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Job Crafting, Knowledge Sharing, and Career Resilience among Nurses at Suez Canal University Hospital

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Abstract
Background: Hospitals are a knowledge-based environment due to speedily changing medical technologies and demanding knowledge and skillful capital. Job crafting, knowledge sharing, and career resilience play a remarkable role in enhancing their performance effectively and efficiently. **The aim of the study:** This study aimed to assess the relationship between job crafting, knowledge sharing, and career resilience among nurses at Suez Canal University hospital. **Subjects and Method: Research design:** A descriptive correlational research design. **Setting:** The study was conducted in different departments and units at Suez Canal University Hospital. **Subjects:** A simple random sample of 320 staff nurses from different departments and units in the previously mentioned study settings. **Tools of data collection:** Data were collected using a job crafting scale, knowledge sharing scale, and career resilience scale. **Results:** 88.3% of staff nurses had moderate agreement level regarding job crafting, the majority of them had a moderate knowledge-sharing level (74.1 %), and the mean score for resilience was (3.76 ± 0.45). **Conclusion:** There was a highly statistically correlation between knowledge sharing and job crafting. Also, there was a statistically correlation between nurses' career resilience and job crafting. **Recommendations:** Integrate the concepts of knowledge sharing, and career resilience into the main values and integrate them in strategic management and encourage and provide support to staff nurses through open communication, problem-solving, and shared decision making

Keywords: Career Resilience, Job Crafting, Knowledge Sharing & Nurses

Introduction:
Nurses are the main professionals in the healthcare sector, and their attitudes toward their jobs are linked to patient health outcomes and safety. Nurses' traits such as a strong sense of talent, self-direction, high levels of inherent motivation for work performance, and extroversion have been identified as major factors for job crafting. Because nurses may engage in job crafting through self-directed activities, the influence of the job crafters' characteristics would be bigger than that of the organizational feature (**Supriyanto & Ekowati, 2020; Chang & Han, 2020).**

Job crafting was defined as an approach of applying proactive work behavior by reorganizing and altering tasks to maintain work interesting and drive nurses to finish them **(Kim & Park, 2017).** According to job demands resources theory, Job crafting is defined as "nurses' self-initiated behaviors that align their personal strengths and requirements with the level of job demands or job resources**" (Hung, et al., 2020).** Additionally, nurses altering their work habits and social interactions through increased or decreased tasks, relationships, and cognitive boundaries. Then they rebuild work design and work environments, changing personal work meaning and job identity in the process, altering the significance that personal work has for them and their sense of identity **(Akram, et al., 2018).**

There are three dimensions of job crafting: task, relational, and cognitive crafting. Task crafting is described as the process of changing work activities, such as the scope and substance of job assignments. Relational crafting is described as examining and modifying the types and quality of workplace relations as necessary **(Afsar, et al., 2019).**

Finally, people can think positively about their tasks and their hospitals improvement of knowledge division that lead to inspiration and innovation and change new work approaches, and new actions, modifies traditional means, and makes the hospital produce and complete better. The implementation of information sharing may be different as per structural style **(Van den Heuvel, et al., 2017).**

Knowledge starts from information which encompasses of positive facts and numbers. If data are planned within some situation, it becomes information, which is then transformed into knowledge through experiences, judgments, and actions **(Ajanaku, 2018).** Knowledge is defined as an individual's involvement and thought that can be interconnected and shared **(Mohajan, 2019).** Also, in nursing, knowledge has been described as the community repetition of expressive ledges created in the framework of a community and present in the form of usually shared languages. Hospitals change communication methods to

improve knowledge among a group of persons. It also inspires others with comparable backgrounds and comforts to share their involvements **(Elsayed, et al., 2022).**

The process of knowledge sharing is divided into two parts: donating and collecting. Knowledge donation refers to the readiness of health care professionals in organizations to give and share their knowledge with others through listening and talking to others in order to improve their self-awareness and solve problems more rapidly. The receiver of information must consult colleagues by watching, listening, or practicing from internal and external sources, as well as encourage them to share their intellectual capital **(Ata, et al., 2019).**

Resilience is defined as the ability to adapt to adversity or rebound from adverse situations. Success accumulates over time because resilience improves coping, adaptability, and well-being. The nursing profession has just begun to recognize the potential contribution and significance of resilience and its application to diverse clinical contexts. Research showed resilience could mitigate the negative impacts of stress and facilitate adjustment to challenges. As a result, for practicing nurses who operate in a confused setting, resilience is a crucial quality **(Afsar & Umrani, 2018).**

For nurses to be successful in their profession, resilience has become a crucial attribute. The nurse needs the ability to adapt, acquire new skills, and adjust easily to meet the demands of the profession. Nurses' knowledge and ability to apply resilience could assist the nurse to recover from challenging experiences that occur within the hospital environment. Nurses practicing within the discipline need to apply personal resilience to be prepared to respond to this workplace adversity **(Pines et al., 2014).** This personal application of resilience enables nurses to cope with the pressure and anxiety that occurs within a dynamic and hectic workplace **(Diab et al.,).**

Job crafting and knowledge sharing boosts work performance, builds intellectual capital, improves individual and organizational competitiveness, and lowers operating expenses. Job crafting and knowledge sharing that is properly implemented can lead to career resilience. Nurses can connect with other sources or people and get fresh information, experience, and ideas that they would not have access to within the organization while giving their knowledge **(Nurjaman, et al., 2019& Mahgoub, et al., 2019).**

Significance of the study:

Hospitals facing several problems, like job boredom due to person-job incongruity and performing unchallenging and unsatisfying tasks, which leads to decrease growing at work, increase stress, burnout, absenteeism and disengagement which hinder innovative behavior of nurses. Failure to share knowledge may lead to lack of innovation and decisions will be taken slower. So, organizations are now motivating their employees to generate and implement new ideas that may improve overall service quality and performance **(Kamp, 2016).**

The potential implications of this study are significant to the nursing profession in several ways through identifying nurses' level of resilience that enhance their professional progression. Additionally, knowledge sharing can affect nurses' resilience because availability of sufficient data make person more fixable and increase understanding of the actual situation. So, the current study was conducted to assess the relationship between job crafting, knowledge sharing, and career resilience among nurses at Suez Canal University Hospital.

Aim of the study:

The current study aimed to assess the relationship between job crafting, knowledge sharing, and career resilience among nurses at Suez Canal University Hospital.

Research questions:

Is there a relationship between job crafting, knowledge sharing, and career resilience among nurses at Suez Canal University Hospital?

Operational definition:

Job crafting

In the context of this study, job crafting means formulating job that include increasing structural job resources, decreasing hindering job demands, increasing social job resources, and challenging job demands.

Career resilience

In the context of this study, Career resilience is means professional flexibility that include Self-reliance, job meaning, equanimity, perseverance, and aloneness

Subjects and Method:

Research design:

A descriptive correlational research design was used to achieve the aim of the current study

Study Setting:

The study was conducted in different departments and units at Suez Canal University Hospital such as; medical, surgical, orthopedic, obstetric, pediatric, and operating room departments and critical care, hemodialysis and emergency units. It is a teaching hospital equipped with 420 beds. It provides a wide range of health care services as: out-patient, pharmacy, emergency, x-ray, and paramedical services as dietary, laundry, and maintenance. The hospital was selected as it one of the major and accredited Egyptian universities hospitals that provide all the types of health care services for the Suez Canal region.

Study Subjects:
A simple random sample of 320 staff nurses from different departments and units at previously mentioned setting who agreed to participate in the study at the time of data collection; They were recruited for the study.

Criteria of selecting the study sample
Sample included staff male and female nurses who had at least one year of experience in the study setting.

Sample size
Sample size was calculated using **Steven and Thompson (2012)** equation to calculate the sample size from the following formula

$$n = \frac{Np(1-p)}{(N-1)(d^2/z^2) + p(1-p)}$$

N= Population (1200)
Z= confidence level 95% (1.96)
P= probability (50%)
d= margin of error (0.05)
The sample size is 289 by adding 10 % the total sample is 320 nurses.
Ten percent of the sample was added for compensating missing participants.

Tool for data collection:
Data for this study was collected using three tools as follows:

Tool I: Job crafting scale: It composed of two parts: Part one: Personal and job characteristics of staff nurses. This tool was developed by the researchers to collect data about age, gender, marital status, years of experience, and educational qualification. Part two: Job crafting scale: This part was developed by the researcher based on **Tims, et al., (2014)** to measure job crafting level among nurses. It consists of 21 items grouped under four dimensions: (structural job resources (5 items), social resources (6 items), hindering job demands (5 items) and challenge job demands (5 items).

Scoring system:
Items were rated on a 5-point Likert scale, ranging from "1= strongly disagree, 2 = disagree, 3=Neutral, 4=agree, 5= strongly agree. The scores of each dimension were summed up and the total divided by numbers of items. Scores for structural job resources ranged from (5-25), social resources ranged from (6-30), hindering job demands ranged from (5-25), and challenge job demands ranged from (5-25). These scores were converted into percent score. The level of job crafting among nurses considered: Low if the score less than 50%. Moderate if the score ranges from 50% to 75%. High if the score more than 75% **(Shehab, et al., 2019)**

Tool II: Knowledge sharing scale: It was developed by the researcher based on Van den Hooff and de Leeuw van Weenen's, (2004). It consists of 13-items grouped under two dimensions; knowledge collection (7 items) and knowledge donating (6 items).

Scoring system:
Items were rated on a 5-point Likert scale, ranging from "1= strongly disagree, 2 = disagree, 3=Neutral, 4=agree, 5= strongly agree. The scores of each dimension were summed up and the total divided by numbers of items. Scores for knowledge collection ranged from (7-35) and for knowledge donation ranged from (6-30). These scores were converted into percent score. The level of knowledge sharing among nurses considered: Low if the score less than 50%. Moderate if the score ranges from 50% to 75%. High if the score more than 75% **(Shehab, et al., 2019)**

Tool III: Career resilience scale: It was developed to identify those who were resilient and had the capacity for resilience. It was developed by the researcher based on **Delgado, et al., (2017).** It consists of 23 items grouped under five components as the following; self-reliance (6 items), meaning (5 items), equanimity (7 items), perseverance (5 items), and aloneness (5 items).

Scoring system:
Items were rated on a 5-point Likert scale, ranging from "1= strongly disagree, 2 = disagree, 3=Neutral, 4=agree, 5= strongly agree. The scores of each dimension were summed up and the total divided by numbers of items. Scores for self-reliance ranged from (6-30), meaning ranged from (5-25), equanimity ranged from (7-35), perseverance ranged from (5-25), and aloneness ranged from (5-25). These scores were converted into percent score. The level of career resilience among nurses considered: Low if the score less than 50%. Moderate if the score ranges from 50% to 75%. High if the score more than 75% **(Shehab, et al., 2019)**

Validity and Reliability:
Face validity was achieved by five experts in nursing administration specialist from different nursing faculties in Egypt. These included one professor from Ain Shams University, two assistant professors from Suez-Canal University, and two assistant professors from Zagazig University. According to experts' opinions, all recommended modifications were done. The study tools were tested for their reliability using Cronbach's alpha, and it was 0.892 for the job crafting scale, 0.870 for the knowledge sharing scale, and 0.831 for the career resilience scale.

Fieldwork:
Upon receiving an official permission for conducting this study was obtained from director of Suez Canal university hospital as well as nursing director. The researchers met with study sample on their work place who were available and accept to participate in study. Then the study purpose and nature was explained to facilitate data collection. This was done in both morning and afternoon shift

after referring to the participants. Data were collected through distribution of questionnaire sheets to the studied nurses, which were returned to the researchers once completed. It was distributed to staff nurses who took 10-20 minutes to fill the questionnaire for each nurse. The process of data collection lasted three months from the beginning of January 2023 to the ending of March 2023.

Pilot study:

Pilot study was conducted on 32 nurses (10 % of study sample) recruited among the nurses at the Suez Canal university hospital. It was conducted to verify and confirm the clarity of the study tools, to identify potential obstacles and issues during data collection, and to estimate the time required to complete the questionnaires. minor modifications were done based on the results of the pilot research.

Ethical Considerations

The study was approved by the research ethics committees in the faculty of nursing, Suez Canal University. An informed consent was obtained from each participant after being informed about the aim and procedures of the study. They were reassured about their right to refuse or withdraw at any time as well as about the confidentiality of any obtained information. The study procedures didn't not involve any harmful effect on staff nurses

Statistical Analysis:

Data were organized, categorized, tabulated, and statistically analyzed by using the Statistical Package for the social sciences (SPSS, version 23.0), IBM Corp. Armonk, NY: USA. Data were present using descriptive statistics in the form of the mean ± SD & (range), and qualitative data were expressed as absolute frequencies (number) & relative frequencies (percentage). Percent of categorical variables were compared using the Chi-square test. Pearson correlation coefficient was calculated to assess the relationship between various study variables, values near to 1 indicate strong correlation & values near 0 indicate weak correlation.

Results

Table (1): Distribution of the studied nurses based on their personal characteristics (n=320)

Personal characteristics	No	%
1) Age per year:		
• 20 to < 30 years	174	54.3
• 30 to < 40 years	93	29.0
• 40 to < 50 years	40	12.5
• 50 to < 60 years	13	4.0
2) Gender:		
• Male	79	24.7
• Female	241	75.3
3) Marital status:		
• Single	61	19.1
• Married	231	72.2
• Divorced	17	5.3
• Widowed	11	3.4
4) Education level:		
• Diploma	125	39
• Technical nursing	144	45
• Bachelor of Nursing	51	15.9
5) Years of experience:		
• 1 year to <5 years	174	54.3
• 5 years to ≤ 10 years	93	29.0
• > 10 years	53	16.5

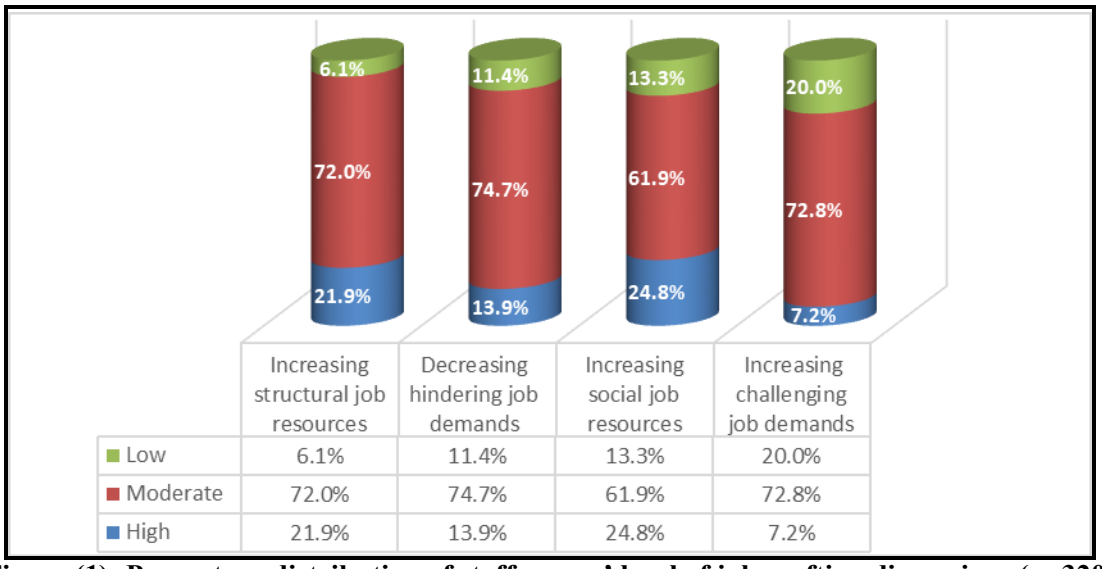

Figure (1): Percentage distribution of staff nurses' level of job crafting dimensions (n=320)

Table (2): Distribution of staff nurses' mean scores regarding the total level of job crafting (n=320)

job crafting level	Frequency		Mean ±SD	Median (Range)
	No	%		
High Moderate Low	20 283 17	6.4 88.3 5.3	66.7±8.2	67 (42-94)

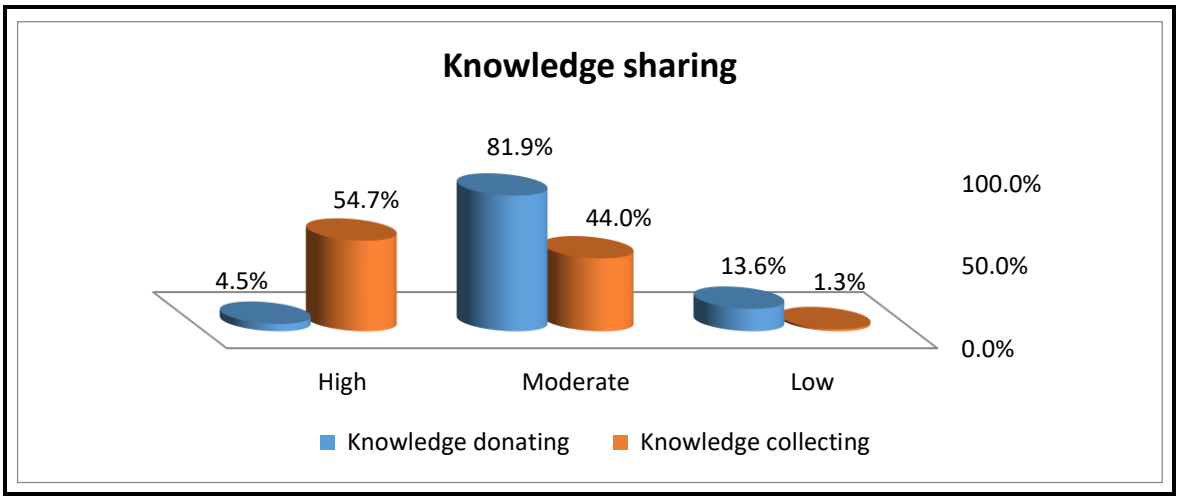

Figure (2): Percentage distribution of staff nurses' knowledge-sharing dimensions' levels (n=320)

Table (3): Percentage distribution of staff nurses' mean scores regarding total level of knowledge sharing (n=320)

Knowledge sharing scale	Frequency		Mean ±SD	Median (Range)
	No	%		
• High • Moderate • Low	75 237 8	23.5 74.1 2.4	44.6±5.5	45(19-57)

Table (4): Mean scores of staff nurses' responses regarding dimensions of career resilience (n=320)

	Mean ± SD
Self-reliance	4.00± 0.65
Meaning	3.92 ± 0.65
Equanimity	3.40 ± 0.57
Perseverance	4.06 ± 0.50
Aloneness	3.46 ± 0.60
Total Resilience	3.76 ± 0.45

Table (5): Percentage distribution of staff nurses' according to their resilience level (n=320)

	Frequency		Mean ±SD
	No	%	
• High	21	6.7	3.76 ± 0.45
• Moderate	235	73.3	
• Low	64	20	

Table (6): Relation Between Personal and Job Characteristics Staff Nurses and Job Crafting Level (n=320)

Personal characteristics	N	Staff nurse's job crafting level						χ^2	P
		High N=20		Moderate N=283		Low N=17			
		No.	%	No.	%	No.	%		
Age per years									
• 20 to < 30 year	174	10	5.9	155	89.2	9	4.9	5.19	0.52
• 30 to < 40 year	93	4	4.6	83	89.0	6	6.4		
• 40 to < 50 year	40	5	12.8	33	80.9	2	6.4		
• 50 to < 60 year	13	1	6.7	12	93.3	0	.0		
Gender:									
• Males	79	5	6.5	70	88.0	4	5.4	0.006	0.99
• Females	241	15	6.4	213	88.3	13	5.3		
Marital status									
• Single	61	2	5.6	54	86.1	5	8.3	3.4	0.75
• Married	231	16	6.7	205	88.9	10	4.4		
• Divorced	17	1	5.0	14	85.0	2	10.0		
• Widow	11	1	7.7	10	92.3	0	.0		
Educational qualifications									
• Diploma	125	8	2.5	110	34.4	7	2.2	4.5	0.34
• technical nursing	144	11	3.4	124	38.8	9	2.8		
• Bachelors	51	1	0.3	49	15.3	1	0.3		
Years of experience									
• 1 year to < 5 years	174	12	3.8	153	47.8	9	2.8	5.2	5.19
• 5 years to ≤ 10 years	93	5	1.6	81	25.3	7	2.2		
• > 10 years	53	3	0.9	49	15.3	1	0.3		

Table (7): Relation between Personal Characteristics of Staff Nurses and Knowledge Sharing Level (n=320)

Personal characteristics	N	Staff nurse's knowledge sharing level						χ^2	P
		High N=75		Moderate N=237		Low N= 8			
		No.	%	No.	%	No.	%		
Age per years									
• 20 to < 30 years	174	43	13.4	126	39.8	5	1.6	5.7	0.45
• 30 to < 40 years	93	22	6.9	71	22.2	0	.0		
• 40 to < 50 years	40	8	2.5	30	9.4	2	0.6		
• 50 to < 60 years	13	2	0.6	10	3.1	1	0.3		
Gender									
• Males	79	20	6.3	57	17.8	2	0.6	0.17	0.92
• Females	241	55	17.2	180	56.3	6	1.9		
Marital status									
• Single	61	12	3.8	47	14.7	2	0.6	2.15	0.91
• Married	231	56	17.5	170	53.1	5	1.6		
• Divorced	17	3	0.9	13	4.1	1	0.3		
• Widow	11	4	1.2	7	2.2	0	.0		
Educational qualifications									
• Diploma	125	21	6.6	99	30.9	5	1.7	7.12	0.13
• technical nursing	144	39	12.2	102	31.9	3	0.9		
• Bachelors	51	15	4.7	36	11.3	0	.0		
Years of experience									
• 1 year to < 5 years	174	43	13.4	126	39.8	5	1.7	5.7	0.45
• 5 years to ≤ 10 years	93	21	6.6	72	22.5	0	0.0		
• > 10 years	53	11	3.4	39	12.2	3	0.9		

Table (8): Relation between Personal Characteristics of Staff Nurses and nurses' resilience Level (n=320)

Personal characteristics	N	Nurses' resilience Level						χ^2	P
		High N=21		Moderate N=235		Low N=64			
		No.	%	No.	%	No.	%		
Age per years									
• 20 to < 30 years	174	13	4.1	126	39.4	35	10.9	5.6	0.46
• 30 to < 40 years	93	7	2.2	68	21.3	18	5.6		
• 40 to < 50 years	40	1	0.3	29	9.1	10	3.1		
• 50 to < 60 years	13	0	.0	12	3.8	1	0.3		
Gender									
• Males	79	4	1.2	60	18.8	15	4.7	2.4	0.81
• Females	241	17	5.3	175	54.7	49	15.3		
Marital status									
• Single	61	5	1.6	42	13.1	14	4.4	4.8	0.57
• Married	231	14	4.4	170	53.1	47	14.7		
• Divorced	17	2	0.6	14	4.4	1	0.3		
• Widow	11	0	0.0	9	2.8	2	0.6		
Educational qualifications									
• Diploma	125	8	2.5	93	29.1	24	7.5	4.2	0.38
• technical nursing	144	12	3.8	106	33.1	26	8.1		
• Bachelors	51	1	0.3	36	11.3	14	4.4		
Years of experience									
• 1 year to <5 years	174	13	4.1	126	39.4	35	10.9	5.7	0.45
• 5 years to ≤ 10 years	93	7	2.2	68	21.3	18	5.6		
• > 10 years	53	1	0.3	41	12.8	11	3.4		

Table (9): Correlations among Job Crafting, Knowledge Sharing, and resilience of Nurses (n= 320)

	Job crafting of nurses		knowledge sharing of nurses		Nurses' resilience	
	(r)	P	(r)	P	(r)	P
Job crafting of nurses	1	-	0.504**	0.000	0.261**	0.004
knowledge sharing of nurses	0.504**	0.000	1	-	0.261**	0.004
Nurses' resilience	0.261**	0.004	0.213*	0.02	1	-

Pearson's Correlation coefficient (r) ** Significant at P<0.05.* *** Highly significant at P<0.01.*

Table (1): Shows that 75.3% of the staff nurses are females, 54.3% of staff nurses have aged from 20 to less than 30 years old. Moreover, the majority of them (72.2%) are married, as regards staff nurses' educational qualification, 45% of them had technical nursing degree. As regard experience, 54.3% of staff nurses have one years of experience and less than five years of experience.

Figure (1): Shows that most of the staff nurses have moderate level of all categories of job crafting. The highest level of job crafting dimensions was for decreasing hindering job demands (74.7%), followed by increasing challenging job demands (72.8%), then increasing structural job resources (72.0 %), and increasing social job resources dimension (61.9%).

Table (2): Shows the job crafting level of staff nurses, the agreement level of overall job crafting is moderate (88.3 %). However, 6.4% of them have high job crafting level, while only 5.3% of them have the lowest level, with (mean± SD) (of 66.7±8.2) and a range from 42 scores to 94.

Figure (2): Shows that the majority of the study sample have moderate level of knowledge sharing regarding the knowledge donating dimension (81.9%), and most of the study sample have high level of knowledge sharing regarding the knowledge collecting dimension (54.7%).

Table (3): Shows that the overall agreement level of knowledge sharing among staff nurses is moderate. The majority of staff nurses have moderate knowledge-sharing level (74.1%). However, 23.5% of them have high knowledge-sharing level, while 2.4% of them have the lowest level, with (mean± SD) (44.6±5.5) and ranging from 19 scores to 57.

Table (4): Shows that the mean score for resilience is (3.76 ± 0.45), the highest mean score was regarding perseverance dimension (4.06 ± 0.50) while the lowest mean score was regarding equanimity dimension (3.40 ± 0.57)

Table (5): Shows that the majority (73.3%) of staff nurses have moderate resilience levels. While the minority (6.7%) of them have a high level.

Table (6): Shows that, there is no statistically significant relation between job crafting level and staff nurses' ages, gender, marital status, educational qualifications, and experience.

Table (7): Illustrates that there is no statistical relation between knowledge sharing level and staff nurses' ages, gender, marital status, educational qualifications, and years of experience.

Table (8): Illustrates that there is no statistical relation between nurses' resilience and personal characteristics of Staff nurses, at P- value > 0.05.

Table (9): shows that there was a highly statistically correlation between nurses' career resilience and job crafting from one side (r= 0.261) and between nurses' career resilience and their knowledge sharing on other side (r= 0.261. As well as, there is a highly statistically correlation between knowledge sharing of nurses and job crafting (r=0.504).

Discussion

Occupational health professionals have begun to pay more attention to the concept of job crafting, particularly in the nursing sector. Nurses can improve their work environment, work experience, and openness to new information by job crafting (**Elasid, et al., 2020).** Nurses who are job crafts persons have better job pleasure, provide well nursing intervention, and help hospitals attain their goals. Also, nurses can achieve job crafting through self-directed behaviors **(Constance, et al., 2019**).

Moreover, knowledge sharing boosts work performance, builds intellectual capital, improves individual and organizational competitiveness, and lowers operating expenses. Resilience is the ability to adapt to a work environment and deal effectively with work problems **(Pragholapati, et al., 2020).** The aim of the study was to assess the relationship between job crafting, knowledge sharing, and career resilience among nurses at Suez Canal University Hospital.

The findings of the current study show that the highest percentage of the staff nurses were in the age group ranging from twenty to less than thirty years old. Also, the highest percentage of the staff nurses was technical nursing. Also, the highest percentage of the staff nurses had from one to ten years of experience.

These findings were consistent with the research conducted in Menoufia University Hospitals, Egypt, by **Diab & Eldeeb (2020).** Researchers who sought to determine the effect of organizational support and information sharing on creative behavior among nurses discovered that most research participants were under 30 years of age. In addition, the largest proportion of individuals had fewer than 10 years of experience. Most staff nurses had fewer than ten years of experience, according to research conducted by **Mahgoub, et al., (2019)** at Beni-Suef University Hospital, Egypt.

In contrast with these results, the study conducted at Ain Shams University Hospital and Dar El-Shefa Hospital, Egypt by **Elasid, et al., (2020)** who recognize the relationship between structural commitment and knowledge distribution among staff nurses and stated that the highest percentage of nurses was in the age ranged between (20 – 57) years and near three-quarter of the studied sample having diploma degree.

In addition, this result is not consistent with the study conducted in Jordan by **Shehab, et al., (2019)** who examines the effects of individual factors on knowledge-sharing behavior in online healthcare communities, and these studies found that most staff nurses in the study sample had more than 10 years of experience.

Furthermore, the results of the current study show that the highest percentage of the nurses were female, this result could be due to the high numbers of students who enter the faculty or school of nursing being females and the main core of the nursing occupation is feminists.

These results are in the same respect as the study conducted at a Malaysian public teaching hospital by **Constance, et al., (2019)** who offer a vision about the relationship between supervisory justice, organizational citizenship behavior (OCB), and innovative behavior using a mediation approach of tacit knowledge sharing and revealed that the majority of staff nurses in the study sample were female.

Along the same line, the study conducted at Teaching Hospitals In South-West, Nigeria" by **Ajanaku (2018)** who determine the influence of knowledge organization capability in the performance of nursing care in particular teaching hospitals in South-west Nigeria and also the study conducted at Amman, Jordan by **Shehab, et al., (2019)** who examines the effects of individual factors on knowledge-sharing behavior in online healthcare communities and these studies found that the majority of respondents were female.

This result is not consistent with **Paramithaa & Indarti (2014)** who investigate the relationship of the environmental support on the employees' creativity and found that the majority of the respondents were male. Also, the study carried out by **Yeşil, et al., (2013)** "Knowledge distribution procedure, innovation capability, and innovation performance: An empirical study" stated that most respondents were males.

The findings of the current research clarified that the highest percentage of nurses were married. Along the same line, the study carried out by **Yeşil et al., (2013). "**Knowledge sharing process, innovation capability, and innovation actions: An empirical study" found that most respondents were married.

Less than one-third of respondents were married, contrary to the findings of **Ajanaku's (2018)** research, which determined the impact of knowledge management capacity on the performance of nursing care at particular teaching hospitals in southwest Nigeria.

Regarding the mean scores of staff nurses' job crafting dimensions, the current study outcomes indicated that the highest level of job crafting dimensions was for decreasing hindering job demands and followed by increasing challenging job demands, then increasing structural job resources and increasing social job resources dimension. The best rationale for this result is that nurses experienced high workloads, work-life conflict, and role ambiguity as well as the problem of nursing shortage. So, healthcare organizations try to increase flexibility, autonomy, professional opportunities, the possibility of training for nurses, and support and feedback from colleagues and supervisors.

In the same context, this research concurs with **Mahmoud's (201**7) study, which examines the relationships between job crafting and work engagement and the organizational citizenship behavior of head nurses at the Mansoura University Hospitals. This research revealed that the factor about the reduction of obstructive work requirements for head nurses received the highest mean score. In addition, **Abou Shaheen, & Mahmoud (2021)** uncovered a relationship between job crafting, nurses' job satisfaction, and counterproductive work performance at Tanta University Hospitals in critical care units. He discovered that nurses' lowering hindering job demands had the highest mean score.

In the same line, this finding was supported by **Cheng, et al., (2020)** who verify the reliability and validity of the job-making scale among nurses in Chinese public hospitals and found that the highest score was found for the element of decreasing hindering job demands.

Conversely, current study results disagree with research conducted by **Baghdadi et al (2021)** who inspected the association between job-crafting actions and work appointments among hospital nurses in Saudi Arabia.

Additionally, the current study findings are inconsistent with the study conducted by **Rogala, & Cieslak (2019)** who study the role of optimistic work-related feelings as forecasters of different job crafting categories unhurried in the follow-up. The study revealed that increasing structure job resources dimension had the highest mean subscale score. Another study conducted by **Sakuraya et al (2017)** examines the association between job crafting and work appointment and emotional distress among personnel in Japan. The study revealed that increasing the social job resources dimension had the lowest mean subscale score.

Contradictory to these findings, the study conducted by **Badran, &Akeel (2020)** indicated that organizational job income measurement of job crafting had the highest mean score. While the lowest mean score was lessening hindering job difficulties.

In addition, the current analysis revealed that the amount of job crafting in the agreement was modest generally. This may be because the hospital policy stresses the significance of investing in human resources, and nurses are encouraged to actively engage in decision-making and seek ongoing professional development. These tactics seem to be beneficial in assisting nurses in developing their skills, boosting their dedication to learning new things on the job and optimizing the use of their full potential via the most effective and efficient use of available resources.

The current research findings agree with previous studies such as the study carried out by **Ahmed & Abd-ElGhani (2021)** who examined job difficulties, job properties, and their relationship with job crafting among head nurses at all internal departments at Main Mansoura University Hospital and stated that job crafting was at a moderate level. Also, **Huang, et al., (2020)** in China, studied the association between job crafting and structural promise in Chengdu University hospitals, and they stated that the mean score of overall job crafting was at a moderate level.

Conversely, results of this study is different from the study done by **Baghdadi et al (2021)** who examined the relationship between job crafting behaviors and work engagement among hospital nurses in Saudi Arabia, and, **Mahdy et al., (2021)** who measured relations among structural documentation, cynicism, job request resources and nurses' job crafting in Zagazig University hospitals. They originate that the contributing nurses had high levels of job crafting.

As well, Contradictory to these findings, **Gouda, et al., (2021)** determined the relation between job-crafting and organizational citizenship behavior among head nurses, and this study was conducted at Zagazig University Hospitals and, **Demerouti, et al., (2015)** who examines whether crafting of job difficulties and properties relates completely to extra-role conduct through work assignation and prosperous. They stated that the contributors had high levels of job crafting.

In addition, these findings contradict the research done by **Saad, & Ahmed (2020)** at the Psychiatric Mental Health Hospital in Benha City, Qalubia governorate, Egypt, which examined the demonstrative consistency of nurses and their relationship to their work crafting. Less than half of the nurses surveyed (48 percent) reported a low degree of job crafting, according to the research. In contrast to these results, **Abou Shaheen &Mahmoud (2021)** observed that the majority of nurses had a poor degree of job crafting in critical care units at Tanta University Hospitals.

The present study findings indicated that the majority of staff nurses had a moderate level of knowledge sharing regarding the knowledge donating dimension, and most of the study sample

had a high level of knowledge sharing regarding the knowledge collecting dimension. This might be due to that knowledge is considered a source of power and reputation for nurses, so they collect knowledge within their community. Also, staff nurses may be reluctant to donate their knowledge for fear of losing their power and reputation.

Similar to the findings of **Dysvik, et al., (2015),** who examined whether the relationship between employees' knowledge donating and managers' knowledge collecting is moderated by social leader-member exchange and economic leader-member exchange, the mean score for managers' knowledge collecting was higher than that of employees' knowledge donating. In addition, **Kmieciak (2020)** evaluated the impacts of two forms of trust on information sharing (knowledge giving and knowledge collecting) and the influence of knowledge sharing on creative work behavior. He observed that the mean score was greatest for knowledge collection and lowest for knowledge donation.

Along the same line, another study conducted by **Ahmed et al., (2016)** points towards the importance of collaborative culture in achieving higher employees' creativity through donation and collection of knowledge in the organization, also the study conducted by Van Den Hooff, and Hendrix (2004) who focuses on individuals' attitudes towards knowledge sharing, these studies pointed out that the highest mean score was for knowledge collecting followed by knowledge donating' dimension.

Conversely, these results disagree with the study conducted by **Gumus, (2007)** who explored the effects of communication on knowledge sharing in an organization, and the study displayed that the mean of donating is higher than collecting.

Furthermore, the present study findings indicated that the overall agreement level of knowledge sharing among staff nurses was moderate while a minority of them had the lowest level. This may be a result of the creation of a positive work environment, the maintenance of high levels of trust among staff nurses, and the development of strong employer-staff-nurse relationships. Additionally, nurses may be persuaded that sharing their knowledge is beneficial because they believe they do so in an environment where it is valued and used.

The results of the current research are consistent with those of a study done by **Diab & Eldedeb (2020)** who investigated the influence of organizational support and information sharing on creative behavior among nurses. Egypt's University Hospitals in the Governorate of Menoufia were the sites of the research. Another research by **Yoo, et al., (2019)** found that nurses regarded their degree of knowledge distribution as above average.

In contrast, the findings of the preceding research contradict those of **Elasid et al (2020)** who investigate the link between organizational commitment and knowledge sharing among staff nurses. This research was carried out at the Ain Shams University Hospital and the Dar El-Shefa Hospital. The research revealed that most staff nurses had a high level of overall information sharing, and **Castaneda (2018)** examined knowledge-sharing behavior among participants and discovered that employees had a high mean score for knowledge-sharing behavior.

Regarding the mean scores of staff nurses' responses regarding dimensions of career resilience, the current study revealed that the highest mean score was regarding perseverance dimension while the lowest mean score was regarding the equanimity dimension, this result may be due to the inability of staff nurses to give broader expectations about their situation and view equanimity as a far expectation.

Regarding the distribution of staff nurses' opinions regarding their resilience level, the current study revealed that most staff nurses had moderate resilience levels. While a minority of them had high levels. This result may be due to the preparedness of nurses to be reliant on their work environment through continuous support from the hospital authorization and indicated maturity of the studied nurses.

In the same vein, **Chow, et al. (2018)** showed that participants exhibited moderate levels of resilience in their study of the well-being and resilience of university nursing students in Hong Kong. People with more resilience share a crucial trait, according to research by **Van Hoek et al. (2019).**

Conclusion

The main findings of the current study concluded that there was a highly statistical correlation between knowledge sharing and job crafting. Also, there was a statistical correlation between nurses' career resilience and job crafting. There was a statistical correlation between nurses' knowledge sharing and job crafting.

Recommendations

Based on results of the current study, the following recommendations are suggested that:

Recommendations for nurse managers and hospital administrators:

- Determine the facilitators and barriers of knowledge sharing among staff nurses.
- Provide numerous chances and time for education, training programs to promote knowledge sharing.
- Integrate the concepts of knowledge sharing, and career resilience into the main values and integrate them in strategic management.

- Encourage and provide support to staff nurses through open communication, problem-solving, and shared decision making.
- Provide reinforcement programs about knowledge sharing to improve the quality of patient care, and innovative work behaviors.

Recommendations for staff nurses:

- Offer educational activities that encourage information exchange, new work practices, and better patient care.
- Learn how to prioritize work, work proactively, and how to make a difference at work for problem recognition and improve their career resilience.

Further researches:

- Further research should be conducted regarding job crafting, knowledge sharing in nursing, and career resilience.

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