Nurse Media Journal of Nursing
e-ISSN: 2406-8799, p-ISSN: 2087-7811
https://ejournal.undip.ac.id/index.php/medianers
11(2):210-218, August 2021
https://doi.org/10.14710/nmjn.v11i2.37875

ORIGINAL RESEARCH

Work Index and Contextual Variables as Predictors of Emergency Nurses' Career Success

Ali Mohammadzadeh[1], Elnaz Asghari[1], Mansour Ghafourifard[1]

[1]*Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, Iran*

Article Info

Article History:
Received: 18 April 2021
Revised: 24 July 2021
Accepted: 3 August 2021
Online: 27 August 2021

Keywords:
Career success; emergency department; nurses; work environment

Corresponding Author:
Elnaz Asghari
Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, Iran
Email: asghari.elnaz@gmail.com

Abstract

Background: The stressful work environment of emergency departments needs competent nurses to be successful in their careers. Although the work environment significantly affects nurses' quality of care and job satisfaction, studies on the relationship between the work environment and career success are still limited. Therefore, it is imperative to investigate how individual and environmental factors predict the career success of nurses in the emergency department.
Purpose: This study was conducted to identify the predictors of career success of emergency nurses based on work index and contextual variables.
Methods: This cross-sectional study was conducted in eight university hospitals in Tabriz, Iran. The career success scale and the Nursing Work Index (PES-NWI) were completed by 193 emergency nurses selected using a stratified random sampling technique. Data were analyzed using a multivariate regression analysis.
Results: The mean and standard deviation of nurses' scores were 168.59±15.54 for the career success scale (range: 39-195) and 2.64±0.48 for the PES-NWI (range: 1-4). According to multiple linear regression analysis, nursing work index and hospital type were significant predictors of nurses' career success ($R2=0.17$, adjusted $R2=0.11$, $p<.01$).
Conclusion: Nursing work index and hospital type were significant predictors of nurses' career success. Nursing managers and leaders should provide healthy work environments to help nurses increase their career success.

How to cite: Mohammadzadeh, A., Asghari, E., & Ghafourifard, M. (2021). Work index and contextual variables as predictors of emergency nurses' career success. *Nurse Media Journal of Nursing, 11*(2), 210-218. https://doi.org/10.14710/nmjn.v11i2.37875

1. Introduction

Career success refers to the accomplishment and success of people in their careers (Asghari et al., 2020). Career success is an important concept that leads to the improved professional behavior and outcomes (Han & Wang, 2017). Successful employees usually do a better job, need less supervision and guidance, have less absenteeism, are role models for novice employees, and make fewer mistakes while working (Asghari et al., 2019). Career success is a multidimensional concept (Li et al., 2017). Zamanzadeh et al. (2019), in a qualitative study, defined career success in nursing with the dimensions of providing high quality care, being an exemplary employee, embarking on career growth, having positive personal attributes, and being internally satisfied. Moreover, the evidence shows that nurses' career success is related to important outcomes like job satisfaction, burnout, and quality of nursing care (Dan et al., 2018a; Elmi et al., 2017).

The evidence suggests that career success is related to and influenced by individual and environmental factors (Spurk et al., 2019). Innovative behavior, self-efficacy (Dan et al., 2018b), personality traits, gender, race (Spurk et al., 2019) are personal characteristics related to career success. In a qualitative study to define the concept of career success in nursing, having positive personal attributes was one of the themes of this study (Zamanzadeh et al., 2019). In another study to develop a scale for nurses' career success, it was found that nurses' individual abilities, such as specialized knowledge and skills, had the most important load in the structure of the scale. Effective self-regulation personality trait was also another subscale in this scale (Asghari et al., 2020).

Existing studies show that not only individual factors but also work-related factors affect career success. Societal norms like salary, job level, promotion history, or job prestige (Spurk et al., 2019) and environmental factors like relationship with co-workers and having the necessary equipment and facilities to do the job are among work-related factors that impact career success

(Sönmez et al., 2021). In addition, resources that support coping with expected and unexpected challenges and harms are considered critical to achieving career success (Spurk et al., 2019). The work environment has a significant impact on the career success of nurses in the emergency department in Han and Wang's (2017) study. Furthermore, Wang et al. (2019) indicated that career success is related to the work environment in nurses with a master's or doctoral degree. In their study, hierarchical regression analysis showed that the work environment positively correlates with career success for three of the four subscales.

The working environment of the emergency department is more complicated than that of ordinary departments, with a wide range of patients, many severe illnesses, rapid changes in patient's conditions, and a heavy nursing workload. It is necessary to rescue critically ill patients and deal with emergencies, which leads to high mental stress and a long-term overload of nursing staff (Chang et al., 2020; Fitriana et al., 2021). The turn-over rate is high, and patients' conditions are usually complex (Han & Wang, 2017). In addition, heavy workload and shortage of emergency nurses are among the most common stressors in this department (Alahmadi & Alharbi, 2018; Portero de la Cruz et al., 2020). Nurses' interest in work and job satisfaction is affected in these departments, leading to burnout and reduced satisfaction (Han & Wang, 2017). A study in Iran showed that more than 60% of emergency nurses have moderate levels of burnout, stress, and job dissatisfaction (Tavakoli et al., 2018). In addition, research has shown that there is a higher incidence of secondary traumatic stress symptoms in emergency nurses. Its identified risk factors include repeated exposure to trauma, death, chronic stressors, and work pressure (Vand Tamadoni et al., 2020). On the other hand, the stressful work environment of emergency departments needs competent nurses to be successful in their careers.

Improving nurses' work environment has been recommended as an effective strategy to increase the opportunity to provide quality care and remedy nursing shortages by promoting nurses' job satisfaction (Albashayreh et al., 2019; Portero de la Cruz et al., 2020; Tavakoli et al., 2018). Although the nursing work environment has been reported to affect nurses' job satisfaction significantly, studies on the relationship between the work environment and career success are still limited (Wang et al., 2019). Therefore, it is imperative to increase our understanding of how individual and environmental factors predict the career success of nurses in the emergency department, so research into career success can expand, and, with this, organizational shift into helping nursing staff achieve career success in their practice. This study was conducted to identify the predictors of career success among emergency nurses based on work index and contextual variables.

2. Methods

2.1 Research design

A cross-sectional study was conducted to identify the predictors of career success among emergency nurses based on work index and contextual variables.

2.2 Setting and samples

The study population was nurses working in the emergency departments of eight university hospitals in Tabriz, Iran. Inclusion criteria were nurses having at least six months of experience in the emergency department and providing direct care to the patients. Scales with ≥10% missing answers to survey questions were excluded from the study (Grove et al., 2012). It should be noted that in Tabriz, nurses should have at least a bachelor's degree to work in a hospital. At the time of the study, the total numbers of nurses working in the emergency department of the studied hospitals were 278, of whom 270 were eligible. Using Krejcie and Morgan's table (Adam, 2020), the minimum sample size was 159 people. We considered a 30% probability of attrition rate; hence, the research tools were distributed among 207 nurses.

The sampling was conducted using a stratified random method. All hospitals were included in the study, and each hospital was considered one stratum. The sample size of each stratum was proportionate to the population size of the stratum. The nurses' code was then written, and the samples were selected randomly.

In this study, from the 207 distributed questionnaires, however, 14 questionnaires were not completely filled (with more than 10% incomplete items); therefore, they were not included in the analysis. Thus, finally, 193 questionnaires were included in the data analysis.

2.3 Measurement and data collection

Data collection lasted from February to April 2021. After obtaining permission from the authorities, the researcher introduced himself to the nurses and explained the study's objectives. Next, the researcher asked nurses to complete pen-and-paper questionnaires with enclosed sealable envelopes including background characteristics, the Nurses' Career Success Scale, and the Practice Environment Scale of the Nursing Work Index (PES-NWI). Those are free to the public.

The nurses' career success scale developed by Asghari et al. (2020) was used to measure nurses' career success. It consists of 39 items and four subscales: *Expected Career Progress* with 15 items, *Providing Quality Care* with 10 items, *Effective Self-Regulation* with 9 items, and *Person-Organization Fit* with 5 items. The response to each item was based on a 5-point Likert scale ranging from 1 = never to 5 = always. Total scores were generated by summing the scores of all items. The range of scores on this scale was between 39 and 195; the higher scores indicate a higher level of career success. The validity and reliability of this scale have been assured in a previous study by Asghari et al. (2020) with a Cronbach's alpha coefficient of 0.93 and excellent average content validity (CVI=0.92, Range: 0.80-0.98).

The PES-NWI was used to measure nursing work environment conditions. This tool consists of 31 items with 5 subscales: *Nurse Participation in Hospital Affairs* (9 questions), *Nursing Foundations for Quality of Care* (10 questions), *Nurse Manager Ability, Leadership and Support of Nurses* (5 questions), *Staffing and Resource Adequacy* (4 questions), and *Collegial Nurse-Physician Relations* (3 questions). The answer to each item is scored based on the 4 points Likert scale ranging from completely agree (score 4) to completely disagree (score 1). The average score of items was calculated for each subscale and the total score. The range of scores in each subscale and the scale was 1 to 4 (Lake, 2002). The validity and reliability of the Persian version of this scale have already been assessed in a past study. In which, Cronbach and Pearson alpha coefficient for the whole instrument and the extracted factors was 0.70 to 0.96. (Elmi et al., 2017).

2.4 Data analysis

Data analysis was performed by SPSS version 16 (SPSS Inc Chicago, IL, USA). The normal distribution of data was confirmed by Kolmogorov – Smirnov test. The relationship between career success with contextual variables and PES-NWI was investigated by the t-test, ANOVA, and Pearson correlation coefficient. A p-value <0.05 was considered statistically significant.

An initial simple linear regression analysis was also performed to evaluate the potential factors associated with nurses' career success. Furthermore, the potential independent variables (p<0.1) (Kleinbaum et al., 2013) such as work experience in nursing, work experience in the current unit, hospitals, and total score of PES-NWI were put into a multiple linear regression model.

2.5 Ethical considerations

This study was conducted after obtaining ethical approval from the Regional Ethics Committee of Tabriz University of Medical Sciences (Ref. IR.TBZMED.REC.1399.729). The purpose of the study, voluntary participation and confidentiality of data were explained to nurses, and the participants signed a paper informed consent form.

3. Results

3.1 Characteristics of the respondents

The mean age of nurses was 32.43±5.97 years (ranged from 22-54 years). The nurses' work experience in the nursing profession and the emergency department was 8.73±5.97 and 4.62±4.20 years, respectively. Nurses worked an average of 28.80±4.22 shifts per month. Table 1 shows other background characteristics of the participants.

3.2 The relationship between career success and other variables

The mean and standard deviation of nurses' scores were 168.59±15.54 from the career success scale and 2.64±0.48 from PES-NWI. The mean scores of each subscale are shown in Table 2.

Table 1. The personal and occupational characteristics of nurses (n=193)

Variable	f	%
Gender		
Male	122	63.2
Female	71	36.8
Marital Status		
Single	80	41.5
Married	113	58.5
Education		
Bachelor	173	89.6
Masters	20	10.4
Shift		
Fixed	14	7.3
Rotational	179	92.7
Hospital		
General 1	58	30.1
General 2	29	15.0
Pediatric	21	10.9
Cardiac	17	8.8
Gynecology 1	6	3.1
Gynecology 2	9	4.7
Ophthalmology 1	4	2.1
Ophthalmology 2	8	4.1
Psychiatric	22	11.4
Orthopedic	19	9.8

Table 2. Career success and PES-NWI subscales (n=193)

Scale	Subscales	Mean	SD	Range of Score	
				Min	Max
Career Success					
	Expected Career Progress	62.74	6.34	40	75
	Providing Quality Care	45.8	4.42	28	50
	Effective Self-Regulation	38.44	4.01	26	45
	Person-Organization Fit	22.33	2.69	14	25
	Total Career Success	168.59	15.54	108	193
PES-NWI					
	Nurse Participation in Hospital Affairs	2.58	0.56	1	4
	Nursing Foundations for Quality of Care	2.69	0.48	1	4
	Nurse Manager Ability, Leadership, and Support of Nurses	2.65	0.58	1	4
	Staffing and Resource Adequacy	2.53	0.59	1	4
	Collegial Nurse-Physician Relations	2.77	0.57	1	4
	Total PES-NWI	2.64	0.48	1	4

The relationship between career success with contextual variables and the PES-NWI is presented in Table 3. According to the results, career success showed a statistically significant relationship with the variables of age (p<0.05), type of hospital (p<0.02), and subscale of Nursing Foundations for Quality of Care of the PES-NWI scale (p<0.05).

3.3 Predictors of emergency nurse' career success

Multiple regression analysis was used to predict the career success of nurses. By controlling for independent variables such as demographic and work-related characteristics, factors including PES-NWI and type of hospital were significant predictors of the nurses' career success (R2=0.17, adjusted R2=0.11, p<0.01). The results showed that 19% of the variance changes in nurses' career success could be explained by the total score of the PES-NWI (β=0.19, p<0.01). The findings also showed that working in some specialty hospitals (Gynecology, Neurology, and Orthopedic) was associated with higher career success (Table 4).

Table 3. The relationship between career success with background characteristics and PES-NWI (n=193)

Predictors	Statistics	*p*-value
Nurse participation in hospital affairs	r=0.98*	0.17
Nursing foundations for quality of care	r=0.13*	0.05
Nurse manager ability, leadership and support of nurses	r=0.13*	0.06
Staffing and resource adequacy	r=0.11*	0.10
Collegial nurse-physician relations	r=0.09*	0.17
Total PES-NWI	r=0.09*	0.09
Gender	t=-1.07**	0.94
Marital status	t=-1.30**	0.20
Education	t=-0.64**	0.52
Shift	t=1.48**	0.14
Hospital	F=2.21***	0.02
Age	r=-0.97*	0.05
Work experience	r=0.79*	0.07
Work experience in emergency department	r=-0.58*	0.11
Number of shift per month	r=0.42*	0.15

* Pearson; ** t-test; *** ANOVA

Table 4. Results from multivariate regression analysis of nurses' career success (n=193)

Independent variables	B	SE	Beta (β)	*p*-value	95% CI for B	
					Lower	Upper
(Constant)	148.34	6.57		<0.01*	135.38	161.31
Work experience in nursing (years)	0.164	0.299	0.063	0.58	-0.43	0.75
Work experience in the current unit (years)	0.564	0.424	0.153	0.18	-0.27	1.40
Hospital						
General 1	0.88	3.73	0.02	0.81	-6.49	8.25
General 2	7.44	4.08	0.14	0.70	-0.61	15.49
Pediatric	-3.30	3.36	0.14	0.33	-9.93	3.32
Cardiac	-0.33	6.30	-0.01	0.96	-12.76	12.09
Gynecology 1	15.069	7.607	0.138	0.04*	0.06	30.08
Gynecology 2	4.66	5.56	0.06	0.40	-6.30	15.63
Ophthalmology 1	10.535	5.259	0.143	0.04*	0.16	20.91
Ophthalmology 2	-6.30	3.82	-.13	0.10	-13.83	1.23
Psychiatric	-10.10	4.14	-.19	0.02*	-18.26	-1.94
Total score of PES-NWI	0.20	0.07	0.19	0<.01*	0.06	0.35

Note. R2=0.17, adjusted R2=0.11, SE=14.66, F (12, 148) =2.99, $p<0.01$.
Dependent variable: Nurses career success; PES-NWI=Practice Environment Scale of Nursing Work Index, *$p<0.05$

4. Discussion

This study aimed to identify the predictors of career success among emergency nurses based on the work environment index and contextual variables. The mean and standard deviation of nurses' career success in this study was 168.59±15.54 (range: 39-195). Since no cut-off point has been set for the nurses' career success scale (Asghari et al., 2020), this number cannot be judged qualitatively. However, this finding probably indicates that the samples in this study are not far from ideal career success. For example, in a study by Asghari et al. (2020), who used the same scale to evaluate the career success of 530 nurses, the mean and standard deviation of work success was 139.14±12.82. In another study in China, the average career success scores of 848 emergency nurses from 12 hospitals was 31.42±5.60 (range:18-50) (Han & Wang, 2017). Comparison of these findings shows that in studies whose research population was nurses working in all clinical wards, career success is less than the present study's findings, the target group of which is nurses working in the emergency department. In other words, the career success of emergency nurses seems to be higher than the average of nurses working in other settings.

Nurses' scores on all subscales of career success were higher than the median score except for the *Effective Self-Regulation* subscale. In another study on nurses of all clinical wards with the

same instrument, participants' scores in all fields except *Providing Quality Care* were lower than the median (Asghari et al., 2019). Although it is not possible to make a more accurate judgment due to the lack of a cut-off point for subscales, it seems that emergency nurses meet *Expected Career Progress* and *Person-Organization Fit* of career success more than other wards. Since the work environment of the emergency department is special and complex, it is necessary for the nurses who work there to have special competencies, knowledge, and skills (Shahbazi et al., 2018). In other words, *Providing Quality Care* and having *Expected Career Progress* are of the essential characteristics of emergency nurses, which also enriches the criteria for career success.

The results of the current study showed that the average score of the PES-NWI was 2.64± 0.48 (range: 1-4). This relatively moderate score indicates the unsatisfactory working conditions of the nurses working in the university hospitals. Similar to these results, the score of PES-NWI for 327 nurses was about the median (2.59±0.45) (Kapucu et al., 2017). In a systematic review, this score for non-magnetic hospitals was 2.51-2.92, for emerging/aspiring magnet was 2.62-3.07, and for magnet hospitals were 2.92-3.00 (Swiger et al., 2017). This about the median scores of PES-NWI highlights the need for authorities to provide urgent treatment to improve nurses' working environment, especially in critical wards such as the emergency department.

In the current study, the highest score obtained in the PES-NWI was related to the subscale of *Collegial Nurse-Physician Relations* (2.77±0.57), and the lowest score was related to the subscale of *Staffing and Resource Adequacy* (2.53±0.59). In other words, nurses perceive collegial nurse-physician relations and the foundation for quality of care as the most desirable dimensions of the work index. This is consistent with a similar study in Oman (Albashayreh et al., 2019) and United Arab Emirates (Al-Maaitah et al., 2018). Such findings may be attributed to the availability of multidisciplinary teamwork encouragement standards and the existence of quality systems recognized by health care quality accreditation in study settings (Albashayreh et al., 2019). In contrast, nurses perceive staffing and resource scarcity as the least desirable aspects, which agrees with a recent systematic review of 46 studies from 28 countries (Swiger et al., 2017), suggesting that in Iran, the global problem of nursing shortage is a problem.

Using regression analysis to predict nurses' career success showed that 19% of nurses' career success variance could be explained by the total score of the PES-NWI (β=0.19, p<0.01). A study by Wang et al. (2019), using hierarchical regression analysis, showed that the work environment has a positive relationship with the career success of nurses with a postgraduate degree in three out of four subscales (Wang et al., 2019). Thus, an appropriate work environment is a determining factor for career success and the quality of care (Copanitsanou et al., 2017).

Among the contextual variables, only the type of hospital (gynecology and ophthalmology) could predict the variance of career success. Since all employment and wage conditions are similar in all hospitals; this finding strengthens the relationship between work index and career success. It shows how important is the work index in nurses' career success. Similar to our results, another study conducted in Iran to predict nurses' career success showed that none of the demographic characteristics could predict nurses' career success (Asghari et al., 2019). This finding contradicts the results of previous studies, which believed that both individual and environmental factors affect career success (Spurk et al., 2019). For example, age is one of the demographic characteristics that is considered an important variable related to career success (Sönmez et al., 2021; Spurk et al., 2019). In this study, age could not predict changes in career success variance. However, the age range of our sample was wide (ranged from 22-54 years). Remarkably, it was found that the elderly population is exposed to age-related stereotypes and assesses their abilities (and consequently career success) lower than young people (Praskova & Johnston, 2021). Further, "beginners" address the development of professional and task-related skills as key elements in increasing their employability, while older workers understand that their employment increases with opportunities to expand expertise in adjacent / different fields (Zamanzadeh et al., 2019). This may influence the definition of career success for adults in different stages of age. Although career success is important at every stage of adult life, the focus and motivation of a career may depend on whether one is preparing for the future career or it is the transition to another stage (Praskova & Johnston, 2021). Future studies are needed to explore this in more detail.

5. Implications and limitations

The findings of the study have several implications for nursing. About the implications of the study for nursing research, this study highlights the importance of the work index in nurses' career success in health care organizations. Moreover, this study constitutes the primary data for future local and national studies. In addition, it reinforces the research findings if future research involves a qualitative approach that examines other health care professionals' readiness for improving work index and increasing career success. For practical implications, this study provides information to health care policymakers and leaders seeking to improve emergency departments' work index and respond to organizational change efforts. Nursing managers are the key to improve the workplace of healthcare centers to promote positive outcomes for organizations, patients, and nurses. Future efforts to improve career success in nurses of emergency departments need to improve the practice environment and reduce harassment in the workplace. In terms of social implications, it is important to know how well health care professionals, especially nurses, understand the impact of the work index on career success and why a particular work index is important in implementing change to increase career success.

Although this is one of the first studies in this field, it also has some limitations. One of the limitations of the study was the length of scales that had to be completed. Accordingly, it is recommended that a shortened form of these tools be developed in future research. Another limitation is the nature of the concept of career success. Career success is a multidimensional concept that in this study has been examined only with a self-report. It is suggested that other methods of data collection be used in future research, such as observing or asking officials and colleagues.

6. Conclusion

According to the findings, although nurses showed acceptable career success, they perceived the workplace condition unsatisfactory. In addition, the study showed that nurses' work index could influence nurses' career success. Therefore, nurse managers and leaders should improve work environments to help nurses obtain a higher level of career success. Moreover, this study indicates the need for further studies on the career success of emergency nurses and changes in the work environment to increase the career success of nurses, especially emergency nurses.

Acknowledgment

We thank all nurses who participated in this study.

Author contribution

EA: Study design, study supervision, manuscript writing; AM: Data collection, manuscript writing; MG: Data analysis, manuscript writing.

Conflict of interest

The authors declare no conflicts of interest.

References

Adam, A. M. (2020). Sample size determination in survey research. *Journal of Scientific Research and Reports*, *26*(5), 90-97. https://doi.org/10.9734/jsrr/2020/v26i530263

Al-Maaitah, R., AbuAlRub, R. F., & Al Blooshi, S. (2018). Practice environment as perceived by nurses in acute care hospitals in Sharjah and North Emirates. *Nursing Forum, 53*(2), 213-222. https://doi.org/10.1111/nuf.12245

Alahmadi, B. A., & Alharbi, M. F. (2018). Work-related fatigue factors among hospital nurses: An integrative literature review. *Nurse Media Journal of Nursing*, *8*(2), 113-133. https://doi.org/10.14710/nmjn.v8i2.19554

Albashayreh, A., Al Sabei, S. D., Al-Rawajfah, O. M., & Al-Awaisi, H. (2019). Healthy work environments are critical for nurse job satisfaction: Implications for Oman. *International Nursing Review*, *66*(3), 389-395. https://doi.org/10.1111/inr.12529

Asghari, E., Valizadeh, L., Zamanzadeh, V., Rassouli, M., & Ghahramanian, A. (2019). The career success of nurses and its predictive factors. *The Journal of Urmia Nursing Midwifery Faculty*, *17*(1), 52-61. http://unmf.umsu.ac.ir/article-1-3658-en.html

Asghari, E., Zamanzadeh, V., Valizadeh, L., Ghahramanian, A., Rassouli, M., & Praskova, A. (2020). Development and psychometric testing of the career success in Nursing Scale. *International Nursing Review, 68*(1), 41-48. https://doi.org/10.1111/inr.12631

Chang, S., Han, K., & Cho, Y. (2020). Association of happiness and nursing work environments with job crafting among hospital nurses in South Korea. *International Journal of Environmental Research and Public Health*, *17*(11), 4042-4049. https://doi.org/10.3390/ijerph17114042

Copanitsanou, P., Fotos, N., & Brokalaki, H. (2017). Effects of work environment on patient and nurse outcomes. *British Journal of Nursing*, *26*(3), 172-176. https://doi.org/0.1111/j.1365-2834.2010.01172.x

Dan, X., Xu, S., Liu, J., Hou, R., Liu, Y., & Ma, H. (2018a). Innovative behaviour and career success: Mediating roles of self-efficacy and colleague solidarity of nurses. *International Journal of Nursing Sciences*, *5*(3), 275-280. https://doi.org/10.1016/j.ijnss.2018.07.003

Dan, X., Xu, S., Liu, J., Hou, R., Liu, Y., & Ma, H. (2018b). Relationships among structural empowerment, innovative behaviour, self-efficacy, and career success in nursing field in mainland China. *International Journal of Nursing Practice*, *24*(5), e12674. https://doi.org/10.1111/ijn.12674

Elmi, S., Hassankhani, H., Abdollahzadeh, F., Abadi, M. A. J., Scott, J., & Nahamin, M. (2017). Validity and reliability of the Persian practice environment scale of nursing work index. *Iranian Journal of Nursing and Midwifery Research*, *22*(2), 106–111. https://doi.org/10.4103/1735-9066.205953

Fitriana, V., Santoso, A., & Dharmana, E. (2021). The experiences and meanings of nurses' smiles to patients in the emergency department. *Nurse Media Journal of Nursing*, *11*(1), 104-113. https://doi.org/10.14710/nmjn.v11i1.28377

Grove, S. K., Burns, N., & Gray, J. (2012). *The practice of nursing research: Appraisal, synthesis, and generation of evidence*. Elsevier Health Sciences.

Han, F., & Wang, Z. (2017). The relationship between the working environment and the sense of career success of nurses in the emergency department. *Chinese Nursing Management*, *17*(4), 511-515. https://doi.org/10.1111/ijn.12743

Kapucu, S., Kose, T. K., Kurt, B., & Ersoy, N. A. (2017). Attitudes and satisfaction of nurses with the work environment in Turkey. *International Journal of Caring Sciences*, *10*(2), 771-780.

Kleinbaum, D. G., Kupper, L. L., Nizam, A., & Rosenberg, E. S. (2013). *Applied regression analysis and other multivariable methods*. Cengage Learning.

Lake, E. T. (2002). Development of the practice environment scale of the nursing work index. *Research in Nursing & Health*, *25*(3), 176-188. https://doi.org/10.1002/nur.10032

Li, Z., Chen, Y., & You, L. (2017). The level and factors associated with career success among nursing staff. *Journal of Nursing Science, 32*(6), 64-67.

Portero de la Cruz, S., Cebrino, J., Herruzo, J., & Vaquero-Abellán, M. (2020). A multicenter study into burnout, perceived stress, job satisfaction, coping strategies, and general health among emergency department nursing staff. *Journal of Clinical Medicine*, *9*(4), 1007. https://doi.org/10.3390/jcm9041007

Praskova, A., & Johnston, L. (2021). The role of future orientation and negative career feedback in career agency and career success in Australian adults. *Journal of Career Assessment*, *29*(3), 463-485. https://doi.org/10.1177/1069072720980174

Shahbazi, S., Valizadeh, S., Borimnejad, L., Rahmani, A., & Vaismoradi, M. (2018). Living with moral distress: The perspectives and experiences of Iranian nurse preceptors. *Research and Theory for Nursing Practice*, *32*(4), 355-369. https://doi.org/10.1891/1541-6577.32.4.355

Sönmez, B., Gül, D., İspir Demir, Ö., Emiralioğlu, R., Erkmen, T., & Yıldırım, A. (2021). Antecedents and outcomes of nurses' subjective career success: A path analysis. *Journal of Nursing Scholarship*. https://doi.org/10.1111/jnu.12660

Spurk, D., Hirschi, A., & Dries, N. (2019). Antecedents and outcomes of objective versus subjective career success: Competing perspectives and future directions. *Journal of Management*, *45*(1), 35-69. https://doi.org/10.1177%2F0149206318786563

Swiger, P. A., Patrician, P. A., Miltner, R. S. S., Raju, D., Breckenridge-Sproat, S., & Loan, L. A. (2017). The practice environment scale of the nursing work index: An updated review and recommendations for use. *International Journal of Nursing Studies*, *74*, 76-84. https://doi.org/10.1016/j.ijnurstu.2017.06.003

Tavakoli, N., Shaker, S. H., Soltani, S., Abbasi, M., Amini, M., Tahmasebi, A., & Kasnavieh, S. M. H. (2018). Job burnout, stress, and satisfaction among emergency nursing staff after health system transformation plan in Iran. *Emergency*, *6*(1), e41. https://doi.org/10.22037/emergency.v6i1.21410

Vand Tamadoni, B., Shahbazi, S., Seyedrasooli, A., Gilani, N., & Gholizadeh, L. (2020). A survey of clinical competence of new nurses working in emergency department in Iran: A descriptive, cross-sectional study. *Nursing Open*, *7*(6), 1896-1901. https://doi.org/10.1002/nop2.579

Wang, Y., Zhang, L., Tian, S., Wu, J., Lu, J., Wang, F., & Wang, Z. (2019). The relationship between work environment and career success among nurses with a master's or doctoral degree: A national cross-sectional study. *International Journal of Nursing Practice*, *25*(4), e12743. https://doi.org/10.1111/ijn.12743

Zamanzadeh, V., Valizadeh, L., Praskova, A., Ghahramanian, A., Rassouli, M., & Asghari, E. (2019). Reaching for the stars: Iranian nurses' perceptions of career success. *International Nursing Review*, *66*(1), 78-86. https://doi.org/10.1111/inr.12460