Assiut Scientific Nursing Journal
http://asnj.journals.ekb.eg http://www.arabimpactfactor.com
DOI: 10.21608/asnj.2024.262262.1751 http://olddrji.lbp.world/indexedJournals.aspx
https://vlibrary.emro.who.int/journals/assiut-scientific-nursing-journal

High Performance Work Systems and its relation to Safety Climate and Nurses' Thriving at Work

Reda Shehata Elsayed[1] &Asmaa Moustafa Abdel-Ghani[2]
[1.] Assistant Professor of Nursing Administration, Faculty of Nursing, Mansoura University, Egypt
[2.] Assistant Professor of Nursing Administration, Faculty of Nursing, Mansoura University, Egypt

Abstract
Background: High performance work systems (HPWS) considered one of the most vital concerns in human resources management that enhance safety climate and improve nurses' thriving at work. **Aim**: The study aimed to investigate high performance work systems and its relation to safety climate and nurses' thriving at work at Main Mansoura University Hospital. **Design**: Was used a descriptive correlational design to achieve the aim of the study. **Setting:** The study was carried out on 131 staff nurses employed at all inpatient units at Main Mansoura University Hospital. **Tools**: Data were gathered through three tools namely, HPWS Scale, safety climate scale and thriving at work scale. **Results**: There was a statistically significant positive correlation between HPWS and safety climate. Dimensions of HPWS have positive correlations with dimensions of safety climate except employment security. In addition to that, a statistically significant positive correlation was found between HPWS and nurses' thriving at work. Also, dimensions of HPWS have positive correlations with dimensions of nurses thriving at work. **Conclusion**: HPWS have a significant impact on increasing safety climate and nurses' thriving at work. **Recommendations**: Implementing HPWS by hospital administrators through enhancing training and development, compensation, transformational leadership, employment security, teamwork and participation in decision-making that increase safety climate and thriving at work.

Keywords: High Performance Work Systems (HPWS), Nurses, Safety Climate & Thriving at Work.

Introduction

High Performance Work Systems have been advocated in the field of strategic human resource management to improve nurses' abilities, drive, and engagement **(Wang, et al., 2022).** Positive effects of HPWS includes improve patient satisfaction, safety culture, nurse engagement, and patient safety for both organizations and nurses. The application of HPWS is crucial to raising participation in decision-making, training, development, and performance evaluation to increase the quality of care All these positive outcomes are the best way to organizations in order to optimize employees job performance while maintaining them happy and productive **(Pavlova, 2022).**

High Performance Work Systems is defined as a unique interrelated human resource management practices, processes, and work structures that enhance nurses' skill, knowledge, commitment, and flexibility in such a way that enhance sustainable competitive advantage **(Kloutsiniotis & Mihail, 2020**). High-performance work systems contain six dimensions named as follows: transformational leadership, performance appraisal, employment security, compensation, training, and development, sharing in decision-making and teamwork **(Danayiyen & Bekaroglu, 2020)**.

The transformational leadership dimension refers to delivering assignments that take into account each person's requirements and talents, accepting staff differences, and inspiring followers to find creative and novel solutions rather than just solving problems **(Alessa, 2021)**. This dimension shows the significance located by the hospital on performance appraisal by scoring extra contribution during business processes sensitivity to new ideas, and defining ways of saving and error-free work **(Rana, et al., 2022)**.

The employment security dimension is a system of guarantee which relates to the supposed risk of losing one's job in the future and that is refers to a long-term perception offered by a functional system. As such, it is a significant factor in determining job satisfaction and high performance. The compensation dimension includes competitive and equitable labor compensation as well as faith in the reliability of the measurement tool that businesses use to deduct payments from revolving funds in addition to benefits **(Danayiyen & Bekaroglu, 2020)**.

On the other hand, teamwork and participation in decision-making dimension evaluate the extent to which the hospital values teamwork, how significantly each person participates in decision-making, and whether or not each person believes they are a member of the team. It conveys the idea that

managers value the opinions of their staff members most importantly **(Zajac, et al., 2021).** Additionally, the training and development dimension is one of the key characteristics of a high-performing working system that includes providing the conditions for active participation, gathering information, converting it into skills, putting it into practice, organizing legal obligations training, and promoting nurses' growth **(Dorta-Afonso, et al., 2023)**.

The emphasis of HPWS is labor input maximization, organizational capability building, and organizational goal achievement. As a result, nurses' interests are treated as naturally aligned with organizational interests, such as improving workplace safety and encouraging nurses thriving at work. Healthcare organizations are under increasing pressure to establish a safety climate as the organization becomes more widely recognized as a potentially high-risk environment (**Han, et al., 2020)**.

Safety climate defined as the common understanding among nurses of the significance or priority given to workplace safety. It depends on nurses views and manifests itself at the collective level when members of the group share perceptions of workplace priorities as a result of social interaction and contextual clarity. A safety climate contains seven dimensions namely; safety training, safety communication, coworker safety practices, safety involvement, safety equipment and housekeeping, safety rewards and leader safety commitment **(Beus, et al., 2019)**.

Leader safety commitment relates to the degree to which nurses believe their leaders are committed to creating a safe work environment. Safety training is the degree to which nurses believe the training they have received is adequate to teach all nurses how to work safely. Safety communication is a measure of the effective manner in which nurses communicate safety issues **(Haskins & Roets, 2022)**.

Coworker safety practices shows the extent to which nurses value the commitment of their peers toward workplace safety. Safety involvement is the degree to which nurses included in and permitted to contribute to decisions about workplace safety. Safety equipment and housekeeping refers to degree in which nurses believe they given the appropriate safety equipment and working conditions. While, safety rewards refer to the degree to which safety behaviors are strengthened by leaders **(Beus, et al., 2019)**.

HPWS are intentional to enhance nurses' well-being and deliver them with safe favorable environment, which widely seen as the antecedent to their thriving at work **(Cao, et al., 2020).**

Thriving at work is the mental state in which nurses feel both vitality and learning at work. Vitality, the affective dimension of thriving is the feeling of being alive, passionate, and excited as well as having an energy for work. While learning, the cognitive dimension of thriving refers to the development that results from acquiring and applying new knowledge and skills is known as, or the **(Jang, et al., 2022).**

Thus, together, learning and vitality are thought to represent workplace self-regulation, which gives nurses internal indicators they can use to appraise their progress. Thriving nurses are also better able to adapt to their work environment and enhance their effectiveness **(Van der Walt, 2018)**. In addition, when thriving nurses faced with obstacles, they frequently decide to continue learning and being proactive in order to succeed at work **(Abou Ramadan, 2020)**.

Significance of the study:

HPWS have held the consideration of researchers within the human resources management literature in recent decades, resulting in a need of studies documenting their benefits for organizations. This study focuses on HPWS as a methodology that have a significance for the nursing career, which develops safety climate and nurses' thriving at work.

As well as, quality in healthcare starts with implementing HPWS including sharing in decision-making and teamwork, transformational leadership, employment security, training and development. Furthermore, it is vital to the organizations to consider HPWS that maintain safety climate and support nurses to handle successfully challenges, insecurity and improves their thriving at work. Therefore, HPWS are important and have positive consequences for nurses and health care organizations.

However, the impact of HPWS on safety climate and nurses' thriving at work is still under-researched. Such deficiency delays us from accomplishing a better understanding of how HPWS develop a safety climate and nurses' thriving at work effectively. So, this study aimed to investigating high performance work systems and its relation to safety climate and nurses' thriving at work at Main Mansoura University Hospital.

Aim of the study:

The study aims to investigate high performance work systems and its relation to safety climate and nurses' thriving at work at Main Mansoura University Hospital (MMUH).

Research questions:

1- What are the highest mean score dimensions of HPWS, safety climate and thriving at work at Main Mansoura University Hospital as perceived by nurses?

2- Is there a relation between high performance work systems and safety climate at Main Mansoura University Hospital?
3- Is there a relation between high performance work systems and nurses' thriving at work at Main Mansoura University Hospital?

Methods

Design:

A descriptive correlational research design was utilized.

Setting:

The study was conducted in all inpatient units at Main Mansoura University Hospital with beds capacity 1800 and the hospital represent Ministry of Higher education and followed Dakahelia governorate and provides a wide spectrum of health care services.

Participants:

Convenience sample of all available staff nurses who fulfill the criteria of having at least one year experience and available at the time of data collection at previous mentioned setting. Their whole numbers were 131 nurses.

Tools of data collection:

Data gathered by three tools, namely; HPWS Scale, Safety Climate Scale and Thriving at work scale.

High performance work systems (HPWS) Scale.

It consisted of two parts: -

Part (I): It was used to identify personal characteristics of the nurses as age, years of experience, educational qualifications and marital status.

Part (II): It was developed by **Danayiyen & Bekaroglu, (2020)** to assess high-performance work systems implemented at the hospital as perceived by nurses. It contains 29 items these items were clustered under six dimensions named: performance appraisal (6 items), transformational leadership (5 items), compensation (6 items), employment security (4 items) training and development (5 items) and participation in decisions and teamwork (3 items).

Scoring system:

The response was done on 5-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Percentages of mean scores were calculated according to maximum score of each dimension that ranges from 15 to 30 while, total mean score of HPWS is 145.

Safety Climate Scale. It was developed by **Beus et al., (2019)** aimed at assessing safety climate. It involves 30 items. These items were grouped under seven categories namely; Leader safety commitment (6 items), Safety communication (4 items), Safety training (4 items), Coworker safety practices (4 items), Safety equipment and housekeeping (4 items), Safety involvement (4 items) and safety rewards (4 items).

Scoring system:

The response categories was done on 5-point scale ranged from 1 (strongly disagree) to 5 (strongly agree). Percentages of mean scores were calculated according to maximum score of each dimension that ranges from 20 to 30 while, total mean score of safety climate is 150.

Thriving at work scale. It was developed by **Porath et al., (2012)**. It includes 10 items aimed at assessing nurses thriving at work. These items were grouped under two categories namely; Learning latent factor (5 items) and Vitality latent factor (5 items).

Scoring system:

Each response was assigned a score from along a 5-point scale, fluctuating from 1 (strongly disagree) and 5 (strongly agree).

Percentages of mean scores were calculated according to maximum score of the two dimensions that is 25 while, maximum score of thriving at work is 50.

Validity and reliability*:*

Tools of data collection confirmed for its content and face validity by five experts in Nursing Administration from Faculty of Nursing, Mansoura University, and accordingly the required modifications were accomplished. Tools were converted into Arabic by the researchers. The reliability for the tools were done by using Cronbach's alpha test. It was (0.96) for high performance work systems scale, (0.93) for safety climate scale, and (0.86) for thriving at work scale.

Pilot study *:*

It was done on 10% of staff nurses (14 nurse) from different units at MMUH that selected randomly and excluded from the study sample to check the feasibility and clearness of the tools and to determine the time needed to fill out the study tools.

Data collection:

The real field work started from the beginning of February to the end of March 2023. The researchers met the nurses to clarify the study purpose and ask for their participation and then met them either individually or groups during morning and afternoon shifts. The questionnaire sheets were distributed to nurses in their work units and the researchers were present during filling to explain any vagueness and answer any question, data was collected three days per week. The researchers revised each filling questionnaire and confirming its completeness, and the time required to complete the questionnaires ranged from 20-30 minutes.

Ethical consideration:

Before beginning the study, the Mansoura University Faculty of Nursing's Research Ethical Committee granted ethical approval. Official approval from the Main Mansoura University Hospital director was obtained to carry out the study. Written informed consent to share in the study was gained from all study sample, were informed that their participation was voluntary, and that they could leave the study at any time. Participants received guarantees regarding the secrecy and the confidentiality of the data that was collected**.**

Statistical analysis:

The collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 25, SPSS Inc. Chicago, IL, USA). The normality assumption was accepted. Therefore, categorical variables were represented as frequency and percentage. Continuous variables were represented as mean, and standard deviation. Percentages of mean scores were calculated according to maximum score of each dimension. Independent (t-test) was used to test the difference between two means of continuous variables. (Pearson correlation coefficient test) was conducted to test the association between two continuous variables. Statistically significant was considered as (p-value ≤ 0.05 &0.01).

Results:

Table (1): Personal characteristics of the study nurses (n=131).

Personal characteristics	No.	%
Age years		
▪ <25	0	0.0
▪ 25- 35	55	42.0
▪ ≥ 35	76	58.0
Mean ± SD.	35.16 ± 6.28	
Position (Staff nurse)	131	100.0
Educational qualification		
▪ Bachelor degree	72	55.0
▪ Diploma	33	25.2
▪ Technical institute	26	19.8
Years of experience		
▪ <10	34	26.0
▪ 10-	79	60.3
▪ ≥ 20	18	13.7
Mean ± SD.	12.88 ± 5.13	
Marital status		
▪ Single	34	26.0
▪ Married	81	61.8
▪ Widow	16	12.2

Table (2): Mean score of high-performance work systems (HPWS) dimensions as perceived by the study nurses (n = 131)

High Performance Work Systems dimensions	Max. score	Study nurses (n = 131)	
		Mean ±SD	% *
Performance Appraisal	30	25.53 ± 2.13	85.10
Transformational Leadership	25	20.10 ±3.14	80.40
Compensation	30	23.36 ± 3.92	77.86
Employment Security	20	16.27 ± 2.47	81.35
Education and Training	25	18.56 ± 2.76	74.24
Participation in Decisions and Teamwork	15	11.16 ± 1.98	74.40
Total High Performance Work System	**145**	**114.99 ± 11.55**	**79.30**

** Percentages are calculated relative to maximum score*

Table (3): Mean score of safety climate as perceived by the study nurses (n = 131)

Safety climate dimensions	Max. score	Study nurses	
		Mean ±SD	% *
Leader safety commitment	30	23.82 ± 2.76	79.40
Safety communication	20	15.33 ± 1.53	76.65
Safety training	20	15.99 ± 1.61	79.95
Coworker safety practices	20	15.76 ± 2.31	78.80
Safety equipment and housekeeping	20	15.50 ± 1.69	77.50
Safety involvement	20	15.25 ± 1.64	76.25
Safety rewards	20	14.32 ± 2.92	71.60
Total Safety Climate	**150**	**115.98 ± 9.53**	**77.32**

** Percentages are calculated relative to maximum score*

Table (4): Mean score of thriving at work as perceived by the study nurses (n = 131)

Thriving at work dimensions	Max. score	Study nurses	
		Mean ±SD	% *
Learning latent factor	25	19.07 ± 2.22	76.28
Vitality latent factor	25	18.43 ±2.61	73.72
Total Thriving at work	**50**	**37.50 ± 3.71**	**75**

** Percentages are calculated relative to maximum score*

Table (5): Correlation between high performance work system dimensions and safety climate dimensions at Main Mansoura University hospital

Safety Climate Dimensions		High Performance Work System dimensions						
		Performance Appraisal	Transformational Leadership	Compensation	Employment Security	Education and Training	Participation in Decisions and Teamwork	Total high performance work system
Leader safety commitment	**r**	0.195	0.139	0.171	0.084	0.134	0.015	0.185
	p	0.025*	0.113	0.049*	0.341	0.127	0.865	0.035*
Safety communication	**r**	0.147	0.128	0.048	0.139	0.235	0.084	0.179
	p	0.094	0.146	0.584	0.112	0.007*	0.340	0.041*
Safety training	**r**	0.064	0.023	0.021	0.039	0.133	-0.021	0.062
	p	0.466	0.794	0.810	0.655	0.130	0.809	0.483
Coworker safety practices	**r**	0.181	0.146	0.213	0.118	0.091	0.092	0.208
	p	0.039*	0.096	0.015*	0.179	0.301	0.295	0.017*
Safety equipment and housekeeping	**r**	0.198	0.186	0.118	0.111	0.151	0.089	0.202
	p	0.024*	0.033*	0.179	0.206	0.086	0.314	0.021*
Safety involvement	**r**	0.247	0.314	0.232	0.163	0.091	0.174	0.296
	p	0.004*	<0.001*	0.008*	0.062	0.304	0.047*	0.001*
Safety rewards	**r**	0.227	0.266	0.166	0.096	0.149	0.121	0.248
	p	0.009*	0.002*	0.057	0.278	0.089	0.168	0.004*
Total Safety Climate	**r**	0.282	0.269	0.225	0.159	0.209	0.119	0.306
	p	0.001*	0.002*	0.010*	0.070	0.017*	0.175	<0.001*

*: Statistically significant at $p \leq 0.05$

Table (6): Correlation between high performance work systems dimensions and nurses' thriving at work dimensions at Main Mansoura University hospital.

Nurses Thriving at work dimensions		High Performance Work Systems dimensions						
		Performance Appraisal	Transformational Leadership	Compensation	Employment Security	Education and Training	Participation in Decisions and Teamwork	Total high performance work system
Learning latent factor	**r**	0.253	0.261	0.348	0.184	0.211	0.401	0.394
	p	0.004*	0.003*	<0.001*	0.036*	0.016*	<0.001*	<0.001*
Vitality latent factor	**r**	0.161	0.192	0.281	0.130	0.257	0.183	0.298
	p	0.066	0.028*	0.001*	0.139	0.003*	0.037*	0.001*
Total Nurses Thriving at work	**r**	0.264	0.291	0.406	0.201	0.307	0.369	0.445
	p	0.002*	0.001*	<0.001*	0.021*	<0.001*	<0.001*	<0.001*

**: Statistically significant at p ≤ 0.05*

Table (7): Correlation between high performance work systems with safety climate and nurses' thriving at work at MMUH

The study variables	Safety Climate		Nurses Thriving at work	
	r	p	R	p
High Performance Work Systems dimensions	0.306	<0.001*	0.445	<0.001*

**: Statistically significant at p ≤ 0.05*

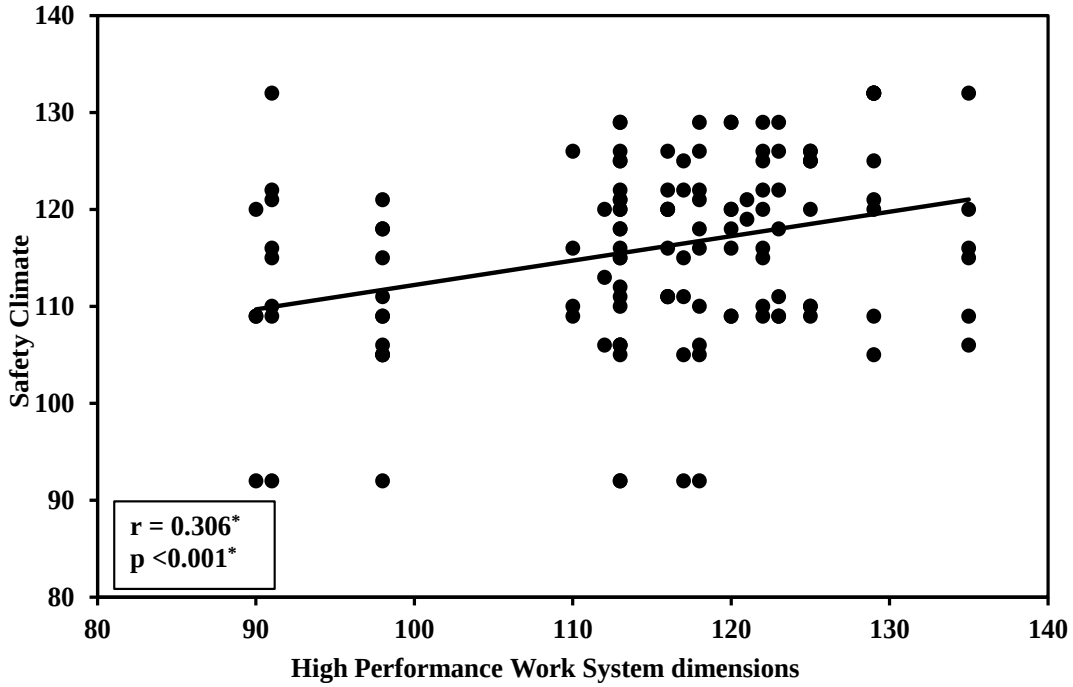

Figure (1): Correlation between high performance work systems and safety climate among the studied nurses.

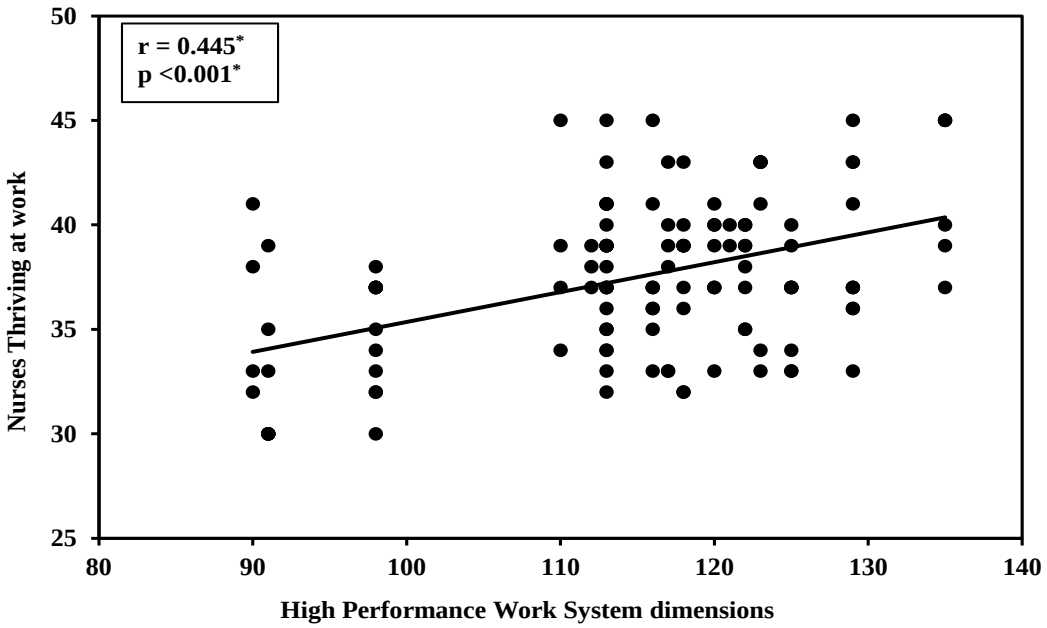

Figure (2): Correlation between high performance work systems and nurses' thriving at work among the studied nurses.

Table (1): Depicted personal characteristics of the study nurses. More than half of nurses (58%) aged more than or equal 35 years. About 55% of them had bachelor degree in nursing as well as about 60% of them had experience in nursing more than 10 years. Finally, two third of nurses (61.8%) were married.

Table (2): Showed mean score of high-performance work systems (HPWS) dimensions as perceived by studied nurses. The overall mean score of HPWS was (114.99 ± 11.55). Performance appraisal had the highest mean score among dimensions of HPWS representing 85.10 % of maximum score, while the lowest mean score was education and training dimension (74.24%).

Table (3): Presented mean score of safety climate as perceived by the studied nurses. The overall mean score of safety climate was 115.98 ± 9.53. The safety training had the highest mean score among dimensions of safety climate, while the lowest mean score was safety rewards dimension (71.60 %).

Table (4): Presented mean score of thriving at work as perceived by the studied nurses. The overall mean score of nurses thriving at work was (37.50 ± 3.71) demonstrating 75% of the maximum score. Learning latent factor dimension had higher mean score than vitality latent factor (19.07 ± 2.22) demonstrating 76.28 % of maximum score.

Table (5): Showed correlations between high performance work systems dimensions and safety climate dimensions at Main Mansoura University hospital**.** There were statistically significant positive correlations between total high performance work system and all dimensions of safety climate except safety training. Also, the majority of HPWS dimensions have positive correlations with the majority of safety climate dimensions except participation in decisions and teamwork dimension has a significant positive relation with only one dimension of safety climate which is safety involvement. While, employment security has no significant correlation with all safety climate dimensions.

Table (6): Depicted correlation between high performance work systems dimensions and nurses' thriving at work dimensions at Main Mansoura University hospital. There were statistically significant positive correlations between total HPWS and dimensions of thriving at work. Also, there were statistically significant positive correlation between all HPWS dimensions and dimensions of nurses' thriving at work except performance appraisal and employment security had no correlation with vitality latent factor.

Table (7): Depicted correlation of high-performance work systems (HPWS) with safety climate and nurses thriving at work among the studied nurses. There was statistically significant positive correlation between HPWS and safety climate ($p<0.001$). Also, there was a statistically significant positive correlation between HPWS and nurses thriving at work ($p<0.001$).

Figure (1): Showed correlation between high performance work systems and safety climate among the studied nurses. There was a statistically significant positive correlation between HPWS and safety climate.

Figure (2): Showed correlation between high performance work systems and safety climate among the studied nurses. There was a statistically significant positive correlation between HPWS and nurses' thriving at work.

Discussion

Nurses are considered a significant source of competitive advantage in high-performance work systems. They can continuously improve and perform at higher levels when they are well motivated. This can be accomplished by promoting methods of HPWS like information sharing, high-quality training, and participatory decision making. Nurses, in turn, exhibit safety climate and thrive in their work environments and are capable of achieving both individual and organizational objectives **(Zhang, et al., 2022).**

The findings of the present study showed that there was a statistically significant positive correlation between HPWS and safety climate. All dimensions of HPWS have positive correlations with dimensions of safety climate except employment security. It could be related to that, HPWS delivers the organization with the vital tools that increase safety climate through enhancing participation in decision-making and teamwork, transformational leadership, compensation, training and development. In this same line, **Aboramadan, et al., (2022)** concluded that, safety climate intermediates the effect of HPWS on risk-taking behavior and managers should utilize HPWS during times of crises.

Consistent with the study result **Aiyadh, et al., (2015)** result who presented a positive and significant direct effect of high-performance work system on safety climate. Additionally, this finding goes with **Wang, et al., (2020)** who found a positive relationship between high performance work systems and workplace safety. They added that, high performance work systems assist to enhance affective commitment to the organization, nurses trust in management and perceptions of safety climate which in turn result in greater safety compliance, safety initiative, safety motivation, safety knowledge and fewer workplace injuries.

This also was in the same line with **Kao, (2020)** who illustrated that HPWS in HRM practices can directly improve safety learning climate and medical service quality. Additionally, professionals in healthcare management, including doctors and nurses, are essential in ensuring that healthcare is delivered with excellence and that organizations reach the highest standards of service quality. Such professionals require HPWS, which are recognized to increase their motivation to learn and enhance their commitment to the organization.

Again, finding confirmed by **Zhang, et al., (2022)** who concluded that several practices associated with high-performance work systems are assumed to result in nurse's positive perceptions of safety climate. In addition to that, perceived safety climate is enhanced when management provide excessive training because it is committed to nurses' safety, rather than simply to fulfill external standards. Similarly, perceptions of safety climate will be more positive when workload is suitable to nurses.

Furthermore, **Olsen, (2018)** declared that HPWS that prioritizes teamwork, decentralized decision-making, training, and workplace safety are more likely to be cohesive and mutually reinforcing system, which results in the provision of high-quality healthcare and, consequently, lower patient mortality. This also supported by **Jabbar, et al., (2023)** who indicated that, organizations with supportive HPWS and leadership, their employees perceive higher sense of safety. Moreover, it is necessary for organizations to hire and train supportive leaders in order to get greater benefits from implementing HPWS.

The findings of the present study showed a significant positive correlation between HPWS and nurses' thriving at work. Dimensions of HPWS had significant relationship with dimensions of nurses' thriving at work. This may be due to HPWS focus on encouraging nurses to discover new and innovative ways and participating in decision making and problem solving that will in turn, increase their knowledge, growth and thriving at work. Moreover, **Miao, et al., (2020)** mentioned that, HPWS fosters close collaboration among staff members, improves the quality of their information, pushes staff members to consider their ideas from various angles, and creates a welcoming environment that fosters innovation.

This finding consistent with **Cao, et al., (2023)** who studied the effects of high-performance work systems on nurses' thriving at work and emotional exhaustion and reported that HPWS and nurses' well-being attribution interact to influence psychological availability, which consequently stimulates thriving at work. This finding also agreed with **Zhou, et al., (2023)** who introduced the human dimension of sustainability perception and found the secondary influence of HPWS on creativity through evidence of nurses' thriving at work.

In this same respect, **Cao, et al., (2020)** perceived HPWS ultimately influence nurses' thriving at work through commitment-focused attributions. Also, this finding supported by **Yun, et al., (2022)** who demonstrated that HPWS is positively related to thriving at work. Additionally, this finding in the same line with **Wang, et al., (2022)** study "High-performance work systems and thriving at work: the

role of cognitive appraisal and servant leadership in China" and stated that HPWS positively impacts nurses' thriving at work.

This finding congruent with **Qamar, et al., (2023)** who found a positive relationship between HPWS and thriving at work. Thus, HPWS should be used by practitioners to achieve staff career goals, raise their level of happiness and improve their thriving at work.

Regarding dimensions of HPWS, the finding of the present study showed that performance appraisal dimension had the highest mean score. This may be due to nurses recognize their mistakes they make in their work and take corrective action to improve their performance. Furthermore, **Fragoso, et al., (2022)** declared that performance appraisal is likely to identify merit; career management promotes professional growth; training encourages skills development; and rewards worth the quality of performance.

This result agreed with the result of a study by **Fahmy, et al., (2021)** who stated that total mean score percentage of staff nurses about their performance appraisal perception was high. Additionally, this finding congruent with **Mohamed & Hussien, (2023)** who revealed that the overall mean score of staff nurses with respect to performance appraisal was high. On the other side, this result inconsistent with **Bekele, et al., (2014)** who mentioned that Staff members had low level of perception regarding performance appraisal.

Meanwhile, the present study demonstrated that least mean score was related to education and training dimension of HPWS. This may be due to nurses are overwhelmed by many responsibilities and increased job demands that limit time for them to attend courses and workshops training.

This result was disagreed with **Trus, et al., (2019)** who indicated that the highest evaluation concerning access to opportunity to learn and grow was given by about half of nurses with regard to the possibility to gain new skills and knowledge. Moreover, **Saleh, et al., (2022)** mentioned that the organization should care for their nurses to accomplish quality of care and improve productivity through adapting a reward and intensive system, accessing organizations resources and information, training and education, and creating internal opportunity.

Regarding to dimensions of safety climate**,** the present study indicated that safety training had the highest mean score among dimensions of safety climate. This may be due to supervisor ensures nurses have adequate safety training programs especially when they change work tasks. This findings congruence with **Cheah, et al., (2012)** who reported that training and education about safety had the highest mean score and recommend that the leaders who have managerial skills and providing continuous staff training on safety leading to increase their competency in safety practice. Additionally, rules, reporting system and clear goals help to implement proper safety management practice in the organization.

In this same line, **Ten Haken, et al., (2021)** mentioned that, nurses paid attention to patient safety, incidents or risks with the technology during their education. In addition, nursing profession require lifelong learning, involving recurring education and additional training. Furthermore, **Mariani, et al., (2022)** reported that safety training is very important to gain further resources and improve work safety performances.

This study exposed that the least mean score was related to safety rewards as a dimension of safety climate. This may be due to limited supervisor attention related to reward and recognition of safe work as well as financial resources of the hospital. This finding disagreed with **Wang, et al., (2020)** who showed that employees' perception regarding human resources practices was high in relation to work environments such as reward, safety policies and procedures.

This result also, incongruence with **Hyatt, et al., (2017)** who examined "impact of individual resilience and safety climate on safety performance and psychological stress" and mentioned that each dimension was found to be significant and to be important component of safety climate including management commitment to safety climate and supervisor safety perception as supervisors ensure that nurses obtain suitable rewards for accomplishing safety target on the job.

Regarding to dimensions of thriving at work, the result of the present study confirmed that learning latent factor dimension of thriving at work had higher mean score than vitality latent factor. This may be due to that head nurses encourage nurses for continuous learning that enhance their innovation and competency for self-achievement, analytical thinking skills, and self-efficacy.

This finding agreed with **Mahmoud & Obied, (2022)** who stated that more than half of nurses had a low level of the vitality dimension while, half of them had a moderate level of learning dimension of workplace thriving. It is vital for nurse to have high level of vitality and learning to practice thriving at work. On the other hand, **Van der Walt, (2018)** found low levels in both learning and vitality dimensions of workplace thriving.

On the contrast, **Mohamed, et al., (2021)** stated that more than half of nurses had high level of workplace thriving which revealed that approval to stay and growth in their hospital and the desire to learn, also,

the higher mean score was related to the vitality domain followed by the learning domain.

Conclusion

Based on the findings of the present study, it was concluded that HPWS have a significant influence on increasing safety climate and nurses' thriving at work. So, the present study confirmed that both safety climate and nurses' thriving at work can be enhanced when health care organizations approve HPWS by improving performance appraisal, compensation, training and development, transformational leadership, employment security, and participation in decision-making and teamwork.

Recommendations:

The following can be recommended, based on the results of the present study:

- Implementing HPWS by hospital managers through enhancing participation in decision-making, compensation, transformational leadership, training and development, employment security and teamwork.
- Creating a culture of HPWS that maintain career growing and developing chances of staff nurses that increase safety climate and thriving at work.
- Developing, implementing and maintaining educational programs for staff nurses to increase their attentiveness about HPWS that enhance safety climate and thriving at work.
- Creating reward and intensive system, accessing organizations resources and information, training and education, and internal opportunity for caring of staff nurses.
- Enhancing nurses' thriving at work through accepting their individual differences, encouraging them to discover new and innovative ways and participating actively in decision making and problem solving.
- Implementing future intervention researches about HPWS.

References

- **Aboramadan, M., Kundi, Y., Elhamalawy, E., & Albashiti, B. (2022):** The effect of high-performance work systems on risk-taking and organizational citizenship behaviors: the mediating role of perceived safety climate. Employee Relations: The International Journal, 44(6), 1428-1447.
- **Abou Ramadan, A. (2020):** The influence of future time perspective on registered nurses' behaviors toward delegation, and thriving at work. Evidence-Based Nursing Research, 2(4), 126-135.
- **Aiyadh, A., Yusoff, R., AlSharqi, O., & Al-Matari, E. (2015):** Relationship between high performance work system and patient safety: study on saudi arabia public hospitals. International Journal of Business and Management, 10(1), 115.
- **Bekele, A., Shigutu, A., & Tensay, A. (2014):** The effect of employees' perception of performance appraisal on their work outcomes. International Journal of Management and Commerce Innovations, 2(1), 136-173.
- **Beus, J., Payne, S., Arthur Jr, & Munoz, G. (2019):** The development and validation of a cross-industry safety climate measure: Resolving conceptual and operational issues. Journal of Management, 45(5), 1987-2013.
- **Cao M., Zhao Y., & Zhao S., (2020):** Facilitating the Implementation Process of High-Performance Work Systems: The Role of Authentic Leadership. Front. Psychol. 11:550711. doi: 10.3389/fpsyg.2020.550711. doi: 10.3389/fpsyg.2020.550711.
- **Cao, M., Zhao, S., Chen, J., & Lv, H. (2023):** Employees' HR attributions count: the effects of high-performance work systems on employees' thriving at work and emotional exhaustion. Personnel Review. https://doi.org/10.1108/PR-09-2021-0632
- **Cheah, W., Giloi, N., Chang, C., & Lim, J. (2012):** The perception, level of safety satisfaction and safety feedback on occupational safety and health management among hospital staff nurses in Sabah State health department. The Malaysian journal of medical sciences: MJMS, 19(3), 57.
- **Danayiyen, A., & Bekaroglu, S. (2020):** Development of the high-performance work systems scale for hospitals: validity and reliability study. Research Journal of Business and Management (RJBM), Vol.7 (3), p.128-138.
- **Dorta-Afonso, D., Romero-Dominguez, L., & Benitez-Nunez, C. (2023):** It's worth it! High performance work systems for employee job satisfaction: The mediational role of burnout. International Journal of Hospitality Management, 108, 103364.
- **Fragoso, P., Chambel, M., & Castanheira, F. (2022):** High-performance work systems (HPWS) and individual performance: The mediating role of commitment. Military Psychology, 34(4), 469-483.
- **Han, J., Sun, J.M. & Wang, H.L. (2020):** "Do high performance work systems generate negative effects? How and when?", Human Resource Management Review, Vol. 30 No. 2, doi: 10.1016/j.hrmr.2019.100699.
- **Haskins, H., & Roets, L. (2022):** Nurse leadership: Sustaining a culture of safety. Health SA Gesondheid (Online), 27, 1-8.
- **Hyatt, D., McCabe, B., & Chen, Y., (2017):** "impact of individual resilience and safety climate

on safety performance and psychological stress" Journal of Safety Research. 167-176.

- **Jabbar, J., Haider, S., & Qureshi, M. (2023):** Moderated Mediation between High Performance Work Systems (HPWS) and Employee Voice Behavior: The Role of Psychological Safety and Supportive Leadership. Journal of Work and Organizational Psychology, 39(3), 145-156.
- **Jang, S., Yoo, S., Lee, J., & Lee, Y. (2022):** Serving for thriving: a moderated mediation analysis of the relationship between servant leadership and thriving at work. Personnel Review, (ahead-of-print).
- **Kao, Z. (2020):** Promoting medical service quality with high performance work systems: The role of safety learning climate and participatory safety, Master's thesis in Business Administration.Pp:21. https://repositorio.iscte.
- **Kloutsiniotis, P., & Mihail, D. (2020):** The effects of high performance work systems in employees' service-oriented OCB. International Journal of Hospitality Management, 90, 102610.
- **Mahmoud, S., & Obied, H. (2022):** Relation between Intensive Care Nurses' Job Embeddedness and Workplace Thriving. Tanta Scientific Nursing Journal, 27(4), 53-66.
- **Mariani, M., Petruzziello, G., Vignoli, M., & Guglielmi, D. (2022):** Development and initial validation of the Safety Training Engagement Scale (STE-S). European journal of investigation in health, psychology and education, 12(8), 975-988.
- **Miao, R., Lu, L., Cao, Y., & Du, Q. (2020):** The high-performance work system, employee voice, and innovative behavior: The moderating role of psychological safety. International journal of environmental research and public health, 17(4), 1150.
- **Fahmy, M., Shazly, M., & Soliman, S. (2021):** Performance Appraisal System as Perceived by Staff Nurses and its relation to their Commitment. Journal of Nursing Science Benha University, 2(2), 829-840.
- **Mohamed, H., & Hussien, R. (2023):** Current Performance Appraisal System and its Relation to their Intent to Leave and Empowerment among Nursing Staff. Assiut Scientific Nursing Journal, 11(34), 1-8.
- **Mohamed, H., Nosier, H. & Mohamed Berma**, **A. (2021):** Organizational silence as a mediator factor between work place toxicity and thriving among nurses. Assiut Scientific Nursing Journal, 9(26.), 85-96.
- **Olsen, E. (2018):** Influence from organizational factors on patient safety and safety behavior among nurses and hospital staff. International Journal of Organizational Analysis, 26 (2), 382-395.
- **Pavlova, O. (2022):** Dialectical View on HPWS and its Outcomes. International journal of management, knowledge and learning, 11: 117-123.
- **Porath, C., Spreitzer, G., Gibson, C., & Garnett, F. (2012):** Thriving at work: Toward its measurement, construct validation, and theoretical refinement. .Journal of organizational behavior, 33(2), 250-275.
- **Qamar, F., Soomro, S., & Kundi, Y. (2023):** Linking high-performance work systems and happiness at work: role of career aspiration and thriving. Career Development International, 28(5), 536-553.
- **Rana, W., Mukhtar, S., & Mukhtar, S. (2022):** Job satisfaction, performance appraisal, reinforcement and job tasks in medical healthcare professionals during the COVID-19 pandemic outbreak. The International Journal of Health Planning and Management, 37(4), 2345-2353.
- **Alessa, S. (2021):** The Dimensions of Transformational Leadership and Its Organizational Effects in Public Universities in Saudi Arabia: A Systematic Review. Front. Psychol. 12:682092. doi: 10.3389/fpsyg.2021.682092.
- **Saleh, M., Eshah, N., & Rayan, A. (2022):** Empowerment predicting nurses' work motivation and occupational mental health. SAGE Open Nursing, 8:1-12 23779608221076811.
- **Ten Haken, I., Allouch, S., & van Harten, W. (2021):** Education and training of nurses in the use of advanced medical technologies in home care related to patient safety: A cross-sectional survey. Nurse education today, 100, 104813.
- **Trus, M., Galdikiene, N., Balciunas, S., Green, P., Helminen, M., & Suominen, T. (2019)** Connection between organizational culture and climate and empowerment: The perspective of nurse managers. Nursing & health sciences, 21(1), 54-62.
- **Van der Walt, F. (2018):** Workplace spirituality, work engagement and thriving at work. SA Journal of Industrial Psychology, 44(1), 1-10.
- **Wang, Y., Kim, S., Rafferty, A., & Sanders, K. (2020):** Employee perceptions of HR practices: A critical review and future directions. The International Journal of Human Resource Management, 31(1), 128-173.
- **Wang, Z., Ren, S., & Meng, L. (2022):** High-performance work systems and thriving at work: the role of cognitive appraisal and servant leadership. Personnel Review, 51(7), 1749-1771.
- **Yun, Z., Zhou, P., & Zhang, B. (2022):** High-performance work systems, thriving at work, and job burnout among nurses in Chinese public hospitals: The role of resilience at work. In Healthcare, 10(10), 1935.

- **Zajac S, Woods A, Tannenbaum S, Salas E & Holladay CL (2021):** Overcoming Challenges to Teamwork in Healthcare: A Team Effectiveness Framework and Evidence Based Guidance. Front. Commun. 6:606445. doi: 10.3389/fcomm.2021.606445.
- **Zhang, B., Liu, L., Cooke, F., Zhou, P., Sun, X., Zhang, S., & Bai, Y. (2022):** The boundary conditions of high-performance work systems–organizational citizenship behavior relationship: A multiple-perspective exploration in the Chinese context. Frontiers in Psychology, 12, 743457.
- **Zhou, Y., Zheng, G., Liu, G., & Zhang, Z. (2023)**: Complementary effects of high-performance work systems and temporal leadership on employee creativity: a social embeddedness perspective of thriving. Asia Pacific Journal of Human Resources. https://doi.org/10.1111/1744-7941.12365