

## The Relationship Between Intelligent Leadership, Organizational Culture And Workplace Innovation

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### Abstract

**Introduction:** intelligent leadership essential to increase the sense of belonging and loyalty to the organizational culture, improve workplace innovation relations, and provide a better understanding of what is happening in the organization all of this lead to improve workplace innovation. **Aim:** This study aimed to assess relationship between Intelligent leadership, organizational culture and workplace innovation. **Setting:** The study was conducted at Tanta Fever Hospital. **Design:** A descriptive, correlational design was used in this study. **Subject:** A convenient sample of nursing personnel was included (N=160). **Tools:** Three tools were used for data collection as tool (I) consists of two parts (Part1): Socio-demographic characteristics, (Part2): intelligent leadership questionnaire. Tool (II) organizational culture questionnaire .Tool (III) work place innovation questionnaire of nursing personnel . **Results:** there was the majority of the studied nursing personnel had a high level of intelligent leadership while, the minority of them had a moderate and low level, four-fifths of the studied nursing personnel had a high level of organizational culture while the minority had a moderate level and four-fifths of the studied nursing personnel had a high level of workplace innovation while the minority had a moderate and low level. **Conclusion:** There was a positive correlation between intelligence leadership, organizational culture and workplace innovation among nursing personnel. **Recommendation:** At nursing personnel level: Encourage staff development programs to help nurses to share in making decision. At the educational level: Provide continuous perception about intelligent leadership and innovation throughout the curriculum includes specific applications. At the organizational level: Raise awareness of the nursing manager regarding importance of intelligent leadership to create better hospital out come. At the research level: can be conducted to identify the factors that enhance work place innovative.

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**Keywords:** Intelligent leadership, Organizational culture and Workplace innovation.

## Introduction

Healthcare is multifaceted and faced with several challenges including inadequate staffing and increasing workloads. As the largest health care group, nurses are mostly at the center of these challenges. To deal with these clinical challenges that confront healthcare delivery. The health care organization required to possess an intelligent leadership to adapt with increasing technology, intense competition, rapid environmental changes, innovation, organizational culture and globalization **(Al Eid et al., 2021)**.

Leadership is one of the most critical functions of the administrative process and is relied upon for its significant role in the positive progress of the growth of organization. Intelligent leadership (IL) is considered one of the most critical drivers of positive change in organization, as it seeks to motivate followers by making them aspire to lofty ideals and values instead of focusing on self-interest and striving to maintain the status quo in organization. Intelligent leaders are primary agents of change and possess a clear vision and an integrated picture of what the organization will be in the future or what it should be **(Hourani et al., 2021)**.

Adopting a method of understanding organizational culture by organization leaders may enhance their ability to develop organizational goal. Organizational culture (OC) plays a fundamental role at all organizational activities, critical component of leadership success and levels in terms of providing a practical framework for organizing and directing organizational behavior within organizations. These dynamic processes of culture creation and management are the essence of leadership and make one realize that leadership and culture are two sides of the same coin **(Khan et al., 2021)**.

Health-care organizations are faced with an increasingly competitive need for innovation. Innovative are defined as the generation, promotion, and realization of new ideas in products and processes, which is different from the concept of creativity, which only focuses on generating new and valuable ideas. Workplace innovation (WPI) is conceived as a complex behavior consisting of three different behavioral tasks as idea generation, idea promotion, and idea realization. The production of novel and useful ideas in any domain innovation is essential for nursing to promote health, minimize the risk factors for circumstances of health, avoid illnesses, improve health attitudes and improve therapy policies and procedures **(Nguyen et al., 2021)**.

Intelligent leadership can use organizational culture to enhance workplace innovation by providing employees with a sense of identity culture. Also, intelligent leadership essential to increase the sense of belonging and loyalty to the organization, improve work relations, and provide a better understanding of what is happening in the organization all of this lead to improve workplace innovation **(Iqbal et al., 2020)**.

## Significance of the Study

The significance of the study was coming from the importance of intelligent leadership, organizational culture and workplace innovation for stability and development of all organizations to building a healthy future, this study was conducted to investigate the relationship between intelligent leadership,

organizational culture and workplace innovation, wherever intelligent leadership and organizational culture develop organization innovation which has positive effect on globalization and creativity to building a healthy future. Intelligent leadership behaviors of nursing leaders and organizational culture had a critical part in improving the organization's workplace innovation. Nationally the study of (relationship between the leadership behaviors, organizational climate, and innovative work behavior among Nurses) by **Kamal et al., (2019)** who stated that, the majority of nurses 83.9 % had a positive perception of transformational leadership behavior, 81% of nurses had a positive organizational climate perception and 49.2% of nurses had a high level of innovative work behavior. Additionally, internationally, the study of (the Influence of organizational culture on organizational innovation for employees in pharmaceutical organizations) by **Janki et al (2022)** who revealed that, organizational culture and organizational innovation are strongly linked.

### **Aim of the study**

The aim of this study was to assess the relationship between intelligent leadership, organizational culture and workplace innovation among nursing personnel.

### **Research question**

What's the relationship between intelligent leadership, organizational culture and workplace innovation among nursing personnel?

### **Subject and Methods**

#### **I Technical design**

The technical design includes research design, setting, subject and tools for data collection.

#### **Research design:**

A descriptive, correlational design was used in this study.

#### **Setting**

The study was conducted at **Tanta Fever Hospital** which located at Gharbia Governorate, Egypt and consisting of 3 floor, 112 bed.

#### **Description of Tanta Fever Hospital: -**

**Ground floor:** Radiology, ER, Out patient and lab.

**1<sup>st</sup> floor:** Inpatient rooms, Directors offices and Doctors housing.

**2<sup>st</sup> floor:** ICU, Inpatient rooms, OR, Endoscopy department, Dialysis department, quality department and infection control department.

**3<sup>st</sup> floor:** Infectious diseases department, Isolation department, Medical Records Department, Nursing housing and Training department.

### Subjects:

A convenient sample of nursing personnel was included (N=160).

### Tools of data collection

Three tools were used for collecting data of this study as the following:-

#### Tool 1: Intelligent leadership Questionnaire :

This tool was developed by the researcher after reviewing the related literature (Keikha et al., 2017; David., 2021; and Ahmed et al., 2022) and it was consists of two parts.

##### Part 1: personal characteristics data:-

This part was used to assess personal characteristics data of nursing personnel as (age, gender, years of experience, how long year of work with current supervisor, nursing qualification, job title and hospital department).

##### Part 2: Intelligent leadership Questionnaire

This part was used to assess intelligent leadership as perceived by nursing personnel and consisted of four dimensions with (30) items as (Emotional leadership=8, Rational leadership=7, Spiritual leadership =9 and Collective leadership=6).

#### Scoring system :

This tool consisted of 4 dimensions with (30 items) with a total grade (90).3 point likert scale were used. One grade was given to disagree response, two grades were given to neutral response and three grades were given to agree response. The total score were statistically calculated by summing scores of all categories and converted into percent score to assess the level of intelligent leadership as perceived by nursing personnel as the following:-

- **High level:** if the total score was equals or more than 75%, it means  $\geq 68$  points.
- **Moderate level:** if the total score was equal or more than 60 less than 75%, it means  $\geq 54$  to  $< 68$  points.
- **Low level:** if the total score was less than 60%, it means  $< 54$  points.

#### Tool 2 : Organizational Culture Questionnaire

This tool was developed by the researcher after reviewing the related literature (Khalil., 2018 and Falcon., 2022) and consulting experts in related field to determine organizational culture as preserved by nursing personnel. Also, it was consisted of five dimensions with (30) items (managing change =6, achieving goals=6, coordinated teamwork=6, customer orientation=6 and culture strength=6).

**Scoring system :**

This tool consisted of 5 dimensions with (30 items) with a total grade (90). 3 point likert scale were used. One grade was given to disagree response, two grades were given to neutral response and three grades were given to agree response. The total score were statistically calculated by summing scores of all categories and converted into percent score to assess the level of organizational culture as perceived by nursing personnel as the following:-

- **High level:** if the total score was equals or more than 75%, it means  $\geq 68$  points.
- **Moderate level:** if the total score was equal or more than 60 less than 75%, it means  $\geq 54$  to  $< 68$  points.
- **Low level:** if the total score was less than 60%, it means  $< 54$  points.

**Tool 3 : Workplace Innovation Questionnaire**

This tool was developed by the researcher after reviewing the related literature (*Abdalhamed, 2021* and *Youssif, 2021*) and consulting experts in related field to identify workplace innovation as preserved by nursing personnel. In addition, it was consists of six dimation with (33) items (nursing support for innovation = 10 , encouragement to diffution of the new innovative ideas =10, nurses'vision =5, reward=3,performance evaluation=2 and monitoring=3).

**Scoring system :**

This tool consisted of 6 dimensions with (33 items) with a total grade (99). 3 Point Likert scale were used. One grade was given to disagree response, two grades were given to neutral response and three grades were given to agree response. The total score were statistically calculated by summing scores of all categories and converted into percent score to assess the level of workplace innovation as perceived by nursing personnel as the following:-

- **High level:** if the total score was equals or more than 75%, it means  $\geq 75$  points.
- **Moderate level:** if the total score was equal or more than 60 less than 75%, it means  $\geq 60$  to  $< 75$  points.
- **Low level:** if the total score was less than 60%, it means  $< 60$  points.

**Validity of the tools:**

Validity of the tools were done namely face validity and content validity. This tools were translated in to Arabic and tested by jury group of five experts specialized in nursing administration from different three universities namely Ain shams university,Cairo university and Damanhour university through an openionnaire sheet to measure the validity of the tools and minor modification was done regarding formate and layout.

### Reliability of the tools

Reliability of the tools were tested using Cronbach's alpha coefficient to determine the extent to which the questionnaire items were related to each other. Test of reliability for intelligent leadership questionnaire yield Cronbach's alpha showed (0.86), Test of reliability for organizational culture questionnaire yield Cronbach's alpha showed (0.81) and Test of reliability for workplace innovation questionnaire yield Cronbach's alpha showed (0.86). Statistical equation of Cronbach's alpha reliability coefficient normally ranges between 0 and 1, higher values (more than 0.8) this indicates that instruments were showed an excellent reliability.

### Pilot study

A pilot study was conducted on 10% of the study subjects (16 nursing personnel) The aim of the pilot study was to determine clarity, applicability of the tools and to estimate the time required for fulfilling the questionnaire sheets. Total time needed to complete the total sheets by nursing personnel was ranged between (25-40) minutes. Those participants in the pilot study were included in the main study sample. Based on the pilot study, no modifications were done and the final version was prepared for distributing to the nursing personnel.

### Ethical Considerations

Prior study conduction, the research approval was obtained from the Scientific Research Ethical Committee in Faculty of Nursing, Helwan University. In addition, an approval was obtained from the director of Tanta Fever Hospital and nursing personnel. The rescarcher was assure anonymity and confidentiality of the nursing personnel's data and informed them about research purposes. Nursing personals were informed about the study aim, process, and they allowed to choose to participate or not in the study and they have the right to withdraw from the study at any time. Ethics, values, culture and beliefs was respected.

## II. Operational Design

The operatioal design included :- preparatory phase and field work.

### A) Preparatory phase

It included reviewing of related literature and theoretical knowledge of various aspects of the study using textbooks, articles, internet, periodicals and magazines.

### B) Field work

The actual fieldwork started at the beginning of May 2023 and was completed by the end of July 2023. The researcher met the hospial manager and nursing director of Tanta fever hospital to explain the aim of the study and gain their approval on data collection. Two visit per week on day shift from 11Am to 2 Pm each visit done 10 sheets (8 weeks collected 160 sheets ).The researcher collected data by herself through meeting the nursing personnel and explaining the purpose of the study to them in the study settings.

The researcher was present all time during fulfilling the forms to answer any questions. The questionnaire sheets were distributed and completed by nursing personnel. The time needed by nursing personnel to complete the first tool was ranged between (10-15) minutes, the second tool was ranged between (10-15) minutes and the third tool was ranged between (5-10) minutes. Total time needed for complete all tools were (25-40) minutes. The researcher checked the completeness of each filled sheet after the nursing personnel completed it to ensure the absence of any missing data.

### III. Administrative design:

To carry out the study, official letters were issued from the Dean of Faculty of Nursing Helwan University explains the aim of the study to director of Tanta fever hospital for obtaining the permission for data collection. Individual oral consent was also obtained from each nursing personnel's to participate in the study.

### IV. Statistical design:

Data entry and analysis were performed using SPSS statistical package version 25. Categorical variables were expressed as number and percentage while continuous variables were expressed as (mean  $\pm$ SD). Chi-Square ( $\chi^2$ ) was used to test the association between row and column variable of qualitative data. The fisher exact test was used with small, expected numbers. ANOVA test was used to compare mean in normally distributed quantitative variables at more than two groups. Pearson correlation was done to measure correlation between quantitative variables. For all tests, a two-tailed p-value  $\leq 0.05$  was considered statistically significant, P-value  $\leq 0.01$  was considered highly statistically significant. While p-value  $> 0.05$  was considered not significant.

### Results:

Table (1) Personal characteristics among nursing personnel (n=160).

Items		No.	%
Age (year)	▪ 23 < 30 Yrs.	67	41.9
	▪ 30 < 40 Yrs.	56	35.0
	▪ 40 < 50 Yrs.	30	18.8
	▪ $\geq 50$ Yrs.	7	4.4
	▪ Mean $\pm$ SD	34.07 $\pm$ 7.93	
Job title	▪ Staff nurse	102	63.7
	▪ Charge nurse	19	11.9
	▪ Head nurse	26	7.5
	▪ Supervisor	12	16.3
	▪ Director	1	0.6
Qualification	▪ Diplom	13	8.1



	▪ Technical institute of nursing	56	35.0
	▪ Bachelor's degree of nursing	82	<b>51.2</b>
	▪ Master's degree	5	3.1
	▪ Doctorate degree	4	2.5
Years of Experience in nursing	▪ 1 < 3	39	24.4
	▪ 3 < 5	35	21.9
	▪ ≥ 5	86	53.8
	▪ <b>Mean ± SD</b>	<b>10.71 ± 8.93</b>	
Years of Experience with your supervisor	▪ 1 < 3	63	39.4
	▪ 3 < 5	62	38.8
	▪ ≥ 5	35	<b>21.9</b>
	▪ <b>Mean ± SD</b>	<b>3.40 ± 1.83</b>	

**Table (1)** shows that, about two fifths (41.9%) of the studied nursing personnel age was ranged 23 < 30 years old, with a mean age of **34.07 ± 7.93**. Regarding job title, about two-thirds (63.7%) of them were staff nurses. Concerning qualification, more than half (51.2%) of the studied nursing personnel holding a diplom degree in nursing. In relation to years of experience, more than half (53.8%) of them were working for ≥ 5 years old in nursing field with a mean of **10.71 ± 8.93**. Additionally, nearly two-fifths (39.4%) of the studied nursing personnel were working for 1 < 3 years old with supervisor with a mean of **3.40 ± 1.83**.

**Table (2): Total mean score of intelligent leadership among the studied nursing personnel (n= 160)**

Variable		No	%	Min	Max	$\bar{x}$	SD	F test	P value
Intelligent emotional leadership	Low level	10	6.3	10	14	13.0	1.15	191	0.000**
	Moderate level	14	8.8	15	17	16.2	0.61		
	High level	136	85.0	18	24	21.6	1.69		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>10</b>	<b>24</b>	<b>20.6</b>	<b>2.95</b>		
Intelligent rational leadership	Low level	4	2.5	11	12	11.5	0.57	103	0.000**
	Moderate level	14	8.8	13	15	14.2	0.57		
	High level	142	88.8	16	21	18.5	1.46		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>11</b>	<b>21</b>	<b>17.9</b>	<b>2.12</b>		
Intelligent spiritual leadership	Low level	4	2.5	9	15	13.0	2.8	91.0	0.000**
	Moderate level	13	8.1	17	20	19.3	1.0		
	High level	143	89.4	21	27	24.1	2.0		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>9</b>	<b>27</b>	<b>23.4</b>	<b>2.9</b>		
Intelligent collective leadership	Low level	1	0.6	8	8	8.0	0.0	71.3	0.000**
	Moderate level	13	8.1	11	13	12.3	0.76		
	High level	146	91.3	14	18	16.5	1.4		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>8</b>	<b>18</b>	<b>16.1</b>	<b>1.8</b>		
<b>Total</b>	Low level	1	0.6	45	45	45.0	0.00		



	Moderate level	9	5.6	55	67	62.2	4.7		
	High level	150	93.8	68	90	79.3	5.7		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>45</b>	<b>90</b>	<b>78.2</b>	<b>7.3</b>	<b>56.3</b>	<b>0.000**</b>

\*Significant p ≤ 0.05

F: ANOVA Test

\*\*Highly significant p ≤ 0.01

**Table (2):** represents that, the total mean score of intelligent leadership among studied nursing personnel is  $\bar{x} \pm SD = 78.2 \pm 7.3$  with a highly statistically significant difference at  $P = 0.000$ . Additionally, the dimension of Intelligent collective leadership gained the higher percentage (**91.3**) and followed by Intelligent spiritual leadership (89.4%) ,while, intelligent emotional leadership gained the lower percentage (85%).

**Table (3): Total mean score of organizational culture among the studied nursing personnel (n= 160)**

Variable		No	%	Min	Max	$\bar{x}$	SD	F test	P value
<b>Managing change</b>	Low level	4	2.5	8	10	9.50	1.00		
	Moderate level	25	15.6	11	13	12.28	0.73		
	High level	131	81.9	14	18	15.76	1.28		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>8</b>	<b>18</b>	<b>15.06</b>	<b>1.96</b>		
<b>Achieving goals</b>	Low level	2	1.3	8	10	9.00	1.41		
	Moderate level	27	16.9	11	13	12.33	0.87		
	High level	131	81.9	14	18	15.92	1.32		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>8</b>	<b>18</b>	<b>15.23</b>	<b>1.96</b>		
<b>Coordinated teamwork</b>	Low level	1	0.6	10	10	10.0	0.0		
	Moderate level	36	22.5	11	13	12.36	0.76		
	High level	123	76.9	14	18	15.69	1.16		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>10</b>	<b>18</b>	<b>14.91</b>	<b>1.80</b>		
<b>Customer orientation</b>	Low level	4	2.5	9	10	9.75	0.500		
	Moderate level	22	13.8	11	13	12.55	0.596		
	High level	134	83.8	14	18	15.77	1.20		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>9</b>	<b>18</b>	<b>15.17</b>	<b>1.80</b>		
<b>Culture strength</b>	Low level	1	0.6	10	10	10.00	0.0		
	Moderate level	19	11.9	11	13	12.32	0.671		
	High level	140	87.5	14	18	15.75	1.18		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>10</b>	<b>18</b>	<b>15.31</b>	<b>1.64</b>		
<b>Total</b>	Low level	0	0.0	0	0	0.0	0.0		
	Moderate level	20	12.5	57	67	64.00	3.07		
	High level	140	87.5	68	90	77.35	5.51		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>57</b>	<b>90</b>	<b>75.68</b>	<b>6.88</b>		

\*Significant p ≤ 0.05

F: ANOVA Test

\*\*Highly significant p ≤ 0.01

**Table (3):** represents that, the total mean score of organizational culture among studied nursing personnel is  $\bar{x} \pm SD = 75.68 \pm 6.88$  with a highly statistically significant difference at  $P = 0.000$ . Additionally, the dimension of culture strength gained the higher percentage (**87.5**) and followed by dimension of customer orientation (83.8%) ,while, coordinated teamwork dimension gained the lower percentage (76.9%).

**Table (4): Total mean score of workplace innovation among the studied nursing personnel (n= 160)**

Workplace innovation		No	%	Min	Max	$\bar{x}$	SD	F test	P value
Nurses's support	Low level	2	1.3	14	17	15.50	2.12	151	0.000**
	Moderate level	32	20.0	18	22	20.59	1.21		
	High level	126	78.8	23	30	26.25	1.93		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>14</b>	<b>30</b>	<b>24.98</b>	<b>3.08</b>		
Nurse's encouragement	Low level	5	3.1	16	17	16.40	0.548	117	0.000**
	Moderate level	21	13.1	18	22	21.14	1.10		
	High level	134	83.8	23	30	27.20	2.36		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>16</b>	<b>30</b>	<b>26.07</b>	<b>3.47</b>		
Nurse's vision	Low level	3	1.9	8	8	8.0	0.00	136	0.000**
	Moderate level	14	8.8	9	11	10.43	0.64		
	High level	143	89.4	12	15	14.12	0.93		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>8</b>	<b>15</b>	<b>13.68</b>	<b>1.59</b>		
Reward	Low level	6	3.8	5	5	5.00	0.00	164	0.000**
	Moderate level	28	17.5	6	6	6.00	0.00		
	High level	126	78.8	7	9	8.22	0.77		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>5</b>	<b>9</b>	<b>7.71</b>	<b>1.21</b>		
Performance evaluation and monitoring	Low level	0	0.0	0	0	0.0	0.0	197	0.000**
	Moderate level	21	13.1	9	11	10.43	0.67		
	High level	139	86.9	12	15	13.82	1.07		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>9</b>	<b>15</b>	<b>13.37</b>	<b>1.54</b>		
<b>Total</b>	Low level	1	0.6	59	59	59.00	0.00	64.7	0.000**
	Moderate level	13	8.1	60	74	69.69	5.05		
	High level	146	91.3	75	98	87.44	5.94		
	<b>Total</b>	<b>160</b>	<b>100.0</b>	<b>59</b>	<b>98</b>	<b>85.82</b>	<b>7.89</b>		

\*Significant  $p \leq 0.05$

F: ANOVA Test

\*\*Highly significant  $p \leq 0.01$

**Table (4):** represents that, the total mean score of workplace innovation among studied nursing personnel is  $\bar{x} \pm SD = 85.82 \pm 7.89$  with a highly statistically significant difference at  $P = 0.000$ . Additionally, the dimension of nurse's vision gained the higher percentage (89.4%) and followed by dimension of performance evaluation and monitoring (86.9%) while reward and nurse's support dimensions gained the lower percentage (78.8%).

**Table (5): Correlational matrix between total score of intelligence leadership, organizational culture, and workplace innovation among the studied nurses (n= 120)**

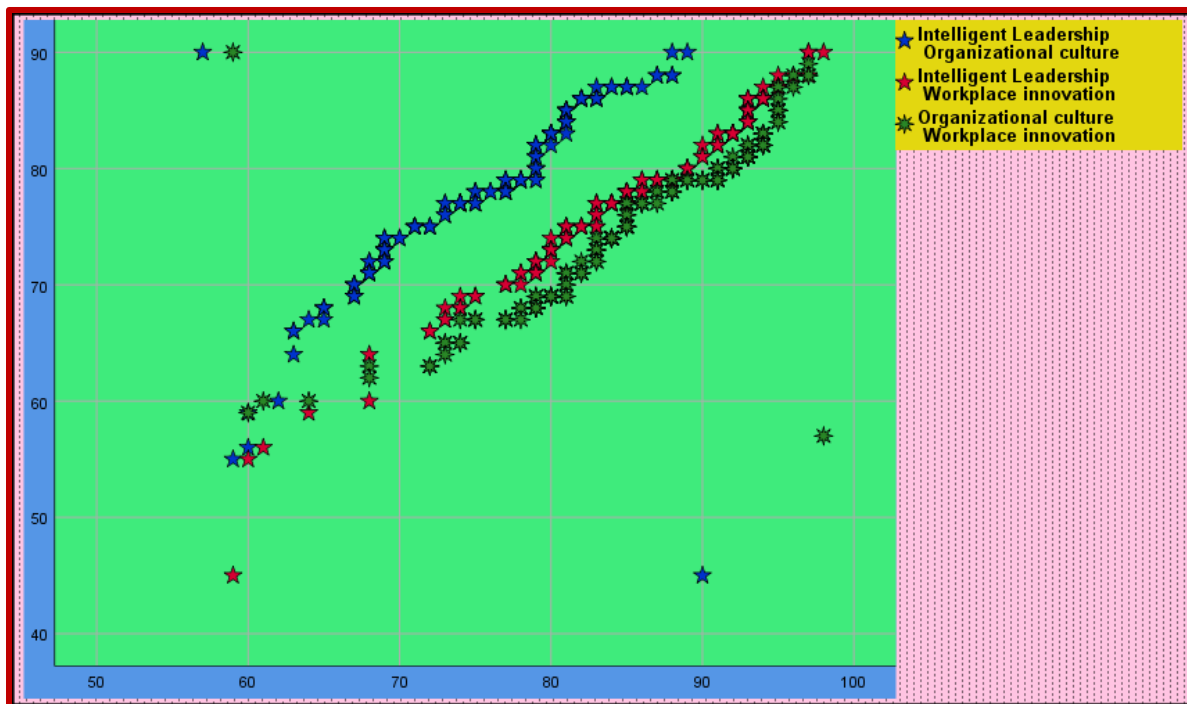
Items		Intelligence leadership	Organizational culture	Workplace innovation
▪ Intelligence leadership	r		0.786	0.990
	p		0.000**	0.000**
▪ Organizational culture	r	0.786		0.829
	p	0.000**		0.000**
▪ Workplace innovation	r	0.990	0.829	
	p	0.000**	0.000**	

\*Significant  $p \leq 0.05$

\*\*Highly significant  $p \leq 0.01$

**Table (5):** represents that, there was a highly statistically significant between total score of intelligence leadership, organizational culture and workplace innovation among the studied nursing personnel, at r ranged from 0.786 to 0.990 & P = 0.000.

**Figure (1): Multiple linear regression between total score of intelligence leadership, organizational**



**culture, and workplace innovation among the studied nursing personnel (n= 160)**In figure (1): multiple linear regression illustrates that, there was a strong positive correlation between total score of intelligence leadership, organizational culture, and workplace innovation among the studied nursing personnel, at P = 0.000.

## Discussion

Considering personal characteristics of the sample of the study (nursing personnel), the study result showed that, about two fifth of the studied nursing personnel were in the age group ranged between  $23 \leq 30$  years, with a mean age of  $(34.07 \pm 7.93)$ . This indicated that the nursing personnel were mature enough and able to tolerate the work responsibility. In relation to gender, majority of them were female. From the researcher point of view, this may be due to the greater fraction of the nurses in Egypt was female and may also related to the studying of nursing in Egyptian universities were exclusive for females only till few years ago.

Additionally, most of the nursing personnel hold a bachelor's nursing degrees. This may indicate that nurses with a bachelor nursing degree were promoted to a higher position. Considering years of experience, most of them worked equal or more than five years in nursing profession. The current study findings were agreement with the study by Blaik et al.,(2021), who conducted the study in Abo Dhabi entitled "Emotional intelligence and school leaders" and who found that, implied the need for school leaders and managers to develop and nurture their professional emotional intelligence attributes.

On the other hand, the current study result was agreement with the study by **Jennifer Knaack et al.,(2023)**, who conducted the study in Capella University entitled " Emotional Intelligent And Critical Thinking In Practical Nursing Student" and who revealed that, nurses had a positive strong relationship was noted between emotional intelligence and the clinical performance of nursing students.

The current study were in the same line with the study by **Michelle Sutter et al.,(2020)**, who conducted the study in United States Military Branches entitled " The Relationship between Leadership Styles an Organizational Culture in United States Military Branches " and who reported that, leaders have a positive effect on the organizational culture, which will create a better-quality productivity within the organization.

The current study findings were in the same line with the study by **Janki Shah et al .,(2022)** who conducted the study in Capella University entitled "The Influence Of Organizational Culture On Organzational Innovation For Employees In Pharmaceutical Organization" and who showed that, positive link between organizational innovation and one of the four categories of organizational culture, clan culture, adhocracy culture, market culture, and hierarchy culture.

On the hand, the current study result was agreed with the study by **Rampersadh et al.,(2022)**. who conducted the study in University of Pretoria in the South African State entitled "The impact of organisational culture on organisational innovation in the South African State-Owned Entities" and who reported that, organisational culture has a positive impact on organisational innovation.

The current study findings were in the same line with the study by **(Nagia Omer,2022)** who investigated the study in Egypt, at Belbeis general hospital entitled "Leadership Behaviors and Innovative Work Behaviors

among Nurses” who Indicated that, 75% of staff nurses had a positive perception of the transformational leadership behavior. As well, 37 % of staff nurses had a high level of innovative work behaviors, while,35% of them had a low level of innovative work behaviors.

On the hand, the current study result was agreed with the study by **(Quadira,2022)** who investigated the study in Chandler, Arizona entitled “The Influence of Transformational Leadership On Workplace Innovation And Performance During The COVID-19 Pandemic” who indicated that, a positive relationship between transformational leadership behaviors, innovative job performance, and baseline job performance.

On the hand, the current study result was agreed with the study by **Kalkan et al.(2020)**. who investigated the study in in Selçuklu, Karatay, and Meram districts of Konya, Turkey entitled “The Relationship Between School Administrators’ Leadership Styles, School Culture, and Organizational Image” who reported that, there was positive significant relationships between leadership styles, the school culture, and organizational image, along with the leadership style of school principals, which significantly predicted school culture, and school culture, which significantly predicted organizational image.

The current study were agreement with the study by **Susan et al.,(2022)** who investigated the study in Capella University entitled ” The Relationship Between Leadership Style As A Moderator Of Organizational Culture And Innovation Performance” who indicated that, positive relationship between leadership style and organizational performance, suggesting leadership style could potentially moderate the relationship between organizational culture and innovation performance.

## Conclusion

The current study explores the relationship between intelligence leadership, organizational culture and workplace innovation among nursing personnel and found that there was a positive correlation between intelligence leadership, organizational culture and workplace innovation among nursing personnel.

## Recommendations

Based on the study results, the following recommendations can be given:

- At nursing personnel level: Encourage staff development programs to help nurses to share in making decision and delegation for certain tasks and responsibilities to develop sence of innovation.
- At the organizational level: Raise awareness of the nursing manager regarding importance of intelligent leadership to create better hospital out come. React positively to the innovative efforts of nurses by providing them the time and resources to carry out innovative efforts and support work place innovation as a job requirement.

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- At the educational level: Provide continuous perception about intelligent leadership and innovation throughout the curriculum includes specific applications at each student's level.
- At the research level: can be conducted to identify the factors that enhance work place innovative among nursing personnel. Further researches with larger sample sizes and multiple settings to assess the effectiveness of intelligent leadership on organizational culture and workplace innovation.

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