

## Investigating the Relation among Workaholism, Nursing Presence and Willingness to the Integration of Artificial Intelligence into Practice

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### Abstract

Workaholism has a negative impact on nurses' various facets of life, and nursing presence is crucial for growth of the bond between a patient and a nurse. However, as artificial intelligence (AI) develops swiftly, it may help nurses perform difficult care circumstances. **Aim:** investigating the relation among workaholism, nursing presence and willingness to the integration of artificial intelligence into practice. **Research Design:** The correlative descriptive design was used. **Setting:** Minia Psychiatric Mental Health and Addiction Hospital, Chest Hospital, and Misr El-hurrah Hospital. **Sample:** A convenience sample including all staff nurses (n= 334) being on duty working in the three hospitals during data collection time. **Study tools:** Three tools called workaholism scale, presence of nursing scale, and willingness for artificial intelligence integration Questionnaire. **Results:** Study findings denote that, more than two thirds of staff nurse at the three hospitals exhibits low responses regarding workaholism. And nearly two thirds of them have high level of nursing presence. While slightly above two thirds have decline level of willingness regarding integration of artificial intelligence into nursing practice. In addition, a negative association between workaholism and both nursing presence and willingness to artificial intelligence integration additional to positive association between nursing presence and willingness to artificial intelligence integration. **Conclusion:** The study participants have increased degree of nursing presence; they exhibited low level of workaholism and tend to be unwilling to integrate artificial intelligence into nursing practice. **Recommendations:** Hospitals ought to make the incorporation of AI into their systems a top priority.

**Keywords:** *Workaholism, Nursing Presence, Artificial Intelligence Integration & Willingness*

### Introduction

Work has a big role in people's lives. Despite the fact that workaholism is not a new issue, it has recently attracted the attention of researchers (Paula et al., 2022). Workaholism appears to be a problem for healthcare workers (HCWs) in terms of both demand and resource management (Falco et al., 2020). Workaholism has the capacity to energize employees, which makes it possible to make work enjoyable and have a good emotional impact on job satisfaction (Dordain et al., 2019).

At higher degrees of workaholism, HCWs may experience a psychological process that impairs their health and a sense of emotional tiredness, leading to a so-called "loss spiral" and ultimately job discontent (Atroszko et al., 2020). The term "workaholism" is derived from the prefix "work" and the suffix "a holism," and it refers to a work addiction presented with irrational excessive and compulsive working, and for which the worker is not in control of the load even after becoming aware of the excess (Andreassen et al., 2019).

Workaholism is the term used to describe a person's psychological and pathological reliance on his or her

job. It is characterized by an individual working excessively and compulsively to fulfill organizational requirements while ignoring rest and other aspects of their personal lives. It is a dysfunctional psychological state characteristic of compulsively working too much. Due to this, workaholism includes two behavioral facets: excessive working, which denotes that workaholic individuals devote more time and effort to their jobs than is required to meet organizational or financial needs. Additionally, obsessive working is a cognitive trait that shows people are preoccupied with their jobs and continually consider them even when they are not working. (Galdino et al., 2021).

Previous research has repeatedly shown that workaholism has a detrimental impact on many aspects of life. Employees who are workaholics have been reported to perform poorly at work and to have tense relationships with their coworkers. Employees who have workaholic signs disburse unruly period on job duties, leaving them with little time for recovery, harmed connections with people outside of work, and a higher incidence of marital problems. The health and wellness of an employee may suffer from workaholism. In fact, it has been found that this

unfavorable type of working hard is associated with higher levels of fatigue and predicts psychological, mental anguish, and health difficulties (Mazzetti et al., 2016).

Due to their constant daily contact with patients, nurses are the only profession with a predominate presence throughout inpatient acute care. The fostering of a connection between a patient and a nurse depends on nursing presence. In addition, when nurses practice presence, they develop a caring and devoted relationship with their patients, become more aware of their needs, and discover what they can do and be for them (Timmerman & Baart 2021).

The therapeutic skill of presence not only benefits the patients receiving care, but also the nurse. To provide "good care," in line with the mental health perspective of presence, the nurses' objective is to stay with mental healthcare users (MHUs), being available for psychiatric patients, and to fulfill patient's needs. As long as MHUs relapse, are difficult, seem different, or deviate, nurses who employ presence make them feel as though they aren't being left alone (Den Bakker & Willemse 2018).

The advantages of presence are highest for difficulty-reachable users, such as for psychiatric patients with complicated healthcare demands who struggle to express their wants (Motshabi et al., 2022). It is accepted that nursing judgment is supported by nurse presence. The proficient provision of nursing care operations, teaching patients, and managing with correlated team of healthcare professionals all require the presence of a nurse (Pudelek, 2021).

Patients' opinions are now given a lot of weight when determining the quality of care in many healthcare settings (Sion et al., 2020 & Hacking et al., 2022). There are still few instances of artificial intelligence (AI) being used in clinical nursing care in an era of ageing societies and a shortage of skilled workers, despite an increase in funding for research into the utilize of digital technologies to improve the assurance of quality nursing care (Krick et al., 2019). Artificial intelligence (AI) has the ability to help nurses perform tasks that are removed from direct patient touch, such as paperwork tasks, or make clinical judgments in difficult care circumstances. According to Seibert et al. (2021) AI is a group of structures which allow using data engine to produce smart, purposive activities. The development of tools that can up heal baseline information from a package of data and convert it into knowing is the focus of artificial intelligence (AI), a subfield of computer science. This modification is built on algorithms, which might be predefined or adaptable. Choudhury et al. (2022) defined health-related AI as "an agile technology leveraging sophisticated statistical symbol(s) to analyses definite and indefinite medical

data, predominantly in a back way" for predicting intended results, identify unknown sets, and find out relevant practicable and timely information. (Lambert & Colleagues, 2023).

Healthcare providers are able to deliver high-quality care more promptly and fairly with the aid of AI which is the process of creating computerized technologies that can typically perform actions completed by people. There are other AI techniques, such as machine learning (ML), a subfield of AI that involves training computers to carry out tasks by analyzing data to find patterns and features. However, deep learning (DL), a subset of machine learning (ML), involves employing deep neural networks with multiple layers of mathematical equations to perform a task (Ronquillo et al., 2021; Abuzaid, Elsham, & Fadden, 2022).

Every aspect of healthcare is seeing a substantial increase in the use of AI. Nursing practice and patient outcomes will be dramatically improved by AI technology. Speech recognition, data mining, and deterioration prediction are just a few of the AI applications that are now used in nursing practice. Nevertheless, in the future, nurses will be able to give individualized, evidence-based care by integrating pertinent data using AI technology (Ronquillo et al., 2021; Topaz et al., 2019; Hannaford et al., 2021; O'Connor, 2021; Abuzaid et al., 2022).

Up until now, AI has only been used in the healthcare industry to suggest effective and practical solutions for patients and healthcare professionals. AI is being developed in this area to assist medical professionals like doctors and staff nurses in decision-making, diagnosis, treatment, and help from physically taxing jobs. They aren't being expanded to bigger settings, though. The broad use of AI in healthcare today is hampered by ethical concerns, a lack of standards, and ambiguous legal responsibilities (Maskara, 2017; Waymel et al., 2019; Abdullah, & Fakieh, 2020; Jiang et al., 2021).

### Significance of the study:

According to studies of (Pinheiro et al., 2018; Almeida et al., 2020), workaholism is one of the aspects that contribute to workers' mental and physical illnesses. A study done in Norway on nurses revealed that this phenomenon is highly linked to workplace traits rather than individual traits (Andreassen et al., 2019). Workaholism has an impact on both social interaction and work output. According to estimates, hospital nurses in Japan exhibit a workaholism rate of 28.5%, while Dutch medical residents exhibit a rate of 16%. According to Khalidi et al. (2016), Sanandaj (a province in Iran) nurses exhibit a high level of workaholism—50% of them (Ariapooran, 2019).

In addition, hospital patients require round-the-clock care. Even when care is provided by an interprofessional team, nurses play a critical role in the well-being and comfort of patients in hospitals (Pudelek, 2021). Professional nursing is defined by being present for someone in need (Turkel et al., 2018), and without a nurse, health care disintegrates (Ellison et al., 2020). A non-invasive intervention, presence is categorized as a nursing intervention by Benner and Cook (2016) as one of the eight features the nurse does in the auxiliary role (Blaszko et al., 2020; Butcher et al., 2019). For objectifying, quantifying, and measuring this idea, there are, however, few available techniques (Mohammadipour, 2017). It is crucial to quantify and research this idea since nursing presence is the cornerstone of professional nursing practice (Atashzadeh Shoorideh et al. 2022).

Healthcare personnel have conflicting attitudes and feelings about recently brought reform and its execution. The readiness, intention, and internal driving force to use a technology as essential components are further necessary for adoption and integration of newly delivered innovations like AI in daily practice in order to increase efficiency and productivity in the long run (Liyanage, et al., 2019; Fan et al., 2020; & Lambert et al., 2023). The acceptance of AI technologies by nurses is comparable to how other new tools are adopted. The vast bulk of AI research, on the other hand, concentrates on creating and evaluating AI algorithms and the prediction models or implementations that go along with them. Only a few studies have looked at nurses' receptivity to its integration into nursing practice.

#### **Aim of the study:**

The present study aimed to investigate the relation among workaholism, nursing presence and willingness to the integration of artificial intelligence into practice.

#### **Research questions:**

**Q1.** What is the level of workaholism among the studied nurses?

**Q2.** What is the level of nursing presence among the studied nurses?

**Q3.** To what extent are the studied nurses have willingness to the integration of artificial intelligence into nursing practice?

**Q4.** Is there a relation exists among workaholism, nursing presence and willingness to the integration of artificial intelligence into practice?

### **Subjects & Method**

#### **Research Design:**

The correlative descriptive design was utilized in the current study.

#### **Setting:**

The Minia Psychiatric Mental Health and Addiction Hospital, Chest Diseases Hospital, and Misr El-hurrah Hospital were the three hospitals where this study was carried out.

#### **Sample:**

A convenience sample of all staff nurses working at Misr El-hurrah Hospital (155 nurses), Chest Diseases Hospital (114 nurses), and Minia Psychiatric Mental Health and Addiction Hospital (65 nurses) was taken. There were 334 nurses in total.

#### **Data Collection Tools:**

Three tools were employed to collect pertinent data for the current study.

**Tool (I): Workaholism scale:** There were two portions, as follows:

**Part 1- Personal data:** created by the researchers to gather information on the individuals who would be participating in the study. It includes details about matters like age, gender, education level, and years of experience.

**Part 2-Workaholism scale:** developed by (Robinson, 1999) to assess the level of workaholism among nurses, it consisting of 17 items. Response choices were presented in a 3-point format ranging from (1 = rarely, 2= sometimes, and 3 = always). By adding up each item on the sheet, the scoring system was calculated. The higher score showed that nurses are workaholics. The following criteria were used to measure workaholism level: - low levels of workaholism from 17 to 28, moderate levels from 29 to 40, and high levels from 41 to 51.

**Tool (II): Presence of Nursing Scale -RN version (PONS-RN):** developed by Kostovich et al., (2016), to measure level of nursing presence, it composed of 31 items. The responses were scored on a Likert scale with (1) never seemed to have the time to do this "To" (3) I always made time to do this). By adding up each item on the scale, the scoring system was calculated. The presence of nursing was scored as follows, with a higher score indicating a larger presence of nursing in the current setting: - a low degree of nursing presence from 31 to 51, a moderate level from 52 to 72, and a high level from 73 to 93.

**Tool (III): Willingness for Artificial Intelligence Integration Scale:** developed by the researchers. Based on a review of the literature, (Cornelia Sindermann, et al., 2020; Khalaf1, et al., 2022; & Abd El-Monem, et al., 2023). It composed of 42 items to gauge how eager the staff nurses were to incorporate artificial intelligence into nursing practice. A three-point Likert scale was used to score the responses. Using the numbers 1 for disagree, 2 for neutral, and 3 for agreement. By adding up each item on the scale, the scoring system was calculated. The scores were as follows: low willingness of nurses

(42–70), moderate willingness of nurses (71–99), and high willingness of nurses (100–126) to integrate artificial intelligence into practice. The higher score indicated that there is a greater willingness of nurses to do so.

#### **Validity of the study tools:**

The face validity of the current study tools was determined by five experts from the Minia University Faculty of Nursing in the disciplines of nursing administration & psychiatric and mental health care. Each one was rating the tools according to their content, wording, length, coverage clarity, structure, and overall presentation. The experts did not make any changes since, in accordance with their recommendations; the current study tools were trustworthy and relevant to the study's goals.

#### **Reliability of the study tools:**

The internal accuracy of the study tools was evaluated using the Cronbach's alpha coefficient, which was utilized to construct the reliability test for the analytical instruments. The workaholism scale had a reliability rating of 0.86, the nursing presence scale of 0.91, and the willingness to integrate artificial intelligence into nursing practice questionnaire of 0.88.

#### **Pilot study**

10% of the participants, from the three hospitals participated in the pilot study to evaluate the tool's item clarity and application as well as the time required to complete it. The findings indicated that filling the tools takes between 30 and 35 minutes. No changes were made to the tools in response to the analysis of the pilot study. The size of the study sample as a whole thus determined the results of the pilot study.

#### **Ethical Consideration**

- The Minia University Faculty of Nursing's ethical research committee provided written approval.
- Participating nurses' verbal permission was obtained.
- The purpose of the initial interview with nurses was to explain the goals, methods, and advantages of the study. Everyone who took part in the study was informed that it was entirely voluntary and that they might discontinue at any point without facing any repercussions.

#### **Procedure**

- Arabic translations of tools.
- The directors of the hospitals gave their official approval after being informed of the aim of the work.

- To enhance participant involvement in research implementation, the researchers described the study's objective, nature, and importance.
- Each participant, after considering the objectives of the study, provided oral consent.
- The questionnaire sheets were explained to the participant nurses and their participation was requested since the researchers handled each questionnaire individually while collecting data.
- The researchers awaited the completion of the participants' sheets.
- Data were gathered three times a week throughout the morning and afternoon shifts.
- Information was gathered for almost two months, from the middle of April to the end of June 2023.

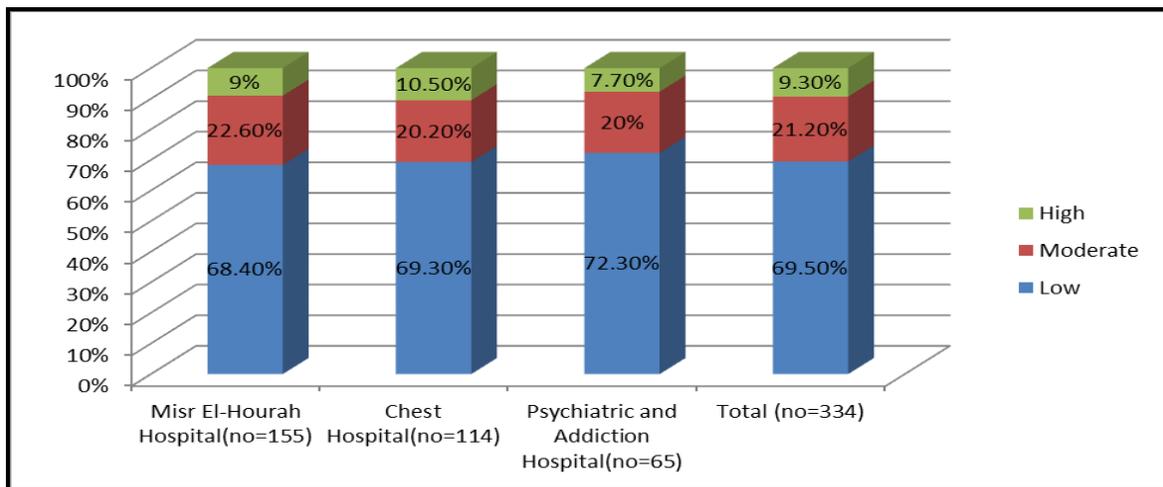
#### **Statistical design**

For data entry and statistical analysis, the statistical program for social studies (SPSS) version 27 was utilized. The necessary descriptive statistics, including frequencies, percentages, and means, were applied to the qualitative and quantitative variables, respectively. The degree to which the variables were related was determined using the correlation coefficient ( $r$ ) test. At a  $p$ -value of 0.05, all tests were deemed statistically significant.

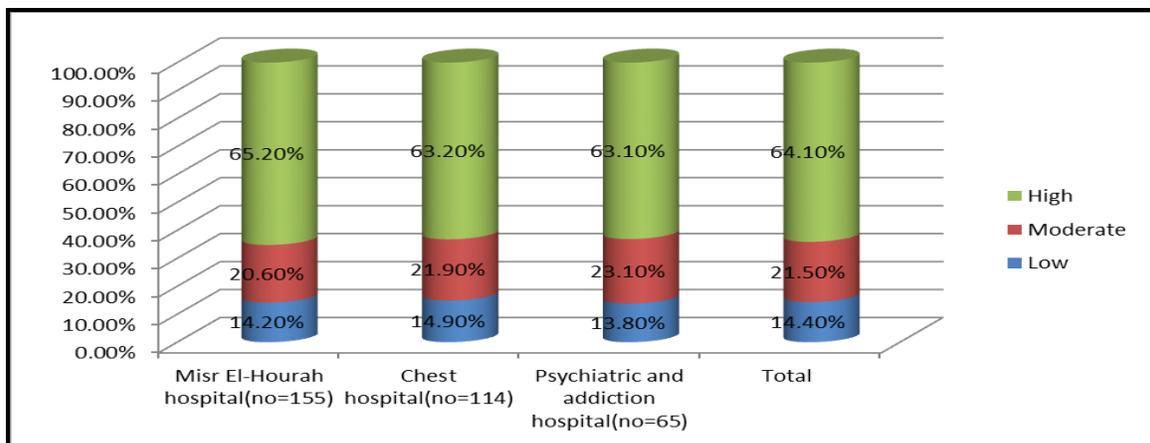
**Results:**

**Table (1): Percentage distribution of the nursing staff's socio demographic data (no.=334).**

Items	Nursing staff (no.= 334)	
	no.	%
<b>Age</b>		
20-<30 yrs	197	59
30-<40 yrs	84	25.1
≥ 40 yrs	53	15.9
<b>Mean ± SD</b>	31.25±8.52	
<b>Gender</b>		
Female	236	70.7
Male	98	29.3
<b>Educational qualification</b>		
Diploma	93	27.8
Technical	151	45.2
Bachelor	90	26.9
<b>Years of experience</b>		
1-<10yrs	165	49.4
10-<20yrs	70	21
>21yrs	99	29.6



**Figure (1): Percentage distribution of level of workaholism among staff nurses at the selected Hospital (no. =334).**



**Figure (2): Percentage distribution of nursing presence level among staff nurses at the selected Hospital (no. =334).**

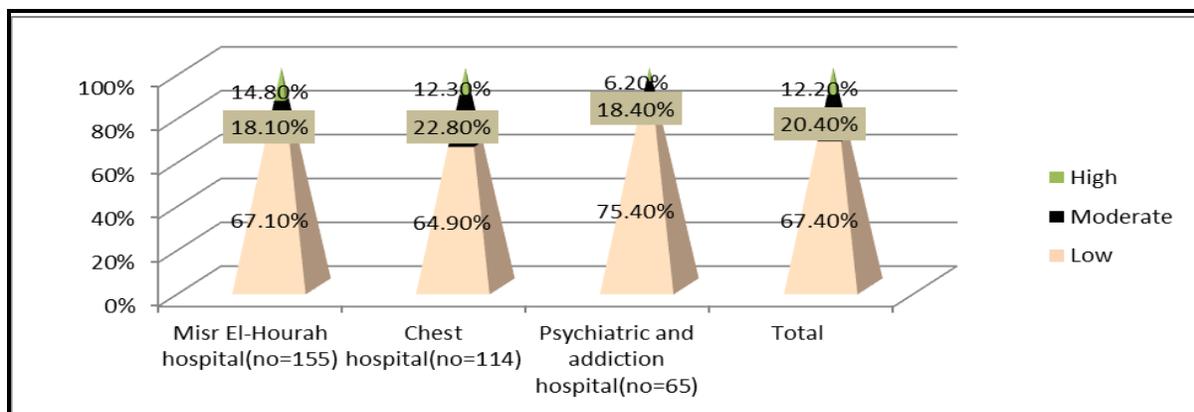


Figure (3): Percentage distribution of staff nurses' willingness to the integration of artificial intelligence into nursing practice at the selected Hospital (no.=334).

Table (2): Mean scores comparison among studied variable on the selected hospitals (N=334)

Variable	Misr El-hurrah hospital	Chest hospital	Psychiatric and addiction hospital	Anova test	P value
	Mean+ SD	Mean+ SD	Mean + SD		
Workaholism	26.8+9.18	26.2+8.69	26.1+9.23	.216	.806 (NS)
Nursing presence	73.5+16.7	72,2+17.2	73.5+17.3	.248	.781(NS)
Willingness to artificial intelligence integration	69.2+26.2	68.9+24.8	61.2+20.5	2.66	.071(NS)

NS=Non Significance

Table (3): The relation between personal data and studied variables among staff nurses (N=331)

Variable	Nursing presence			Workaholism			Willingness to artificial intelligence integration		
	Mean+ SD	F-test	P-value	Mean+ SD	F-test	P-value	Mean+ SD	F-test	P-value
<b>Age</b>									
20-30	72.5+17.1	1.80	.167 (NS)	26.9+9.36	1.26	(.284) (NS)	67.4+25.3	1.04	.351 (NS)
31-41	75.8+16.7			25.1+7.97			65.3+22.1		
>42	70.6+16.8			26.6+8.74			71.6+27.1		
<b>Gender</b>									
Female	73.1+16.7	.087	.931 (NS)	26.3+8.64	.192	.848 (NS)	66.5+23.4	1.17	.242 (NS)
Male	72.9+17.5			26.5+9.67			70.1+28.1		
<b>Qualification</b>									
Diploma	73.4+17.5	3.88	.021*	26.1+8.58	2.56	.078 (NS)	68.7+23.2	2.16	.117 (NS)
Technical	70.6+17.9			27.5+9.99			69.5+27.1		
Bachelor	76.8+13.7			24.9+7.19			62.9+22.2		
<b>Experience</b>									
1-10 year	72.1+q6.7	.480	.619 (NS)		1.66	.191 (NS)		.306	.737 (NS)
11-21yars	74.1+16.1			27.3+9.35			67.4+24.9		
≥22 years.	73.8+17.5			25.8+8.81 25.3+8.25			65.9+26.2 68.9+23.9		

\* p≤0.05 (significant) T-test: P – value based on independent sample t-test, F-test P – Value based on compares mean, NS= No Significant difference Statistically significant difference

Table (4): Correlation between Workaholism, Nursing Presence and willingness to artificial intelligence integration (N=334)

Variable		Workaholism	Nursing Presence	Willingness to artificial intelligence integration
Workaholism	R	1	.645-**	.741-**
	P		.001	.001
Nursing Presence	R	-	1	.692**
	P			.001
Willingness	R	-	-	1
	P			

**Table (1):** Demonstrates that, in terms of staff nurses' ages, (59%) of nurses fall into the 20–30 age range, with a mean age of  $31.25 \pm 8.52$ ; (70.7%) of the nurses are females; (45.2%) of the participating nurses had a technical degree; and (49.4%) have experience ranging from 1–10 years.

**Figure (1):** Displays that, the (65.9 %) of studied hospitals staff nurses exhibited “low “responses toward workaholism, in which (72.3%) of “Psychiatric and addiction hospital staff nurses exhibited “low “responses, followed by Chest hospital “by (69.3%), and Misr El-hurrah hospital by (68.4%) respectively. In contrast (9.3%) of staff nurses exhibited “High “responses toward workaholism.

**Figure (2):** Displays that, the 64.1 percent of studied hospitals staff nurses exhibited “high “responses toward nursing presence, which include “Misr El-hurrah hospital “by (65.2%), Chest hospital by (63.2%) and Psychiatric and addiction hospital by (63.1%) respectively. In contrast (14.4%) of staff nurses exhibited “low “responses toward nursing presence.

**Figure (3):** Displays that, the (67.4%) of studied hospitals staff nurses exhibited “low “responses toward their willingness to the integration of artificial intelligence into nursing practice. in which (72.3%) of “Psychiatric and addiction hospital staff nurses exhibited “low “responses, followed by Misr El-hurrah hospital “by (67.1%), and Chest hospital by (64.9%) respectively. In contrast (12.3%) of staff nurses at studied hospitals exhibited “High “responses regarding their willingness to the integration of artificial intelligence into nursing practice.

**Table (2):** Explored that, there weren't statistical significant differences among the studied hospitals “Misr El-hurrah hospital, Chest hospital and Psychiatric and addiction hospital” in relation to nursing presence, workaholism and staff nurses willingness to the integration of artificial intelligence into nursing practice. In addition, the same table appeared that, the psychiatric and addiction hospital staff nurses have the low mean regarding staff nurses willingness to the integration of artificial intelligence into nursing practice with score “ $61.2 \pm 20.5$ ”.

**Table (3):** Revealed that there was a statistically significant difference between nursing presence and qualification with P value (0.021\*). Moreover, the same table showed that, no statistically significant differences between personal data and workaholism. In addition, there weren't a statistically significant difference between personal data and willingness to artificial intelligence integration. In addition, It was observed that the highest mean score of nursing presence was among staff nurses of age 31-41 and Bachelor degree

**Table (4):** Illustrates that there was a negative correlation between staff nurses' workaholism and nursing presence ( $r = .645^{**}$  &  $p = .001$ ), there were a negative correlation between staff nurses' workaholism and willingness to the integration of artificial intelligence into nursing practice ( $r = .741^{**}$  &  $p = .001$ ). Also, there were a positive correlation between nursing presence and staff nurses' willingness to the integration of artificial intelligence into nursing practice ( $r = .692^{**}$  &  $p = .001$ ).

## Discussion

The results of the current study show that about tow third of studied hospitals staff nurses exhibited “low “responses toward workaholism, less than quarter exhibited “moderate “responses and less than ten percent of staff nurses exhibited “High “responses toward workaholism. These results can be explained from the researcher's point of view as, workaholism can be influenced by a variety of elements, such as gender, personality, and national cultural norms, but regardless of culture, it is harmful to the wellbeing of the employees. Increased workloads may be met by low levels of workaholism those who accept them as demands for a challenge. Because they are not unduly worried about making mistakes and do not experience chronic self-doubt for falling short of high-performance goals, this would start a motivational process that would urge them to work even harder at the level required.

These findings support (Kunecka & Hundert, 2019) in demonstrating that a tiny percentage of healthcare professionals are workaholics. A study of Polish nurses revealed a 6% frequency of workaholism. Workaholism was estimated to affect 8% of the working population in Norway. Additionally, (Andreassen et al., 2019) & (Torp et al., 2018) highlighted that there was a paucity of information regarding the prevalence of workaholism, providing a range of (five percent) to (twenty-five percent) from previous studies. Last but not least, Delgado et al. (2017) report that the majority of healthcare professionals exhibit low levels of workaholism.

The current result revealed that less than a quarter of nurses had a high level of work addiction, in contrast to (Hassannen, 2023), who found that more than two-thirds of nurses had a high level of work addiction, slightly more than a quarter had a moderate level, and the lowest percentage of them had a low level. Additionally, according to Kasemy et al. (2020), roughly 25% of funded Egyptian healthcare professionals work excessive hours. And (Paula et al., 2022) found that close to one-third of the participants had a history of workaholism.

Regarding nursing presence current study found that about two third of studied hospitals staff nurses

exhibited “high “responses toward nursing presence and less than quarter exhibited “moderate “responses while less than fifteen percent of staff nurses exhibited “low “responses toward nursing presence. From the researcher’s point of view, reflecting on the traditions and history of the nursing profession lends context to the idea that nursing has a mystical element. Staff nurses had insight into the origins of nursing presence and its elusive nature. Additionally, the positive effect of nursing presence continues to have a sacred and personally felt dimension.

These findings are corroborated by **Atashzadeh-Shoorideh et al.'s (2022)** finding that the studied sample had significant presenteeism rates. Additionally, **Ellison and Meyer (2020)** found that the majority of nursing staff members support the notion of nurse presence as the primary humanization of nursing services and the most fundamental component of humanistic care. Similarly, **(Nicolas et al, 2021)** discovered that presenteeism strengthened the positive association between workaholism and work-family problems.

According to **McCaffrey (2019)**, nursing presence is strongly regarded as a genuine "connection" within the nurse-patient relationship that is felt during encounters between the nurse and patient. Also Despite the fact that **King, et al. (2019)** claim that nursing awareness before participating in presence was high. According to **Kostovich (2022)**, nursing is more common than relationship presence competence in achieving presence at high levels. **Castagno et al. (2020)**, in contrast to the results of the present study, draw the conclusion that nursing care is currently delivered utilizing a variety of rapidly developing technologies, such as the usage of electronic medical records, telemedicine, personal data assistants, and artificial intelligence. These developments could possibly threaten the "in-person," interpersonal interaction that has traditionally taken place at the bedside.

Regarding the willingness to the integration of AI into practice the current study showed that, about two thirds of studied hospitals staff nurses exhibited “low “responses toward willingness to integrate artificial intelligence into nursing practice, and less than fifteen percent of staff nurses at studied hospitals exhibited “high “responses regarding willingness to integrate artificial intelligence into nursing practice. These findings are acceptable because the great majority of AI applications are still in the experimental stage and because clinical routine AI applications have only sometimes been implemented. Fearing that AI applications might perform equally well or maybe better than human healthcare workers, the potential dearth of capabilities for artificial intelligence applications in the nursing industry, as well as nurses'

ignorance of these applications' significance and how they aid in their work.

**Tran et al. (2019)** found that these results are consistent. Numerous more research **(Bigman & Grey, 2018; Nagendran et al., 2020; Yokoi et al., 2021)** have revealed that individuals are hesitant to trust AI technology and prefer human health care personnel, even when the AI system's performance is equal to or better. Only 20% of research participants believed AI would be helpful, and more than one third rejected the idea of using it at all for personal care.

The current findings differ from those of **Sebastian et al. (2022)**, who discovered that although though more than 90% of respondents had already read or heard about artificial intelligence, just 24% thought it was a good thing. Additionally, compared to 5% who thought it would be negative or very negative, more than 50% of respondents said employing AI in medicine would be positive or very positive. The respondents categorically denied having any reservations regarding artificial intelligence, but they did agree that it must be under the direction of a physician. Recent surveys of healthcare professionals in Germany, France, and the UK found that they were generally enthusiastic about AI and thought it will improve their day-to-day work **(Castagno et al 2020; Maassen et al., 2021)**.

Additionally, **Aggarwal et al. (2021)** discovered that despite respondents' relatively limited prior understanding of AI, the majority of them see its use as positive, trust it, and think the advantages outweigh the drawbacks. **(Lennartz & others, 2021)** Similar percentages of 2/3 to 3/4 accepted AI for clinical duties under the supervision of healthcare workers **(Palmisciano et al., 2020)**.

However, very high agreement ratings were given to the need for a functional assessment of an AI-based application by a third-party organization and a benefit that has been scientifically shown before use at the bedside. According to **(Haggenmüller, et al., 2021)** human health care providers must continue to exercise control over AI applications in healthcare. These programs should never be utilized to make judgements on their own; they should only ever be used as a support tool.

Regarding the mean scores comparisons, the current finding explored that, there weren't statistical significant differences among staff nurses at the studied hospitals “Misr El-hurrah hospital, Chest hospital and Psychiatric and addiction hospital” in relation to workaholism, nursing presence, and willingness to the integration of AI into practice. In addition, it was observed that, the Psychiatric and addiction hospital staff nurses have the lowest mean score regarding willingness to the integration of AI

into practice. That could be explained by the fact that dealing with mental patients demands direct personal contact between the nurse and patient in order to grasp patients' needs and non-verbal communication, which is different from other types of job. In fact, the lack of nursing staff and the use of AI in mental hospitals reduce face-to-face patient communication, which has a negative impact on patient confidence and recovery.

This result is consistent with **(Delgado et al., (2017))** who argued that without active nursing participation, the nursing profession loses its critical role in advocating for safe and equitable healthcare for priority and vulnerable groups. For the purpose of providing mental healthcare, the nursing profession must advance its usage of AI. It is imperative that nursing leadership in this area be developed and expanded in order to ensure that nursing ethics and concepts be successfully incorporated into the creation and use of AI frameworks, systems, decision-making tools and algorithms.

Accordingly, recent AI models used in the field of medical images have been capable to identify a person's race even when clinical professionals are unable to **(Gichoya et al., 2022)**. The possibility that this information could be explicitly or unintentionally utilized to predict other clinical (or other) outcomes creates a major risk that it could be exploited as a tool for racial profiling. This finding is in line with that of **Elsayed & Sleem (2021)**, who discovered that among nurse managers, perceptions of the benefits of employing artificial intelligence had the highest mean scores, followed by perceptions of issues with its use in healthcare.

On the other hand, inpatient suicide has been found to be challenging to anticipate and prevent **(Gradus, 2020)**. An inpatient psychiatric assessment, which has a high level of variability, is the current gold standard for suicide screening. The goal of several AI investigations was to forecast the progression of different mental health disorders to suicide. Self-reported questionnaires, national registries, and analysis of electronic health records (EHR) are typical techniques.

As regarding the relation between personal data and studied variable among staff nurses. There was a statistically significant difference between Nursing presence and Qualification of nurses- It was observed that the highest mean score of nursing presence was among staff nurses of age 31-41 and Bachelor degree. This may be explained by the fact that nurses can continue in their careers thanks to the relationships they build by devoting themselves to their work and interacting with their patients on a mutually beneficial basis in order to improve patients' health.

This result is consistent with that of **(van Beek et al., 2011; Cooper & Lu, 2019)**, who found that nurses with high presenteeism rates are largely motivated by controlled work environments, particularly at age 30. Nurses who are absent frequently are also more prone to feel physically and psychologically exhausted from their employment. The highest mean score of willingness to incorporate artificial intelligence into nursing practice was observed in the current study among males. This may be explained by the fact that men work more hours than women do, so they prefer to apply AI to their jobs rather than reduce their obligations to work hard. The time nurses spend obtaining information and documenting it per visit may be reduced by using AI-based tools.

As regard workaholism, the current study reveals that, both males and females nurses are equally in workaholism, this result is in consistent with **Delgado et al., (2017)** who found that males were workaholic in comparison to females.

As regarding Correlation between Workaholism, Nursing Presence and willingness to integrate artificial intelligence into practice .The current study showed that, there are a negative correlation between staff nurses' workaholism and both nursing presence and artificial intelligence willingness. **Gorgievski, Bakker, & Schaufeli (2010)** showed that workaholism was adversely correlated with employee innovativeness and favorably correlated with nurses' presence and contextual performance, which is in contradiction to this finding. In fact, **Quinones & Griffiths (2015)** showed that workaholism may have an impact on workplace happiness when linked to particular personality traits and functional aspects of the job. They also demonstrated how a high level of work motivation may be associated with lower levels of job satisfaction and nursing presence.

According to **Lo Presti, et al., (2011)**, workaholism is closely linked to the social, cultural, and economic changes that have emerged in recent decades. These changes have an impact on a number of aspects of nursing work, including temporary and flexible contracts, nursing Presence, workload and working hours, the degree of control over one's work, and perceptions of using artificial intelligence.

Finally, the current study also found that, there are a positive correlation between nursing presence and staff nurse's willingness to artificial intelligence integration. This may be explained by the fact that, by assisting nurses in improving their productivity and level of care as a result of their presence in the department, AI has the ability to help clinicians and patients. This outcome is in line with **(Abdullah & Fakieh, 2020)**, who claimed that there was a favorable association between staff nurses' perceptions of artificial intelligence and nursing

presence. Artificial intelligence technologies have the potential to transform nursing practice and allow nurses to provide their patients with more individualized, evidence-based care by enhancing nurses' professional identities and assisting in problem-solving.

Because staff nurses are aware of the concept and importance of using AI in nursing settings, particularly at the present time after the existence of the COVID 19 pandemic, **Philippa et al.'s (2021)** study found a positive correlation between nursing presence and staff nurses' perceptions of artificial intelligence. In their daily lives, staff nurses employ artificial intelligence technologies on their cellphones and other gadgets.

### Conclusions

The research emphasizes that in spite of nursing presence level was high among the studied nurses they exhibited low level of workaholism and low level of willingness to artificial intelligence which lead to no willingness to integrate artificial intelligence into nursing practice. There weren't statistically significant differences among the studied hospitals in relation to nursing presence, workaholism and willingness to integrate Artificial intelligence into nursing practice especially Psychiatric and addiction hospital staff nurses. Also, there are a negative correlation between staff nurses' workaholism and both nursing presence and in of workaholism, nursing presence and willingness to AI integration. and there is a negative correlation between staff nurses' workaholism and both nursing presence and artificial intelligence perception. There is a positive correlation between Nursing Presence and staff nurse's willingness to AI integration.

### Recommendation

1. As the key to resolving the majority of the current issues in nursing practice, hospitals should make adding AI integration to their systems a top priority on their agenda.
2. Hospitals ought to spend more money hiring and educating the AI leaders who will drive the shift.
3. In order to benefit from their experiences with this integration, ministries, governments, or universities should attempt to partner with other institutions or schools (whether in Egypt or outside of Egypt) who have incorporated AI into their systems.

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