



Nursing Staff Perception Regarding Career Plateau and it's relation to Innovative work behaviour and Job Embeddedness

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Received: 28 October 2024, **Accepted:** 17 November 2024, **Published:** 20 November 2024

Abstract

Background: Career plateau among nurses refers to a perceived stagnation in career progression, which may reduce motivation and engagement. This can limit innovative work behavior. In contrast, job embeddedness, which reflects nurses' attachment to their organization including links, fit, and sacrifice has been highlighted as an important buffer that may influence both career plateau and innovation. The aim of study was to assess nursing staff perception regarding career plateau, innovative work behavior and job embeddedness. **Research design:** This study was conducted using a descriptive correlational research design. **Sample:** A proportionate stratified random sample of 375 nurses was selected from Zagazig University Hospitals (academic hospitals), Al Sharqia, Egypt. **Tool:** Three tools were used in the study: Tool I – Career plateau Questionnaire, Tool II – Innovative work behavior scale, and Tool III - Job Embeddedness scale. **Results:** Show that the less than half of nurses perceived that they were experienced high levels of career plateau. (43.0%), while (16.0%) of them had low levels of career plateau. For nurses, a similar trend is observed. The majority of nurses also have a "moderate" level of innovative work behavior (53.3%). Approximately less than half of nurses (43%) had low level of Job embeddedness, while (26%) of them had high level of Job embeddedness. **Conclusion:** Statistical analysis showed that revealed significant positive relationships between career plateau, job embeddedness, and innovative work behavior. Both career plateau and job embeddedness were significant positive predictors of innovative work behavior. **Recommendations:** Healthcare organizations should implement career development and job enrichment programs to reduce career plateau among nurses. Nurse managers should strengthen organizational support, teamwork and work environment factors to increase nurses' job embeddedness. Support innovative work behavior by encouraging nurses to generate, discuss, and implement new ideas and by providing adequate managerial support and resources for innovation and improvement of nursing practices.

Keywords: Career Plateau, Job Embeddedness, Innovative work behaviour ,Nursing Staff.

Introduction

Nursing staff constitute the backbone of healthcare organizations and represent the largest professional group within hospital systems. Their continuous presence at the patient's bedside places them at the center of healthcare delivery, directly influencing the quality, safety and effectiveness of care provided.

Nurses' performance, motivation and professional engagement are critical determinants of organizational success and patient outcomes. Consequently, any factors that affect nurses' career development, job satisfaction, or professional growth can have far-reaching implications for healthcare institutions. In rapidly



changing healthcare environments, understanding nurses' perceptions of their career experiences has become an essential area of organizational and managerial concern (Evans, 2022; Yu et al., 2024).

In recent years, healthcare organizations have been increasingly characterized by unstable economic conditions, organizational restructuring, limited promotional opportunities and workforce shortages. These conditions have resulted in many nurses remaining in the same positions for prolonged periods without clear prospects for advancement. Such circumstances increase nurses' vulnerability to career-related challenges, particularly career plateau. Career plateau is widely recognized as a critical issue that affects employees who perceive limited opportunities for professional growth or advancement within their organizations. Among nursing staff, prolonged exposure to these conditions may negatively influence morale, motivation and professional commitment (Liu et al., 2024; Polat et al., 2024).

Career plateau in nursing refers to a psychological and professional state in which nurses perceive a stagnation in their career progression, whether temporary or permanent. This perception may arise when opportunities for vertical promotion or horizontal job enrichment become limited or unavailable. Nurses experiencing career plateau often report feelings of frustration, boredom, reduced ambition and emotional exhaustion. These feelings can impair nurses' professional engagement and willingness to exert extra effort in their roles. Over time, career plateau may contribute to decreased job satisfaction and diminished organizational loyalty (Elsayed et al., 2023).

Career plateau is commonly classified into two main types: hierarchical plateau and job content plateau. Hierarchical plateau occurs when nurses perceive minimal opportunities for promotion within the organizational structure, often due to limited managerial positions or rigid hierarchies. Job content plateau, on the other hand, arises when nursing tasks become repetitive, predictable and insufficiently challenging, leading to a sense of stagnation in professional learning and skill development. Both types of plateau can coexist and reinforce each other, exacerbating negative psychological and behavioral outcomes among nursing

staff (Gab-Alla et al., 2024; Polat et al., 2024).

Several factors contribute to the development of career plateau among nurses. Individual factors such as age, length of service, educational level, ambition and professional competencies play a significant role in shaping nurses' career perceptions. Family-related factors, including work-family balance, family responsibilities and social support, may further influence career expectations and satisfaction. Organizational factors, such as limited career pathways, inadequate professional development programs, lack of recognition and rigid administrative policies, are also critical contributors. The interaction of these factors makes career plateau a complex and multifaceted phenomenon within nursing practice (Liu et al., 2024).

The consequences of career plateau extend beyond individual dissatisfaction and may significantly affect organizational functioning. Nurses experiencing career plateau may exhibit decreased motivation, reduced work engagement and emotional withdrawal from their roles. Such outcomes can negatively impact teamwork, communication and overall care quality. Moreover, career plateau has been associated with increased stress, burnout and intention to leave the profession. Addressing career plateau is therefore not only a matter of individual well-being but also a strategic organizational priority (Zhanget al., 2024; Polat et al., 2024).

In high-pressure healthcare environments, nurses are frequently confronted with unpredictable workloads, emergency situations and complex patient needs. These conditions require nurses to think creatively, adapt rapidly and implement innovative solutions in their daily practice. Innovative work behaviour has thus emerged as a critical competency for nursing staff. It enables nurses to generate new ideas, improve care processes and enhance service quality. However, the presence of career plateau may undermine nurses' willingness and ability to engage in innovative work behavior (Akkoç et al., 2022; Wang et al., 2024).

Innovative work behavior refers to intentional nurses actions aimed at generating, promoting and implementing novel ideas, methods, or practices within the workplace. In nursing, innovative work behavior contributes to the development of new care approaches,



improved patient safety practices and enhanced organizational effectiveness. This behaviour typically unfolds through stages including idea generation, idea promotion and idea implementation. Nurses who actively engage in innovative work behaviour play a vital role in sustaining healthcare organizations' adaptability and competitiveness (**Hassan et al., 2024**).

Innovative work behavior among nurses is influenced by both personal and environmental factors. Personal factors include creativity, self-efficacy, professional values and intrinsic motivation. Environmental factors encompass leadership support, organizational culture, availability of resources and opportunities for professional development. When nurses perceive limited career growth or experience career plateau, their motivation to engage in innovative behaviors may decline. Thus, career plateau may serve as a barrier to fostering innovation within nursing practice (**Ge et al., 2024**).

Job embeddedness represents another important construct in understanding nurses' organizational behavior. It refers to the extent to which nurses feel connected, attached and integrated within their organization and community. Job embeddedness explains why employees remain in their jobs beyond traditional factors such as job satisfaction or organizational commitment. It emphasizes the role of social, psychological and structural ties that bind employees to their workplace and professional environment (**Fan et al., 2024; Li et al., 2024**).

Job embeddedness consists of two main dimensions: on-the-job embeddedness and off-the-job embeddedness. On-the-job embeddedness reflects nurses' connections with their organization, including relationships with colleagues, alignment with organizational values and perceived compatibility with job roles. Off-the-job embeddedness relates to nurses' ties to their community, family and social networks. Each dimension includes elements of links, fit and sacrifice, which collectively influence nurses' decisions to remain within their organization (**Fan et al., 2024**).

Highly embedded nurses are more likely to demonstrate positive work outcomes, including higher job performance, stronger organizational commitment and increased engagement in innovative work behavior.

Strong organizational ties and a sense of belonging encourage nurses to invest effort in improving work processes and sharing new ideas. Conversely, low job embeddedness may increase withdrawal behaviors and reduce nurses' willingness to contribute beyond basic job requirements. Career plateau may significantly shape nurses' levels of job embeddedness by influencing their perceptions of organizational support and future prospects (**El-Gazar et al., 2022**).

The relationship between career plateau, innovative work behavior and job embeddedness can be explained through several theoretical frameworks. Career-related experiences can be linked to employees' understanding of organizational systems and their future prospects, while behavioural outcomes such as innovation are shaped by intentions, attitudes and perceived behavioural control. These frameworks provide a structured basis for interpreting how nurses' perceptions of career stagnation may influence innovation-related behaviours and organizational attachment (**Zhao et al., 2024**).

Despite the growing importance of these concepts, limited research has examined the interrelationships between career plateau, innovative work behaviour and job embeddedness among nursing staff, particularly in developing countries. In the Egyptian context, empirical studies addressing nurses' perceptions of career plateau and its impact on innovation and embeddedness remain scarce. Understanding these relationships is essential for developing effective human resource strategies that enhance nurse retention, innovation and organizational performance (**El-Gazar et al., 2022; Elsayed et al., 2023**).

Significance of the Study

The significance of this study most of nursing staff at the beginning of their career seek to reaching the highest level in their position. But career plateau reflects obstacles to promotion and is not a challenge to the job content. Employee remains in the same position in a longer period, so the employee will feel bored of his job. In addition, the plateaued employees have become less optimistic, very nervous and highly stressed which affects on innovation work behavior of nurses. Therefore, career plateau was used as an antecedent for unwanted work outcomes, such as low work



embeddedness may lead to Lack of innovation and decisions will be taken slower. So, organizations are now motivating their employees to generate and implement new ideas that may improve overall service quality and performance (Abd_Elrehman et al .,2020).

Therefore, encouraging commitment and innovative work behavior among nurses has been an important development direction for healthcare organizations. Also, it is of utmost importance to examine factors that enhance skilled nurses' embeddedness and retention despite the dramatically changing workplace conditions (Abd ElMuksoud et al, 2022). It is significant for a teaching hospital to understand meaning such as career plateau and job embeddedness affecting the performance and innovation of nurses. .therefore, it is vitally important to investigate nursing staff perception regarding career plateau ,innovative work behavior and job embeddedness as perceived by staff nurses at Zagazig University Hospitals.

Aim of The Study

This study aimed to assess nursing staff perception regarding career plateau, innovative work behavior and job embeddedness .

Research question

- What is the perception of the career plateau among nurses?
- What's the level of innovative work among nurses?
- What is the job embeddedness level of nurses?
- What is the relationship between career plateau, innovation work behavior and job embeddedness among staff nurses?

Materials and methods

Subjects and methods of the present study were discussed by the following four main designs:

- I. **Technical Design**
- II. **Operational design**
- III. **Administrative Design**

IV. Statistical design

I- Technical designs

The technical design of this study includes a description of the research design used, the study setting, subject and tool for data collection.

a. Research design:

A descriptive correlational research design is used to achieve the aim of this study.

The purpose of a descriptive correlational design is to describe variables and examine relationships among these variables. Using this design facilitates the identification of many relationships in a situation that has been already occurred or is currently occurring. Researchers make no attempt to control or manipulate the situation. As with descriptive studies variables must be clearly identified and defined conceptually and operationally (grove, 2018).

b. Setting:

The study was conducted at Zagazig University Hospitals (academic hospitals), which includes two sectors involving eight teaching hospitals, namely; the emergency sector included five hospitals and El-Salam sectors includes three hospitals. The total bed capacity of the Hospitals is approximately 2043 beds.

A- The emergency sector includes five hospitals namely:

- New-Surgical Hospital (555 beds)
- Internal-Medicine Hospital (277 beds)
- Emergency Hospital (170 beds) included reception / Emergency Department (34 beds)
- The Delivery and Premature Hospital (111 beds)
- Outpatient Hospital (43 beds)

B- El-Salam sector

It includes four Hospitals; three of them provide free treatment, these were:

- Cardiac and Chest Hospital (260 beds)



- The Pediatric Hospital (208 beds and 16 incubations)
- El-Sadat Hospital (80 beds). It provides economic treatment

c. Subjects:

A proportionate stratified random sample **Polit et al., (2010)**, where a population divides into strata and then the random Sample is taken from each stratum in proportion to its size. Two types of samples were utilized to collect data for the current study.

• **the study** sample was taken from nursing staff working at Zagazig University Hospitals according to the following **inclusion criteria**:

- The available three categories of nurses included (bachelor & technical nurses, and diploma).
- Both genders.
- Had at least one year of experience.
- Agree to participate in the study.

Sample size:

The total population size was 2770 nurses, so sample size was calculated by Steven K. Thompson Equation from the next formula (**Thompson, 1987**).

$$n = \frac{N \times P(1-P)}{[(N-1) \times (d^2 \div z^2)] + p(1-p)}$$

Where: n: Sample size, N: Population size, z: Confidence level at 95% (1.96), d: Error proportion (0.05), p: Probability (50%).

The ideal sample size was estimated at a confidence level at 95% (1.96), error proportion (0.05), and the required sample size were 337 nurses. After adjust of a dropout rate of 10 % the sample size required was 375. A total of 375 questionnaire forms were returned, giving a response rate of 100%. So, the definitive sample of the result was 375.

Sample size of nursing staff in each hospital (n=375) was estimated as follows according to the following formula:

$$\frac{\text{Number of nurses in each hospital} \times \text{Required sample size}}{\text{total number of nurses in all hospitals}}$$

d. Tools for data collection:

Three tools will be used for collecting data in this study:

Tool (I): Career plateau Questionnaire:

It will consist of two parts as follows:

- **Part one:** social personal and work related characteristics of nurses, which include the data about characteristics of the nurses such as age, gender, years of experience, educational qualifications and department type.
- **Part two:** It was developed by (**Elsayed et al., 2023**) to measure nursing staff perception regarding career plateau. It contains 31 items divided into four dimensions; job content (12 items), hierarchical plateau (8 items) inclusive plateau (6 items), and psychological plateau (5 items).

Scoring system:

Response to the instrument allocated on three - point Likert scale as the following (3) for agree, (2) for neutral and (1) for disagree. The total score was reversed for negative items. Reverse items are 2,4,5,6,8,11,12,13,15,16,17,18,21,22,23,24,25,26.

Scores of each dimension summed up and converted into percent scores as following :

- **Low** <60% of total perception score (31-55).
- **Moderate:** 60-75% of total perception score (56-69).
- **High** : >70% of total perception score (70-93).

Tool (II): Innovative work behavior :

It was developed by **De Jong and Den Hartog (2010)** to measure innovative work behavior level among nurses. It consists of 16-items grouped under four dimensions: problem recognition (2 items), idea generation (3 items), idea promotion (2 items), idea application (3 items) and innovation output (6 items).

Scoring system:

Nurses' responses were measured on a five-point Likert scale ranging from 1= never, 2 = rarely, 3= sometimes, 4= often, and 5= always. The scores of each dimension



were summed and the total divided by numbers of items. The total scores for each dimension of (problem recognition and idea promotion) range from (2-10), for each dimension of (idea generation and idea application) range from (3-15) and for innovation output range from (6-30). These scores were converted into percent score. The total level of innovative work behavior among nurses considered:

- **Low** < 50%.
- **Moderate** 50% < 75%.
- **High** >75%.

Tool (III): Job embeddedness scale :

It was developed by (Elsayed & Ghani., 2022) to measure staff nurses' perception regarding job embeddedness. It consists of 25 items grouped under three dimensions, namely organizational fit (10 items), organizational sacrifice (10 items), and organizational links (5 items).

Scoring system :

The response to the instrument allocated on five point Likert scale ranged from (1) strongly disagree to (5) strongly agree. The total score was categorized by cutoff point factor into three levels;

- **Low** < 50%.
- **Moderate** 50% < 70%.
- **High** > 70% .

Operational definition

- For the purpose of this study, Response to self-reported tool (career plateau). It contains .it contains 31 items divided into four dimensions ; job content (12 items) , hierarchical plateau (8 items) inclusive plateau (6 items) ,and psychological plateau (5 items).
- For the purpose of this study, Response to self-reported tool (innovative work behavior). consists of 16-items scale which measure four dimensions: problem recognition (2 items), idea generation (3 items), idea promotion (2 items) idea application (3 items) and innovative output (6 items).

- For the purpose of this study , Response to self-reported tool (job embeddedness) consists of 25 items grouped under three dimensions, namely organizational fit (10 items), organizational sacrifice (10 items), and organizational links (5 items).

II- Operational design

It includes the following phases: the preparatory phase, the implementation phase, pilot study, content validity, reliability test, and ethical consideration.

Preparatory phase:

Preparatory phase implicates reviewing of the literature regarding the study variables (career plateau , Innovative work behavior and job embeddedness among nurses) using electronic and printed sources. Then the tools of data collection were prepared to fit the study purpose.

Validity:

The study tool were translated into Arabic language, and then Face and content validity were established by a panel of five experts from nursing administration department, Faculty of Nursing at Zagazig University. Content and face validity sheet involved two parts: the first part included the opinions of the experts for each item that were recorded on a two-point scale: relevant, and not relevant; the second part covered general or overall opinion about the form which express their opinions and comments on the tools for clarity, applicability, comprehensiveness, understanding, any suggestions for any additional or omissions of items and ease for implementation. According to their opinions the tools were found to be valid and were retained in their original form.

Reliability:

The results were the stability of the dimensions of the study through the Alpha Cronbach's coefficient, and the results were as in the following table:

Pilot study:

A pilot study was carried out on 10 % of study subject



included 40 staff nurses to test applicability, feasibility, practicability of the tools. In addition, to estimate the time required for filling in the questionnaire sheets. The pilot study was conducted one week before collection of data and staff nurses were selected randomly and they were included from the main study sample. No modifications were required. The purpose of Pilot study was to ensure the clarity and adaptability of tool, and to identify the obstacles and problems that may encountered during data collection. It also helped to estimate the time needed to fill the forms (20-30) minutes.

Fieldwork:

Data collection It was lasting (3months) from end April 2024 to end of July 2024. The first phase; the researcher met both medical and nursing directors of the hospital to explain the purpose of the study and obtain official permission. The second phase; the questionnaire was distributed to participants and instructed about how to fill out. The participants were asked to fill up the tools during the morning and afternoon shifts. The questionnaire took from 20 to 30 minutes to be filled before distributing the questionnaire the purpose of the study and components of the tool were explained to the participants in the study setting. The researcher was available at the time of collection for any clarification and checked each tool after completed by nursing staff to ensure the completion of all information. The researcher visited the selected setting four days per week and collect data by herself.

Ethical considerations:

The study proposal was approved by the ethical committee in the faculty of nursing at Zagazig University.

M.D.ZU.NUR/203/14/11/2023. The researcher met the hospital directors (medical & nursing) to clarify the aim of the study and seek their support and approval. The researcher met the study subjects to explain the purpose of the study and obtain their approval to participate in it. They are assured about the anonymity and confidentiality of the data collected, and used only for the purpose of scientific research. The subject's right to withdraw from the study at any time was assured.

I. Administrative design:

An official letter obtained from the dean of faculty of nursing at Zagazig University to Chairman of board of directors at Zagazig University Hospitals to request permission and cooperation for conducting this study, then oral official permission from the nursing director of each hospital and from the head nurse of each unit after explaining the nature and the aim of the work.

II. Statistical design:

Data were organized, categorized, tabulated and statistically analyzed by using the Statistical Package for the Social Sciences (SPSS), version 23.0. Data were presented using descriptive statistics in the form of frequency, percentage, mean, and standard deviation: correlation coefficient, and chi-square were also used to examine the relation between study variable. A nova, independent -test were used and A significant level value was considered when $p < 0.05$.

Results:

Table (1) Shows the distribution of the study sample according to their personal characteristics ($n=375$). Regarding age, the majority of nurses were less than 30 years old (57.3%), followed by those aged from 30 to 35 years (29.9%), while only 12.8% were more than 40 years old, with a mean age of 1.55 ± 0.71 . Concerning gender, most of the sample were female (79.5%) and 20.5% were male. As for educational qualification, the highest percentage had Technical Institute of Nursing education (68.8%), followed by Nursing Diploma (30.7%), while Bachelor of Nursing and other qualifications represented 0.3% each, with a mean of 1.70 ± 0.48 . Regarding years of experience, 35.7% had from 5 to less than 10 years of experience, followed by 24.0% with from 1 to less than 5 years, 21.3% with from 10 to less than 15 years, and 18.9% with 15 years or more, with a mean of 2.35 ± 1.04 . Finally, regarding marital status, the majority were married (81.1%), 18.9% were single, and none were widowed, with a mean of 1.19 ± 0.39 .

Figure (1) Career plateau levels among nurses ($n=375$).



This figure show The results revealed that the less than half of nurses experienced high levels of career plateau, representing 43.0% of the sample. Additionally, 41.0% reported moderate levels, while only 16.0% reported low levels.

Figure (2) Innovative work behavior levels among nurses (n=375).

This figure show that more than half of the nurses had perceived that they moderate level of innovative work behavior (53.3%), while (22.1%) had high level of innovative work behavior.

Figure (3) Job embeddedness levels as nurses

Table (1) Frequency distribution of nurses' personal data (n=375)

Personal characteristics	Nurses (n=375)	
	No	%
Age		
<30	215	57.3
30 – 35	112	29.9
more than 40	48	12.8
Mean±SD	.1 55± 0.71	
Gender		
Male	77	20.5
Female	298	79.5
Educational qualification		
Nursing Diploma	115	30.7
Technical institute of nursing	258	68.8
Bachelor of Nursing	1	0.3
Other	1	0.3
Mean±SD	1.70±0.48	
Years of Experience		
1 years to < 5 years	90	24.0
From 5 to < 10 years	134	35.7
From 10 years to < 15 years	80	21.3
15 years or more	71	18.9
Mean±SD	2.35±1.04	
Marital Status		
Single	71	18.9
Married	304	81.1
Widow	0	0.0
Mean±SD	1.19±0.39	

(n=375).

This figure show the levels of job embeddedness among nurses (n = 375). The findings show that less than half of the nurses (43%) perceived that they had a low level of job embeddedness, while 31% had a moderate level and 26% had a high level.

Table (2) shows statistically significant positive correlations between career plateau and both innovative work behavior ($r = 0.643$, $p < 0.001$) and job embeddedness ($r = 0.689$, $p < 0.001$). Job embeddedness was also significantly positively correlated with innovative work behavior ($r = 0.503$, $p < 0.001$).

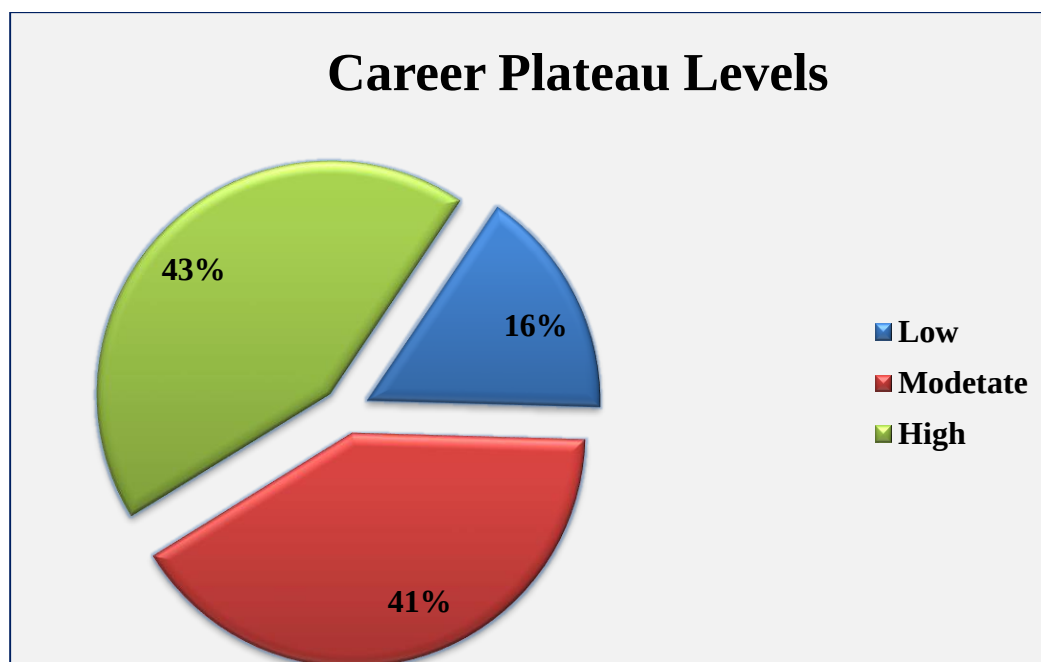


Figure (1) Career plateau levels as perceived by nurses (n=375).

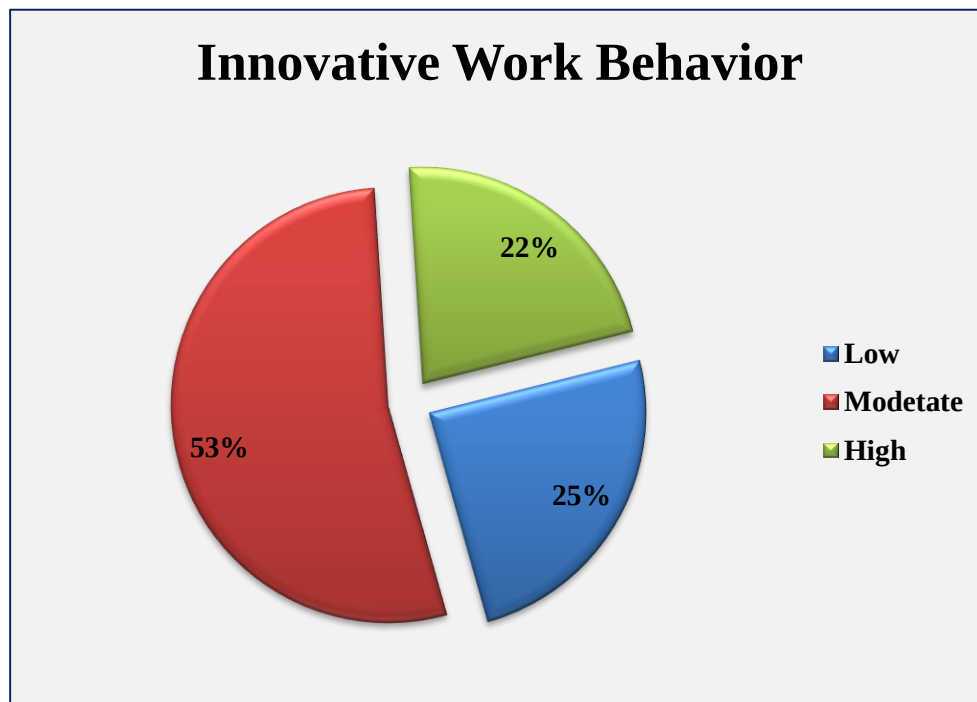


Figure (2) innovative work behavior levels as perceived by nurses (n=375).

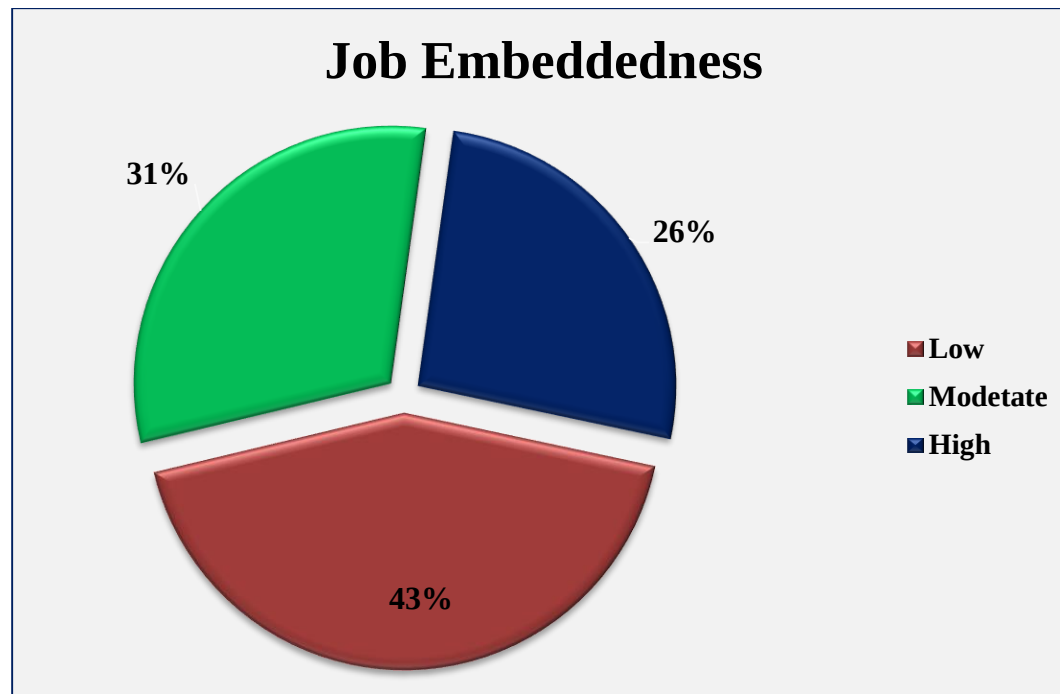


Figure (3) Job embeddedness levels as perceived by nurses (n=375)

Table (2): Relation between nurses' Career plateau, Knowledge of innovative work behavior and job embeddedness (n=375)

Variables		Career plateau	nurses' innovative work behavior level	job embeddedn ess
Career plateau	r	1.000		
	P	----		
innovative work behavior	r	0.643**	1.000	
	P	0.000	----	
job embeddedness	r	0.689**	0.503**	1.000
	P	0.000	0.000	----

****.** Correlation is significant at the 0.01 level (2-tailed).



Discussion

Personal data of the Study Samples.

In the current study, most of the studied nurses were female, the majority of them were married, and the highest percentage of them held an Institute of Nursing degree, followed by less than one third of them held a Diploma of Nursing. In addition, the more than two fifths of the studied nurses aged "from 20 to less than 30" years old. According to experience, the largest group had "From 5 years to less than 10 years" of experience, followed by "1 to less than 5 years". Moreover, the present study revealed that all of the studied head nurses were females, as well, more than three fifths of them aged more than or equal to 40 years old. As well, most of head nurses were married, majority of them had Bachelors of nursing, and more than three fifths of them had 15 or more years of experience.

Regarding career plateau total levels among nurses, the current study highlighted that approximately less than half of nurses had high level of career plateau, while more than one fifth of them had low level of career plateau. This may be stem from the fact that the majority of nurses still perceive opportunities for growth, support, and professional advancement, which reduces their sense of career stagnation. This could be linked to ongoing learning opportunities, supportive supervisory relationships, and optimism about future career progression within the nursing field.

Aligned with this result, a study conducted by **Helaly & Abd El Salam, (2024)** in Egypt, to investigate the relationship between career plateau and staff nurses' job satisfaction, and stated that more than one quarter of studied staff nurses had unsatisfactory level of career plateau and less than three quarters of staff nurses had satisfactory career plateau level. Likewise, this result was in accordance with **Gaturu & Njuguna, (2020)** who performed a study to investigate career plateauing and its relationship with secondary school teachers' highlighted that the majority of nurses experienced high levels of career plateau, while one fifth of them had low level of career plateau. This substantial proportion reflects stagnation in career advancement and limited growth

opportunities within the hospital setting. Nurses often remain in the same position for longer periods with fewer prospects for vertical mobility due to pyramidal hierarchical structure where promotion opportunities are limited, leading to feelings of being restricted in role and no longer feeling challenged .

Aligned with this result, a study performed by **Gab-Alla et al., (2024)** to assess the relation between career plateau and job embeddedness as perceived by staff nurses at Menoufia University Hospitals in Egypt, and reported that more than half of studied sample had high perception level of career plateau. Conversely, a study in Egypt performed by **Abdelaliam & El-Sayed, (2022)** to investigate the effect of career plateauing as a mediating factor on nurses' job satisfaction and promotability, and they noted a moderate-to-high level of perceived career plateau among the nurses.

On contrary, a study conducted by **Helaly & Abd El Salam, (2024)** in Egypt, to investigate the relationship between career plateau and staff nurses' job satisfaction, and stated that more than one quarter of studied staff nurses had unsatisfactory level of career plateau and less than three quarters of staff nurses had satisfactory career plateau level. Likewise, this result was in accordance with **Gaturu & Njuguna, (2020)** who performed a study to investigate career plateauing and its relationship with secondary school teachers' pursuit of post-graduate studies, in Kenya, and reported that most the studied participants didn't experience career plateauing.

Regarding the overall IWB levels among nurses

The present study revealed that the overall level of innovative work behavior was moderate, .This may be attributed to the fact that although nurses have creative ideas, they encounter several barriers such as heavy workload, lack of time, limited resources, and absence of organizational support and reward systems for innovation. Additionally, the highly hierarchical nature of nursing and fear of taking risks may hinder the translation of ideas into innovative practices.

In the same line, the study consistent with **Awad et al.**



(2024), who conducted a study among 276 emergency room nurses and found that the majority had moderate level of innovative work behavior. Similarly, **Li et al. (2024)** reported that less than one third of intensive care unit nurses exhibited high innovative work behavior, with most being in moderate and low profiles. Also **Elsayed et al., (2023)**, who observed that more than two thirds of nurses exhibited moderate levels of innovative work behavior and knowledge sharing, suggesting that staff nurses may self-report higher perceived knowledge or exhibit moderate practical engagement even when composite knowledge scores are low.

Conversely, **Abdellatif et al. (2024)**, who assessed innovative work behavior among 200 critical care nurses at Port Said, found that of nurses had high level of innovative work behavior. This discrepancy may be attributed to differences in work environment, as critical care units often require rapid problem-solving and technological innovation, along with variations in leadership styles and sample characteristics. conducted by **Li et al., (2024)**, found that less than one third of nurses fell into the “high innovation behavior” profile, with the majority of them clustered in moderate and low levels.

According to job embeddedness levels among the studied nurses, the current study demonstrated that less than half of nurses had low level of Job embeddedness, while about one fifth of them had high level. This may be stem from the fact that many nurses experience limited opportunities for professional growth, recognition, or involvement in organizational decisions, which can weaken their overall attachment to the workplace and lead to lower job embeddedness.

This result was in harmony with **Fan et al., (2024)** who observed the largest portion of nurses rated job embeddedness at low to moderate levels and linked low embeddedness to workplace resource deficits and high demands. In the same scene, a study in Egypt performed by **Mohamed et al., (2024)** to investigate the effect of organizational cynicism management educational program on nurses’ organizational commitment and job embeddedness, found that more than half of nurses had low job embeddedness at baseline phase, before the organizational intervention,

Similarly, a study in Egypt conducted by **Mahmoud & Cuest.fisioter.2024.53(3):8693-8707**

Obied, (2022) to explore the relation between intensive care nurses' job embeddedness and workplace thriving, showed a high proportion of the studied nurses with low overall job embeddedness. In the opposite line, **Zhang et al., (2024)** who carried out a study to investigate relationship between job resources and job embeddedness among tertiary-level public hospital nurses in China and found that about half of nurses at high job embeddedness, indicating that in supportive climates embeddedness can be much stronger than in your sample.

As for relation between nurses' Career plateau, innovative work behavior and job embeddedness, The current study portrayed that there was significant relationship between career plateau and innovative work behavior, and between innovative work behavior and job embeddedness, which mean that a nurse's innovative work behavior is largely independent of their career plateau and job embeddedness. This may be due to nurses’ engagement in innovative work behavior is more strongly influenced by individual factors as personal motivation, creativity, and intrinsic interest in problem-solving rather than their perceived career plateau or level of job embeddedness.

This result suggests that even when nurses feel limited in career advancement, they may still strive to introduce new ideas and improve work processes out of professional commitment or personal satisfaction. Also, being deeply connected to the organization does not necessarily determine a nurse’s tendency to innovate. These findings indicate that fostering innovation among nurses requires more than just enhancing retention or career progression, it necessitates cultivating an environment that values creativity, continuous learning, and empowerment regardless of job stability or hierarchical growth (**Abd-Elrhaman et al., 2020**).

Aligned with this result, the study in UK performed by **Yang et al. (2024)** revisited plateau effects and showed that links to downstream performance are contingent and largely indirect (via self-efficacy), with job-content plateaus not uniformly harmful, an empirical pattern that helps explain why a straightforward plateau innovation tie may not appear significant in some nursing samples. This result contradicted with a study in Egypt conducted by **Sorour et al., (2024)** to explore the impact of nurse



managers' boundary spacing leadership on the relationship between nurses' work embeddedness and innovative work behaviors, reported a significant positive relationship between work embeddedness and nurses' innovative work behaviors and concluded that leadership (boundary-spacing) strengthens both embeddedness and innovation.

On the other hand, **Li et al., (2024)**, reported that career plateau negatively affected employee creativity, a core component of innovative work behavior, but only when organizational support was low. This indicated that the relationship between plateau and innovation was conditional, and may be non-significant in supportive environments. In the same line, the study carried out by (**Gab-Alla et al., (2024)**), found that career plateau was negatively associated with job embeddedness, but the strength and significance of this relationship varied across departments and was influenced by perceived career development opportunities. This suggests that in some contexts, career stagnation may not directly impact innovative behavior unless compounded by other organizational factors.

Conclusion

Based on the results of the present study and research questions, the study concluded that:

The study as perceived by nurese findings indicated that less than half of the studied nurses had a high level of career plateau, while less than half had a low level of job embeddedness. Regarding innovative work behavior, more than half of the nurses had a moderate level.

Moreover, the analysis revealed highly significant positive relationships between career plateau, job embeddedness, and innovative work behavior. Both career plateau and job embeddedness were significant positive predictors of innovative work behavior. Overall, these findings suggest that career plateau does not necessarily hinder nurses' innovation and that stronger workplace attachment may be associated with greater innovative work behavior, highlighting the importance of providing opportunities for professional development and enhancing job embeddedness to foster innovation.

Recommendations

Based on the study findings, the following recommendations are suggested:

Nurse Managers should

- Promote opportunities for professional growth by providing nurses with opportunities for continuing education, skill development, career planning, and participation in professional activities to reduce perceptions of career stagnation.

Nurses should

- Enhance knowledge of innovative work behavior by participating in training programs, workshops, and continuing education activities focusing on innovation, creativity, idea generation, and implementation.

Nursing Administrators and Policy Makers should

- Develop organizational policies that support innovation by establishing clear mechanisms for submitting, evaluating, and implementing nurses' innovative ideas and recognizing successful contributions.
- Strengthen professional development systems by providing transparent opportunities for training, career development, promotion, and professional advancement.

Nursing Education Institutions

- Integrate innovative work behavior into nursing education by incorporating innovation, creativity, problem-solving, evidence-based practice, and change management into undergraduate and postgraduate nursing curricula.

Future Research

- Conduct longitudinal studies to examine how career plateau and job embeddedness influence innovative work behavior over time.



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