



## Head nurses authentic leadership skills and its relation to nurses innovative work behaviors

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### Abstract

**Background:** Studies have demonstrated that the theoretical framework of authentic leadership has a beneficial impact on the outcomes of nurses. The effect of leadership on the innovation of staff nurses is significant, highlighting the crucial role that leaders play in facilitating and nurturing the development of innovative practices among staff nurses.

The study aimed to assess head nurses' authentic leadership skills and its relation to nurses' innovative work behaviors.

**Research Design:** The current study employed a descriptive correlational research design to accomplish its objective.

**Sample:** The study subjects involved two groups: Group one, all head nurses who worked in Minia University Hospitals (total no 81); Group two representative sample (30%) of all nurses in Minia University Hospitals (total no 315). Two tools were employed for data collection: Tool (I) consisted of part one, socio-demographic data of participants, and part two, authentic leadership questionnaire. Tool (II) consisted of the innovative work behaviors scale.

**Results:** More than half of the head nurses demonstrated moderate authentic leadership skills, while a similar proportion of nurses perceived their head nurses to possess moderate authentic leadership. Furthermore, over half of the nurses exhibited moderate innovative work behaviors.

**Conclusion:** no correlation between the head nurses' authentic leadership and nurses' innovative work behaviors.

**Recommendations:** Establish an educational program specifically designed for head nurses to enhance their authentic leadership skills and foster innovative work behaviors among nurses under their supervision.

**Keywords:** Authentic leadership, head nurses, innovative work behaviors, nurses

### Introduction

The escalating levels of competition drive the necessity for rapid and continuous adaptation in healthcare organizations. Furthermore, the present deficit in the nursing labor force can be attributed to the retirement of experienced nurses, the escalating workload, and stressful working conditions. Therefore, to address this issue, numerous healthcare institutions prioritize recruiting and retaining nursing professionals. Nevertheless, the prevailing state of the health organization landscape is marked by substantial workloads that could potentially impede nurses' capacity to deliver exemplary care and contribute to burnout among inexperienced nurses<sup>[1]</sup>.

Therefore, leadership is widely regarded as an essential determinant for the prospective advancement of the hospital. Simultaneously, the leader assumes a crucial role as a personal determinant in influencing the outcomes of an organization, be it prosperous or unsuccessful<sup>[2]</sup>. Competent leaders can inspire, empower, and establish a connection

with their subordinates to foster task completion and attain predetermined goals<sup>[3]</sup>.

Leadership is the dynamic process through which an individual exerts influence over others, thereby facilitating the attainment of a shared objective by optimizing their collective endeavors<sup>[4, 5]</sup>. The effectiveness of leaders is contingent upon their behavior, which necessitates alignment with their personal values and adherence to moral codes<sup>[6]</sup>.

Authenticity is considered to be one of the various types of leadership. Authentic leadership is a leadership style that prioritizes relationships and focuses on the needs of followers. This approach is expected to improve the performance of nurses by offering learning experiences that boost self-assurance, alleviate stress, and mitigate the risk of burnout<sup>[7]</sup>.

Authentic leadership is a leadership approach that prioritizes the establishment of the leader's legitimacy by means of cultivating sincere relationships with followers, valuing

their contributions, and establishing a moral framework as the foundation. In general, authentic leaders possess positive dispositions and maintain genuine self-perceptions, fostering an environment of transparency<sup>[8]</sup>.

Authentic leadership is a consistent and morally upright approach to leadership wherein leaders exhibit transparency and ethical behavior. This leadership style fosters an environment of openness, wherein necessary information is shared to facilitate decision-making and input from followers is actively sought and considered. Authentic leaders are instrumental in cultivating positive work environments, wherein the engagement of their followers is nurtured through the implementation of four key behaviors: self-awareness, relational transparency, balanced processing, and internalized moral perspective<sup>[9]</sup>.

Self-awareness is a cognitive process through which leaders deeply understand their distinct aptitudes, principles, convictions, and objectives. Balanced processing pertains to the capacity of leaders to impartially gather and assess all pertinent information prior to making pivotal decisions. Leaders demonstrate relational transparency by openly sharing information and disclosing their thoughts and emotions. An internalized moral perspective pertains to the process of self-regulation in which leaders manifest their internal moral values during decision-making<sup>[9]</sup>.

Creativity and innovation are highly valuable assets that confer a competitive advantage within the contemporary and ever-changing work milieu. In light of rapid technological advancements, intense competition at both domestic and global levels, and an unpredictable and highly volatile economic climate, organizations are compelled to navigate the challenges posed by innovative rivals and foster a culture of creativity to ensure their survival and success. In addition, organizations must identify and implement innovative strategies to meet their requirements effectively<sup>[10]</sup>.

In the organizational context, innovation refers to developing novel and beneficial products, services, or production processes that possess value and utility<sup>[11]</sup>. In organizational behavior, innovative work behavior can be characterized as the cognitive process of identifying and acknowledging challenges, followed by the deliberate and purposeful generation of original and valuable concepts pertaining to products, services, and work methodologies. Additionally, it encompasses a collection of actions essential for the cultivation, initiation, and execution of these ideas, with the ultimate objective of augmenting individual and/or business performance<sup>[12]</sup>.

In organizational behavior, innovative work behavior (IWB) encompasses a collection of behaviors intricately linked to creativity and innovation. The IWB framework encompasses three distinct behavioral task categories: idea generation, promotion, and realization. Moreover, the concept of innovative work behavior (IWB) can be described as the set of actions that are purposefully undertaken to generate, introduce, and implement novel ideas within the context of one's job, team, or organization to enhance role performance, group effectiveness, or organizational outcomes<sup>[13]</sup>.

Based on the principles of authentic leadership theory, it is posited that leaders who embody authenticity can foster innovation within their organizations by promoting a

climate that encourages followers to exhibit greater levels of audacity and creativity. High relational transparency allows managers to openly demonstrate their support and express their appreciation for the abilities of their subordinates, thereby fostering a conducive environment for optimal performance. Consequently, these leaders cultivate individual capital within their subordinates, fostering a greater inclination to implement their ideas and discover effective approaches to problem-solving. Furthermore, genuine leaders strongly encourage fostering diversity in thoughts and perspectives among their subordinates<sup>[14]</sup>.

Scholars and practitioners endeavor to elucidate the mechanisms and rationales underlying innovation, owing to its pivotal significance in attaining organizational efficacy, enduring prosperity, and navigating the complexities of the external milieu. The level of innovativeness has been influenced by five significant factors: organizational factors, work-related relationships with supervisors, job characteristics, group or social factors, and individual characteristics. Recently, a growing scholarly focus has been on examining leadership's impact on innovation<sup>[15]</sup>.

### Significance of the study

The leadership behaviors exhibited by nursing leaders and the organizational climate they foster play a crucial role in enhancing the overall performance and effectiveness of the organization. The shortcomings of unethical leadership practices and experienced leadership styles have led to numerous adverse outcomes for nurses and organizations. Authentic leadership is a leadership model that emphasizes the importance of character traits such as morality, integrity, and authenticity. Furthermore, promoting innovative work behavior within nursing has become a significant strategic focus for healthcare organizations<sup>[16]</sup>.

Numerous empirical investigations have substantiated the correlation between authentic leadership and innovation. The study by Zhou *et al.*<sup>[17]</sup> aimed to examine the association between authentic leadership and nurses' innovation while considering the potential mediating role of positive emotions among employees. Zhou *et al.*<sup>[17]</sup> demonstrated that leaders perceived as possessing greater authenticity can elicit positive emotions, such as courage and enthusiasm, among their subordinates. Consequently, these positive emotions contribute to generating innovative solutions within the workplace.

The study conducted by Muceldili *et al.*<sup>[18]</sup> demonstrated a significant correlation between authentic leadership and employee innovative behavior, with employee creativity mediating this relationship. Several other studies have provided indirect evidence, indicating a positive relationship between perceived authentic leadership and nurses' staff creativity, the establishment of an innovative group climate, and enhanced team information sharing. Furthermore, it has been demonstrated through various studies that the presence of employee psychological resources and attitudes in the workplace plays a crucial role in mediating the positive correlation between authentic leadership and employee creativity.

Therefore, it was necessary to examine the effect of authentic leadership on the innovative work behaviors of nurses at Minia University Hospitals to determine the level of authentic leadership among head nurses and its effect on

nurses' innovative work behaviors to improve the nursing profession and quality of care.

### **Aim of the study**

The current study aims to assess head nurses' authentic leadership skills and its relation to nurses' innovative work behaviors

### **Research questions**

- What are the levels of head nurses' authentic leadership skills?
- What are the levels of nurses' innovative work behaviors?
- -What is the difference between head nurses' authentic leadership and nurses' perception about their head nurses?
- Is there a relation between authentic leadership and innovative work behaviors?

### **Subject and method**

**Research Design:** A descriptive correlational design was utilized to achieve the aim of the current study.

**Setting:** The study was conducted at Five Minia University Hospitals. These hospitals are Minia Emergency University Hospital, Renal and Urology University Hospital, Liver University Hospital, Pediatric and Gynecology University Hospital, and Cardio Thoracic University Hospital.

### **Subjects**

**Sample:** The study subjects involved two groups; Group one included all head nurses who worked in Minia University Hospitals (total no 81 head nurses) at the time of data collection. Group two included a representative sample (30%) of all nurses at the time of collection in the span of control of those head nurses in Minia University Hospitals using a simple random sample (total no 315 nurses).

**Tools of Data Collection:** Data were collected through the utilization of two tools as follows:

**Tool I: Self-Administered Questionnaire:** It was included two parts

**Part I: Socio-demographic data:** It was designed by the researchers; this part was used to collect data related to personnel characteristics data of the staff nurses and head nurses such as (age, gender, years of experience, educational qualification, marital status, hospitals, salary, and residence.

**Part II: Authentic Leadership Skills:** The questionnaire developed by Northouse (1999) <sup>[19]</sup>. The questionnaire consisted of sixteen items categorized into four subscales, namely, self-awareness (four items), internalized moral perspective (four items), balanced processing (four items), and relational transparency (four items). Responses were rated on a 5-point Likert scale: (1) = strongly disagree to (5) = strongly agree. This tool was filled from head nurses and nurses.

**Scoring system:** The scoring system of this tool ranged from 16 to 80. It was distributed as follows: high level of authentic leadership if score more than 75% ( $\geq 59$ ), moderate level of authentic leadership if score 50-74 % (38-

58), and low level of authentic leadership if score less than 50% ( $< 38$ ).

**Tool (II): Innovative Work Behaviors Scale (IWBS):** It was designed by the researchers to assess nurses' innovative work behaviors based on the work of De Jong 2007) <sup>[20]</sup>, Janssen (2000) <sup>[21]</sup>, Kleysen and Street (2001) <sup>[22]</sup> and Messmann and Mulder (2012) <sup>[23]</sup>. It was included (forty-two items) and was divided into five dimensions: Opportunity exploration (four items), idea generation (twelve items), idea championing (eleven items), idea implementation (seven items), and recognizing and support (eight items). Responses were rated on a 5-point Likert scale ranging as follows: (1) = strongly disagree to (5) = strongly agree. This tool was filled from staff nurses.

**Scoring system:** This tool ranged from 42 to 210 and was distributed as follows: high innovative work behaviors if the score was 75 % ( $\geq 155$ ), moderate innovative work behaviors if the score was 50-74 % (99-154), and low innovative work behaviors if score less than 50% ( $< 99$ ).

### **Validity and Reliability of Tools**

**Validity:** The tools' face validity was evaluated by a panel comprising five experts with expertise in the field of Nursing Administration. The jury panel was composed of one professor and two assistant professors from the Nursing Administration Department at the Faculty of Nursing, Minia University, as well as two assistant professors from the Nursing Administration Department at the Faculty of Nursing, Assuit University. The various expert panels evaluated the instruments in terms of their content coverage, clarity, wording, length, format, and overall appearance. Furthermore, the requisite alteration was carried out by the jury panel.

**Reliability:** A reliability analysis was conducted to ascertain the tools' consistency. The internal consistency assessment was conducted to determine how the items within the scales accurately measured the intended construct. Additionally, the reliability of the scales was assessed through the utilization of the Cronbach alpha test. The Cronbach alpha coefficients for tools I and II were 0.939 and 0.937, respectively, indicating high internal consistency.

**Pilot Study:** A preliminary investigation was conducted on a sample comprising 10% of the total participants, which consisted of 8 head nurses and 32 nurses. Participants were chosen randomly from the study setting to examine and ascertain the feasibility, objectivity, applicability, clarity, and adequacy of the study instruments and estimate the required time for completing said instruments. Based on the preliminary investigation's results, no modifications were made to the instruments, and the instruments were finalized. Furthermore, the pilot study was integrated into the main study's participants.

**Data collection procedure:** The dean of the Faculty of Nursing issued an official letter. The letter contained a concise elucidation of the study's goals. The jury approved the tools before their use for data collection in the study.

The duration needed to complete the questionnaires was estimated after conducting the pilot study. The researchers obtained written approval from the directors of the Minia University Hospitals.

Group interviews were conducted with head nurses and nurses in each hospital, and the tools for data collection were subsequently distributed to all participants following a comprehensive explanation of the purpose and methodology. The researcher directly administered and supervised the tools. The researcher distributed to the head nurses and nurses tools during both the morning and evening shifts. Participants were allotted a time frame of 15 to 20 minutes to complete the tool. The data collection process was conducted over three months, spanning from June 2021 to August 2021, and involved the participation of head nurses and nurses.

**Ethical Consideration:** The Research Ethics Committee of the Faculty of Nursing at Minia University issued an official letter. The researchers obtained the necessary approval to conduct the study from the dean of the Faculty of Nursing at Minia University. Approval was obtained from the directors of the Minia University hospitals. The researchers obtained consent from the head nurses and the nurses at Minia University Hospitals.

Before conducting both the pilot study and the main study, Participants provided verbal consent prior to their

involvement and expressed willingness to participate. The participants were provided with an explanation of the study's nature and objectives. Participants in research studies possess the prerogative to decline participation or discontinue their involvement without providing any justification. The preservation of subject privacy was considered during the data collection process. The participants were guaranteed that their data would be treated with utmost confidentiality. To ensure anonymity and privacy, each nurse was assigned a numerical identifier instead of using their names.

**Data statistical analysis:** The data underwent analysis using version 20 of the Statistical Package for Social Science. The numerical data were represented using the mean and standard deviation. The quantitative data were represented in terms of frequency and percentage. Various statistical tests were employed to analyze quantitative data and assess the relationships between variables. These tests included the ANOVA test, Cochran's Q test,  $\chi^2$  test, and Kruskal-Wallis's test. Pearson correlation was the statistical technique employed to examine the associations among various numerical variables. A probability value (p-value) below 0.05 was deemed statistically significant, while a value below 0.001 was regarded as highly significant.

## Results

**Table 1:** Distribution of the studied staff nurses (head nurse-nurses) according to their socio-demographic data

Socio-demographic data	Head nurses (n= 81)		Nurses (n= 315)	
	No.	%	No.	%
<b>Age/years</b>				
20 - < 25	0	0.0%	77	24.4
25 - < 30	18	22.2	142	45.1
30 - < 35	25	30.9	67	21.3
35 - < 40	24	29.6	9	2.9
40- < 45	9	11.1	8	2.5
> 45	5	6.2	12	3.8
Mean $\pm$ SD	34.9 $\pm$ 5.7 year		28.8 $\pm$ 5.8 year	
<b>Gender</b>				
Male	50	61.7	101	32.1
Female	31	38.3	214	67.9
<b>Years of experience</b>				
1 – 5	25	30.9	138	43.8
6 – 10	23	28.4	121	38.4
11- 15	21	25.9	28	8.9
16- 20	10	12.3	15	4.8
21- 25	2	2.5	3	1.0
26- 30	0	0.0	10	3.1
Mean $\pm$ SD	9.4 $\pm$ 5.5 year		7.5 $\pm$ 5.7 year	
<b>Educational Qualification</b>				
Secondary school diploma degree in nursing	5	6.2	63	20.0
Technical Institute degree in nursing	3	3.7	211	67.0
Bachelor's degree in nursing	73	90.1	41	13.0
<b>Marital Status</b>				
Single	8	9.9	102	32.4
Married	73	90.1	201	63.8
Divorced	0	0.0	12	3.8
<b>Hospitals</b>				
Pediatric and Gynecology University Hospital	35	43.2	120	38.1
Renal and Urology University Hospital	11	13.6	46	14.6
Cardio Thoracic University Hospital	13	16.0	57	18.1
Minia Emergency University Hospital	15	18.5	71	22.5
Liver University Hospital	7	8.6	21	6.7

Salary				
< 2000	5	6.2	16	5.1
2000: 3000	8	9.9	148	47.0
3000: 4000	27	33.3	126	40.0
>4000	41	50.6	25	7.9
Residence				
Rural	53	65.4	179	56.8
Urban	28	34.6	136	43.2

Table (1) shows that (30.9%) of head nurses aged between 30 to < 35 years old have with average mean age (of  $34.9 \pm 5.7$  years). About gender, there are (61.7%) of them males, and (30.9%) of them have 1 to 5 years of experience. Regarding educational qualification and marital status (90.1%) of them have bachelor’s degrees and are married. For the hospital name, there are (43.2%) of them work in Pediatric and Gynecology University Hospital, (50.6%) have > 4000 salaries, and for residence (65.4%) of them live in rural areas. For nurses, also table (1) shows that (45.1%) of nurses aged

between 25 to < 30 years old have with average mean age ( $28.8 \pm 5.8$  years). About gender, there are (67.9%) of them females, and (43.8%) of them have 1 to 5 years of experience. Regarding educational qualification (67%) of them have a technical institute degree in nursing, and for marital status (63.8%) of them are married. For the hospital name, there are (38.1%) of them work in Pediatric and Gynecology University Hospital, (47%) of them have 2000:3000 salary, and for residence (56.8%) of them live in rural areas.

**Table 2:** Distribution of head nurses’ level about authentic leadership skills (N = 81)

Authentic leadership skills dimensions	Head nurses’ level about authentic leadership skills (n = 81)						Mean $\pm$ SD
	Low		Moderate		High		
	No	%	No	%	No	%	
Self-awareness (4)	8	9.9	54	66.7	19	23.5	$13.0 \pm 2.5$
Internalized moral perspective (4)	8	9.9	43	53.1	30	37.0	$13.3 \pm 2.9$
Balanced process (4)	9	11.1	34	42.0	38	46.9	$14.1 \pm 3.1$
Relational transparency (4)	11	13.6	51	63.0	19	23.5	$12.6 \pm 2.7$
Total authentic leadership (16)	11	13.6	50	61.7	20	24.7	$53.0 \pm 9.7$

Table (2) shows that the studied head nurses have moderate level scores for all dimensions of authentic leadership: self-awareness, internalized moral perspective, balanced processing, and relational transparency (66.7%, 53.1%, 42%, and 63%, respectively) with mean score ( $13.0 \pm 2.5$ ,

$13.3 \pm 2.9$ ,  $14.1 \pm 3.1$  and  $12.6 \pm 2.7$  respectively). Regarding total authentic leadership, 61.7% have a moderate level of authentic leadership with a mean score ( $53.0 \pm 9.7$ ).

**Table 3:** Distribution of nurses' perception level about their head nurse’s authentic leadership skills (N = 315)

Items	Nurses' perception level about their head nurse’s authentic leadership skills (n=315)						Mean $\pm$ SD
	Low		Moderate		High		
	No	%	No	%	No	%	
Self-awareness (4)	97	30.8	165	52.4	53	16.8	$11.5 \pm 2.9$
Internalized moral perspective (4)	83	26.3	154	48.9	78	24.8	$11.9 \pm 3.3$
Balanced process (4)	84	26.7	161	51.1	70	22.2	$11.9 \pm 3.3$
Relational transparency (4)	84	26.7	166	52.7	65	20.6	$11.8 \pm 3.0$
Total authentic leadership (16)	83	26.3	197	62.5	35	11.1	$47.2 \pm 11.2$

Table (3) shows that the nurses have moderate level scores for all dimensions of authentic leadership: self-awareness, internalized moral perspective, balanced processing, and relational transparency (52.4%, 48.9%, 51.1%, and 52.7 %,

respectively) with mean scores ( $11.5 \pm 2.9$ ,  $11.9 \pm 3.3$ ,  $11.9 \pm 3.3$  and  $11.8 \pm 3.0$  respectively). Regarding total authentic leadership, 62.5% have moderate authentic leadership with a mean score ( $47.2 \pm 11.2$ ).

**Table 4:** Distribution of nurses about innovative work behaviors level (N = 315)

Dimensions	Innovative work behaviors level (n = 315)						Mean $\pm$ SD
	Low		Moderate		High		
	No	%	No	%	No	%	
Opportunity exploration (4)	164	52.1	100	31.7	51	16.2	$11.9 \pm 3.9$
Idea generation (12)	140	44.4	91	28.9	84	26.7	$37.7 \pm 9.5$
Idea championing (11)	143	45.4	119	37.8	53	16.8	$34.4 \pm 8.6$
Idea implementation (7)	140	44.4	82	26.0	93	29.5	$22.6 \pm 6.1$
Recognizing and support (8)	145	46.0	94	29.8	76	24.1	$24.9 \pm 7.2$
Innovative work behaviors (42)	78	24.8	173	54.9	64	20.3	$131.5 \pm 30.8$



Table (4) shows that nurses have low scores for all dimensions of innovative work behaviors: opportunity exploration, idea generation, idea championing, idea implementation, and recognizing and support (52.1%, 44.4%, 45.4%, 44.4%, and 46%, respectively), with mean

score ( $11.9 \pm 3.9$ ,  $37.7 \pm 9.5$ ,  $34.4 \pm 8.6$ ,  $22.6 \pm 6.1$ , and  $24.9 \pm 7.2$  respectively). Regarding total innovative work behaviors, 54.9% of them have a moderate level of innovative work behaviors with mean score ( $131.5 \pm 30.8$ ).

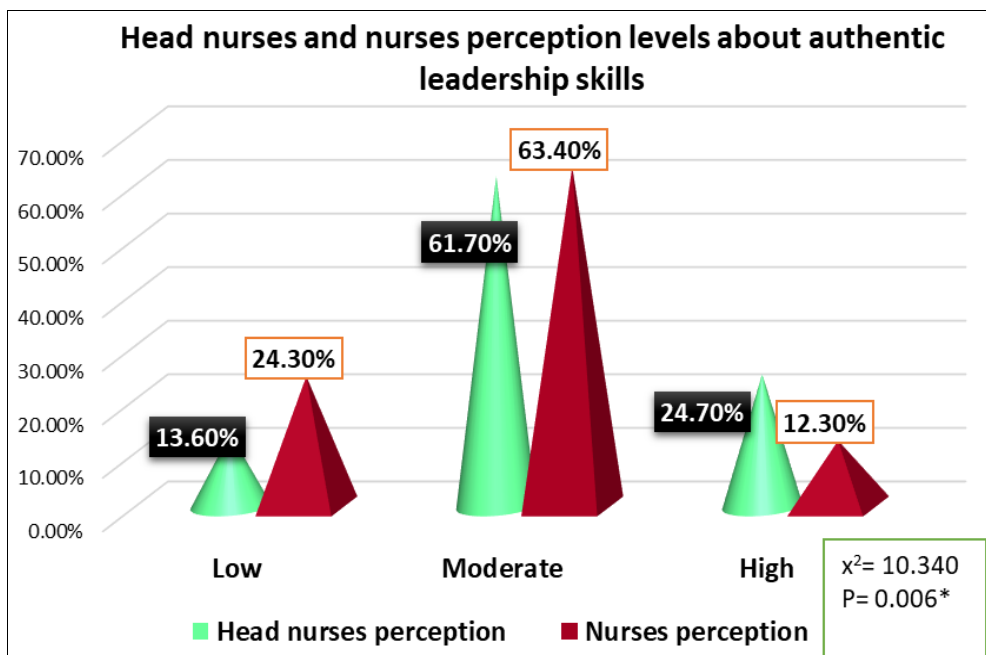
**Table 5:** Differences between authentic leadership levels for head nurses and nurses’ perception about authentic leadership dimensions

Authentic leadership dimensions	Studied subjects				Test of significance	
	Head nurse (N=81)		Nurses (N=315)		X <sup>2</sup>	P value
	No	%	No	%		
<b>Self-awareness (4)</b>						
Low	8	9.9	99	28.3	12.005	0.002**
Moderate	54	66.7	189	54.0		
High	19	23.5	62	17.7		
<b>Internalized moral perspective (4)</b>						
Low	8	9.9	85	24.3	9.810	0.007**
Moderate	43	53.1	177	50.6		
High	30	37.0	88	25.1		
<b>Balanced processing (4)</b>						
Low	9	11.1	86	24.6	18.791	0.0001**
Moderate	34	42.0	180	51.4		
High	38	46.9	84	24.0		
<b>Relational transparency (4)</b>						
Low	11	13.6	86	24.6	4.580	0.101
Moderate	51	63.0	190	54.3		
High	19	23.5	74	21.1		

A chi-square (X<sup>2</sup>) test tests the differences between two variables. \*\*Highly statistically significant differences at 0.001\*\*

Table (5) illustrates that 66.7% of head nurses have moderate self-awareness leadership compared to 54% of nurses with moderate self-awareness with a statistically significant difference (P= 0.002\*\*). Regarding internalized moral perspective, 53.1% of head nurses have a moderate level compared to 50.6% of nurses with a moderate level, with a statistically significant difference (P= 0.007\*\*).

Regarding balanced processing, 42.1% of head nurses have a moderate level compared to 51.4% of nurses with a moderate level with a statistically significant difference (P= 0.0001\*\*). Regarding relational transparency, 63% of head nurses have moderate level compared to 54.3% of nurses with no statistically significant difference (P= 0.101).



A chi-square (X<sup>2</sup>) test tests the differences between two variables. \*\*Highly statistically significant differences at 0.001\*\*

**Fig 1:** Comparison between head nurses’ authentic leadership and nurses’ perception about head nurses’ total score of authentic leadership skills

Figure (1) illustrates that 13.60% of head nurses have a low level of perception about authentic leadership skills compared to 24.30% of nurses with a low level. 61.70% of the head nurses have a moderate level compared to 63.40% of nurses with a moderate level. There, 24.7% of head nurses have a high level compared to 12.3% of nurses with a high level, with a statistically significant difference ( $P=0.006^{**}$ ).

**Table 6:** Correlation between authentic Leadership of Head Nurses and Nurses innovative work behaviors

		Innovative work behaviors
Authentic leadership of the head nurse	r	0.090
	P- value	0.422

\*Correlation is significant at the 0.05 level

\*\*Correlation is significant at the 0.01 level

Table (6) shows no statistically significant correlation between authentic leadership of the head nurses and innovative work behaviors of nurses with ( $R=0.090$   $P$ -value =0.945).

**Discussion**

Leaders play a crucial role in facilitating and fostering the development and cultivation of creativity and innovation. In order to foster a positive organizational climate, it is imperative to establish an authentic rapport between the leader and the employee. The concept of authentic leadership has garnered significant attention in recent times, primarily as a result of a paradigm shift triggered by numerous instances observed across diverse organizations. Leaders play a crucial role in facilitating the exploration of purpose and fostering a sense of belonging among their subordinates within the workplace. This influence is particularly significant within hospital settings, where the concept of authentic leadership has garnered considerable scholarly interest. Therefore, the primary objective of this study is to evaluate the authentic leadership skills of head nurses and their potential impact on the innovative work behaviors exhibited by nurses.

Furthermore, innovative work behavior encompasses all actions undertaken by employees to generate, present, and/or implement novel ideas, processes, procedures, or methods to discover improved solutions for newly emerged work-related challenges. The presence of innovative work behavior within the nursing profession, similar to other occupations, plays a significant role in fostering organizational innovation. This behavior directly results from nursing personnel's creative and innovative engagement [24].

The current study's findings related to the socio-demographic data of the head nurses revealed that one-third of head nurses aged between 30 to < 35 years old with an average mean age ( $34.9 \pm 5.7$  years). About gender, less than two-thirds were males, and one-third had 1 to 5 years of experience. Regarding educational qualification and marital status, it was noted that most of them had bachelor's degrees and were married. For the hospital name, less than half worked in Pediatric and Gynecology University Hospital. Moreover, half had > 4000 salary, and about two-thirds lived in rural areas.

Also, the current study's findings related to the socio-

demographic data of nurses revealed that less than half of nurses aged between 25 to < 30 years old had an average mean age ( $28.8 \pm 5.8$  years). About gender, more than two-thirds were females, and less than half had 1 to 5 years of experience. Regarding educational qualification, more than two-thirds of them had a technical institute degree in nursing; for marital status, less than two-thirds are married. For the hospital name, more than one-third of them work in Pediatric and Gynecology University Hospital, less than half had 2000: 3000 salary and more than half live in rural areas. In relation to the dimensions of authentic leadership skills, the results indicated that a majority of head nurses exhibited scores at a moderate level across all dimensions. One possible explanation for this phenomenon could be that a majority of head nurses have undergone prior training in authentic leadership skills and have acknowledged the significance of authentic leadership.

These results are in accordance with the results of Alilyyani [25], who conducted a study aimed to assess the effect of authentic leadership on nurses' trust in managers and job performance and found that a significant proportion of nurse managers exhibited a moderate degree of competence in various dimensions of authentic leadership. Also, Başaran and Kiral [26] found that a significant proportion of nurse managers exhibited notable proficiency in various dimensions such as self-awareness, balanced processing, moral/ethical perspective, and relational transparency.

These results disagree with Ali *et al.* [27], who conducted a study aimed to assess the effect of an authentic leadership educational program for head nurses on staff nurses' organizational commitment at Egypt Benha University Hospital, found that three-quarters of head nurses had low levels of authentic leadership skills dimensions.

Regarding total authentic leadership skills, the current study's findings revealed that more than half of head nurses have moderate authentic leadership. This phenomenon could potentially be attributed to the inclination of head nurses to exhibit leadership behaviors characterized by a visionary approach, unwavering dedication to achieving excellence, a sense of loyalty towards their subordinate nurses, as well as a willingness to inspire, communicate effectively, and guide others towards attaining higher levels of achievement. In addition, they facilitate the cultivation of innovation and emphasize the importance of recognizing and valuing the contributions of staff nurses. However, further training is required to enhance their proficiency in this approach.

This result, in the same line with Alilyyani [25], found that the majority of head nurses had moderate levels of total authentic leadership skills.

This result contradicted with Ali *et al.* [27], found that three-quarters of head nurses had low total authentic leadership skills, disagreed with Nagib *et al.* [28], and found that more than three-quarters of head nurses had low authentic leadership skills. At the same time, only a minority had a high authentic leadership skills in the pre-test. Also, Saleh *et al.* [29] found that the majority of head nurses had low total authentic leadership skills. Moreover, these results are inconsistent with Aboelenan and Mostafa [30], found that more than half of the head nurses had low total authentic leadership skills.

Regarding innovative work behaviors dimensions, more than half of nurses had low scores for all dimensions of

innovative work behaviors: opportunity exploration, idea implementation, idea generation, idea championing, and recognizing and support. The observed outcome may be attributed to the phenomenon wherein many nurses possess the capacity to generate novel and inventive ideas yet lack the strategic foresight necessary for effectively implementing these ideas. Furthermore, they often fail to undertake the requisite actions to translate these ideas into tangible outcomes. Furthermore, the hospital fails to provide its employees with an environment conducive to freedom of innovation, thereby hindering their ability to implement innovative ideas effectively.

These results are in accordance with Kessel *et al.* [31], who conducted a study aimed to assess innovative work behavior in healthcare and found that the majority of nurses had a low idea exploration, idea generation, and idea implementation. However, these results disposed with Qin Niuf *et al.* [32], who conducted a study entitled "Factors Predicting Innovative Work Behavior Among Nurses in Tertiary Hospitals in Yunnan Province, the People's Republic of China" and found that the majority of nurses had moderate levels for idea exploration, idea championing and idea implementation. Only the average score for idea generation was at a high level.

These results are not congruent with Mahgoub *et al.* [33], who found that two-thirds of nurses had high levels for all dimensions of innovative work behaviors: Idea search, idea communication, idea generation, idea implementation, and involving others. Also, this result is inconsistent with Shama and Ahmad [34], who conducted a study aimed at investigating the relationship between nurse's innovative Work Behavior and Their Job Satisfaction" and found that the majority of nurses had a high level of nurse support for innovation, nurses' vision, and monitoring and idea communication.

Regarding total innovative work behaviors, more than half of nurses had moderate innovative work behaviors. The potential cause of this phenomenon could be attributed to the novelty of the concept. In order to enhance their practical competencies, individuals must engage in workplace practice and prioritize participation in educational programs.

This result is consistence with El-Demerdash *et al.* [35], who conducted a study that assessed innovative Work Behavior among Nursing Interns and revealed that about two-thirds of nursing interns had a moderate innovative work behavior while one-third of them had low level of total innovative work behavior.

This result disagreed with Abd El Muksoud *et al.* [36], who conducted a study aimed to investigate leadership Behaviors and Innovative Work Behaviors among Nurses and indicated that one-third of nurses had a high level of innovative work behaviors; in contrast, one-third of nurses had a low level of innovative work behaviors.

In contrast, a study by Kamel and Aref [37] yielded conflicting findings to the result mentioned above. Their research examined the perception of staff nurses regarding organizational culture and its correlation with innovative work behaviors in critical care units in Egypt. The study revealed that approximately half of the staff nurses exhibited a high level of innovative work behaviors.

Furthermore, Abd El-Fattah [38] conducted a study to assess

innovation behavior levels among critical care nurses in Egypt. The study's findings revealed that most participants exhibited moderate innovative work behaviors.

Regarding head nurses and nurses' perception of authentic leadership skills, the current study showed that the highest percentage of head nurses, as well as nurses, agreed that head nurses had moderate levels of self-awareness, balanced processing, internalized moral perspective, and relational transparency dimensions with statistically significance differences between them except relational transparency. Also, the highest percentage of head nurses and nurses agreed that head nurses had moderate levels of total authentic leadership skills. These results may be due to head nurses seeing themselves with a more positive view than nurses see them in which one assesses or evaluates oneself higher than the other. Also, the differences might be due to the low number of head nurses compared to the nurses' number in the study.

The findings of Ghahfarokhi *et al.* [39] support the notion that nurses working in emergency departments tend to rate their clinical competence differ from the evaluations conducted by head nurses, revealing significant differences in assessing patient support and assistance, diagnostic measures, managerial abilities, and occupational tasks. Moreover, individuals are more inclined towards the principles upheld by self-directed institutions and tend to assign higher evaluations to their own performance. However, the self-assessment score tends to differ from and frequently surpass that of the assessment officials and head nurses.

Furthermore, the findings of this study are consistent with the research conducted by Sellgren *et al.* [40] about nursing management leadership styles. Sellgren *et al.* [40] observed a significant discrepancy between subordinates and their managers regarding their perceptions of managerial leadership style.

However, the result does not agree with Albagawi *et al.* [41], who found no statistically significant disparities observed between the perceived leadership styles of nurse managers and the perceptions of nurse managers' leadership styles as reported by nurses.

Regarding the correlation between the authentic leadership of head nurses and nurses' innovative work behaviors, the results of the present study indicate that there is no statistically significant relationship between the authentic leadership exhibited by head nurses and the innovative work behaviors displayed by nurses (correlation coefficient,  $r = 0.090$ ,  $p\text{-value} = 0.945$ ). The study findings may indicate that leadership behaviors fail to acknowledge a crucial factor that influences the innovative work behaviors of staff nurses.

These results disagreed with Ford and Harding [42], found statistically significant correlation between authentic leadership and innovative behaviors, indicating that the presence of an authentic leader may decrease the level of innovation exhibited by nurses under their supervision.

Also, these results disagree with Khan *et al.* [43], who proposed that authentic leadership plays a substantial role in fostering a culture that promotes knowledge-sharing and creativity. Additionally, leaders exhibit a genuine concern for the welfare of their staff nurses. These results disagreed with Anwar *et al.* [44] and supported our study results; a



significant correlation was discovered between authentic leadership and the level of innovation exhibited by staff nurses.

### Conclusion

It can be concluded that less than two-thirds of head nurses had moderate authentic leadership. Regarding total innovative work behaviors, more than half of nurses had moderate innovative work behaviors. Also, the highest percentage of head nurses and nurses agreed that head nurses had moderate levels of authentic leadership skills, with statistically differences between them. And there was no correlation between the head nurses' authentic leadership and nurses' innovative work behaviors.

### Recommendations

**The following are some of the recommendations proposed in the study**

1. Provide an educational program for head nurses to improve their authentic leadership.
2. Provide an educational program for nurses to improve their innovative work behaviors.
3. Hospital and nursing administrators should prioritize preserving and improving nurses' innovative work behaviors.

### Conflict of Interest

Not available

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