- *Basic Research*

Entrepreneurial Orientation and Organizational Culture among Head Nurses: As Keys for Organizational Effectiveness

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Abstract

Background: Entrepreneurial orientation and organizational culture are the most common tactics for effectiveness in the current competitive environment. The research aimed to assess entrepreneurial orientation and organizational culture among head nurses and its relations to organizational effectiveness. Research design: Descriptive correlational design was applied. Setting: The study was conducted in all medical and surgical units (57) in Benha University Hospital. Sampling: All available head nurses and their assistants (86) working in the previously mentioned setting. Instruments: Four sections were used for data collection; Personal data of the participants, Entrepreneurial Orientation Scale, Organizational Culture Assessment Instrument & Organizational Effectiveness Scale. Results: Revealed that more than half (52.3% and 58.1%) of the studied head nurses had a high entrepreneurial orientation and positive perception of organizational culture, respectively. Also, nearly half (48.8%) had a high perception of organizational effectiveness in the studied setting. Conclusion: There was a highly statistically significant positive correlation between head nurses' perception of entrepreneurial orientation and organizational culture, with organizational effectiveness at (P value < 0.01). The study recommended: Supporting the head nurses' autonomy, job flexibility, and security by providing organizational culture contributes to the explosion of energies and the generation of ideas that lead to organizational effectiveness.

Keywords: Entrepreneurial, Head Nurses, Orientation, Organizational Culture, Organizational Effectiveness.

Introduction

Encourage social and economic development through entrepreneurship training and creation training, are involved in missions of the 21st century and rank at the top of the list of important components that every organization, whether how small or large, recent or long-established needs. Miller established the idea of entrepreneurship in 1983. Covin and Slevin contributed substantially to this idea in 1988 by operationalizing innovativeness, risk-taking, and pro activeness. Lumpkin and Dess described entrepreneurship as the actions, procedures, techniques, and decision-making processes that create a new venture **(Wardan et al., 2020)**.

Entrepreneurial orientation (EO) is a component of the concept of organizational orientation. It is recognized as a significant construct that fosters the organization's uniqueness in order for it to thrive in the new competitive environment. In addition, it is a culture devoted to innovative products and services with novel concepts and the courage to accomplish the greatest possible benefit. In other words, it is a set of behaviors and strategies aimed at promoting and utilizing staff creativity and innovation for the organization's long-term success and growth. **(Kalamaki et al., 2021)**.

Entrepreneurial orientation represents the leadership vision and guides the internal efforts required for creating breakthroughs that generate value for customers and the organization that services them. Healthcare entrepreneur is a unique combination of innovation and healthcare communication that is essential for enhancing health, economic growth, and sustainable development. In conclusion, entrepreneurial conduct within a hospital consists of behaviors and mindsets that increase the organization's taking risks has evolved capability and make it simple to discover possibilities and create new things in order to gain an edge over competitors and demonstrate outstanding performance **(Mahfuz et al., 2020)**.

Entrepreneurial orientation is key when executives are developing strategies to do something different and capitalize on opportunities that other organizations cannot capitalize on. So, the managers must be familiar with it and understand and implement it in the organization by clarifying the concept of entrepreneurial orientation and connecting it to performance. Any organization's EO level contains five dimensions; innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy **(Genc et al., 2019)**.

The first dimension is innovativeness, which is the disposition to cultivate invention and exploration. Certain breakthroughs build on current expertise to produce minor enhancements, whereas revolutionary changes necessitate entirely novel abilities and may render existing skills outdated. Innovation seeks to create novel goods, services, and procedures in any case. Organizations that are successful in their efforts to innovate outstrip those that are not. The second dimension is risk-taking, which is the propensity to engage in audacious rather than

cautious behavior. Innovators are unaware of their actions as hazardous, and the majority act only after reducing uncertainty through preparation and forecasting (**Abu-Rumman** *et al.,* **2021**).

The third dimension is being proactive, which refers to the ability to anticipate future needs and desires and design services to satisfy them. Utilizing opportunities and launching new services before competition is another way to explain this phenomenon. One aspect is being aggressive and creating prospects, while the other is attaining those possibilities and meeting the needs of customers (**Lumpkin & Pidduck, 2021**).

The fourth dimension is competitive aggressiveness, which refers to the propensity to confront competitors with greater intensity and directness as opposed to attempting to evade them. Price reductions and an increase in marketing, quality, and production capacity are examples of aggressive strategies. Finally, autonomy refers to the nurse's freedom to develop and execute entrepreneurial ideas within the organization. In organizations with a high level of autonomy, nurses are granted the autonomy necessary to bring a new idea to fruition, unfettered by bureaucratic constraints. (**Pelealu, 2022**).

There are some factors affecting entrepreneurship as some personality traits, such as self-assurance, the capacity for taking risks, the drive for success, locus of control, past experiences, and cultural factors that are connected to nurses might push or pull on them. Nursing interactions are governed by cultural norms, which are behavioral patterns. It facilitates the differentiation of nurses. Every organization has a unique culture reflected in its practices, values, beliefs, expectations, and presumptions. Thus, head nurses in an organization must provide the understanding and instill organizational culture and values, both formal and informal, so that nurses in the organization want to understand the organization's vision and goals and integrate themselves as an integral part of the organizational culture system. (**Nwosu** *et al.,* **2022**)

Organizational culture is defined as a set of shared values and norms. Nurses who participate in all aspects of the organization constitute an effective organizational culture. As a result, organizational culture is inextricably linked to the environment. Organizational culture is the beliefs, ideologies, principles, and values those nurses of an organization share. These underlying values impact organizational nurses' behavior because nurses rely on these values to guide their decisions and actions. This culture is a determining factor in the organization's success, suggesting that culture influences nurses' attitudes, and those attitudes, in turn, impact organizational effectiveness. The purpose of organizational culture is to generate the desired outcomes of the company's obligations and duties to nurses. If members adhere to the predetermined standards and principles, the role of culture will generate behaviors in the nurses themselves (**Khan** *et al.,* **2020**).

Aldhuwaihi (2013) investigated multiple factors for evaluating organizational culture; prevalent features reflect the fundamental principles, mindsets, and processes that govern an organization. Organizational Leadership refers to the behavior and manner in which the organization's personnel exercises authority. Medical leadership encompasses both hospital managers and hospital directors. Staff leadership reflects how hospitals organize and administer their human resources. The mechanism that functions as a link and connects the entire organization's staff is referred to as hospital glue. Strategic priorities are the organization's outstanding integration into its environment to ensure its survival, expansion, prosperity, and progress criteria; a list of the factors that contribute to the organization's success.

If the culture of an organization diverges from the evolving standards of its internal and/or outside stakeholders, its efficacy may decrease. In other words, an organization's capacity to manage human resources has a significant influence on its culture and efficacy. Since the birth of organizational theory, organizational effectiveness (OE) has been one of the most contentious and challenging issues. The concept of OE is concerned with issues such as an organization's access to and exploitation of resources to accomplish its goals. There is no universal model for organizational efficacy (**Kareem & Hussein, 2019**).

The effectiveness of an organization is its capacity to execute a function with optimum input and output levels. Improving the effectiveness of organizations is a vital concern for the survival of any organization. This must be accomplished through the implementation of crucial organizational effectiveness factors. It aids in evaluating progress toward mission fulfillment and goal attainment, so management should strive to enhance interactions, interaction, leadership, inspiration, and culture within the organization to increase the organization's efficiency. (**Anwar & Abdullah, 2021**).

Sangeeta (2014) studied sixteen factors and six dimensions for organizational effectiveness; Job satisfaction comprised of three factors; job prospects and work conditions, job commitment and shared values, and work satisfaction. Intrinsic motivation comprises Work ambition and drive and a transparent system. Job flexibility and security comprise four factors: Job autonomy, decisive Leadership and job security, organization policy, and job involvement. Leadership comprises two factors: Job role and responsibility and work environment. Organizational commitment comprises two factors: Organizational ownership and pride and organizational loyalty. Finally, Organizational vision comprises three factors: Realistic organizational planning, work culture, and job recognition.

Significance of the research

The fast-paced global changes force organizations to be dedicated to entrepreneurship to thrive. Entrepreneurial orientation is a key source of intangible value for organizations by highlighting the new opportunities to be the driving force supported by organizational culture. It is a significant strategic resource that can gain a strong competitive advantage by improving operational and process efficiency that supports organizational effectiveness. Entrepreneurial orientation is the practice of taking chances, looking for opportunities, and participating in the creation process to translate ideas into reality. Therefore, entrepreneurial orientation has been fostering and developing an entrepreneurial culture influenced by an organizational culture that, in turn, improves organizational effectiveness. From this point of view, entrepreneurship, organizational culture, and effectiveness are very important subjects for any organization to reach desired objectives. Therefore, this study assessed entrepreneurial orientation and organizational culture among head nurses and its relation to organizational effectiveness.

Aim of the research

This research was carried out to assess entrepreneurial orientation and organizational culture among head nurses and its relations to organizational effectiveness in Benha University Hospital.

Research questions:
A number of inquiries were devised to achieve the research's objective:

RQ1: What is the head nurses' perception level of entrepreneurship orientation?

RQ2: What is the head nurses' perception level of organizational culture?

RQ3: What is the head nurses' perception level of organizational effectiveness?

RQ4: Is there a relation between entrepreneurial orientation, organizational culture, and organizational effectiveness as head nurses perceived?

Subjects and method

Research design

To accomplish the purpose of this study, a descriptive correlational approach was employed.

Research setting

The existing study has been carried out at all Benha University Hospital medical and surgical units. It is a comprehensive educational facility linked with a government university in Egypt's Qalyubia Governorate that offers an extensive range of health services. The total bed capacity is 786, and the annual utilization rate is 90%. The facility is outfitted with modern international apparatus and instrumentation. The hospital is comprised of three distinct buildings: a medical building with 412 beds, a surgical building with 231 beds, and

an ophthalmic building with 143 beds.

Participants

All available head nurses and their assistants (86) working in the previously mentioned setting were participated.

Instruments for data collection

Four sections were used to collect data:

Section (1): Personal Data for the Participants, containing age, sex, marital status, educational qualifications, years of nursing experience, and attending previous entrepreneurship courses.

Section (2): Entrepreneurial Orientation Scale:

Nasri and Zekovksi (2014) created the instrument to assess the perception of entrepreneurial orientation among head nurses. The instrument includes 18 items organized into the following five domains such as: Innovativeness (three items), Risk-taking (three items), Proactiveness (three items), Competition aggressiveness (three items), and Independence (six items). The Entrepreneurial Orientation Scale is a Likert scale with five points with responses ranging from strongly disagree (1) to strongly agree (5), the obtained score ranges from 18 to 90. The level of entrepreneurial orientation is high if the percentage score is 75% or higher, which corresponds to 68 to 90 points, moderate if the percentage score is between 60% and less than 75%, which corresponds to 54 to 67 points, and low if the percentage score is less than 60%, which corresponds to less than 54 points, based on the threshold of 60%.

Section (3): Organizational Culture Assessment Instrument:

The instrument was created by researchers after a review of relevant literature (**Elgamal, 2018; Taylor, Santiago, & Hynes, 2019**) and was intended to evaluate the perceptions of organizational culture held by head nurses. It included of 26 items and encompassed six dimensions: Dominant characteristics (six items), Organizational Leadership (four items), Management of staff (four items), Organization glue (four items), Strategic emphasis (four items), and Success criteria (four items). On a Likert scale with five points, responses ranged from strongly disagree (1) to strongly agree (5). The result obtained covers a range of 26 to 130; consequently, the level of head nurses' perception of organizational culture is positive if the percentage score is 60% or higher, which corresponds to 78 to 130 points, and low if the percentage score is less than 60%, which corresponds to 26 to 77 points, based on the 60% cut-off point.

Section (4): Organizational Effectiveness Scale:

It was adopted by **Sangeeta (2014)**, and researchers modified it to ascertain the perception of the effectiveness of organizations among head nurses. It comprised of 46 items which are distributed into six principal dimensions: Job satisfaction (15 items), Intrinsic motivation (3 items), Job flexibility and security (10 items), Leadership (6

items), Organizational commitment (5 items), and Organizational vision (7 items). On a five-point Likert scale, responses ranged from strongly disagree (1) to strongly agree (5). The obtained score ranges from 46 to 230; thus, the level of head nurses' perception is a high level of organizational effectiveness (75%), which corresponds to (172-230 points), a moderate level of organizational effectiveness (60%- 75%), which corresponds to (138-171 points), and a low level of organizational effectiveness (60%), which corresponds to (46-137 points).

Validity of the measuring instruments:

The instruments for data collection were translated into Arabic by the researchers. A professional translator performed the translation-back translation. A council of seven experts in the field of the study confirmed the face and content validity of the instruments. The feedback was taken into account, and a few items were reworded.

Pilot study:

A pilot study was applied over one month (October 2021) to assess the feasibility, practicability, and usability of the tools, the lucidity of the language, and the time required to complete each tool. The pilot research was conducted on 10% of the total subjects and consisted of (9) head nurses from Benha University Hospital. Since the pilot study revealed no significant differences, this sample was included in the main sample. The instrument was finalized based on the pilot study's findings.

Reliability of the instruments:

By using Cronbach's Alpha test, the instruments' internal consistency and homogeneity were evaluated to determine their reliability. The entrepreneurial orientation scale had a reliability of 0.97, the organizational culture assessment instrument had a reliability of 0.91, and the organizational effectiveness scale had a reliability of 0.93.

Data collection procedure

Dean of the Faculty of Nursing approval letters were sent to the Director of Benha University Hospital to obtain official permission for data collection and to elucidate the purpose of the study. After explaining the nature and purpose of the study, the questionnaires were distributed to each participant (head nurses and assistants head nurses) during work hours. Researchers organized and grouped participants in small groups to facilitate their contribution in accordance with their units' needs and activities. They also provided instructions on how to fill out the instruments. During data collection, researchers met with participants twice a week (on Mondays and Wednesdays) for clarification and modified their completeness to avoid the absence of information from the head nurses and assistant head nurses. This process, which lasted two months, facilitated the participation of the participants. 10–15 minutes were required to complete the entrepreneurial orientation scale, 15–20 minutes for the organizational culture assessment instrument, and 20–25 minutes for the organizational effectiveness scale.

Ethics considerations

After obtaining approval from the research committee of the Faculty of Nursing and the study settings for data collection, with due consideration for the ethical norms of research and the rights of the participants, the present investigation received ethical approval. All participants received a confidentiality guarantee, and their data was only utilized for research. Each attendee has the right to leave at any moment. The aim of the study and the procedure for completing the questionnaire were fully described to the head nurses and assistant head nurses prior to their completion.

Statistical examination

Data were validated prior to computer entry. For this purpose, the Statistical Package for the Social Sciences (SPSS version 26.0) was utilized, followed by data analysis and tabulation. Number, frequency, Mean, and standard deviation values were provided to estimate the levels of entrepreneurial orientation, organizational culture, and organizational effectiveness as perceived by head nurses. To determine the significance of the difference between the means of continuous variables, an Independent t-test and ANOVA test was used to compare the means of two and more than two continuous variables. Using the Pearson correlation coefficient test, to examine the correlation between two continuous variables. Significant level values were defined as $p \leq 0.05$ and highly significant level values as $p \leq 0.001$.

Results

Table (1): Demonstrates that fewer than half (47.7%) of the studied head nurses were between the ages of 35 and 45, with an average age of 38.28 ± 3.20 years. Regarding sex and marital status, most of them were female (79.1%) and married (91.9%). Slightly less than three-quarters (74.4%) of them held a Bachelor of Nursing Science degree, and over half (55.8%) had between fifteen and twenty-five years of experience, with a mean experience of 15.16 ± 3.11 years. In addition, all head nurses (100%) of the studied had not attended previous courses in entrepreneurship.

Figure (1): Reveals that more than half (58.1%) of the studied head nurses positively perceived organizational culture. On the other hand, nearly two-fifths (41.9%) had a negative perception of organizational culture.

Figure (2): Illustrates that nearly half (52.3% &48.8%) of the studied head nurses had a high perception of entrepreneurial orientation and organizational effectiveness, respectively. At the same time, nearly one-fifth (17.5%& 23.3%) had a low perception, respectively.

Table (2): Shows total mean scores for all dimensions of head nurses' perception regarding entrepreneurial orientation, organizational culture, and effectiveness were 44.65±3.92 &81.04±3.66 &136.43±5.81, respectively. First ranking of entrepreneurial orientation dimensions with highest mean score of 9.01±2.61 with a mean percent of 60.1 % was related to innovativeness dimension. At the same time, last ranking with lowest mean score of 12.59±3.95 with a mean percent of 42.0% was related to autonomy dimension. Regarding organizational culture, first ranking, with highest mean score of 14.05±1.23 with a mean percent of 70.2 %, was related to organizational leadership dimension. In contrast, last ranking, with lowest mean score of 11.63±2.37 with a mean percent of 58.1%, was related to management of staff dimension. Regarding organizational effectiveness, first ranking, with highest mean score of 22.57±1.24 with a mean percent of 75.2 %, was related to leadership dimension. In contrast, last ranking, with lowest mean score of 16.84±5.71 with a mean percent of 33.7%, was related to job flexibility and security dimension.

Table (3): Demonstrates that highly statistically significant relations were found between head nurses' educational qualifications and entrepreneurial orientation, organizational culture, and effectiveness. Also, there were statistically significant positive relations between head nurses' experience years and their perception of entrepreneurial orientation, organizational culture, and effectiveness. In contrast, no statistically significant relations were found between head nurses' age, sex, and marital status and their perception of entrepreneurial orientation, organizational culture, and effectiveness.

Table (4): Reflects highly statistically significant positive correlation between head nurses' perception of entrepreneurial orientation and organizational culture, with organizational effectiveness at (p<0.001).

Table (1): Frequency distribution of the studied head nurses regarding their data (n=86)

| Personal data		N.	%
Age	25: <35	16	18.6
	35: <45	**41**	**47.7**
	≥ 45	29	33.7
	M±SD	**38.28±3.20**	
Sex	Female	**68**	**79.1**
	Male	18	20.9
Marital status	Married	**79**	**91.9**
	Unmarried	7	8.1
Educational qualifications	Bachelor of Nursing Science	**64**	**74.4**
	Others post graduated	22	25.6
Years of experience in nursing work	5: <15	30	34.9
	15: <25	**48**	**55.8**
	≥ 25	8	9.3
	M±SD	**15.16±3.11**	
Attending previous courses in entrepreneurship	No	**86**	**100.0**
	Yes	-	-
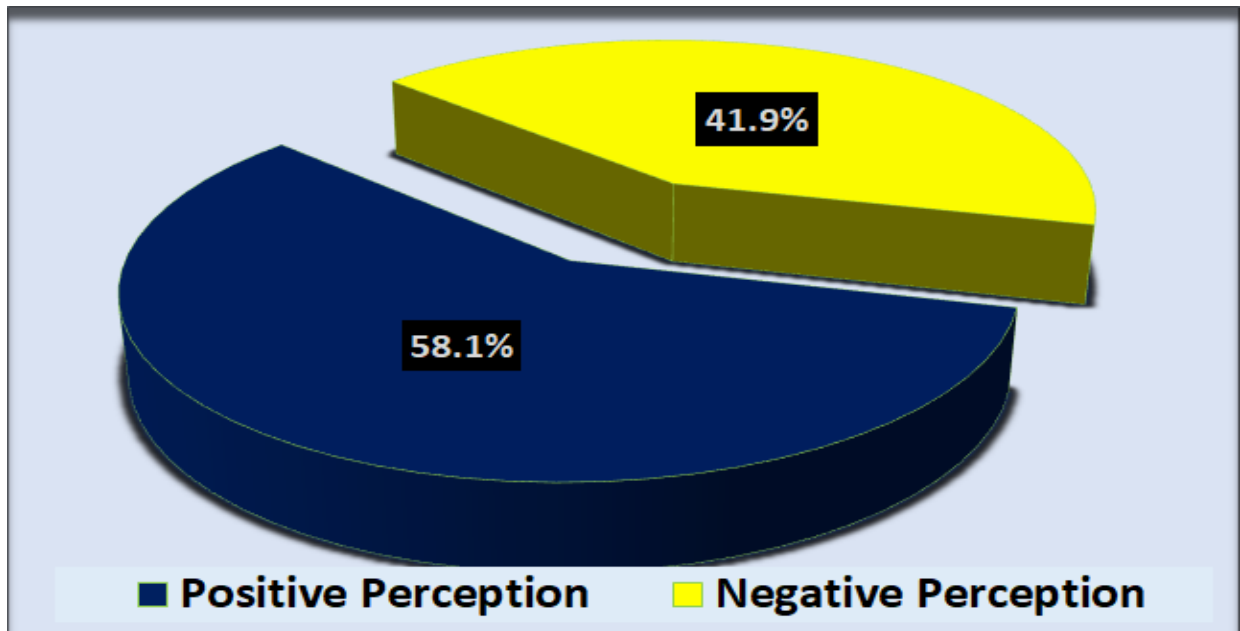
Figure (1): Total levels of perception regarding organizational culture among the studied head nurses
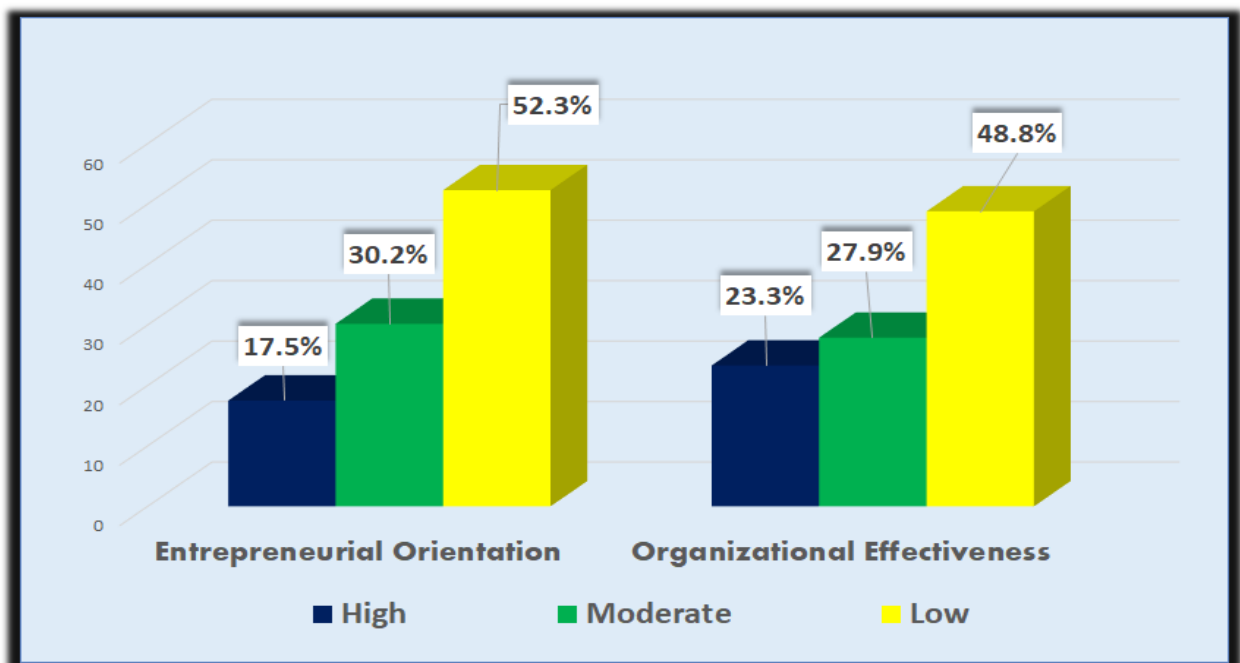

Figure (2): Total levels of perception regarding entrepreneurial orientation and

organizational effectiveness among the studied head nurses

Table (2): Ranking with mean scores and standard deviation of entrepreneurial orientation, organizational culture, and effectiveness as perceived by the studied head nurses (n=86)

Variables	Maximum Score	Mean±SD	Mean%
Total entrepreneurial orientation	**90**	**44.65±3.92**	
Innovativeness	15	9.01±2.61	60.1
Risk-taking	15	7.63±2.56	50.9
Proactiveness	15	8.93±1.70	59.5
Competitive aggressiveness	15	6.49±2.18	43.3
Autonomy	30	12.59±3.95	42.0
Total organizational culture	**130**	**81.04±3.66**	
Dominant characteristics	30	17.49±2.03	58.3
Organizational Leadership	20	14.05±1.23	70.2
Management of staff	20	11.63±2.37	58.1
Organization glue	20	13.85±1.19	69.2
Strategic emphases	20	11.90±3.26	59.5
Criteria of success	20	12.12±1.55	60.6
Total organizational effectiveness	**230**	**136.43±5.81**	
Job satisfaction	75	50.88±4.03	67.8
Intrinsic motivation	15	7.55±1.93	50.3
Job flexibility and security	50	16.84±5.71	33.7
Leadership	30	22.57±1.24	75.2
Organizational commitment	25	12.61±4.27	50.4
Organizational vision	35	25.98±3.15	74.2

Table (3): Relation between entrepreneurial orientation, organizational culture, and effectiveness with personal data of the studied head nurses (n=86)

Personal data	Entrepreneurial orientation	Organizational culture	Organizational effectiveness
Age (years)	Mean±SD	Mean±SD	Mean±SD
25: <35	34.16±3.31	30.60±0.06	27.85±3.13
35: <45	33.66±4.50	30.00±6.55	30.00±1.14
≥ 45	35.00±1.12	31.33±2.25	35.00±2.82
F value/p-value	1.183 / 0.240	1.092 / 0.278	0.986 / 0.327
Sex			
Female	21.43±2.39	19.58±1.43	25.38±3.66
Male	17.08±1.97	11.61±0.22	13.00±0.14
t value/p-value	1.940 / 0.171	1.542 / 0.227	1.477 / 0.241
Marital Status			
Married	39.87±5.84	37.71±8.65	38.50±7.05
Un-married	22.38±7.26	35.00±2.82	39.66±10.11
t value/p-value	1.940 / 0.171	1.542 / 0.227	1.477 / 0.241
Educational qualifications			
Bachelor of Nursing Science	101.34±0.30	140.10±20.32	133.25±24.56
Other post graduated qualification	93.27±9.16	128.50±31.63	105.73±22.96
t value/p-value	12.372 / 0.001**	14.697/ 0.001**	9.286 / 0.001**
Years of experience in nursing work(years)			
5: <15	39.17±3.72	48.78±5.73	39.00±5.91
15: <25	66.58±4.10	38.75±7.17	37.80±6.57
≥ 25	48. 01±0.57	29.50±2.12	41.55±6.44
F value/p-value	3.120 / 0.003*	3.050/ 0.003*	2.843 / 0.050*

*Significant at ($P < 0.05$)   ** highly significant at ($P < 0.001$)   F= One way ANOVA
t= Independent t-test

Table (4): Correlation between total score of head nurses' perception of entrepreneurial orientation and organizational culture, with organizational effectiveness (n=86)

Variables		Total entrepreneurial orientation	Total organizational culture	Total organizational effectiveness
Total entrepreneurial orientation	r	--	0.392	0.377
	P	--	0.001**	0.001**
Total organizational culture	r	0.392	--	0.445
	P	0.001**	--	0.000**
Total organizational effectiveness	r	0.377	0.445	--
	P	0.001**	0.000**	--

** Highly significant at (P < 0.001)   r: Pearson coefficient

Discussion

Organizations with highly talented nurses who uphold healthy and positive relationships in the workplace, achieve corporate goals, and acquire all operational resources will remain and thrive in today's competitive business environment. Organizations must have a vision that encourages and supports creativity and taking chances in order to be effective. Entrepreneurial orientation is a concept that represents the entrepreneurial nature of an organization. With the changes occurring in the external climate **(Pelealu, 2022)**. The present study aimed to assess entrepreneurial orientation and organizational culture among head nurses and its relations to organizational effectiveness.

According to the current study results, the study sample was less than half of their age ranged between 35 to less than 45 years, the majority of them female and married, their educational qualification nearly three-quarters had a Bachelor of Nursing. More than half had experience ranging between fifteen to less than twenty-five years; besides, all of the study sample had not attended previous courses in entrepreneurship.

Regarding the overall levels of head nurses' perceptions of entrepreneurial orientation, the results indicated that almost fifty percent of the studied head nurses had a high level of

perspective. In contrast, nearly one-fifth of them had poor perception. This might be owing to the study of head nurses. This result was consistent with **Ahmed *et al.,* (2022)** assertion that more than fifty chief nurses had a favorable perception of entrepreneurial leadership. This reflects the findings of **Jakobsen *et al.,* (2021)** who reported that most nurses could be characterized as entrepreneurs' profession of nursing is primed with content and contextual knowledge to create entrepreneurial initiatives.

It was emphasized by **Moreira *et al.,* (2017)** that, the leading registered nurses in the field actively shape and promote innovative strategies in order to promote health, reduce risk factors for health circumstances, prevent illness, improve health attitudes, and enhance therapy policies and procedures.

Our study result demonstrated that first ranking of entrepreneurial orientation dimensions with highest mean scores was related to innovativeness dimension. This may be due to the head nurses supporting innovation and creative processes in the clinical setting. In the same regard, a study implemented by **Baker *et al.,* (2022)** who found that nearly three-quarters of first-line managers agree to introduce improvements and innovations in the work actively. Also, these results were congruent with a study done by **Berisha *et al.,* (2020)** highlighted that support for innovation inside an organization is a significant organizational component that offers critical context for inventive judgments.

Conversely, **Wardan *et al.,* (2020)** found that most nurses haven't worked on innovation. Also, this result disagreed with **Wang & Yang, (2019)** who studied the mediating role of inclusive Leadership: work engagement and innovative behavior among chains' head nurses and found innovative administrative behaviors at the middle level, finally with **Ibrahim, (2022)** who revealed that most staff nurses perceived their head nurses as low level in innovative work behavior.

Backing to the ranking of entrepreneurial orientation dimensions, the study revealed that, last ranking with lowest score was related to autonomy dimension. This result aligns with **Mohamed *et al.,* (2021)** who found nurses had low perception levels of professional nursing autonomy. On the other hand, these results disagreed with **Ahmed *et al.,* (2022)** Who found that head nurses strongly perceived autonomy on the entrepreneurial leadership subscale. The same outcome reported by **Baker *et al.,* (2022)** stated that, highest among first-line managers' entrepreneurial orientation was autonomy, while lowest mean score was related to aggressive competitiveness.

The dimension of entrepreneurial actions is more vulnerable to this influence than the dimension of managerial risk aversion, with strategic planning moderating the process. The culture of the company had an immediate and beneficial impact on organizational entrepreneurial indices such as threat, creativity, and pioneering (**Kalamaki *et al.,* 2021**).

The organizations' success and failure should be determined by their culture. Culture has an immediate and beneficial impact on organizational entrepreneurial indices such as risk, inventiveness, and pioneering. Since it influences staff behavior, it may persuade them to embrace innovation as a core organizational value (**Hazem& Zehou, 2019**).

A recent study finding revealed that, more than half of chief nurses viewed organizational culture favorably. This result is aligning with **Kamel & Aref (2017)**, who discovered that more than half of registered nurses have a favorable perception of the culture of the organization.

Regarding the classification of the organizational culture dimension, the study revealed that the organizational leadership dimension ranked first. In contrast, the final ranking was based on the dimension of personnel administration. This result contradicts **Chombunchoo & Vichit, (2016)** who affirm that the highest mean score of the studied staff nurses' perception was associated with learning within the organization. Conversely, the lowest mean score was associated with initiating change. This result is consistent with the findings of **Ali *et al.,* (2020)** who demonstrated that the greatest proportion of staff nurses viewed their chief nurses as exhibiting high levels of leadership behaviors.

Organizational effectiveness plays a significant role in determining how subordinates behaves and should be assessed apart from other hard variables like the strategic fit and financial success and soft variables like culture and leadership possibly measured in terms of employees' judgments of their contentment, views of the organization's quality, and their awareness of their function (**Echavarría, 2018**).

The study finding presented that, nearly half of the studied head nurses had a high perception of organizational effectiveness; this finding aligns with **Kassem & Ahmed, (2021)** who pointed out that more than half of the studied nurses conveyed a high level of organizational effectiveness. While this finding disagreed with **Nasirizade *et al.,* (2017)** they reported that more than two-thirds of participants reported moderate levels of organizational effectiveness.

Concerning ranking of organizational effectiveness dimensions as perceived by head nurses, the results revealed that, first ranking with the highest mean percent was related to leadership, while lowest mean percent was related to job flexibility and security dimensions. Leadership behaviors can potentially improve the efficiency of organization, nurses' job satisfaction, and the sense of assurance about problem-solving (**Ko & Kang, 2019**). From the researcher's point of view, this is equitable due to the daily interpersonal influence between head nurses and staff through the communication process, which affects their satisfaction, commitment, and performance.

This result disagreed with **Kassem & Ahmed, (2021)** who reported that job satisfaction was highest mean score; meanwhile, individual relationship was lowest among the dimensions of organizational effectiveness. Similarly, **Obeidat *et al.,* (2018)** illustrates that, exceedingly of teamwork and cooperation between supervisors and supervisees on the job among the studied employees was the lowest mean.

Looking at flexibility ranking result, which is corresponding with **Gautam *et al.,* (2022)** who clarified that workplace flexibility is a weak predictor of organizational commitment. The finding disagreed with **Estalaki, (2017)** who oppose that workplace flexibility may also improve organizational performance. According to **Berkery *et al.,* (2017)** rationalization, employees may view workplace flexibility as a favor, and as a result, they will be more productive because they want to repay the favor to their employer.

Concerning the relation between variables and head nurses' personal data, our research revealed that there are highly significant correlations between the educational qualifications of head nurses and their entrepreneurial orientation, organizational culture, and effectiveness. Additionally, there were statistically significant positive correlation between years of experience and their perception of the organizational culture, effectiveness, and entrepreneurial orientation. These findings are congruent with **Yom *et al.,* (2011)** who discovered that older and more experienced nurses had greater organizational effectiveness levels than their younger and less experienced counterparts. However, **Nasirizade *et al.,* (2017)** observed that neither the educational level nor the gender of the participating nurses had a significant impact on organizational performance.

Finally, the results indicated a statistically significant positive correlation between head nurses' perception of entrepreneurial orientation and organizational culture and organizational effectiveness. This finding corresponds with various studies results which indicated that organizational culture's values and features significantly impact the degree of entrepreneurial orientation within an organization. Also, organizational culture positively and significantly affects organizational effectiveness, which can increase the quality and effectiveness of the organization's process and employees' performance **(Kalamaki *et al.,* 2021; Kowo & Akanmu, 2021)**.

Conclusion

The present study adds to the literature on entrepreneurship orientation by identifying organizational culture and entrepreneurship orientation as major elements correlated with organizational effectiveness. This study aimed to assess entrepreneurial orientation and organizational culture among head nurses and its relations to organizational effectiveness. The current study answered the research questions with evidence that more than half of the studied head nurses had a high perception level of entrepreneurial orientation and a positive perception

of organizational culture. Also, nearly half of them highly perceived organizational effectiveness in the studied setting. Moreover, a strong positive correlation between head nurses' perception of entrepreneurial orientation and organizational culture with organizational effectiveness was found; additionally, a positive relation between head nurses' experience years, educational qualifications, and their perception of entrepreneurial orientation and organizational culture.

Recommendations

- **Grounded on the significant conclusions of the study aiming to assist and support nursing managers who want to succeed as entrepreneurs, the researchers recommended the following**:

1. Encouraging nurses to practice more independent and share the large scope of organizational vision to create an integrated, cooperative workplace environment to support organizational culture.
2. Supporting the head nurses' leadership skills to stimulate work engagement and innovative behavior among nurses.
3. Assuring system process development inside the organizations which will be reflects on strengthening the management process of staff.
4. Developing multidisciplinary training programs related to organizational effectiveness as a tool to increase awareness among healthcare professionals to clarify the risk and competitive factors that face the organization.
5. Hold periodic meetings and conferences that involve all nursing staff to encourage them to voice their opinions and accept their proposals as part of their job responsibilities.
6. Supporting the head nurses' autonomy and job flexibility, and security by fostering organizational culture that contributes to the eruption of energies and production of ideas which lead to organizational effectiveness.

Future research on:

1. The association between managerial nurses' ability to make decisions and entrepreneurial leadership practices.
2. Developing strategies that help in the development and retention of talented nurses.
3. Identifying factors affecting organizational effectiveness.

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The authors proclaim they have no competing interests.

Authors' contributions

The research was proposed by all authors, who also drafted the script, developed and implemented the methodology, contributed to the article, and gave final approval to the version that was submitted.

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الملخص العربى

التوجه الريادي والثقافة التنظيمية بين رؤساء الممرضات: كمفاتيح للفاعلية التنظيمية

مقدمة : يعد التوجه الريادي والثقافة التنظيمية من التكتيكات الأكثر شيوعا لزيادة الفاعلية في البيئة التنافسية الحالية.

هدف الدراسة : هو تقييم التوجه الريادي والثقافة التنظيمية لدى رئيسات الممرضات وعلاقته بالفعالية التنظيمية**.**

تصميم البحث: تم تطبيق التصميم الوصفي الارتباطي**.**

أدوات البحث : أجريت الدراسة في جميع الوحدات الطبية والجراحية (57) بمستشفى جامعة بنها. **عينة الدراسة:** تم أخذ جميع رئيسات الممرضات العاملات أثناء الدراسة ومساعديهن (86) العاملين في المكان المذكور سابقا. أدوات الدراسة: تم استخدام أربعة أدوات لجمع البيانات وتشمل ؛ البيانات الشخصية للمشاركين ، مقياس التوجه الريادي ، أداة تقييم الثقافة التنظيمية ومقياس الفاعلية التنظيمية.

النتائج: كشفت أن أكثر من نصف (52.3٪ و 58.1٪) من رئيسات الممرضات اللواتي شملتهن الدراسة كان لديهم توجه ريادي عال وتصور إيجابي للثقافة التنظيمية ، على التوالي. أيضا ، كان لدى ما يقرب من النصف (48.8٪) تصور عال للفاعلية التنظيمية في البيئة المدروسة. نتائج الدراسة : كان هناك ارتباط إيجابي ذو دلالة إحصائية عالية بين تصور رؤساء الممرضات للتوجه الريادي والثقافة التنظيمية ، مع الفاعلية التنظيمية (P < 0.01) **توصيات الدراسة :** توصى بما يلي إن دعم استقلالية رئيسات الممرضات ومرونتهم الوظيفية وأمنهم من خلال توفير الثقافة التنظيمية يساهم في تفجير الطاقات وتوليد الأفكار التي تؤدي إلى الفاعلية التنظيمية.

الكلمات الرئيسية: التوجه الريادى ، رئيسات الممرضات ، الثقافة التنظيمية ، الفعالية التنظيمية