the improvement and enhancement of quality of work life is organizational justice [5]. Organizational justice is defined as the study of equality in the workplace and includes three main types: distributive justice, procedural justice, and interactional justice [6]. Organizational justice is particularly important due to its significant impact on employees' attitudes and behaviors. Observing justice in organizations is one of the most important factors influencing the survival and stability of the organization and its employees, such that managers can rely on justice and its observance to facilitate employee retention, increase commitment, improve working conditions and quality of life for employees, and ultimately ensure their success [7]. One of the most serious and common issues faced by nurses is the perceived discrimination

between them and physicians [8]. Perceived discrimination in healthcare settings can reduce the quality of care, increase healthcare costs, decrease job satisfaction, undermine staff morale, and may finally lead to intentions to leave the job [9–11]. Rawls' theory proposes the existence of balance and equal standing among everyone in society. There is no distinction between status, position, or having a higher status than others [12]. Organizations known for injustice may face difficulties in attracting and retaining top talent. Furthermore, such organizations may lose their credibility among customers, shareholders, and the community [13, 14].

Among the variables that can be affected by organizational justice is the feeling of self-efficacy [15]. Justice is directly related to self-efficacy [16]. According to the Conservation of Resources (COR) theory, distributive justice and procedural justice positively impact self-efficacy, as they facilitate the psychological states that predict the individuals' responses and lead to higher self-efficacy [17]. Organizational justice provides a significant opportunity to strengthen the competitive advantage of a company by enhancing employee commitment and self-efficacy, which is often difficult to achieve [18]. Self-efficacy is defined as the individuals' judgment about their ability to perform essential tasks within a specific job and profession [19]. Pajares emphasizes the importance of self-efficacy beliefs in explaining and predicting performance; enhancing the sense of self-control, physical and mental health, professional development, effort and persistence and appropriate responses to failure; selecting suitable strategies; and setting challenging goals [20]. Self-efficacy consists of the factors used to enhance the resilience of nurses in the challenging environment of the operating room. The operating room accounts for about 25% of a hospital's costs. Therefore, preventing wasteful expenditures and achieving maximum productivity

require high-performing staff [21]. Self-efficacy plays a crucial role in nurses' professional performance and is a significant predictor of their behaviors [19]. Piaget believes that self-efficacy, through the intrinsic motivation it generates, causes an individual to strive autonomously in their environment and attain self-efficacy beliefs [22]. Therefore, high self-efficacy positively affects individual performance and, ultimately, the efficiency and effectiveness of the organization [19].

One of the most important factors that improve the quality of life, job satisfaction, and organizational commitment among nurses is their perception of the values of the nursing profession [23, 24]. Values are ideals and beliefs that shape behaviors and provide a foundation for decision-making and action [25].

Professional values form the foundation of the nursing profession and enable the nurses to deal with conflicts and prioritize actions [26]. They also provide a framework for ethical behaviors for nurses, which leads to safe and humane care [27]. Professional values include concepts such as care based on humanism, fairness, and justice. According to this perspective, nurses obligate themselves to adhere to professional values regardless of their position or educational level [28].

Operating room nurses always deal with special professional challenges in the stressful, sensitive, and extensive environment of their profession [29]. Success in surgery, besides the factors including capability, technical skills, and knowledge of the surgeon and the operating room nurses, requires the nurses' mental and emotional calmness and their sense of job satisfaction [21]. It seems that one of the current mental concerns of nurses working in the operating room is the lack of justice between them and physicians, which can impact their QWL. Among the factors that nurses are constantly in contact with, given the humanitarian values inherent in their profession, are professional values, which seem to play a significant role in individual resilience and adaptation to environmental stressors [30]. On the other hand, since the operating room is a challenging and stressful environment, self-efficacy is an important predictor of the QWL among nursing staff [31]. Therefore, it highlights the importance of examining the mediating role of professional values and self-efficacy about organizational justice and quality of work life among operating room nurses. On the other hand, considering the importance of the impact of organizational justice components on the quality of work life among operating room personnel in hospitals, it demonstrates the necessity of examining the relationship between organizational justice and the quality of work life in operating room staff. By identifying the related factors and planning to enhance them, managers can strengthen the employees' capabilities in providing health-centered services to the community. By identifying these issues

and their outcomes, hospital operating room administrators can understand this relationship and plan accordingly to enhance this concept. These planning efforts can positively impact the work life of operating room staff and empower them to provide health services effectively.

The review of the related literature showed that no study has focused on examining the mediating role of professional values and self-efficacy in the relationship between organizational justice and QWL in operating room nurses. Therefore, the present study aimed to investigate the relationship between organizational justice and QWL, emphasizing the mediating role of professional values and self-efficacy among operating room and anesthesia nurses.

## Method

### Type of study

This is a cross-sectional study with a structural equation modeling approach, conducted descriptively and analytically in the educational hospitals of the largest southern city in Iran in the year 2023–2024.

### Study population

The study population consisted of operating room personnel, including operating room nursing and nurse anesthetists working in educational hospitals in Shiraz.

### Study setting

The research setting included the operating rooms of hospitals affiliated with Shiraz University of Medical Sciences, Iran, including Namazi, Khalili, Shahid Faghihi, Shahid Rajaei, Shahid Chamran, and Amir al-Momenin (AS). These educational hospitals were selected because Shiraz is recognized as a center of organ transplantation and the use of advanced medical techniques, and its hospitals have a large group of personnel. Most of these hospitals, especially Namazi Hospital, are specialized hospitals and play a significant role in education and treatment at the national level.

### Study population

In the present study, participants were selected through quota sampling. After identifying educational hospitals as layers, the number of operating room nurses in each hospital was determined in proportion to each layer so that hospitals with a larger population were allocated a larger sample size (Table 1). Due to geographical proximity, availability at a specific location and time, and the speed and ease of conducting the work, a total of 376 individuals were selected using quota sampling.

### Sample size determination and sampling

To determine the sample size in structural equations based on the study by Adam Sagan and Erika Wolf et al.,

**Table 1** Total number of operating room personnel and selected sample size

Hospital name	Total number of operating room personnel	Select sample size
Namazi	201	118
Khalili	93	57
Shahid Faghihi	146	63
Shahid Rajaii	151	79
Shahid Chamran	105	36
Amir Al-momenin(AS)	47	23
Total Number	743	376

a sample size between 30 and 460 is needed. The sample size is estimated to be a minimum of 3 samples per item, multiplying the number of questions (112) by 3 [32, 33].

$$\text{Sample Size} = 112 \times 3 = 336$$

Also, the sample size was calculated via the sample size determination website (<https://www.danielsoper.com/>) with a 5% error rate, 80% power, and effect size of 2.0). Considering a 10% drop, we determined 376 individuals.

After obtaining the necessary permissions and approvals from the nursing office of each hospital, data collection was carried out using face-to-face visits from September 20th to December 19th, 2023. For this purpose, the objectives were explained to the nurses during their break time in the operating room workplace, and they were invited to cooperate after meeting the criteria for entering the study.

#### Inclusion and exclusion criteria

Participants were required to have at least an associate degree in operating room nursing or anesthesia, a minimum of 6 months of work experience, and be willing to participate in the study. Additionally, changes in the nurses' workplace and incomplete questionnaire submissions were considered as the exclusion criteria.

#### Data collection tools

Data were collected using five questionnaires: Demographic Characteristics, Organizational Justice (Niehoff and Moorman), QWL (Walton), Professional Values in Nursing (Schank & Weis), and Self-Efficacy (Riggs et al.).

#### Demographic characteristics questionnaire

This questionnaire includes essential questions related to the study, including age, gender, marital status, education level, and work experience.

#### Organizational justice questionnaire

The Niehoff and Moorman Organizational Justice Questionnaire (1993) was designed in the United States. This

questionnaire consists of 20 items and is divided into three dimensions: distributive justice, procedural justice, and interactional justice. A five-point Likert scale (ranging from strongly disagree to strongly agree) was used for scoring. Questions 1–5 assess distributive justice, 6–11 procedural justice, and 12–20 interactional justice. The minimum score on this questionnaire is 20, and the maximum score is 100. A score between 20 and 35 indicates low, 36–44 moderate, and a score above 45 indicates high organizational justice. This tool was made by Moorman (1991) who has reported a reliability above 0.90 for all three dimensions [34]. This questionnaire was first translated into Persian by Hashemi Sheikh Shabani (2007), who validated it by correlating the dimensions of the organizational justice scale with related scales among employees [35].

In Iran, the content validity of the questionnaire was confirmed by experts and specialists in organizational behavior management. The validity of this questionnaire was confirmed through the opinions of professors and experts, and its reliability was assessed through Cronbach's alpha coefficients: 0.921 for overall organizational justice, 0.915 for distributive justice, 0.768 for procedural justice, and 0.871 for interactional justice, as confirmed in Bahrami et al.'s study [36].

#### Quality of working life questionnaire

The Walton Quality of Working Life Questionnaire, developed in 1975 in the Netherlands to assess QWL, consists of 35 questions with 8 dimensions. These dimensions include Fair and Adequate payment (questions 1 to 4), Safe and Hygienic Work Environment (questions 5 to 10), Development of Human Capabilities (questions 11 to 15), Opportunity for Growth and Continued Security (questions 16 to 19), Integration and Cohesion (questions 20 to 23), Legalism (questions 24 to 27), Overall Life Environment (questions 28 to 30), and Social Dependency in Working Life (questions 31 to 35). Scoring is based on a Likert scale ranging from strongly dissatisfied to strongly satisfied, with a minimum possible score of 35 and a maximum of 175. Scores between 35 and 58 indicate a low quality of working life, scores between 59 and 118 indicate moderate quality, and those above 118 indicate a high quality of working life. Walton reported the reliability of the questionnaire with Cronbach's alpha coefficient of 0.88 [37]. In the study by Fakhrpoor et al., the QWL questionnaire's validity was confirmed with a coefficient of 0.88, and Cronbach's alpha was calculated at 0.95 [38]. To determine the validity of the questionnaire, we used the opinions of professors and experts from the Health Management and Economics Department of Tehran University of Medical Sciences, as well as experts from the field of extension of the Ministry of Health, Treatment, and Medical Education [39]. Additionally, in the study



conducted by Khanzadeh et al., the validity of the Walton Quality of Working Life questionnaire was confirmed by ten faculty members from the School of Nursing and Midwifery at Tehran University of Medical Sciences, and the reliability of the tool was confirmed with a Cronbach's alpha coefficient of 0.84 [40].

#### ***Nurses' professional values questionnaire***

The Nursing Professional Values Questionnaire, designed by Schank and Weis in 2001 to measure professional values in the United States, consists of 26 components based on the ethical codes of the American Nursing Association and is divided into five dimensions: Dimension of Care (9 items, questions 1 to 9), Pragmatism (5 items, questions 10 to 14), Trust (5 items, questions 15 to 19), become a Professional (4 items, questions 20 to 23), and Justice (3 items, questions 24 to 26). The questionnaire is scored using a five-point Likert scale, ranging from "Not Important" to "Very Important," with scores ranging from 26 to 130; higher scores indicate a greater familiarity with professional values. In the study carried out by Schank and Weis, construct validity was evaluated with a total factor load of 0.79 in five areas of care, pragmatism, trust, become a professional, and justice [41]. In Iran, for the first time, this questionnaire was translated, and its validity and reliability were measured by Parvan et al. The questionnaire was evaluated for face and content validity by seven faculty members from the Faculty of Nursing and Midwifery at Tabriz University, including four master's degree holders in nursing and three doctoral candidates in nursing. After receiving their suggestions and feedback, the necessary revisions were made, and the Cronbach's alpha coefficient of the tool was estimated 0.91 in this study [25]. In the study of Schank and Weis, the alpha coefficient of the total scale was calculated as 0.92, and the validity of the construct was supported with an overall factor loading from 0.46 to 0.79 in the five dimensions of care, pragmatism, trust, becoming a professional, and justice [41]. Additionally, a study by Aghaeenezhad et al. confirmed the reliability of the tool with a Cronbach's alpha of 0.80 [42].

#### ***Self-efficacy questionnaire***

The Self-Efficacy Questionnaire, developed by Riggs et al. in 1994 in the United States, includes 31 questions divided into four dimensions: Individual Self-Efficacy Beliefs (questions 1 to 10), expectation of individual consequences (questions 11 to 18), Collective Self-Efficacy Beliefs (questions 19 to 25), and expectation of collective consequences (questions 26 to 31). Each question is scored using a five-point Likert scale ranging from "Strongly Disagree" (score 1) to "Strongly Agree" (score 5). Reverse-scored questions include questions 2, 3, 4, 6, 8, 10, 12, 14, 17, 20, 21, 23, 24, 25, 28, and 30, where

"Strongly Disagree" is scored as 5 and "Strongly Agree" is scored as 1. The minimum and maximum possible scores are 31 and 155, respectively. In interpreting questionnaire data, a mean score above 3 indicates high occupational self-efficacy, while a mean score below 3 indicates low occupational self-efficacy [43].

In Riggs' study (1994), the reliability of this scale was reported to be between 0.85 and 0.88. Also, its validity was assessed through internal consistency, with correlations between subscales ranging from 0.06 to 0.56, confirming that the individual self-efficacy scale was the most independent measure [43]. In a study by Naboureh et al. (2014), content validity was examined and confirmed using a Cronbach's alpha of 0.85 [44]. This tool was translated and validated for the first time in Iran by Saei and Naeimi [45]. The content validity of the questionnaire was also confirmed in a study by Khabazi and Momeni, and the reliability of the questionnaire was confirmed with a Cronbach's alpha of 0.88 [46].

#### ***Data analysis***

SPSS (Statistical Package for Social Science) version 24 software was used for data analysis, and Smart PLS (Partial Least Squares) version 4 software was used for Structural Equation Modeling (SEM). Mean and standard deviation were used to describe quantitative data, and frequency (percentage) was used to describe qualitative data. In this study, Spearman's correlation coefficient was used to assess the relationship between the two quantitative variables. Structural Equation Modeling was employed to discover direct and indirect relationships among the study variables. The Kolmogorov-Smirnov test was used to assess the normality of the data, and if the data were not normally distributed, non-parametric equivalents of the tests were employed. To determine the extent of mediation among the variables, the VAF threshold was used; if the VAF value is less than 20%, no mediation has occurred; between 20 and 80% indicates partial mediation, and above 80% indicates a very large mediation effect. A significance level of 0.05 was considered for this study.

#### ***Ethical considerations***

This study was approved by the Ethics Committee of Shiraz University of Medical Sciences (Ethics code: IR.SUMS.NUMIMG.REC.1402, 025). All participants agreed to participate in the study, and after obtaining informed consent, the questionnaires were distributed during their breaks in various shifts to the operating room and anesthesia nurses who met the inclusion criteria for the study. The questionnaires were collected at the end of their shifts. Participants were informed about the research objectives, voluntary nature of participation, right to withdraw, and confidentiality of their

**Table 2** Frequency distribution of qualitative demographic variables of the study participants ( $n=376$ )

Variables		Frequency (%)
Gender	Female	228 (60.6)
	Male	148 (39.4)
Marital status	Single	151 (40.2)
	Married	225 (59.8)
Education	Associate Degree	28 (7.4)
	Bachelor	320 (85.1)
	Masters	28 (7.4)

**Table 3** Correlation between organizational justice and its dimensions with nurses' professional values and its dimensions

Variable	Distributive justice
Care	$r = -0.042$ $P = 0.41$
Pragmatism	$r = 0.119$ $P = 0.021$
Become a professional	$r = 0.136$ $P = 0.008$
The total score of nurse's professional values	$r = 0.154$ $P = 0.003$

information. To build trust and maintain the confidentiality of participants' results, we avoided collecting their names, surnames, and addresses, opting instead for codes.

## Results

In the present study, 376 operating room and anesthesia nurses with a mean age of  $33.92 \pm 7.02$  years and a mean work experience of  $9.98 \pm 7.76$  years participated. Most of the participants were female (60.6%) and married (59.8%), and held a bachelor's degree (85.1%) (Table 2).

In the present study, the mean total score of organizational justice among participants was  $43.53 \pm 4.91$ , indicating that most participants (57.8%) experienced a moderate level of organizational justice. Additionally, the mean score of QWL among participants was  $79.90 \pm 6.86$ , reflecting a moderate level of quality of work life.

According to the Spearman correlation test results, there was an inverse and significant negative relationship between the development of human capabilities in quality of work life and the overall score of organizational justice ( $P\text{-value} = 0.035$ ,  $r = -0.109$ ). Furthermore, a significant positive relationship was found between the dimensions of growth opportunities and continuous

security in the quality of work life and the procedural justice, interactional justice, and overall organizational justice scores ( $P\text{-value} = 0.045$ ,  $r = 0.103$ ;  $P\text{-value} = 0.015$ ,  $r = 0.125$ ;  $P\text{-value} = 0.001$ ,  $r = 0.172$ , respectively). Additionally, a significant positive relationship was observed between the dimension of integrity and coherence in quality of work life and procedural justice ( $P\text{-value} = 0.018$ ,  $r = 0.122$ ). There was also a significant positive relationship between the dimension of social dependency on the quality of work life and distributive justice ( $P\text{-value} = 0.046$ ,  $r = 0.103$ ). Based on the results of the present study, the mean score of professional values among participants was  $112.21 \pm 6.87$ . According to the Spearman correlation test, there was a significant positive relationship between the overall score of professional values and the dimension of distributive justice ( $P\text{-value} = 0.003$ ,  $r = 0.154$ ), as well as a significant positive relationship with the dimension of interactional justice ( $P\text{-value} = 0.021$ ,  $r = 0.119$ ) (Table 3).

Based on the results obtained, there was no significant relationship between the overall score of the quality of work life and professional values among the participants ( $P\text{-value} = 0.86$ ,  $r = 0.009$ ). Only some dimensions showed a significant relationship, which is summarized in Table 4.

The mean self-efficacy score among the participants was  $103.51 \pm 6.26$ . According to the Spearman correlation test results, there was no significant relationship between the overall organizational justice score and its dimensions with self-efficacy and its dimensions ( $P\text{-value} > 0.05$ ). Regarding the relationship between QWL and self-efficacy, the Spearman correlation test revealed a significant positive relationship between the expectation of collective consequences dimension of self-efficacy and the legalism dimension of QWL ( $P\text{-value} = 0.017$ ,  $r = 0.123$ ). Additionally, a significant negative relationship was observed between the overall life space dimension of QWL and the expectation of collective consequences dimension of self-efficacy ( $P\text{-value} = 0.28$ ,  $r = -0.114$ ).

In examining the relationship between professional values and self-efficacy among the study participants, the Spearman correlation test revealed significant negative correlations between the care dimension of professional values and the overall self-efficacy score as well as the expectation of collective consequences dimension of self-efficacy ( $P\text{-value} = 0.017$ ,  $r = -0.123$ ;  $P\text{-value} = 0.034$ ,  $r$

**Table 4** The correlation between the QWL and its dimensions with the nurses' professional values and its dimensions

Variable	Pragmatism	Trust	Become a professional	Justice	The total score of nursing professional values
Legalism	$r = -0.256$ $P < 0.001$	$r = -0.220$ $P < 0.001$	$r = -0.279$ $P < 0.001$	$r = -0.152$ $P = 0.003$	$r = -0.323$ $P < 0.001$
Total QWL* score	$r = -0.013$ $P = 0.80$	$r = -0.039$ $P = 0.45$	$r = 0.077$ $P = 0.14$	$r = 0.065$ $P = 0.21$	$r = 0.009$ $P = 0.86$

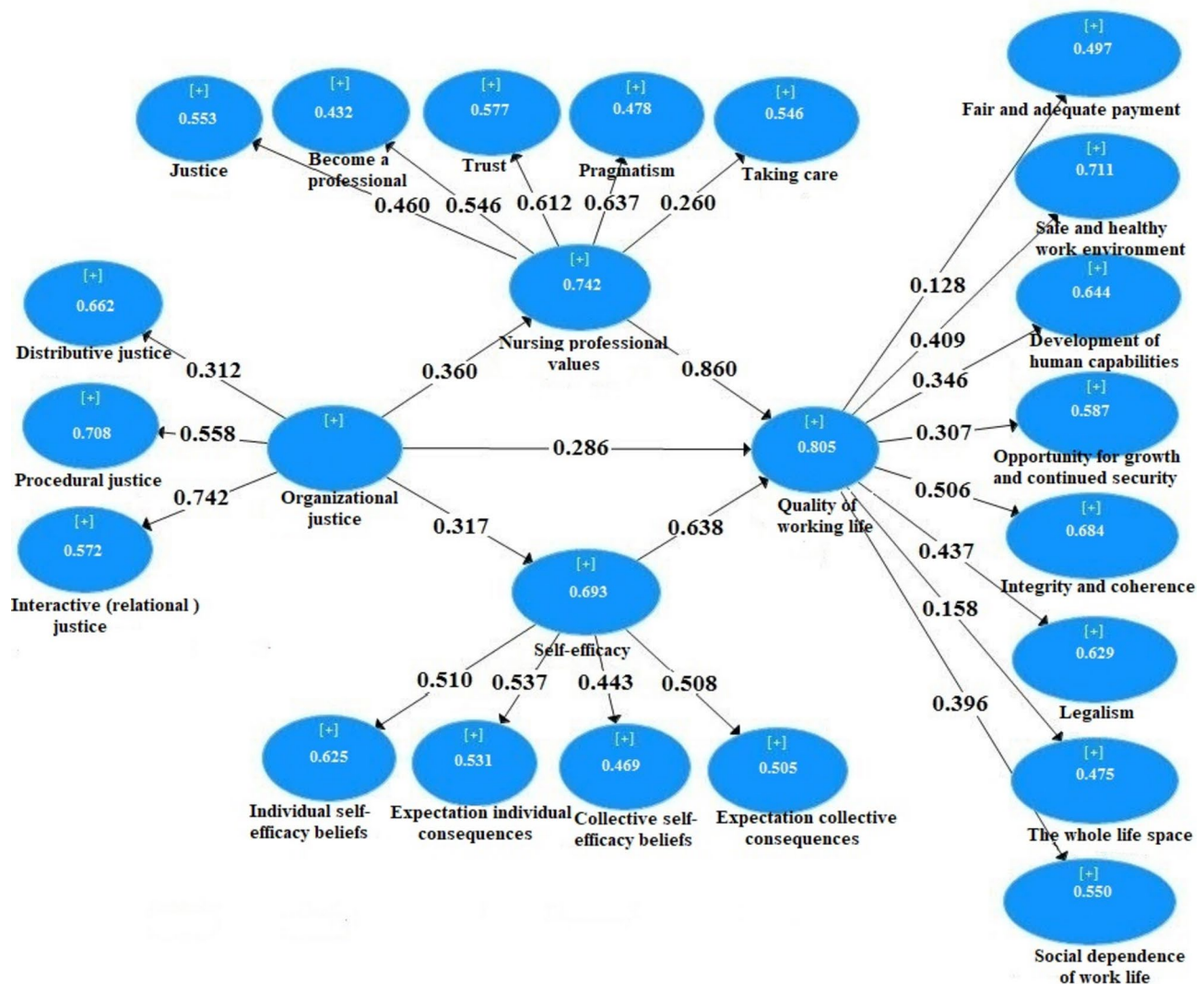
\* QWL: Quality of working life

= -0.109). Additionally, a significant negative relationship was found between the trust dimension of professional values and the overall self-efficacy score and the expectation of collective consequences dimension of self-efficacy (P-value = 0.004,  $r = -0.123$ ; P-value = 0.035,  $r = -0.109$ ).

SEM (Fig. 1) was used to analyze direct and indirect relationships among the study variables. The path coefficients for organizational justice to the quality of work life, organizational justice to professional values, organizational justice to self-efficacy, professional values to QWL, and self-efficacy to QWL were all statistically significant, with path coefficients greater than 1.96 and at a confidence level of 95% (Table 4). The standardized path coefficients indicated that the relationship between organizational justice and quality of work life mediated by professional values was of moderate strength (0.309). Furthermore, the relationship between organizational

justice and QWL mediated by self-efficacy also showed moderate strength (0.215). All test statistics calculated were greater than 1.96, indicating the significance of all direct and indirect path coefficients (Table 5).

The results of the Sobel test and AVF stats also confirmed the above findings; accordingly, the mediating effect of professional values in the relationship between organizational justice and QWL was significant. About 87.2% of the total effect of organizational justice on QWL was explained indirectly by the mediating variable of professional values. Also, the mediating effect of self-efficacy in the relationship between organizational justice and QWL was significant, and approximately 63.9% of the total effect of organizational justice on QWL was explained indirectly by the mediating variable of professional values (Table 6).



**Fig. 1** Path coefficients of the research model at a 95% confidence level

**Table 5** Direct and indirect paths tested in the structural equation model

Path	Effect	t statistic
Direct		
Organizational Justice → QWL*	0.286	4.77
Organizational Justice → Professional values	0.360	6.90
Organizational Justice → self-efficacy	0.317	5.99
Professional values → QWL	0.860	11.944
Self-efficacy → QWL	0.638	9.26
Indirect		
Organizational Justice → Professional values → QWL	0.309	7.011
Organizational Justice → Self-efficacy → QWL	0.215	4.46

\*QWL: Quality of working life

**Table 6** Hypothesis testing indirect (mediation effect) model of research

Independent variable	Mediator variable	dependent variable	Sobel test	VAF
Organizational Justice	Professional values	QWL*	7.011	0.872
Organizational Justice	Self-efficacy	QWL	4.46	0.639

\*QWL: Quality of working life

## Discussion

The present study showed that most participants had a moderate level of understanding of organizational justice. This means that although employees feel that some aspects of justice are being upheld in their organization, there may still be room for improvement in conditions to elevate perceived justice to a higher level and increase employees' satisfaction. The results of the study indicated that the QWL for operating room personnel was at a moderate level. Studies conducted in various countries suggest that the quality of work life for nurses is mainly at a moderate level, with 52.4% of studies reaching this conclusion [47]. These results may be attributed to the influence of common factors such as work pressure, environmental conditions, and similar organizational settings in these environments. These results highlight the need for improvements in working conditions and environments for nurses on a global scale, as most nurses experience an average quality of work life, which can negatively impact their health and efficiency. Considering that 98.7% of operating room personnel scored high on professional values, the highest dimension was concerned with "care," while the lowest dimension pertained to "justice." This difference may indicate the strong emphasis that nurses place on human relationships and the emotional aspects of their profession, highlighting the need for improvement and greater attention to the aspects of justice in the workplace and organizational communications.

In contrast to our study, the study by Shafipour et al. (2022) aimed at determining the relationship between

ethical distress and professional values among nursing interns at Mazandaran University of Medical Sciences; it was found that the average professional values among nursing students were at a moderate level. Students attributed the highest value to the dimension of care and the lowest value to the dimension of pragmatism [48]. In the present study, 96% of the operating room personnel had a high level of self-efficacy, while only 4% were in the low level of self-efficacy, indicating that operating room staff generally feel confident and capable of performing their duties.

The results showed that increasing organizational justice led to an improvement in the quality of work life of operating room nurses. Some dimensions of these two variables were also related to each other. There is a significant direct relationship between the dimensions of growth opportunities and continuous security in the quality of work life and procedural justice, interactional justice, and overall organizational justice scores. This result highlights the importance of organizational justice in strengthening key dimensions of quality of work life and recommends that organizational managers should focus on implementing fair processes and equitable interactions to enhance job security and growth opportunities for personnel.

According to Werther's theory, one of the most common methods used to enhance the quality of work-life programs is the employee participation approach. This method consists of several systematic sub-approaches through which employees can participate in decisions that affect them and their relationships with the organization [49].

In the study by Gillet et al., distributive and interactional justice had a significant effect on the QWL of nurses and could act as good mediators between transformational leadership and nurses' QWL [50]. Also, Aminbeidokhti and Mardani found that there was a positive and significant relationship between the distributive and procedural dimensions of organizational justice with participation in the study, but there was no relationship between interactional justice and QWL [51].

Based on the results of the present study, a direct relationship was observed between the professional values of operating room nurses and distributive justice, while an inverse relationship was found with procedural justice. The significance of the total score of professional values with procedural justice indicates that nurses enhance their professional values in work environments where interpersonal interactions and communications are conducted fairly and with respect [52].

Tehrineshat et al. found that the professional values of nurses under study had a meaningful relationship with all dimensions of their professional life quality [53].



In the present study, based on the correlation analysis between organizational justice among nurses and its dimensions with self-efficacy, no significant relationship was found. This may be because self-efficacy is an individual trait influenced by various factors, including experience, skills, and personal beliefs. Therefore, self-efficacy may not be directly influenced by organizational justice because these two concepts can be influenced by different variables, including specific personal and environmental factors that are not directly related to organizational justice. On the other hand, cultural and organizational differences can also affect the relationship between organizational justice and self-efficacy [54]. Although organizational justice can also influence self-efficacy, its effect may be indirect and might depend on mediating factors such as job satisfaction or work-related stress. However, in contrast to the results of the present study, the study by Amiri et al. (2023) on operating room personnel indicated that there was a significant relationship between organizational climate and self-efficacy. Therefore, in the study by Amiri et al., organizational climate has been able to have a clearer impact on self-efficacy as a general and supportive factor [55]. In our study, SEM confirms the direct relationship between organizational justice and self-efficacy.

In the current study, based on the correlation analysis between the organizational justice of nurses and its dimensions with self-efficacy, we did not find any significant relationship. However, structural equation modeling confirmed a direct relationship between them. Self-efficacy in the present study could also be a good mediator in the relationship between organizational justice and nurses' QWL.

Chegini et al. also found that self-efficacy played a good mediating role in the relationship between organizational justice and nurses' organizational commitment [56]. However, the study by Alilio et al. (2024), which examined the relationship between quality of work life, job self-efficacy, and organizational commitment among Generation Z employees in the Philippines, found that there was no positive relationship observed between job self-efficacy and QWL [57].

The results of the present study showed that in examining the relationship between self-efficacy and the QWL of nurses among various dimensions of nurses' self-efficacy, the expectation of collective consequences dimension of self-efficacy had a significant direct relationship with the legalism dimension of QWL. This relationship indicates that high self-efficacy motivates the personnel to respect organizational rules and regulations and to adhere to their proper implementation [58].

Additionally, the results showed that the collective outcome expectations dimension of self-efficacy had a significant inverse relationship with the overall life

space dimension of QWL; this means that the more self-efficacy personnel feel, the less they may suffer from the negative aspects or limitations of their overall life space. The study by Wang et al. (2021) showed that employees with high self-efficacy generally experienced less stress and job burnout; even in difficult and challenging work conditions, they had greater confidence in their ability to manage and cope with problems [59].

In addition, SEM confirmed a direct relationship between self-efficacy and QWL. Self-efficacy in the current study could also be a good mediator in the relationship between organizational justice and nurses' QWL. Orgambidez et al. sought to uncover the relationship between self-efficacy and QWL among nurses and used job involvement, job satisfaction, and organizational commitment as indicators of QWL. They found a positive and significant relationship between self-efficacy, job involvement, job satisfaction, and organizational commitment [31].

The results of the present study showed that there was a significant direct relationship between growth opportunities and continuous security of QWL (as the dependent variable) and the justice of professional values (as the independent and mediating variable). If employees see that the organization provides them with opportunities for advancement and growth, they are likely to feel that resources and opportunities are distributed fairly, which is related to workplace justice [60]. According to Walton's theory of quality of work life, there are two key factors: 'opportunity for continuous growth' and 'development of human capacities.' The opportunity for continuous growth means that employees should have the chance to learn, advance, and progress in the workplace [37].

In examining the relationship between professional values and self-efficacy of participants in the current study, a reverse relationship was observed between the dimensions of care and trust of professional values with the total score of self-efficacy and the expectation of collective consequences of self-efficacy. Dellafiore et al. examined the relationship between professional values and nurses' self-efficacy and found a significant positive relationship between all domains of both variables [61]. The results of our research showed that the dimension of legality in quality of work life was significantly inversely related to the overall score of professional values and its various dimensions. In explaining this finding, it can be said that when legality is pursued excessively, it may lead to a decrease in some dimensions of professional values [62]. However, the results of the study by Mahdiah and Shojaei (2019), which aimed at examining the effectiveness of ethical values in the quality of work life of nurses, found that the impact of professional ethics on the quality of work life was not confirmed, and the mediating role of professional ethics in the relationship between quality

of work life and ethical values was not validated, which is inconsistent with the results of the present study. Quality of work life is influenced by various factors, including working hours, lack of facilities, inadequate time off, management styles, insufficient opportunities for advancement, unfavorable working conditions, staff shortages, and income level [63].

## Conclusion

Based on the results of this study, SEM, contrary to the correlation test at the beginning, revealed that an increase in perceived organizational justice by participating nurses can increase their QWL. Considering the positive relationship between organizational justice, quality of work life, professional values, and self-efficacy, operating room officials and hospital managers, by understanding this relationship, can plan accordingly to enhance these concepts. This is especially important in sensitive environments such as the operating room, and it is essential to improve the conditions of personnel in these components by implementing strategies such as organizing periodic classes and workshops related to stress management, effective communication skills, and the development of professional ethics. It is also recommended that organizational justice should be regarded as a key factor in strengthening motivation and improving the quality of work life.

## Implications of the findings

### Implication of the findings in nursing management

Hospital and healthcare center managers can improve the quality of work life (QWL) and create a fairer, discrimination-free working environment in the operating room by enhancing the nurses' self-efficacy and showing greater respect for the professional values of nursing. Ultimately, this leads to improved productivity in healthcare facilities.

### Implication of the findings in health promotion

The findings of this research can be used as a tool for promoting the public health of operating room personnel. Given the importance of the quality of work life and self-efficacy in improving mental and physical health, health promotion programs can focus on strengthening these factors.

## Study limitations

In the present research, the limitations that may have impacted the results include the organizational culture and organizational structure of educational hospitals in Shiraz, as one of the largest cities and a major medical center in Iran, with its hospitals receiving a large number of visitors. This can lead to increased work shifts and dissatisfaction with personal and work life. Additionally,

these hospitals have specialized and super-specialized facilities and better financial and economic conditions compared to smaller cities and hospitals. Therefore, the results of this study are not generalizable to other cities and hospitals.

## Suggestions for future research

It is suggested that future research should examine the role of mediating variables such as job satisfaction, motivation, and organizational commitment in the relationship between organizational justice, QWL, professional values, and self-efficacy to gain a better understanding of the mechanisms connecting these variables. Additionally, similar studies should be conducted in other medical groups such as nurses, physicians, and support staff to identify and examine the differences and similarities among these groups. It is also suggested that future research should be conducted in different research environments with larger sample sizes, considering the role of economic and cultural factors.

## Abbreviations

QWL	Quality of Working Life
VAF	Variance Accounted For
SEM	Structural Equation Modeling

## Supplementary Information

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Supplementary Material 1

Supplementary Material 2

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## Author contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by SA and ZM. The first draft of the manuscript was written by SA and all authors commented on the manuscript. All authors read and approved the final manuscript.

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## Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Declarations

### Ethics approval and consent to participate

This study was conducted in accordance with the Declaration of Helsinki. The protocol was approved by Institutional Review Board (IRB) of Committee on Ethics at Shiraz University of Medical Sciences (Ethics code: IR.SUMS.NUMIMG.REC.1402.025). All participants consented to participate in the study.

and signed an informed consent form. Participants were informed about the research objectives, voluntary nature of participation, right to withdraw, and confidentiality of their information.

#### Consent for publication

Not applicable.

#### Competing interests

The authors declare no competing interests.

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