

ORIGINAL RESEARCH ARTICLE

A Study on Organizational Climate and Career Development of Nurses:

The case of Nurses in Intensive Care Units

Yawen Li¹, Ying Wu¹, Di Qian¹, Yunfeng Li²

Keywords: ICU nurse; career calling; organizational climate; thriving at work; mediation effect

ABSTRACT

Background: Defining professional calling clearly can ignite the intrinsic work drive and passion of ICU nurses and is conducive to enhancing their professional identity and sense of accomplishment. Nevertheless, only a scarce number of studies have paid attention to the relationship between the professional calling, organizational climate, and work flourishing of ICU nurses.

Objective: To comprehend the level of career calling among ICU nurses and probe into the relationship among career calling, organizational climate, and thriving at work.

Methods: A cross-sectional study was carried out with reference to 162 ICU nurses in China through an online survey, which included Career Calling Scale, Thriving At Work Scale, Organizational Climate Scale. The data were analyzed using SPSS and AMOSE software.

Results: The overall score for career calling of ICU nurses was 45.33 ± 6.02 , and the average score was 3.78 ± 0.50 , signifying a moderate degree of career calling. Age, job tenure, organizational climate, and thriving at work are the major influencing factors of career calling among ICU nurses. Thriving at work partially mediates the relationship between organizational climate and career calling.

Conclusion: The career calling of ICU nurses is at a moderate level. Nursing managers should place priority on the professional development of novice nurses. They should offer training to boost their career calling, cultivate a positive organizational climate, optimize the work environment for ICU nurses, enhance their career calling, and further promote the stable development of the department.

International Healthcare
Review (online)

eISSN: 2795-5567

How to Cite

Li, Y., Wu, ying, Qian, D., & Li, yunfeng. (2022). A study on organizational climate, thriving at work and career calling: The case of Nurses in Intensive Care Units.

International Healthcare
Review (online).
<https://doi.org/10.56226/82>

Published online:
29/December/2024

Copyright (c) 2024
Creative Commons License
This work is licensed under a
Creative Commons
Attribution 4.0 International
License.

Authors retain copyright and
grant the journal right of first
publication with the work
simultaneously licensed
under a Creative Commons
Attribution (CC-BY) 4.0
License that allows others to
share the work with an
acknowledgment of the
work's authorship and initial
publication in this journal.

Corresponding Author:

Yunfeng Li
Department of Quality
Control, The First Affiliated
Hospital of Shandong First
Medical University &
Shandong Provincial
Qianfoshan Hospital, Jinan,
China
lyf121@163.com

Authors' Affiliations:

¹ Department of Nursing, The First Affiliated Hospital of Shandong First Medical University & Shandong Provincial Qianfoshan Hospital, Jinan, 250014, China;- ² Department of Quality Control, The First Affiliated Hospital of Shandong First Medical University & Shandong Provincial Qianfoshan Hospital, Jinan, China;

What do we already know about this topic?

Career calling is a strong inner drive that transcends mere material pursuits and job interests. For nurses, a professional calling may manifest as a strong desire to alleviate patients' suffering and safeguard their health. This feeling is not just about earning a paycheck or job satisfaction; it stems from a deep inner recognition of the value of nursing work. Nurses driven by their career calling can derive higher job satisfaction, even when working under high stress and pressure, and maintain a positive attitude towards their work

What is the main contribution to Evidence-Based Practice from this article?

This study investigated the status quo of career calling of ICU nurses and analyzed its influencing factors. We can understand the differences between different nurses in career calling, and formulate scientific and effective evidence-based practice plans according to the needs of nurses with different qualifications.

What are this research's implications towards health policy?

In terms of human resources, the research results can assist health policymakers in making rational decisions regarding the size of the ICU nurse workforce and determining the standard of ICU nurse staffing. The precise design of nurse training content, the implementation of rich and varied training methods, and the establishment of incentive mechanisms can enhance nurses' sense of belonging, thus improving the talent retention rate.

Authors' Contributions Statement:

YWL: Conception and design, research preparation, literature research and collation, paper writing. YW and QD: Data collection and paper revision. YFL: Conception and design, research guidance, and paper revision. All discussed, drafted and amended the manuscript. All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

Introduction

Intensive care units (ICUs) are the core departments of hospitals, having the important status of saving critically ill patients and improving the quality and safety of hospital care. The development of their medical level and quality of care should not be neglected. Likewise, ICU nurses are required to have high professional qualities, such as being proficient in the maintenance and operation of various instruments, maintaining a high degree of vigilance and responsibility, and being able to respond quickly to various emergencies. However, the fast-paced, high-stress, and closed management work environment tends to place greater psychological and work pressure on nurses. Consequently, the career calling is at a relatively low level, which has a negative impact on nurses' physical and mental health and career development. Some studies have affirmed that a positive organizational climate can make employees feel cared for and

trusted by the organization, and can fully stimulate and mobilize their professional calling.(Bracarense et al., 2022)

Thriving at work can enhance motivation and identity at work and also encourage nurses to engage in innovative behaviors.(Yun et al., 2022) Nevertheless, the combined mechanism of the two for career calling has not been explored. Therefore, this study aims to investigate the current situation of ICU nurses' career calling from the perspectives of organizational climate and thriving at work, and analyze whether there is a mediating effect of thriving at work between organizational climate and career calling, in order to promote the development of nursing quality in China's ICUs, improve nurses' working conditions, and provide a reference for enhancing the level of ICU nurses' career calling and constructing a training program.

Background

Career Calling (CCA) refers to a strong passion within an individual for a particular field and has the attribute of positive emotions,(Duffy et al., 2019) which enhances the enjoyment of work and generates positive organizational values. Nurses with high Career Calling show a greater sense of responsibility and stimulate their own inner passion for work.(Li et al., 2024) The ICU environment is highly complex and challenging. Patients in critical conditions require nurses to demonstrate an extremely high level of professionalism and sharp observation skills. Additionally, ICU nurses must proactively seek learning opportunities and participate in professional training to master the latest medical technologies and nursing methods, thereby providing enhanced nursing services to patients. A sense of career calling can inspire ICU nurses to continuously improve their professional skills so as to better cope with various complex medical situations. A career calling can boost nurses' job satisfaction,(Huang et al., 2022) reduce burnout(Zhao et al., 2022) and the tendency to leave,(Zhang et al., 2020)and strengthen nurses' ability for innovation. A career calling can heighten nurses' job satisfaction, alleviate burnout and the propensity to leave, and enhance nurses' innovative capacity.

The organizational climate represents an intrinsic feature of the internal environment of an organization. Such an environment can be observed and experienced by organizational members, exerting a subtle influence on their work behavior, work efficiency and work attitudes. (Poghosyan et al., 2013) An organizational climate that is favorable for positive employee relations, founded on respect, trust, and support, has been demonstrated to raise job satisfaction and loyalty. Moreover, such an environment is likely

to generate greater engagement and motivation among employees, which in turn will lessen the tendency to leave and reduce burnout.(Hashimoto & Maeda, 2021) An organizational climate that emphasizes values and a sense of mission will help employees perceive the significance and value of their work, thereby triggering a sense of career calling. However, the exact nature of the relationship between organizational climate and career calling remains ambiguous.

The concept of thriving at work can be defined as a state of mind that is acquired through the collective experience of learning and work dynamics. It can be considered a key psychological driver of personal growth and development. (Goh et al., 2022) The concept of thriving at work can be defined as a positive psychological state that contributes to both individual and organizational outcomes. It can be conceptualized as an integrated state, formed through a sense of energy and learning at work.(Sun et al., 2022) In a demanding work environment such as the ICU, the chance for continuous learning and growth can enhance nurses' self-confidence and sense of professional identity, thereby laying a solid foundation for their career advancement. Furthermore, when ICU nurses feel prosperous in their work, they view their work as meaningful and valuable. This positive perception can heighten their career satisfaction and foster a greater sense of job contentment. Thriving at work has been demonstrated to exert a mediating influence across a diverse array of relationships. These include the relationship between workplace exclusion and career adjustment, (Han & Hwang, 2021)the relationship between workplace support and life satisfaction,(Zhai et al., 2020) and the relationship between

psychological resilience and work performance.(Shen et al., 2024) Furthermore, research indicates that thriving at work is associated with increased job satisfaction and reduced burnout. (Yun et al., 2022)

Based on these findings, we hypothesize that thriving at work plays a mediating role in the relationship between organizational climate and career calling.

The following three hypotheses are proposed for consideration.

H1: ICU nurses' organizational climate is positively correlated with career calling.

H2: ICU nurses' organizational climate is positively correlated with thriving at work.

H3: ICU nurses' thriving at work is positively correlated with career calling.

H4: ICU nurses' thriving at work mediates the relationship between organizational climate and career calling

Objectives

The objective of this study is to gain insight into the current career calling of ICU nurses and explore the mediating role of thriving at work in the relationship between organizational climate and career calling among.

Methods

Study design

A quantitative, cross-sectional survey research design was used.

Study setting and sampling

The scale selected for this study has been demonstrated to have high reliability, as evidenced by its extensive use in numerous previous studies and successful completion of a rigorous reliability test.

The study employed a convenience sampling method, selecting ICU nurses from Grade III and Grade A hospitals in Shandong Province as research subjects between October and December 2023.

Inclusion criteria: (1) Possession of the People's Republic of China nurse practice qualification and registration; (2) ICU working life of ≥ 1 year; (3) Informed consent and voluntary participation in this investigation.

Exclusion criteria: (1) Personnel on internship, study or reemployment; (2) Nurses who are absent from their duties due to further study, sick leave or personal leave.

Measures

The data for this study were collected via a web-based questionnaire in an anonymous way utilizing the WeChat applet Questionnaire Star as the data collection platform. In order to guarantee the veracity and caliber of the questionnaire, the questionnaire employed in this study was devised in accordance with the criteria for preliminary screening, including the designation of the respondents as nurse practitioners and the number of years they have worked in the field. To guarantee the reliability of the data obtained, each question is designated as a mandatory response, and each Internet Protocol (IP) address is permitted to be answered only once. The respondent is only permitted to submit the questionnaire once all items have been completed. Following the collection of the questionnaires, the researchers conducted a review and excluded those that had been completed in less than one minute, demonstrated a high degree of regularity, or contained obvious errors. A total of 171 questionnaires were distributed, 162 of which were deemed valid, representing an effective rate of 94.74%.

Nurse demographic information

The demographic information collected included gender, age, education, marital status, job tenure, position, title, average personal monthly income, commuting time (one-way).

Career calling scale

This study used the Career Calling Scale developed by Dobrow et al. (Dobrow & Tosti-Kharas, 2011) which is a one-dimensional scale. The scale is scored on a Likert 5-point scale consisting of 12 entries with a total score ranging from 12 to 60, with higher scores indicating higher levels of career calling. The overall Cronbach's alpha coefficient for the Career Calling Scale in this study was 0.905.

Thriving at work scale

The Thriving at work scale was used in this study which was developed by Porath et al. (Porath et al., 2012) and consists of 10 items in two dimensions: learning (5 items) and vitality (5 items). A 5-point Likert scale was used, with entries 4 and 8 reverse scored. The total score ranges from 10 to 50, with higher scores indicating higher levels of thriving at work in the study population. The Cronbach's alpha coefficient for this scale in this study was 0.853.

Organizational climate scale

The Nursing Organizational Climate Scale (NOCS) developed by He li (He et al., 2011) equine was used. The scale consisted of 4 dimensions, including fair and supportive behaviors (10 items), collegial behaviors (5 items), interpersonal climate behaviors (4 items), and intimate and aggressive climate behaviors (5 items), with a total of 24 items. The scores are based on a 5-point Likert scale, with a total score ranging from 24 to 120.

Higher scores indicate a better organizational climate. The overall Cronbach's alpha coefficient of the scale in this study was 0.947.

Data analysis

We used SPSS26.0 software for statistical description, data processing, and a common method bias test on the samples: mean \pm standard deviation ($\pm s$) for measurement data, independent sample t-test for comparison between groups; frequency and percentage (%) for count data, one-way ANOVA for comparison between groups; Pearson correlation analysis for correlation analysis of continuous variables; multivariate stepwise linear regression for analysis of ICU nurses' career calling influencing factors, AOMS was applied for mediation effect path analysis, and Bootstrap method was used to verify the significance of the mediation effect of thriving at work.

Ethical consideration

All study procedures were approved by the Ethics Committee of Shandong First Medical University (R202403280243). The study was conducted in line with the 1964 Declaration of Helsinki and followed the informed consent, respect, non-harm, impartiality and beneficence principles.

Results

Differential Analysis of Demographic Characteristics and Career Calling

Table 1 presents descriptive statistics and differential analysis. A total of 162 ICU nurses were included in the study. Of these, 46 (28.4%) were male and 116 (71.6%) were female. This ratio is in accordance with the current gender distribution of nurses in our hospitals. A total of 138 nurses (85.2%) held a bachelor's degree. The majority were concentrated in the 26-45 age group, which accounted for approximately

73% of the total. The statistical analysis of general demographic data revealed that the differences in career calling scores among nurses with different ages, job tenure,

positions, titles, marital status, and one-way commuting times were statistically significant (all $P < 0.05$).

Table 1 Comparison of Career Calling Scores of ICU Nurses with Different Characteristics (n=162)

Characteristics		Frequency (%)	Career calling Score ($\bar{x} \pm s$)	t/F	P
Gender	Male	46 (28.4)	44.15±6.66	-1.571 ^a	0.118
	Female	116 (71.6)	45.79±5.71		
Education	three-year college undergraduate	7 (4.3)	43.86±4.59	0.968 ^b	0.382
	Master's degrees or above	138 (85.2)	45.60±6.19		
	≤25	17 (10.5)	43.70±4.92		
Age	26 ~ 35	15 (9.3)	40.33±4.65	5.067 ^b	0.002
	36 ~ 45	107 (66.0)	45.46±5.90		
	36 ~ 45	34 (21)	46.41±6.24		
	≥46	6 (3.7)	49.33±2.94		
Job tenure	1 ~ 5	34 (21)	41.09±4.67	15.088 ^b	<0.001
	6 ~ 10	26 (16)	41.69±4.39		
	11 ~ 15	57 (35.2)	46.79±5.25		
	16 ~ 20	20 (12.3)	48.30±6.45		
	≥21	25 (15.4)	49.16±3.14		
Position	Nurses	150 (92.6)	45.07±6.14	-3.850 ^a	0.001
	Head nurse	12 (7.4)	48.58±2.64		
	Nurses senior nurse	37 (22.8)	42.54±5.22		
Title	nurse in charge	60 (37.0)	44.37±5.60	7.818 ^b	<0.001
	nurse in charge	58 (35.8)	47.63±6.21		
	associate chief nurse	7 (4.3)	49.14±2.73		
Marital status	Unmarried	58 (35.8)	42.60±4.67	-4.556 ^a	<0.001
	Married	104 (64.2)	46.84±6.17		
Per capita monthly income (yuan)	3000 ~ 5000	9 (5.6)	41.22±7.07	1.843 ^b	0.142
	5001 ~ 10000	94 (58)	45.41±6.09		
	10001 ~ 15000	55 (34.0)	45.62±5.72		
	>15000	4 (2.5)	48.500±2.65		
One-way commuting	<0.5	57 (35.2)	43.57±4.45	2.634 ^b	0.036
	0.5 ~ 1	79 (48.8)	46.56±6.26		

<i>time (h)</i>	1.01 ~ 1.5	17 (10.5)	44.65±8.43
	1.5 ~ 2	7 (4.3)	45.714±4.86
	>2	2 (1.2)	51.00±4.24

Common method bias test

The common method bias test was conducted using the Harman one-way test. The results showed that eight factors had eigen roots exceeding 1. The proportion of variance explained by the initial factor was 39.36%, which was below the critical value of 40%. Therefore, the existence of common method bias in this study can be ruled out.

Relevance analysis

The results of the correlation analysis demonstrated a positive correlation between ICU nurses' career calling and both perceived organizational climate ($r = 0.840$, $P < 0.001$) and thriving at work ($r = 0.595$, $P < 0.001$), as illustrated in Table 3.

Table 3 Correlation analysis of career calling, perceived organizational climate and thriving at work

	Career calling	Organizational climate	Thriving at work
Career calling	1		
Organizational climate	0.840**	1	
Thriving at work	0.595**	0.564**	1

Note: **Significant correlation at the 0.01 level (two-tailed).

Multiple linear regression analysis of factors influencing the level of career call of ICU nurses. A series of multiple linear stepwise regression analyses were carried out (with $\alpha_{in} = 0.05$ and $\alpha_{out} = 0.10$). Taking the total career calling of ICU nurses as the dependent variable and a variety of independent variables such as age,

job tenure, position, title, marital status, one-way commuting time, organizational climate score, and thriving at work score. The results indicated that age, job tenure, organizational climate, and thriving at work were the significant influencing factors of career calling ($P < 0.05$), as shown in Table 4.

Table 4 Results of multivariate stepwise linear regression analyses of factors influencing the career calling of ICU nurses

	B	SE	β	t	P
organizational climate	0.376	0.030	0.682	12.615	<0.001
thriving at work	0.182	0.053	0.168	3.433	0.001
job tenure	0.973	0.315	0.213	3.091	0.002
age	-1.294	0.584	0.139	-2.215	0.028

Note: $R = 0.862$, $R^2 = 0.744$ Adjusted: $R^2 = 0.737$, $F = 113.835$, $P < 0.001$

The mediating effect test.

The mediation effect model was constructed

using AMOS 25.0 software, with organizational climate designated as the independent

variable, career calling as the dependent variable, and thriving at work as the mediating variable. As illustrated in Table 4, the organizational climate of ICU nurses was found to have a positive predictive effect on career calling ($\beta=0.840$, $p<0.001$), while the same climate also demonstrated a positive predictive effect on thriving at work ($\beta=0.564$, $p<0.001$). Furthermore, thriving at work was also found to have a positive predictive effect on career calling ($\beta=0.178$, $p<0.001$). Additionally, the results indicated that thriving at work partially

mediated the relationship between organizational climate and career calling. The mediating effect of thriving at work between organizational climate and career calling was tested using the Bootstrap method, with the number of extractions set to 5000 and the confidence interval set to 95%. The mediating effect was 0.111, with a Bootstrap 95% CI of 0.041 to 0.175, which excludes 0, for thriving at work in the path analysis. This indicates that the mediating effect reached a significant level, and the results are shown in Table5.

Table5 Path analysis

<i>Path</i>	<i>B</i>	β	<i>S.E.</i>	<i>C.R.</i>	<i>p</i>
<i>Organizational climate-->Career calling</i>	<i>0.926**</i>	<i>0.840</i>	<i>0.047</i>	<i>19.616</i>	<i><0.001</i>
<i>Organizational climate-->Thriving at work</i>	<i>0.689**</i>	<i>0.564</i>	<i>0.080</i>	<i>8.659</i>	<i><0.001</i>
<i>Thriving at work-->Career calling</i>	<i>0.161**</i>	<i>0.178</i>	<i>0.045</i>	<i>3.582</i>	<i><0.001</i>
<i>Organizational climate-->Thriving at work-->Career calling</i>	<i>0.815**</i>	<i>0.740</i>	<i>0.055</i>	<i>14.776</i>	<i><0.001</i>

Table6 The mediating effect test.

<i>Variables</i>	<i>Effect</i>	<i>Bootstrapping 95% BC confidence interval (CI)</i>		<i>p</i>
		<i>Lower</i>	<i>Upper</i>	
<i>Indirect effect</i>	<i>0.111</i>	<i>0.041</i>	<i>0.175</i>	<i><0.001</i>
<i>Direct effect</i>	<i>0.815</i>	<i>0.707</i>	<i>0.923</i>	<i><0.001</i>
<i>Total effect</i>	<i>0.926</i>	<i>0.833</i>	<i>1.018</i>	<i><0.001</i>

Discussion

The career calling of ICU nurses is of a medium level and requires enhancement.

The results of this study showed that the career calling items of ICU nurses had an average score of 3.78 ± 0.50 points, which was slightly higher than the survey results of scholars CAO Y et al. in tertiary hospitals.(Cao et al., 2019) This finding suggests that the level of career calling among ICU nurses is at a moderate level. The reasons might be related to the high-risk working environment of nurses in the ICU.(Rivaz et al., 2020) Patients in the ICU have

complex and changeable conditions and high mortality rates, which may lead to the development of negative emotions among nurses. Prolonged exposure to the negative emotions of terminally ill patients and their families may cause a decrease in work enthusiasm among nurses. Secondly, it might be associated with the phenomenon of “valuing doctors more than nurses”. Khan et al. suggest that respect is a crucial element influencing the quality of work.(Khan et al., 2019) They contend that a lack of respect leads to heightened dissatisfaction with one's work, a

decline in professional calling, and a tendency for nurses to view their work as less valuable. This, in turn, may cause emotional distress and a reduction in their perception of the value of their profession. Therefore, it is essential to establish a friendly relationship between medical care and nursing care, strengthen the collaboration between these two fields of expertise, and recognize the value of the work performed by ICU nurses.

Age and job tenure were the factors influencing the career calling of ICU nurses. The study demonstrated that the older the ICU nurses were and the longer their working years, the higher their career calling score. Among the nurses in the study, those aged ≥ 46 years and those with working years >21 years exhibited the highest career calling score. Junior nurses are typically younger and less experienced, which can contribute to frustration when faced with challenging circumstances. The deterioration of a patient's condition or even death can lead to feelings of disappointment and disillusionment among nurses, potentially leading to a decline in their career aspirations. The production of positive and meaningful social impact represents the core of career calling.(Thompson & Bunderson, 2019) Managers should be able to leverage the new nurse's pro-social motivation, which is the desire to benefit others, and appropriately assign tasks that are more challenging than their own level. The sense of achievement that results from completing difficult work will foster appreciation for the significance of the work of ICU nurses, thereby positively influencing pro-social motivation and leading to a high average level of career calling. (Zhu et al., 2021) Older nurses typically possess more stable life, work, and family circumstances, leading to a greater propensity to invest time and energy in their professional roles.(Zhang et al., 2023) Middle-

aged nurses often have extensive clinical experience, demonstrating the capacity to adeptly navigate a range of unforeseen challenges. They are frequently acknowledged by their superiors and are more likely to perceive a sense of career value, belonging, and accomplishment, which can further enhance their career calling.

The higher the organizational climate of care the higher the level of professional calling of ICU nurses.

ICU nurses and the organizational climate ($P < 0.05$). Specifically, the more ideal the organizational climate perceived by nurses, the stronger their sense of professional calling and the higher their commitment to clinical work.(Kalhor et al., 2018) The interpersonal climate dimension was found to have the highest score, suggesting that colleagues in the surveyed ICU units had a more positive relationship with one another. This might be attributed to the fact that the intensive care units in the surveyed hospitals tend to schedule shifts in small groups, enabling ICU nurses to work more closely together compared to other non-acute areas.(Phillips et al., 2024) ICU nurses were observed to be younger, with a smaller generational gap, making it easier for them to engage in emotional exchanges. The lowest scores for closeness and aggressiveness were analyzed. This could be because the ICU is characterized by a high workload, intense pressure, and a swift work pace, which are more draining on energy and physical strength. Furthermore, there is a lack of interaction and communication outside of work, which is reflected in the reduced level of care and communication in other aspects of life.

In clinical practice, a positive organizational environment is a crucial factor in promoting the development of clinical nursing work. It can

stimulate nurses' enthusiasm for their profession and enhance their motivation to pursue excellence in their roles. Therefore, managers can adopt a platform leadership style, which focuses on creating an environment conducive to professional growth and development, providing support, and endowing nurses with a sense of autonomy and empowerment. Managers should prioritize nurses' personal growth and encourage them to actively contribute their ideas and suggestions in an inclusive and open manner. Then, they should select and implement the most effective and feasible suggestions. The objective is to establish an organizational atmosphere conducive to spiritual comparison and learning, mobilize nurses' motivation, and improve the overall nursing level in the department.

An analysis of the mediating effect of thriving at work between organizational climate and career calling.

The findings of this study suggest that thriving at work acts as a partial mediator in the relationship between organizational climate and career calling, with the mediating effect accounting for 12% of the total effect. Additionally, the results indicate that organizational climate can have an indirect impact on career calling through thriving at work. In this study, it was found that the thriving at work of ICU nurses was at a moderate to high level and was positively correlated with career calling. The learning score was slightly higher than the vitality score, which is in line with the results of previous studies.(Sun et al., 2022) This may be related to the fact that the hospital under investigation is a tertiary-level institution, which has certain requirements for in-service nurses in terms of departmental business study, title promotion, and research ability. With the gradual

integration of digital information technology into the healthcare industry, nurses in large-scale hospitals are required to have the ability to continuously learn. However, the heavy workload makes nurses feel physically and mentally exhausted, which is not conducive to the positive development of the profession. Thriving at work can be defined as a psychological state in which an individual experiences both vigor and learning at work. This reflects the vigor and growth of the individual.(Spreitzer et al., 2005) When work is in a flourishing state, nurses show greater vitality, resilience, and agility in the face of difficulties and stimulate innovative motivation and behavior. However, if nurses lack vitality but persist in learning, it can lead to energy depletion and an increased risk of nurses leaving the profession. Therefore, it is important to strike a balance between emphasizing nurses' learning and maintaining their own vitality.

A favorable organizational climate has the potential to evoke positive emotions and enhance nurses' energy and learning capacity in the workplace. In turn, sustained learning can stimulate nurses' intrinsic motivation to engage in work. The existing literature shows that a climate of trust and respect, information sharing, and other favorable external situational factors can promote nurses' thriving at work. It is the responsibility of managers to recognize and respect the value of nurses, (Jackson, 2022) motivate and inspire them to improve their professional practice and explore their own potential, encourage nurses to solve difficulties encountered in their work through active learning, and provide timely advice or feedback when necessary. This will facilitate the formation of a positive information-sharing atmosphere and enable the common development of individuals and

organizations.(Leigh et al., 2019)

Limitations

This study is a cross-sectional survey, which has limitations in describing the situation at a specific time point. Moreover, it is currently impossible to determine the causal relationship between career calling, organizational climate, and thriving at work. However, future research can conduct longitudinal studies to further explore the mechanism of the role of each of these factors. Secondly, the sample of this study was taken from a single province, which limits its representativeness. In future studies, considering multi-center and large-sample studies would be beneficial to reduce the influence of regions and enhance the representativeness of the study. Thirdly, it should be noted that the results of this survey were obtained through ICU nurses filling out the questionnaires independently, which may lead to subjective bias. Therefore, in subsequent studies, performance evaluation could be incorporated or the evaluation results from a third-party perspective, such as that of colleagues and managers, could be referred to. Additionally, a mixed research methodology

could be adopted to gain a comprehensive understanding of the actual situation of nurses.

Conclusion

The quality of nursing care provided in the ICU is of the greatest significance for the well-being of patients. The results of this study indicate that the career calling of ICU nurses is at a moderate level. The main factors influencing career calling include age, job tenure, organizational climate and thriving at work. Among these, thriving at work plays a partially mediating role between organizational climate and career calling. Hence, it is recommended that nursing managers adopt a more comprehensive approach to managing their nursing staff, with a particular emphasis on the physical and mental well-being of nurses, career development and psychological well-being of those with less seniority, cultivating positive relationships among nurses, creating a positive organizational atmosphere within the unit, and improving the current situation of nurses' thriving at work. The goal of this approach is to enhance the level of professional calling of ICU nurses.

RECEIVED: 2/October/2024 ● ACCEPTED: 26/ November /2024 ● TYPE: Original Research Article ● FUNDING: The authors received no financial support for the research, authorship, and/or publication of this article ● DECLARATION OF CONFLICTING INTERESTS: The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. ● Availability of data and materials data is available from the corresponding author on reasonable request ● Ethics approval and consent to participate: All study procedures were approved by the Ethics Committee of Shandong First Medical University (R202403280243). The study was conducted in line with the 1964 Declaration of Helsinki. All participants were required to sign an informed consent form prior to participation.

References

- Bracarense, C. F., Costa, N. D. S., Raponi, M. B. G., Goulart, B. F., Chaves, L. D. P., & Simões, A. L. A. (2022). Organizational climate and nurses' turnover intention: a mixed method study. *Rev Bras Enferm*, 75(4), e20210792. <https://doi.org/10.1590/0034-7167-2021-0792>
- Cao, Y., Liu, J., Liu, K., Yang, M., & Liu, Y. (2019). The mediating role of organizational commitment between calling and work engagement of nurses: A cross-sectional study. *Int J Nurs Sci*, 6(3), 309-314. <https://doi.org/10.1016/j.ijnss.2019.05.004>
- Dobrow, S. R., & Tosti-Kharas, J. (2011). Calling: The development of a scale measure. *Personnel psychology*, 64(4), 1001-1049. <https://doi.org/10.1111/j.1744-6570.2011.01234.x>
- Duffy, R. D., Douglass, R. P., Gensmer, N. P., England, J. W., & Kim, H. J. (2019). An initial examination of the work as calling theory. *J Couns Psychol*, 66(3), 328-340. <https://doi.org/10.1037/cou0000318>
- Goh, Z., Eva, N., Kiazad, K., Jack, G. A., De Cieri, H., & Spreitzer, G. M. (2022). An integrative multilevel review of thriving at work: Assessing progress and promise. *Journal of organizational behavior*, 43(2), 197-213. <https://doi.org/10.1002/job.2571>
- Han, M.-C., & Hwang, P.-C. (2021). Who will survive workplace ostracism? Career calling among hotel employees. *Journal of Hospitality and Tourism Management*, 49, 164-171. <https://doi.org/10.1016/j.jhtm.2021.09.006>
- Hashimoto, H., & Maeda, K. (2021). Collegial Organizational Climate Alleviates Japanese Schoolteachers' Risk for Burnout. *Front Psychol*, 12, 737125. <https://doi.org/10.3389/fpsyg.2021.737125>
- He, L., Li, Q., & Mang, J. (2011). Development and the reliability and validity test of organizational climate scale for nursing. *Chinese Journal of Modern Nursing*, 17(8), 873-875. <https://doi.org/10.3760/cma.j.issn.1674-2907.2011.08.002>
- Huang, X., Chen, H., Gao, Y., Wu, J., Ni, Z., Wang, X., & Sun, T. (2022). Career Calling as the Mediator and Moderator of Job Demands and Job Resources for Job Satisfaction in Health Workers: A Cross-Sectional Study. *Front Psychol*, 13, 856997. <https://doi.org/10.3389/fpsyg.2022.856997>
- Jackson, J. (2022). "I love the job..." Thriving in nursing: A qualitative interview study with framework analysis. *Int Emerg Nurs*, 62, 101172. <https://doi.org/10.1016/j.ienj.2022.101172>
- Kalhor, R., Khosravizadeh, O., Moosavi, S., Heidari, M., & Habibi, H. (2018). Role of Organizational Climate in Job Involvement: A Way to Develop the Organizational Commitment of Nursing Staff. *J Evid Based Integr Med*, 23, 2515690x18790726. <https://doi.org/10.1177/2515690x18790726>
- Khan, N., Jackson, D., Stayt, L., & Walthall, H. (2019). Factors influencing nurses' intentions to leave adult critical care settings. *Nurs Crit Care*, 24(1), 24-32. <https://doi.org/10.1111/nicc.12348>
- Leigh, J., Littlewood, L., & Lyons, G. (2019). Reflection on creating a coaching approach to student nurse clinical leadership development. *Br J Nurs*, 28(17), 1124-1128. <https://doi.org/10.12968/bjon.2019.28.17.1124>
- Li, F., Zhou, Y., & Kuang, P. (2024). Thriving at work, career calling, and moral distress among nurses. *Nurs Ethics*, 31(5), 919-929. <https://doi.org/10.1177/09697330231215948>
- Phillips, E. K., Dunsford, J., Van Haute, S., Thronson, K., & Schultz, A. S. H. (2024). A strengths-based qualitative exploration of critical care nurses' reasons for remaining in critical care. *J Adv Nurs*. <https://doi.org/10.1111/jan.16092>
- Poghosyan, L., Nannini, A., & Clarke, S. (2013). Organizational climate in primary care settings: implications for nurse practitioner practice. *J Am Assoc Nurse Pract*, 25(3), 134-140. <https://doi.org/10.1111/j.1745-7599.2012.00765.x>
- Porath, C., Spreitzer, G., Gibson, C., & Garnett, F. G. (2012). Thriving at work: Toward its measurement, construct validation, and theoretical refinement. *Journal of organizational behavior*, 33(2), 250-275. <https://doi.org/10.1002/job.756>
- Rivaz, M., Asadi, F., & Mansouri, P. (2020). Assessment of the Relationship between Nurses' Perception of Ethical Climate and Job Burnout in Intensive Care Units. *Invest Educ Enferm*, 38(3). <https://doi.org/10.17533/udea.iee.v38n3e12>
- Shen, Z. M., Wang, Y. Y., Cai, Y. M., Li, A. Q., Zhang, Y. X., Chen, H. J., Jiang, Y. Y., & Tan, J. (2024). Thriving at work as a mediator of the relationship between psychological resilience and the work performance of clinical nurses. *BMC Nurs*, 23(1), 194. <https://doi.org/10.1186/s12912-024-01705-6>
- Spreitzer, G., Sutcliffe, K., Dutton, J., Sonenshein, S., & Grant, A. M. (2005). A socially embedded model of thriving at work. *Organization science*, 16(5), 537-549. <https://doi.org/10.1287/orsc.1050.0153>
- Sun, T., Zhang, S. E., Yin, H. Y., Li, Q. L., Li, Y., Li, L., Gao, Y. F., Huang, X. H., & Liu, B. (2022). Can resilience promote calling among Chinese nurses in intensive care units during the COVID-19 pandemic? The mediating role of thriving at work and moderating role of ethical leadership. *Front Psychol*, 13, 847536. <https://doi.org/10.3389/fpsyg.2022.847536>
- Thompson, J. A., & Bunderson, J. S. (2019). Research on work as a calling... and how to make it matter. *Annual Review of Organizational Psychology and Organizational Behavior*, 6(1), 421-443. <https://doi.org/10.1146/annurev-orgpsych-012218-015140>
- Yun, Z., Zhou, P., & Zhang, B. (2022). High-Performance Work Systems, Thriving at Work, and Job Burnout among Nurses in Chinese

- Public Hospitals: The Role of Resilience at Work. *Healthcare (Basel)*, 10(10). <https://doi.org/10.3390/healthcare10101935>
- Zhai, Q., Wang, S., & Weadon, H. (2020). Thriving at work as a mediator of the relationship between workplace support and life satisfaction. *Journal of Management & Organization*, 26(2), 168-184. <https://doi.org/10.1017/jmo.2017.62>
- Zhang, L., Jin, T., & Jiang, H. (2020). The Mediating Role of Career Calling in the Relationship Between Family-Supportive Supervisor Behaviors and Turnover Intention Among Public Hospital Nurses in China. *Asian Nurs Res (Korean Soc Nurs Sci)*, 14(5), 306-311. <https://doi.org/10.1016/j.anr.2020.08.011>
- Zhang, S., Tong, C., Zeng, T., Ye, J., & Peng, W. (2023). Status quo and influencing factors of career calling among operating room nurses in tertiary hospitals *Journal of Nursing Science*, 38(7), 6-9. <https://doi.org/10.3870/j.issn.1001-4152.2023.07.006>
- Zhao, X., Wu, K., Sun, B., & Li, W. (2022). Teacher career calling reduces burnout: The mediation effects of work engagement and psychological capital. *Front Psychol*, 13, 988467. <https://doi.org/10.3389/fpsyg.2022.988467>
- Zhu, Y., Chen, T., Wang, J., Wang, M., Johnson, R. E., & Jin, Y. (2021). How critical activities within COVID-19 intensive care units increase nurses' daily occupational calling. *J Appl Psychol*, 106(1), 4-14. <https://doi.org/10.1037/apl0000853>