

The Relationship between Nursing Job Crafting and Nurses' Work Engagement

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Abstract: Aim: this study aimed to identify the relationship between nursing job crafting and nurses' work engagement at Hosh Issa Central Hospital. Background: Job crafting is a more advanced notion in job redesign, and few research have looked into it among nurses. Method: Descriptive, correlational research design was used to conduct the study. This study was conducted in all intensive and inpatient care units at Hosh Issa Central Hospital, El-Beheira Governorate (n= 11). Subjects: Two groups were included in this study: All Head nurses and their assistants, (n=22). All staff nurses, (n = 246). Tools: Two tools were used to conduct this study: Tool (I): Job Crafting Scale (JCS) It consists of 21 items and Tool (II): Utrecht Work Engagement Scale (UWES-17) it consists of 17 items. Results: The data of 268 nurses was analyzed. Regarding gender, the majority of head nurses and staff nurses (90.9%, 91.5%), respectively were females; compared to (9.1%, 8.5%), respectively of them, who were males. Study subjects perceived moderate mean percent score of total job crafting (71.12%) and perceived high mean percent score of total work engagement (75.16%). There is highly statistically significant relation between nurses' job crafting and their levels of work engagement where P= (0.000), Conclusions: There was intermediate positive highly statistically significant relationship between total study subjects' perceptions of job crafting and total work engagement, where (r= 0.449, P= 0.000). Implications for nursing management: Staff nurses would be more engaged at work if they were encouraged to use job crafting behaviors. This may include, but is not limited to, assisting nurses in negotiating a higher value for their labour, restructuring work patterns to align with organizational goals, and implementing an innovative management style.

Keywords: Nursing job crafting, nurses' work engagement.

1. INTRODUCTION

Hospitals are fundamentally stressful organizations, especially for nurses who are the largest group of health care professionals, they work in challenging conditions, and make critical decisions under time pressure, therefore understanding work characteristics that motivate and increase their work engagement is curtail for healthcare organizations ⁽¹⁾. For this reason, healthcare organizations employed the top down approach of job redesign, which is a process by which managers decide for both separate job tasks, and the authority required for nurses ⁽²⁾.

Top down approach is seen as ineffective and could not make nurses satisfied in their jobs or improve performance, as nurses share in their job redesign mostly to give information to their supervisors about their job properties that support the main redesign platform initiated and strengthened by management ⁽³⁾. As a result, the health care organizations have begun to combine to the job redesign methods originated by the organization, the methods that was initiated by individual nurses themselves (bottom-up approach) ⁽⁴⁾.

Job crafting was defined by Tims and Bakker ⁽⁵⁾ as: "changes that nurses make regarding their job demands and job resources to customize their jobs to their own abilities, preferences and wishes". Moreover, Tims et al. ⁽⁶⁾ added that: "it is a specific type of proactive work behavior that nurses engage in to adjust their job to their needs, skills, and preferences". Additionally, it is described as actions that the nurse initiates in the components of job demands and job resources, so that their profession would be more meaningful, engaging and fulfilling. ⁽⁷⁾ Job characteristics that nurses can adjust in their jobs can be categorized according to Job Demands-Resources (JD-R) Model as following: job demands that mean the job requirements which require nurse's effort to achieve it; and job resources that mean features of the job that enable the work to be done ⁽⁸⁾.

Tims and Bakker ⁽⁵⁾ distinguished four dimensions of job crafting that represent the definite behaviors that nurses perform to shape or change their jobs namely: **(1) increasing structural job resources** that refers to mobilizing job resources proactively as job autonomy, skill varieties or opportunities for development; **(2) increasing social job resources** which refers to seeking social support, supervisory coaching or performance feedback; **(3) Increasing challenging job demands** are perceived as demands that would promote mastery and future gains as job complexity, and workload pressure; and finally, **(4) decreasing hindering job demands** referring to constraints that block progress as role ambiguity and conflicts.

Job crafting has positive effects on organizations, such as: improving financial performance, increasing job satisfaction of organization members, and organizational commitment of nurses. ⁽⁹⁾ Therefore, managers are advised to encourage job crafting by providing regular feedback on effective and challenging job crafting initiatives that are completed by nurses ⁽¹⁰⁾. It is especially outstanding for health care organizations because it can be learned and effectively transferred from training to practice ⁽¹¹⁾. Engaged nurses who craft their jobs by increasing job resources and decreasing hindrance job demands demonstrated higher performance ⁽¹⁰⁾.

Schaufeli et al. ⁽¹²⁾ defined work engagement as: "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption". Additionally, Bakker ⁽¹³⁾ added that work engagement is: "increases in a work environment that offers enough of both job resources and challenges". Moreover, Bargagliotti ⁽¹⁴⁾ added that: "work engagement is the dedicated, absorbing, vigorous nursing practice that emerges from settings of autonomy and trust and results in safer, cost effective patient outcomes". Which means that engaged nurses exert a lot of effort in their work that they identify and this will lead to positive outcomes on individual level, as personal growth and development; as well as on the organizational level, as performance improvement.

Schaufeli ⁽¹⁵⁾ identified three factors that together compose the work engagement state: **(1) vigor** which is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties; **(2) dedication** referring to a sense of significance, enthusiasm, inspiration, pride, and challenge; and finally, **(3) absorption** that is characterized by being fully concentrated and highly occupied with one's work, whereby feel time passes quickly and one has difficulties to be detached from work.

Internationally, many studies were conducted to investigate the relationship between job crafting and work engagement. In USA, Ellis ⁽¹⁶⁾ conducted a study to examine the relationship between job crafting and work engagement, and found that using combination of job crafting strategies by nurses increased their level of work engagement and job performance. Similarly, studies conducted in South Africa, Netherlands, South Korea, Australia and Finland concluded the same findings ^(9-11,17,18).

However, limited studies were conducted in Egypt in this field. Studies conducted by Shusha ⁽¹⁹⁾ and Mahmoud ⁽²⁰⁾ were done to illustrate the effect of job crafting on organizational citizenship behavior. They revealed that nurses practicing job crafting were most likely to exercise organizational citizenship behavior, with significant correlation between head nurses' job crafting, job involvement and their organizational citizenship behavior. In addition to that, a study conducted by Gouda et al. ⁽²¹⁾ were done to illustrate the effect of job crafting on organizational citizenship behavior and revealed that nurses practicing job crafting were most likely to exercise organizational citizenship behavior, with a significant correlation between head nurses' job crafting, job involvement and their organizational citizenship behavior. Hence, the present study aims to investigate the relationship between nursing job crafting and their work engagement. It is hoped that such study will help to create a positive work environment for nurses, which in turn will increase their retention, improve their knowledge and practice; as well as improving patient satisfaction, safety and quality of care.

Significance of the study:

Nurses work engagement relates directly to safety, quality, and patient experience outcomes. Actually, research conducted by Blizzard⁽²²⁾ found that it's a primary factor in determining health care quality and preventing complications; as well as it is the number one predictor of mortality variation across hospitals. Another study by Paller and Perkins⁽²³⁾ found that hospitals with the least engaged nurses pay more than \$1.1 million annually in malpractice claims than those with the most engaged nurses. Nurses report low level of work engagement (18%) in comparison to other hospital professions and as a result of disengagement, they leave their jobs.⁽²⁴⁾ Work engagement is identified as job crafting outcome,⁽²⁵⁾ the current literature revealed that it could also result in positive organizational outcomes, such as: increase job satisfaction, and organizational commitment.⁽²⁶⁾ In Egypt, job crafting helps to build nurses' wellbeing by increasing their work engagement, decreasing burnout, coping with uncertainty, and adapting to job challenges and constraints.⁽²⁰⁾ It was also found that Egypt is one of five countries in Africa experienced increase in nurses work engagement by four-point improvement in 2017.⁽²⁷⁾

Aim of the Study**The study aims to:**

Investigate the relationship between nursing job crafting and nurses' work engagement at Hosh Issa Central Hospital.

Research question

What is the relationship between nursing job crafting and nurses' work engagement at Hosh Issa Central Hospital?

2. MATERIAL AND METHODS**Materials****Study design**

Descriptive, correlational research design was used to conduct the study.

Setting:

This study was conducted in all intensive and inpatient care units at Hosh Issa Central Hospital, El-Beheira Governorate (n= 11). It is divided as follows: (1) Intensive Care Units (ICU) (n = 3), namely: General ICU (n=1), neonatal ICU (n=1) and emergency unit (n=1); (2). Medical units and their specialties (n = 4), namely: general medical unit (n=1), obstetric unit (n=1), pediatric unit (n=1); hemodialysis unit (n=1); and finally, (3). Surgical units and their specialties (n = 4), namely: general surgical unit (n=1), burn unit (n=1); operation unit (n=1) and orthopedic unit (n=1).

Subjects:**Two groups Was included in this study:**

- 1- All Head nurses and their assistants who worked in the previously mentioned settings with at least six months of experience (n=22).
- 2- All staff nurses, who worked in the previously mentioned settings and who were available during data collection, with at least six months of experience, were included in the study, approximately (n = 246).

Tools:

Two tools were used to conduct this study:

Tool (I): Job Crafting Scale (JCS)

It was developed by Tims et al.⁽²⁸⁾, based on Job Demands-Resources (J-DR) framework, and was adopted by the researcher, to assess nurses' job crafting. It consists of 21 items classified into four dimensions, namely: (1) increasing structural job resources (5 items); (2) increasing social job resources (5 items); (3) increasing challenging job demands (5 items); and (4) decreasing hindering job demands (6 items). Responses were measured on a 5-point Likert scale ranging from (1) never to (5) very often. Total score ranges from 21 to 105. The higher score indicated higher job crafting skill of nurses. Scores ranged from low ($\leq 50\%$); moderate (50 – 75 %); and high ($\geq 75\%$).

Tool (II): Utrecht Work Engagement Scale (UWES-17)

It was developed by Schaufeli et al. ⁽¹²⁾ and was adopted by the researcher to measure work engagement among nurses. It consists of 17 items classified into three dimensions, namely: (1) vigor (6 items); (2) dedication (5 items); and (3) absorption (6 items). Responses were measured on a 7-point Likert scale ranging from (0) never to (6) always. Total score ranges from (17 to 102). The higher score indicated higher work engagement of nurses. Scores ranged from low ($\leq 50\%$); moderate ($50 - 75\%$); and high ($\geq 75\%$)

In addition to that, a demographic characteristics data sheet was developed by the researcher, and was included data related to: gender, age, educational qualifications, working unit, years of nursing experience, years of unit experience, nursing position and marital status.

Method

1. An official permission was obtained from the Dean of Faculty Nursing - Damanhour University and the responsible authorities of the study settings, after explanation of the study aim.
2. Study tools were translated into Arabic and tested for its content validity and translation by five experts in the field of the study. Accordingly, the modifications were done.
3. A Pilot study was carried out on (10%) of the total sample size ($n=27$), who not included in the study sample to check and to ensure the clarity, feasibility of the study's tools and to identify obstacles and problems that may be encountered during data collection. Then, no necessary modifications were done.
4. The two tools of the study were tested for its reliability using Cronbach's Alpha coefficient for its internal consistency of items, where: job crafting scale ($\alpha = 0.913$) and Utrecht Work Engagement Scale (UWES-17) ($\alpha = 0.921$). which indicated good reliability.
5. Data collection for this study was achieved by the researcher, from the study's subjects through hand-delivered questionnaires at their work setting. It took from 30 to 40 minutes to complete the questionnaire. Data collection was conducted in a period of two month, ranging from the first of April to the end of May 2021.

Ethical considerations

- The research approval was obtained from the ethical committee of the Faculty of Nursing – Damanhour University, prior to the start of the study.
- An informed written consent was obtained from the study subjects after explanation of the study aim.
- Privacy and the right to refuse to participate or withdraw from the study were assured during the study.
- Confidentiality and anonymity regarding data collected were maintained.

Statistical analysis:

The collected data was revised, categorized, coded, computerized, tabulated and analyzed using Statistical Package for Social Sciences (SPSS) version 25.0. Reliability of the tool was determined by Cronbach's alpha and presented in descriptive, and association forms. The necessary tables were then developed.

The following statistical measures were used:

- 1) **Descriptive statistics:** included frequency, percent and mean with standard deviation to describe and summarize the scale and categorical data.
- 2) **Analytic statistics:**
 - Independent sample t-test: it is a parametric statistical test that used to compare the mean for two independent groups for numeric data and following normal distribution.
 - Chi-square test was used to examine relationship between variables.

- P value ≤ 0.05 was considered statistically significant, and P value ≤ 0.01 was considered highly statistically significant.
- Pearson correlation coefficient test was used to explore relationship between job crafting and work engagement.
- Multiple Linear regression analysis and ANOVA were used to illustrate predictors of work engagement among the studied nurses.

3. RESULTS

Frequency distribution of demographic characteristics of the study subjects working at Hosh Issa Central Hospital.

Table (1) represents demographic characteristics of the study subjects, working at Hosh Issa Central Hospital. According to working unit, the majority of head nurses and staff nurses were working in ICU (50%, 45.1%), respectively; compared to about one third of them, who were working in medical units (27.3%, 31.7%), respectively, whereas the minority of them were working in surgical units (22.7%, 23.2%), respectively. Pertaining to age, the mean age of head nurses and their assistants were 32.5 ± 5.234 ; compared to 27.5 ± 5.015 of staff nurses. The highest percentage of head nurses and their assistants (63.6%) had from 30 to less than 40 years old; while the highest percentage of staff nurses (67.9%) had from 20 to less than 30 years old, whereas the minority of head nurses and staff nurses (9.1%, 3.7%), respectively had 40 years old and more.

Concerning to educational level, most of head nurses and their assistants had Bachelor of Nursing Sciences (81.8%); compared to above one tenth (11.8%) of staff nurses had the same degree, whereas above two third (69.9%) of staff nurses had Diploma of Technical Health; compared to the minority of head nurses and their assistants (4.6%) had the same degree.

In relation to years of nursing experience, more than half of head nurses and their assistants (54.6%) had from 10 years of nursing experience and more; compared to above one quarter (26%) of staff nurses had the same experience. Pertaining to years of nursing experience, the mean years of nursing experience of head nurses and their assistants were 9.9 ± 5.199 ; compared to 7.3 ± 5.524 of staff nurses.

As regards to years of unit experience, the majority of head nurses and staff nurses (40.9%, 50.4%), respectively had from 1 to less than 5 years of unit experience, whereas the minority of them (22.7%, 17.5%), respectively had 10 years and more of the same experience.

Regarding gender, the majority of head nurses and staff nurses (90.9%, 91.5%), respectively were females; compared to (9.1%, 8.5%), respectively of them, who were males.

Concerning marital status, the majority of head nurses and staff nurses were married (91%, 82.1%), respectively; compared to the minority of them (4.5%, 1.6%), respectively were divorced

Table (1): Demographic characteristics of the study subjects working at Hosh Issa Central Hospital.

Demographic characteristics	Staff nurses (N= 246)		Head nurses (N=22)		Total (N= 268)	
	No.	%	No.	%	No.	%
Working Unit						
Medical	78	31.7	6	27.3	84	31.3
Surgical	57	23.2	5	22.7	62	23.2
ICU	111	45.1	11	50	122	45.5
Age (years)						
20 -	167	67.9	6	27.3	173	64.6
30 -	70	28.4	14	63.6	84	31.3
40 +	9	3.7	2	9.1	11	4.1

Min-Max	20– 49		26 – 44		20 – 49	
Mean ±SD	27.5±5.015		32.5±5.234		27.9±5.199	
Gender						
Male	21	8.5	2	9.1	23	8.6
Female	225	91.5	20	90.9	245	91.4
Educational qualifications						
Diploma of Secondary Technical Nursing School	45	18.3	3	13.6	48	17.9
Diploma of Technical Health Institute	172	69.9	1	4.6	173	64.6
Bachelor of Science in Nursing	29	11.8	18	81.8	47	17.5
Years of nursing experience						
1-	84	34.2	3	13.6	87	32.5
5-	98	39.8	7	31.8	105	39.2
10 +	64	26	12	54.6	76	28.3
Min-Max	1 – 35		1 – 18		1 – 35	
Mean ±SD	7.3±5.524		9.9±5.199		7.5±5.535	
Years of unit experience						
1-	124	50.4	9	40.9	133	49.6
5-	79	32.1	8	36.4	87	32.5
10 +	43	17.5	5	22.7	48	17.9
Min-Max	1 – 35		1 – 12		1 – 35	
Mean ±SD	5.7±4.902		5.5±3.813		5.6±4.816	
Marital status						
Single	40	16.3	1	4.5	41	15.3
Married	202	82.1	20	91	222	82.8
Divorced	4	1.6	1	4.5	5	1.9

Mean percent score of study subjects' perceptions of job crafting, working at Hosh Issa Central Hospital.

Table (2) reveals that study subjects perceived moderate mean percent score of total job crafting (71.12%). they perceived high mean percent scores for increasing structural job resources (77.24%). However, they perceived moderate mean percent scores for increasing social job resources, increasing challenging job demands, and decreasing hindering job demands (68.44%,69.88%, and 69.3%), respectively.

Table (2): Mean percent score of study subjects' perceptions of job crafting, working at Hosh Issa Central Hospital. (N= 268)

Job crafting dimensions	Min.	Max.	Mean	SD	Mean % Score
Increasing structural job resources.	7	25	19.31	3.504	77.24
Increasing social job resources.	6	25	17.11	3.821	68.44
Increasing challenging job demands.	7	25	17.47	3.274	69.88
Decreasing hindering job demands.	9	29	20.79	3.740	69.3
Total job crafting	38	102	74.68	11.144	71.12

High mean percent score: ≥ 75 %

Moderate mean percent score: 50 – 75 %

Low mean percent score: ≤ 50 %

Mean percent score of study subjects' perceptions of work engagement, working at Hosh Issa Central Hospital.

Table (3) reveals that study subjects perceived high mean percent score of total work engagement (75.16%). they perceived moderate mean percent scores for the vigor, and absorption (72.5%, and 74.81%), consecutively. However, they perceived high mean percent scores for dedication (78.77%).

Table (3): Mean percent score of study subjects' perceptions of work engagement, working at Hosh Issa Central Hospital. (N= 268)

work engagement dimensions	Min.	Max.	Mean	SD	Mean % Score
Vigor.	10	36	26.10	6.233	72.5
Dedication.	1	30	23.63	5.812	78.77
Absorption.	10	36	26.93	6.042	74.81
Total work engagement.	25	102	76.66	16.694	75.16

High mean percent score: $\geq 75\%$

Moderate mean percent score: $50 - 75\%$

Low mean percent score: $\leq 50\%$

Relationship between study subjects' perception of job crafting and their work engagement.

Table (4) shows the relationship between study subjects' job crafting levels and their work engagement. As can be seen, there are highly statistically significant relation between nurses' job crafting and their levels of work engagement in terms of increasing structural job resources, increasing social job resources, increasing challenging job demands, and decreasing hindering job demands, where $P = (0.000)$, for all relations. As well as study subjects had high Percent in high level of job crafting concerning to total job crafting and increasing structural job resources (54.2%,73.2%), respectively. Furthermore, above two third of nurses (69%), who had moderate level of increasing social job resources got Low level of work engagement.

Pertaining to increasing challenging job demands, the majority of nurses, who had moderate level got approximately the same percentage with high and low levels of work engagement (75%, 75.9%), respectively.

Regarding to Decreasing hindering job demands, the highest percentage of study subjects, who had moderate level, got low score of work engagement (75.9%).

Table (4): Relationship between study subjects' perception of job crafting and their work engagement.

Items	Levels of work engagement						χ^2 P
	Low (N=29)		Moderate (N=86)		High (N=153)		
	No.	%	No.	%	No.	%	
Increasing structural job resources.							32.747 0.000**
Low	4	13.8	3	3.5	2	1.3	
Moderate	17	58.6	39	45.3	39	25.5	
High	8	27.6	44	51.2	112	73.2	
Increasing social job resources.							26.609 0.000**
Low	8	27.6	10	11.6	16	10.5	
Moderate	20	69	53	61.7	66	43.1	
High	1	3.4	23	26.7	71	46.4	
Increasing challenging job demands.							22.430 0.000**
Low	3	10.3	5	5.8	6	3.9	
Moderate	22	75.9	62	72.1	75	49	
High	4	13.8	19	22.1	72	47.1	
Decreasing hindering job demands.							20.051 0.000**
Low	4	13.8	7	8.1	9	5.9	
Moderate	22	75.9	60	69.8	77	50.3	
High	3	10.3	19	22.1	67	43.8	
Total job crafting							56.535 0.000**
Low	3	10.3	1	1.2	2	1.3	
Moderate	26	89.7	69	80.2	68	44.4	
High	0	0	16	18.6	83	54.2	

χ^2 =Chi square test

**P value (highly significant) ≤ 0.01

Correlation matrix between study subjects' perceptions of job crafting and their work engagement, working at Hosh Issa Central Hospital.

Table (5) shows that there was Intermediate positive highly statistically significant relationship between total study subjects' perceptions of job crafting and total work engagement, where (r= 0.449, P= 0.000). Also, it was found that there was highly positive statistically significant relationship between total job crafting and its related dimensions; increasing structural job resources, increasing social job resources, increasing challenging job demands, and decreasing hindering job demands, where P= (0.000). Moreover, there was highly positive statistically significant relationship between total work engagement and its dimensions, where P= (0.000).

Furthermore, there is highly positive statistically significant relationship between increasing structural job resources with vigor, dedication, absorption, and total work engagement, where P= (0.000). Also, there is positive statistically significant relationship between increasing social job resources with total work engagement and its related dimensions, where P= (0.000). Also, there is positive statistically significant relationship between increasing challenging job demands and total work engagement and its related dimensions, where P= (0.000). Also, there is positive statistically significant relationship between decreasing hindering job demands and total work engagement and its related dimensions, where P= (0.000).

Furthermore, there is highly positive statistically significant relationship between total job crafting and total work engagement and its related dimensions; vigor, dedication, and absorption, where P= (0.000).

Table (5): Correlation matrix between study subjects' perceptions of job crafting and their work engagement, working at Hosh Issa Central Hospital. (N= 268)

Job crafting / work engagement		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Increasing structural job resources (1)	r	1	0.405	0.568	0.492	0.785	0.377	0.457	0.405	0.446
	P (2-tailed)		0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Increasing social job resources (2)	r		1	0.466	0.381	0.735	0.277	0.306	0.309	0.322
	P (2-tailed)			0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Increasing challenging job demands (3)	r			1	0.542	0.814	0.329	0.354	0.294	0.352
	P (2-tailed)				0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
Decreasing hindering job demands (4)	r				1	0.78	0.266	0.252	0.26	0.281
	P (2-tailed)					0.000**	0.000**	0.000**	0.000**	0.000**
Total job crafting (5)	r					1	0.399	0.437	0.407	0.449
	P (2-tailed)						0.000**	0.000**	0.000**	0.000**
Vigor (6)	r						1	0.778	0.792	0.931
	P (2-tailed)							0.000**	0.000**	0.000**
Dedication (7)	r							1	0.762	0.914
	P (2-tailed)								0.000**	0.000**
Absorption (8)	r								1	0.923
	P (2-tailed)									0.000**
Total work engagement (9)	r									1
	P (2-tailed)									

r=Pearson Correlation *P value at level ≤ 0.05 (statistically significant) **P value (highly significant) ≤ 0.01

Interpretation of r: Weak (0.1-0.24) Intermediate (0.25-0.7) Strong (0.75-0.99) Perfect (1)

Multivariate regression analysis to illustrate predictors of work engagement among the studied nurses.

Table (6) presents the results of multivariate regression analysis between job crafting as independent variables and work engagement as a dependent variable. It was found that approximately 28% of the explained variance of work engagement is related to job crafting, where the model is significant (F = 14.476, p = 0.000).

However, coefficients table of regression analysis has displayed that only the variables of years of nursing experience and increasing structural job resources to be positive highly significant predictors of work engagement. Moreover, increasing social job resources also are positive significant predictors of work engagement. Whereas age, years of unit experience, increasing challenging job demands and decreasing hindering job demands are not significant predictors affecting the level of work engagement.

The result of regression analysis displays that the contribution of increasing structural job resources variable is relatively high ($\beta = 0.345, p \leq 0.01$). The interpretation of these coefficients are as follows; increase in each degree of increasing structural job resources tends to higher the level of nurses' perception of work engagement by 0.345 units ($p \leq 0.01$).

Table (6): Multivariate regression analysis to illustrate predictors of work engagement among the studied nurses.

Dimensions	Unstandardized Coefficients	Standardized Coefficients	T	P
	B	β		
(Constant)	30.039		3.000	0.003**
Age (years)	0.276	0.086	0.709	0.479
Years of nursing experience	1.172	0.388	2.669	0.008**
Years of unit experience	0.386	0.111	1.157	0.248
Increasing structural job resources	1.641	0.345	5.108	0.000**
Increasing social job resources	0.614	0.141	2.300	0.022*
Increasing challenging job demands	0.377	0.074	1.035	0.301
Decreasing hindering job demands	0.050	0.011	0.172	0.864
ANOVA^a				
Model	R ²	df	F	p
Regression	0.280	7	14.476	0.000**

a. Dependent Variable: Nurses' work engagement.

b. predictors: (Constant) Decreasing hindering job demands, years of unit experience, increasing social job resources, increasing structural job resources, increasing challenging job demands, age (years), and years of nursing experience.

*P value (significant) ≤ 0.05

**P value (highly- significant) ≤ 0.01

df= degree of freedom

F= One Way Anova

T=Independent samples t- test

R²= Coefficient of multiple determination.

4. DISCUSSION

The current study looked at the link between job crafting and work engagement among Hosh Issa Central Hospital nurses. The findings confirmed that nurses' job crafting was highly connected to their work engagement. The concept of job crafting is very new, and this study is one of the first in the nursing sector to look into it. The current findings may give nursing leaders insight on how to manage the environmental qualities, resources, and demands that promote nursing job crafting, which could improve nurses' work engagement, organizational commitment, and job satisfaction. According to the results of the current study, the nurses who took part had a moderate degree of job crafting and a high level of work engagement. This contradicts prior research on job crafting, which found that nurses had a high level of job crafting (Alharthi et al. 2023; Attia and Elsayed-ElAraby, 2021; Baghdadi, Farghaly & Alsayed, 2021; Tims & Bakker, 2010). On the other hand, the current study is consistent with past job engagement research, which found that nurses were highly engaged at work. (Baghdadi, Farghaly & Alsayed, 2021; Hanggarawati 2022; Zhang et al. 2021;Wijn et al. 2021; Ghazawy et al. 2021; Duppelt et al. 2019).^(5,29-36)

The current study's work environment may have influenced the modest degree of nurses' job crafting and high level of nurse's work engagement. The hospital's philosophy emphasizes the value of investing in human resources, and managers and administrators use a team-based approach. Nurses are encouraged to actively engage in decision-making and to undertake professional development activities on a regular basis. These tactics appear to be beneficial in assisting nurses in developing their capabilities, improving their dedication to learning new things in their employment, and optimizing their maximum capacity through effective and efficient resource utilization. According to previous study, the greater an employee's ability to proactively adjust their work environment to align job expectations and resources with their abilities and requirements, the higher their satisfaction, performance, and work engagement (Baghdadi, Farghaly & Alsayed, 2021; Devotto et al. (2020); Romeo et al. 2019; Frederic and Vander Weele 2017; Bakker, 2017; Kooij, Tims, & Akkermans, 2016).^(11,31,37-40)

According to earlier studies on the link between job crafting and work engagement (S. Ikeda 2022; Baghdadi, Farghaly & Alsayed, 2021; Bakker, Rodríguez-Muñoz, & Sanz Vergel, 2015; McClelland, Leach, Clegg, & McGowan, 2014; Van Wingerden et al., 2017) the current study revealed that increased job crafting was linked to higher work engagement. However, the results of current study displayed that only the variables of years of nursing experience and increasing structural job resources to be positive highly significant predictors of work engagement. Moreover, increasing social job resources also are positive significant predictors of work engagement. Whereas age, years of unit experience, increasing challenging job demands and decreasing hindering job demands are not significant predictors affecting the level of work engagement.^(31,41-44)

Implications for nursing management

According to the current findings, managers that assist staff nurses in developing job crafting skills and engaging in job crafting behaviours would reap larger rewards in terms of job engagement. This could have a favourable impact on nurses' job satisfaction, structural commitment, organizational commitment, and intention to stay employed (Baghdadi, Farghaly & Alsayed, 2021; Eltaybani, Noguchi-Watanabe, Igarashi, Saito, & Yamamoto-Mitani, 2018). To that end, health-care administrators and nurse managers must assist nurses in negotiating a higher value for their work and reforming their work in a way that is consistent with organisational goals and promotes the most effective and efficient use of resources. Encourage active participation of nurses in decision-making and pursue continuous professional development activities appear to be good techniques for creating a healthy work environment that improves nurses job crafting and work engagement levels.^(31,45)

5. CONCLUSION

The study concluded that there was intermediate positive highly statistically significant relationship between total study subjects' perceptions of job crafting and total work engagement, where ($r= 0.449$, $P= 0.000$). Also, it was found that there was highly positive statistically significant relationship between total job crafting and its related dimensions; increasing structural job resources, increasing social job resources, increasing challenging job demands, and decreasing hindering job demands. Moreover, there was highly positive statistically significant relationship between total work engagement and its dimensions; vigor, dedication, and absorption.

6. RECOMMENDATIONS

The recommendations were given to allow staff nurses to participate in decision making process and ask for feedback and support from their supervisors. Encourage nurses' active participation in continuous professional development activities and promote a positive working climate through actively listening to nurses' opinions and questions and by providing them with opportunities to develop their skills. Moreover, assisting nurses in negotiating a higher value for their labour, restructuring work patterns to align with organizational goals, and implementing an innovative management style.

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