

## Understanding the Impact of Individual and Team-Based Resources on Nurses' Work Engagement: The Mediating Roles of Individual and Team Job Crafting

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### Abstract

**Background:** In the challenging healthcare sector, especially for nurses, sustaining high job engagement is vital for enhancing performance, reducing turnover, and ensuring quality patient care. Individual and team resources, such as self-efficacy, resilience, autonomy, social support, and a participative environment, help manage demands and boost motivation. Job crafting, where employees adapt tasks, relationships, and perceptions to fit their strengths and interests, is one strategy; for example, nurses may seek meaningful extra duties or reduce emotionally taxing responsibilities. **Aim:** This study aimed to investigate the effect of individual and team resources on nurses' work engagement, with a special emphasis on the mediating effect of job crafting at the individual and team levels. **Method:** A descriptive correlational study design was used. **Setting:** This study was conducted at all inpatient and outpatient sectors at Zagazig University Hospitals. **Subjects:** Stratified random sample of 400 nurses working at Zagazig University Hospitals. **Data collection tools:** Five tools were used for data collection as follows: work experience and evaluation, shared leadership and team effectiveness scale, overarching work crafting scale, collaborative crafting scale, and the Utrecht work engagement scale. **Results:** The mean percentage score for individual resources was at a moderate level, while the scores for team resources, work engagement, individual job crafting, and team job crafting indicated high levels. Structural equation modeling revealed that individual resources had a direct and significant effect on nurses' work engagement. In contrast, team resources exerted a direct but non-significant influence on nurses' work engagement. Individual job crafting demonstrated a positive and significant effect on nurses' work engagement in the direct correlation, but through the structural equation model, it has a significant and negative effect on nurses' work engagement. Conversely, team job crafting had a strong and significant positive effect on work engagement. **Conclusion:** Individual job crafting partially mediated the association between individual resources and nurses' work engagement. However, team job crafting completely mediated the association between team resources and nurses' work engagement. **Recommendations:** Hospitals' administrators and nursing managers should foster a supportive work climate through encouraging open communication, recognizing achievements, and providing consistent feedback to boost morale. Also, enable job crafting opportunities by providing nurses with autonomy, flexibility, and time to participate in both individual and team-based work redesign.

**Key words:** Individual Resources, Team Resources, Work Engagement, Individual Job Crafting, and Team Job Crafting.

### Introduction

Organizations today differ significantly from those of the previous century due to the rapid growth of the internet, increased globalization, and the flattening of traditional organizational hierarchies. Consequently, job crafting has become essential in contemporary workplaces, reflecting the evolving nature of work in the twenty-first century (Bakker, 2018).

Job crafting refers to the proactive mental and physical modifications employees make to their tasks or social interactions at work. Adjusting task boundaries involves changing the number or type of job activities, meaning employees may choose to perform fewer, more, or different tasks than those outlined in their formal job descriptions. In terms of social relationships,

altering relational boundaries requires discretion and may include modifying the frequency or quality of interactions with colleagues (Cascio & Aguinis, 2024).

Job autonomy, social support, performance feedback, and skill variety are examples of job resources that are defined as aspects of a job that help employees achieve work goals, reduce job demands, or promote personal growth. High levels of job resources contribute to positive organizational outcomes through what is often referred to as the “motivational process.” Job-related resources can be categorized into individual-level and team-level resources. Individual-level resources include opportunities for development (a personal resource), compensation (a conditional resource), and professional efficacy (a personal resource). These resources act as “energy reservoirs” that employees can draw upon to meet their needs, being closely tied to individual-specific requirements and thus holding particular significance for each worker. In contrast, team-level resources serve as motivational drivers by aligning with the team’s goals, fostering shared values, and supporting the collective interests of the team (Edwards & Cable, 2009; Villajos et al., 2019)). Workers encounter an imbalance between their subjective view of their jobs and the real responsibilities and resources associated with them. As a result, they are more willing to participate in activities known as “job crafting” that aim to lessen or eliminate their perceived circumstance (Topa & Aranda-Carmena, 2022).

High levels of energy, strong dedication, and complete focus on one's work are indicators of work engagement, which is a function of both social and structural resources and increasingly energetic job demands. This is mostly because demanding work environments that provide resources for the task satisfy basic psychological requirements, including autonomy, relatedness, and competence (Bakker & Demerouti, 2017). Empirical analysis has identified four key dimensions of job crafting: enhancing structural job resources, boosting social job resources, raising challenging job demands, and reducing hindering job demands. These dimensions represent specific behaviors individuals engage in to alter or redesign their

work settings (Silapurem et al., 2024).

Job crafting occurs at two levels: individual and team. Individual job crafting involves self-initiated adjustments employees make to their work environment to enhance their well-being, attitudes, and behaviors (Luís, 2023). This form of crafting can foster self-regulation strategies that optimize individual outcomes. Employees are more likely to engage voluntarily in activities they perceive as meaningful and within their capabilities, especially when their motivations, skills, and passions align with valued personal needs. In contrast, team job crafting refers to the collective efforts of team members to leverage resources in strengthening structural and social job aspects, addressing challenging demands, and reducing hindering demands (Alkhraishi & Yesiltas, 2024).

Job crafting refers to the proactive psychological actions employees take to intentionally adjust their work processes in ways that align with their personal interests, values, and abilities. By creating positive meaning in their work, job crafting can boost short-term psychological energy and enhance motivation. This increased psychological energy, in turn, can lead to greater job involvement. Thus, job crafting is an important concept when examining work engagement and the resources linked to one’s job (Wrzesniewski & Dutton, 2001). “Work engagement” refers to a sustained emotional and cognitive state characterized by vigor, dedication, and absorption. It is not tied to a specific task or event but rather represents an ongoing condition (Bakker, 2018). The three key components of work engagement are: (1) dedication, which involves deep involvement in work accompanied by feelings of significance, resilience, enthusiasm, inspiration, pride, and challenge; (2) vigor, defined as high levels of energy and mental focus during work; and (3) absorption, the experience of being fully concentrated and happily immersed in work, often losing track of time (Llorente-Alonso & Top, 2019; Iida et al., 2024).

## Theoretical framework

This study draws on two theoretical

frameworks. The first is the Conservation of Resources (COR) theory, which posits that resources possess an inherent motivational quality that facilitates meeting demands and achieving goals. Individuals actively strive to preserve, expand, and invest in these valued resources with the expectation of gaining future benefits. Such resources represent a broad psychological construct that extends beyond job-specific factors, encompassing universal psychological assets like need satisfaction and a sense of meaning (Ryan & Deci, 2000; Wrzesniewski & Dutton, 2001; Van den Broeck et al., 2008). COR further suggests that success depends less on possessing abundant resources and more on effectively allocating them to maximize one's resource reserves (Halbesleben et al., 2014). Thus, having a relevant pool of job-related resources enhances one's capacity to invest in and acquire additional

resources.

The second framework, the Job Demands–Resources (JD-R) theory, underscores the importance of job resources in fostering work engagement. However, the link between resources at both the individual level (e.g., autonomy, personal competencies) and the team level (e.g., shared knowledge, team support) and their influence on engagement outcomes remains insufficiently understood (Bakker & Demerouti, 2014). Job crafting has been proposed as a key mediator in this relationship (Tims & Bakker, 2014). By examining the mediating role of individual and team job crafting, this research seeks to elucidate how proactive behaviors among nurses shape the connection between resources and engagement.

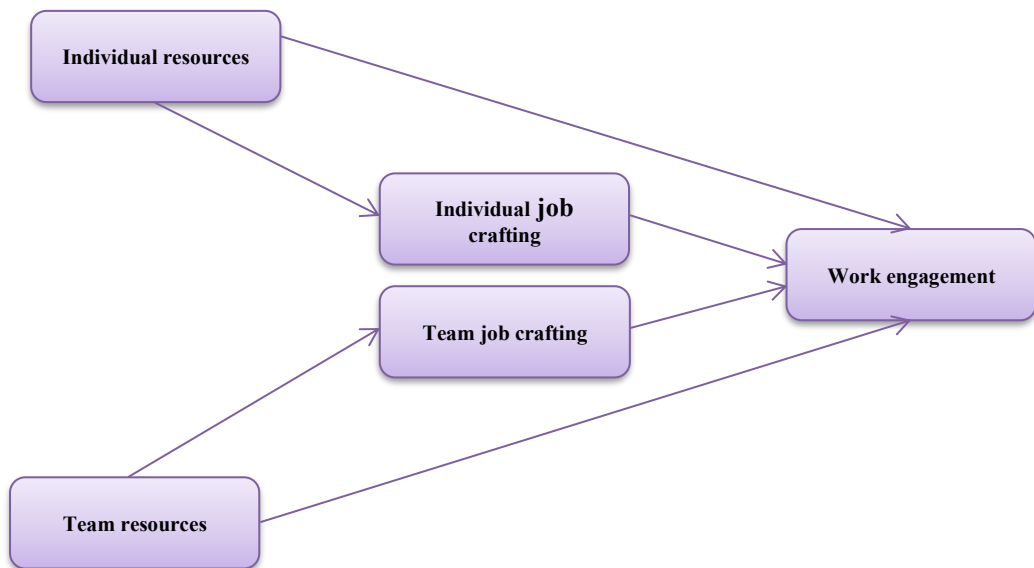


Figure 1: Theoretical framework of the study

## Significance of the study

High professional demands, such as emotional labor, patient care obligations, and administrative tasks, can cause stress and burnout in nurses if they are not properly managed (Sheehan et al., 2023). Given these difficulties, it is critical to comprehend how nurses can improve their engagement and well-being by proactively influencing their job responsibilities and work settings. The idea of job crafting offers a useful framework for examining the ways in which nurses can modify their activities, work relationships, and work perceptions to better match their individual talents and the objectives of the team (Alwali, 2023). The current study focuses on how job crafting habits, both individual and team-based, help nurses make better use of the resources at their disposal and increase engagement.

The impact of job resources, such as autonomy, support, and feedback, on improving work engagement has been widely studied (Silapurem et al, 2024). However, few studies have examined how individual and team job crafting behaviors mediate the relationship between resources and engagement, particularly in the nursing context. Most prior research has focused primarily on individual-level job crafting, overlooking the potential influence of team job crafting behaviors, an aspect especially relevant to nursing due to its strong emphasis on collaboration and teamwork. The multi-level dynamics of this relationship are not well studied in the literature, in particular how job crafting activities, whether individual or team-based, modulate the effect of resources on engagement. This is important since teamwork and the shared use of resources are essential to work processes and results in the nursing field. By using a multi-level strategy that considers individual and team dynamics, this study filled up these gaps.

## Aim of the study

This study aimed to investigate the effect of individual and team resources on nurses' work engagement, with a special emphasis on the mediating effect of job crafting at the individual and team levels.

## Research hypotheses

**H1:** Individual job resources have an influence on nurses' work engagement.

**H2:** Team job resources have an influence on nurses' work engagement.

**H3:** Individual job crafting has an influence on nurses' work engagement.

**H4:** Team job crafting has an influence on nurses' work engagement.

**H5:** Individual job crafting mediates the relationship between individual job resources and nurses' work engagement.

**H6:** Team job crafting mediates the relationship between team job resources and nurses' work engagement.

## Subjects and Method

### Research design

This study employed a descriptive correlational design.

### Study setting

The study was conducted across all academic hospitals of Zagazig University, comprising two sectors with a total of eight teaching hospitals. In the El-Salam sector, four hospitals operate; three offering free healthcare services and one providing low-cost care. The emergency sector also consists of four hospitals, all delivering free care. Collectively, these hospitals have a capacity of 1,954 beds and employ 2,446 nurses to serve both outpatient and inpatient needs.

### Subjects

A randomly stratified sample was used. A scientific formula was used to determine the necessary number of nurses from each hospital (number of staff nurses in every hospital × desired sample size / total number of staff nurses in all hospitals).

### Sample size

The sample size was calculated using the formula by **Krejcie and Morgan (1970)** [ $X^2 NP (1-P) / d^2 (N - 1) + X^2 P (1-P)$ ], applying a 5% margin of error and a 95% confidence level for a total population of 2,446 nurses. The result indicated a minimum required sample of 400 nurses, each with at least one year of experience to ensure sufficient familiarity with their work environment and organizational culture. The sample included both male and female participants who voluntarily agreed to take part in the study

### Tools of data collection:

Five standardized measures were used to collect the data for this research.

**Tool 1: Work Experience and Evaluation:** This tool involved two parts as follows:

**Part 1. Personal and job characteristics of staff nurses:** The personal and job characteristics data of the participants were collected, encompassing their age, marital status, gender, years of experience, educational qualifications, and departments.

**Part 2.** This scale developed by **Veldhoven et al. (2002)** to evaluate individual resources among nurses. It had 15 items divided into three subscales: Remuneration (4 items), opportunities for learning and growth (6 items), and professional efficacy (5 items). Nurses' replies were assessed using a five-point Likert scale ranging from never (1) to always (5). The overall ratings for the nurses' responses ranged from 15 to 75. The total score was computed by adding the results from all categories, which were then converted to a mean percentage score. The nurse's score was categorized as high (>75%), moderate (60-75%), and low (<60%). The Cronbach alpha coefficient was used to assess the tool's dependability, which was 0.84.

**Tool 2: Shared Leadership and Team Effectiveness Scale:** Used to assess resources at the team level among nurses. This tool is composed of two parts as follows: The shared

leadership part was developed by **Liu (2009)**, which consisted of eight items separated into two subscales: team cooperation (4 items) and team learning (4 items). However, the team effectiveness part was constructed by the researchers, and it included three items. Nurses' replies on all items were rated on a five-point Likert scale, from never (1) to always (5). The total rating for the nurses' responses ranged from 11 to 55. The total score was calculated by combining the results from all categories, which were then translated to a mean percentage score. The nurse's score was classified as high if it was >75%, moderate if it ranged from 60 to 75%, and low if it was < 60%. The Cronbach alpha coefficient was utilized to test the tool's dependability and it was 0.74.

**Tool 3: The Utrecht Work Engagement Scale:** **Schaufeli et al. (2006)** developed this scale to measure nurses' work engagement. It consisted of 32 items divided into three categories: Vigor (11 items), dedication (11 items), and absorption (10 items). Response rate stretched from 1 = "never" to 5 = "always". The aggregate grade of the nurses' responses ranged from 32 to 160. The overall nurses' score was calculated by summing the results from each category and converting it to a mean percentage score. The nurse's engagement score was classified as high if it exceeded 75%, moderate if it was between 60% and 75%, and low if it was less than 60%. The Cronbach alpha coefficient was used to determine the tool's reliability, which was 0.89.

**Tool 4: Overarching Work Crafting Scale:** This four-item scale was created by **Vanbelle et al. (2013)** and **Hu et al. (2017)** to assess the degree of work crafting that each nurse possesses. A five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), was used to evaluate all of the nurses' responses. The total score was calculated and then translated to a mean percentage score. The tool's overall score varied from 4 to 20, with a classification of >75% indicating a high degree of individual job crafting, from 60% to 75% indicating a moderate level, and < 60% indicating a low level. Cronbach's alpha was used to measure the instrument's reliability, which was 0.72.

**Tool 5: Collaborative Crafting Scale:**

The fourth tool was created by **McClelland et al. (2014)** to measure team job crafting level among nurses. It was comprised of four components. All items employed a 5-point Likert scale ranging from 1 (not at all) to 5 (a great deal). This tool's overall score varied from 4 to 20. The total score of nurses was calculated and then translated to a mean percentage score. If the nurse's score was higher than 75%, it was termed a high level; if it fell between 60% and 75%, it was classified as a moderate level; and low if it was less than 60%. The Cronbach alpha coefficient, which was used to gauge the tool's dependability, was 0.77.

**Fieldwork**

Data collection for the study spanned four months, from late September 2023 to late December 2023, and was conducted during both morning and afternoon shifts. The process began with the researchers providing each participant with a clear explanation of the study's purpose, obtaining their consent, and offering guidance on completing the questionnaire. Filling out the questionnaire took approximately 35 to 40 minutes, depending on workload and potential interruptions. For some participants, the questionnaires were distributed and later returned to the researchers upon completion. All collected data was recorded with precision.

**Pilot study**

A pilot study of 40 nurses (10% of the study population) was conducted to assess the clarity of the tools and estimate the time required for each participant to complete the questionnaire sheets. The required adjustments were made, and the candidates who took part in the pilot study were eliminated from the main study population.

**Content validity**

Data was collected using a self-administered questionnaire after the translation of the instruments to Arabic. The content and face validity were established by a jury of experts (9 professors and assistant professors) from academic nursing staff at Zagazig University. According to their opinions, all necessary

modifications were made.

**Ethical considerations**

The Ethics Committee and Dean of the Faculty of Nursing at Zagazig University accepted this study in April 2023 under the code number ID/Zu.Nur.REC #:057. The study's purpose and nature were explained verbally and in written form to nurses who participated in the study. Nurses were given the option of participating or refusing, and they were informed that they could withdraw at any moment without providing any reason. The decision not to write their names confirmed their confidentiality. They were also assured that the data would only be utilized for study purposes. The researchers told the individuals that their participation was completely voluntary.

**Statistical analysis:**

AMOS 22 and Version 20.0 of the Statistical Package for Social Science (SPSS) were used for data entry and statistical analysis. To ensure that there were no anomalies or missing data, the data was cleaned. Data was presented using descriptive statistics, which included frequencies and percentages for categorical variables and means and standard deviations for continuous variables. Pearson correlation analysis was utilized to analyze the interrelationships among the research variables. The suggested model was tested using linear inner regression analysis and AMOS Structural Equation Modeling (SEM). P-values with two tails < 0.05 showed statistical significance.

**Results**

**Table 1** displays that 52.7% of the nurses investigated were less than 30 years old. Likewise, 81% and 77% of them were female and married, respectively. Additionally, 52.8% of participants had fewer than five years of experience. Moreover, the highest percentages of them obtained a technical nursing qualification and worked in the medical departments (72.2% & 59%, respectively).

**Table 2** demonstrates the distribution of the mean percent scores for the study variables

as reported by the investigated nurses. As the table illustrates, professional efficacy had the greatest mean percent score across the individual resource domains, while remuneration had the lowest (78.08% and 62.5%, respectively). Additionally, the mean percent score of the individual resources was 73.89%, indicating a moderate level. In terms of team resource domains, team learning had the highest mean percent score, whereas team cooperation had the lowest (79.20% and 76.95%). As well, the mean percent score of team resources was 78.07%, presenting a high level. As regards work engagement domains, absorption had the highest mean percent score; however, vigor was the lowest (82.30% and 80.07%, respectively). Also, the work engagement's mean percent score was 79.53%, designating a high level. In the same direction, the mean percent scores for individual and team job crafting were 81.85% and 78.15%, respectively, suggesting high levels of both.

**Table 3** displays that individual resources were significantly and positively linked with team resources, individual job crafting, team job crafting, and work engagement, ( $r=0.452$ ,  $P=0.000$ ;  $r=0.281$ ,  $P=0.000$ ;  $r=0.396$ ,  $P=0.000$ ; and  $r=0.425$ ,  $P=0.000$ , respectively). In addition, there were substantial and positive connections between team resources regarding individual job crafting, team job crafting, and work engagement ( $r=0.538$ ,  $P=0.000$ ;  $r=0.369$ ,  $P=0.000$ ; and  $r=0.288$ ,  $P=0.000$ , respectively). Moreover, individual job crafting has a strong and positive relationship with team job crafting and work engagement ( $r=0.314$ ,  $P=0.000$  and  $r=0.216$ ,  $P=0.000$ , respectively). As well, team job crafting was positively and significantly connected with work engagement ( $r=0.599$ ,  $P=0.000$ ).

**Table 4** ascertains that by incorporating individual job crafting into the individual resources-work engagement interaction model, the individual resources' coefficient was reduced from  $\beta = 0.79$ ,  $P = 0.000$ , to  $\beta = 0.42$ ,  $P = 0.000$  (significant). As well, the effect of individual resources on nurses' work engagement increased from 18% ( $R^2 = 0.18$ ) in the direct model to 19% ( $R^2 = 0.19$ ) in the mediated model. As a result, this revealed that individual job crafting partially mediates the association between individual

resources and nurses' work engagement.

**Table 5** determines that once team job crafting was combined into team resources/team job crafting interaction model, team resources' coefficient was diminished from  $\beta = 1.403$ ,  $P = 0.000$ , to  $\beta = 0.02$ ,  $P = 0.07$  (non-significant). Besides, team resources accounted for only 8.1% of nurses' work engagement deviation ( $R^2 = 0.081$ ) in the direct model and this effect enlarged to 36.4% ( $R^2 = 0.364$ ) in the mediated model. This suggests that the direct pathway between team resources and nurses' work engagement was not significant and team job crafting completely mediated the association between team resources and nurses' work engagement.

**Table 6** portrays the direct and indirect effects, as well as **Figure 2**, which represents the mediating effect of individual and team job crafting on the relationship between job resources at individual and team levels as regards nurses' work engagement. As presented, individual resources had a significant positive direct effect on nurses' work engagement ( $\beta = 0.42$ ,  $p = 0.003$ ). Thus, H1 is strengthened. As well, team resources had a direct but non-significant influence on nurses' work engagement ( $\beta = 0.02$ ,  $p = 0.879$ ). Therefore, H2 is reinforced. Interestingly, individual job crafting demonstrated a statistically significant but negative association with work engagement in the mediating model ( $\beta = -0.07$ ,  $p = 0.02$ ), suggesting that self-initiated role modifications may not always enhance engagement. Hence, H3 is supported. Conversely, team job crafting had a strong and significant positive effect on work engagement ( $\beta = 4.37$ ,  $p = 0.002$ ), underscoring the importance of collaborative efforts in fostering nurses' energy, dedication, and absorption. For that reason, H4 is maintained.

Moreover, there was a substantial indirect influence of individual job crafting on the relationship between individual job resources and nurses' work engagement ( $\beta = 0.055$ ,  $p = 0.02$ , BC 95% CI 0.013/0.089), signifying that individual job crafting mediated the association between them. So, H5 is supported. Furthermore, team job crafting had an indirect significant impact on the connection between team job resources and nurses' work engagement ( $\beta =$

1.025,  $p = 0.002$ , BC 95% CI 0.822/1.300). This demonstrates that the link between team job resources and nurses' work engagement was mediated by team job crafting. Consequently, H6

is preserved. Overall, the model highlights the contrasting roles of individual versus team-based job crafting in shaping work engagement.

**Table 1: Personal and Job Characteristics of the Studied Nurses (n = 400).**

Personal and job characteristics	n	%
<b>Age per years:</b>		
▪ < 30years	211	52.7
▪ ≥ 30 years	189	47.3
<b>Gender:</b>		
▪ Males	76	19
▪ Females	324	81
<b>Marital status:</b>		
▪ Married	308	77
▪ Unmarried	92	23
<b>Experience per years:</b>		
▪ < 5 years	211	52.8
▪ ≥ 5 years	189	47.2
<b>Educational qualification:</b>		
▪ Bachelor of nursing	111	27.8
▪ Technical diploma in nursing	289	72.2
<b>Department:</b>		
▪ Medical units	236	59
▪ Surgical units	73	18
▪ Critical care units	91	23



**Table 2: Distribution of the mean percent scores for the research variables as reported by the examined nurses (n=400).**

Study variables	Maximum score	Mean	±	SD	% of mean score
<b>Individual resources domains:</b>					
• Remuneration	20	12.50	±	5.08	62.5%
• Opportunities for learning and development	30	23.40	±	2.42	78.0%
• Professional efficacy	25	19.52	±	1.82	78.08%
<b>Total individual resources</b>	<b>75</b>	<b>55.42</b>	±	<b>7.50</b>	<b>73.89%</b>
<b>Team resources domains:</b>					
• Team cooperation	20	15.39	±	1.79	76.95%
• Team learning	20	15.84	±	1.21	79.20%
• Team effectiveness	15	11.72	±	1.11	78.13%
<b>Total team resources</b>	<b>55</b>	<b>42.94</b>	±	<b>2.88</b>	<b>78.07%</b>
<b>Work engagement domains:</b>					
• Vigor	55	44.04	±	4.74	80.07%
• dedication	55	44.07	±	6.09	80.13%
• Absorption	50	41.15	±	5.82	82.30%
<b>Total work engagement</b>	<b>160</b>	<b>127.25</b>	±	<b>14.04</b>	<b>79.53%</b>
<b>Individual job crafting</b>	<b>20</b>	<b>16.37</b>	±	<b>2.01</b>	<b>81.85%</b>
<b>Team job crafting</b>	<b>20</b>	<b>15.63</b>	±	<b>1.65</b>	<b>78.15%</b>

**Table 3: Correlation between the various study factors as stated by surveyed nurses (n=400).**

Study variables	Individual resources		Team resources		Individual job crafting		Team job crafting	
	r	p	r	p	r	p	r	p
Team resources	0.452**	0.000						
Individual job crafting	0.281**	0.000	0.538**	0.000				
Team job crafting	0.396**	0.000	0.369**	0.000	0.314**	0.000		
Work engagement	0.425**	0.000	0.288**	0.000	0.216**	0.000	0.599**	0.000

\*Statistically significant at  $P < 0.05$ \*\* Highly statistically significant at  $P < 0.01$ **Table 4: Regression analysis to study the mediating effect of individual job crafting on the relationship between individual resources and work engagement (n=400)**

Items	Unstandardized coefficient		R	R <sup>2</sup>	t	Sig.
	β	Std. Error				
Individual resources	0.79	0.085	0.425	0.18	9.357**	0.000**
Individual resources	0.42	0.085	0.436	0.19	8.399**	0.000**
Individual job crafting	0.73	0.327			2.227*	0.02*

\*Statistically significant at  $P < 0.05$ \*\* Highly statistically significant at  $P < 0.01$ **Table 5: Regression analysis to study the mediating effect of team job crafting on the relationship between team resources and work engagement (n=400)**

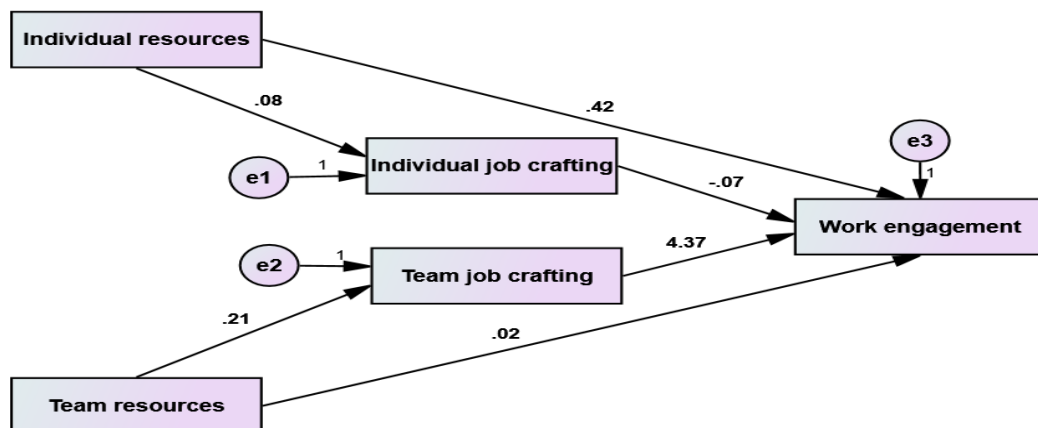
Items	Unstandardized coefficient		R	R <sup>2</sup>	t	Sig.
	β	Std. Error				
Team resources	1.403	0.234	0.288	0.081	5.997	0.000**
Team resources	0.02	0.245	0.603	0.364	1.802	0.07
Team job crafting	4.37	0.375			13.252	0.000**

\*Statistically significant at  $P < 0.05$  \*\* Highly statistically significant at  $P < 0.01$

**Table 6: Tests of direct and indirect effects (n = 400).**

Effects	$\beta$	P	BC 95% CI Lower/Upper
<b>Direct effects:</b>			
Individual resources to work engagement	0.42	0.003**	0.333/0.513
Team resources to work engagement	0.02	0.879	-0.516/0.615
Individual job crafting to work engagement	0.07	0.02*	-0.772/-0.011
Team job crafting to work engagement	4.37	0.002**	3.540/5.543
<b>Indirect effects:</b>			
Individual resources to work engagement via individual job crafting	0.055	0.02*	0.013/0.089
Team resources to work engagement via team job crafting	1.025	0.002**	0.822/1.300

\* (p) Significant level  $< 0.05$ . \*\* (p) Significant level  $< 0.001$ .



**Figure 2: The mediating effects of individual and team job crafting on the relationship between individual and job resources as regards work engagement among nurses (n = 400).**

## Discussion:

Nurses' work engagement characterized by vigor, dedication, and absorption, is essential for delivering high-quality patient care, maintaining staff retention, and supporting healthcare system resilience. When they have more job resources in their work, their motivation to take the initiative to change themselves becomes stronger, and taking action of job crafting becomes more possible. Through job crafting, nurses can effectively prevent the loss of job resources, and the increase of job demands. Nurses meet the needs of autonomy through job crafting, are full of vitality at work, and improve the level of work engagement (Zhang et al., 2024). In the face of rising workloads, emotional strain, and burnout risks, understanding how both individual and team-

based resources foster engagement has become a strategic priority for healthcare organizations. So, this study aimed to investigate the effect of individual and team resources on nurses' work engagement, with a special emphasis on the mediating effect of job crafting at the individual and team levels.

### Individual job resources and nurses' work engagement

The study results revealed that individual resources had a direct and significant impact on nurses' work engagement. This may be explained by the fact that individual resources such as self-efficacy, optimism, resilience, and emotional intelligence enhance nurses' ability to cope with job demands, maintain motivation, and sustain energy. As proposed by the COR theory

and JD-R model, these resources act as motivational drivers, fostering competence, control, and meaningful work engagement. Empirical evidence shows that higher personal resources are linked to greater vigor, dedication, and absorption, making them a direct and significant predictor of engagement, especially in the demanding nursing profession. This finding is consistent with **Contreras et al. (2020)**, who identified a positive relationship between personal resources and employee work engagement. Similarly, **Vinh (2023)** reported that personal resources decrease stress, increase job satisfaction and energy, and promote greater dedication and absorption. Likewise, **Yun et al. (2024)** found that positive psychological capital among clinical nurses not only directly enhances work engagement but also indirectly influences it through job crafting.

#### **Team job resources and nurses' work engagement**

The current study findings discovered that team resources had a direct but non-significant influence on nurses' work engagement. Although, team resources (e.g., team support, communication, coordination, and trust) are generally believed to enhance work engagement, empirical studies sometimes find that their direct effect on work engagement is weak or non-significant, especially in nursing. This may be attributed to team resources need to be activated or converted into motivational experiences (e.g., through job redesign, shared goals) to influence engagement and team may exist or be structurally present, but the quality of team support (such as trust, mutual respect, and effective communication) may be inconsistent or superficial especially in hierarchical healthcare settings, team members may not feel empowered to collaborate meaningfully. As well, nurses rely more on their personal coping strategies and emotional regulation than on team dynamics to remain engaged, particularly in high-stress or understaffed environments. In the same way, **Norling and Chopik (2020)** found a positive association between peer support and nurses' work engagement. This finding is also supported by **Kim et al. (2023)**, who investigated the relationships among nurse managers' leadership, resources, and work engagement in Korean nurses, reporting that peer support—as a form of

team resource—was positively linked to work engagement, although with a relatively weaker effect. This suggests that while team support contributes to engagement, its direct impact may be less pronounced compared to other influencing factors.

#### **Individual job crafting and nurses' work engagement**

Moreover, the current study demonstrated that individual job crafting demonstrated a statistically significant but negative association with work engagement in the mediating model. One possible rationale for this result is that individual job crafting, while intended to enhance role alignment, may inadvertently increase work strain when organizational support and resources are limited. Nurses who independently modify tasks or responsibilities to fit personal strengths may face conflicts with formal job expectations, workload demands, or team coordination. This mismatch can reduce efficiency, create ambiguity, and heighten stress, thereby diminishing engagement. In high-stress healthcare environments, excessive self-initiated changes may also lead to role overload and emotional exhaustion, counteracting the potential motivational benefits of job crafting. Thus, without organizational structures that encourage and support job crafting, individual efforts to redesign one's role might undermine rather than foster sustained energy, dedication, and absorption.

The previous finding is inconsistent with that of **Han (2023)**, who conducted a cross-sectional study on nurses and found that both task and relational job crafting significantly influenced work engagement. Likewise, **Zhang et al. (2024)**, who explored the role of job crafting among nurses, discovered that job crafting moderated the relationship between personal perceived health and work well-being. This suggests that nurses who actively engage in job crafting can enhance their work engagement and overall well-being, even in high-stress environments. Harmoniously, **Alkhraishi & Yesiltas (2024)**, who carried out a study in Abu Dhabi on nurses, found that job crafting dimensions had statistically significant effects on work engagement among nurses.

### Team job crafting and nurses' work engagement

The study findings illustrated that team job crafting significantly increased nurses' work engagement. This may be because nurses who collaborate in teams that actively shape their work environment tend to experience greater support, recognition, and alignment with the team's goals, leading to higher morale and engagement. In healthcare settings—where communication and interdependence are vital—team job crafting fosters trust and collective responsibility, which are essential for sustaining engagement. This finding aligns with **Baghdadi et al. (2021)**, who demonstrated that team job crafting predicts team-level engagement over time. However, **Iida et al. (2024)**, in a prospective cohort study across five Japanese hospitals examining the impact of team job crafting on nurses' work engagement over six months, found no significant long-term association. Although team job crafting has been proposed as a strategy to enhance work engagement, this study suggests that its effects may not sustain over the long term.

### Individual job crafting as a mediator

Regarding the mediating role of individual job crafting, the findings revealed that it partially mediated the relationship between individual resources and nurses' work engagement, exerting a significant positive indirect effect. These findings might be attributed to the influence of individual resources like self-efficacy and autonomy on engagement is not automatic; rather, it depends on whether individuals take initiative to reshape their roles to make work more meaningful and aligned with their strengths. In addition, individual job crafting acts as a mediating mechanism between individual job resources (such as autonomy, self-efficacy, resilience, and optimism) and work engagement among nurses. Rather than job resources automatically leading to engagement, it is often the intentional use of these resources through job crafting that energizes and engages nurses. Compatibly, **Wingerden & Poell (2017)** and **Topa & Aranda-Carmena (2022)** found that personal resources such as self-efficacy and optimism promoted job crafting, which in turn increased work engagement among health care

workers. In the same way, **Luís (2023)** and **Silapurem et al, (2024)** confirmed that individual job crafting mediated the relationship between psychological capital (a set of personal resources) and engagement, particularly in healthcare settings.

### Team job crafting as a mediator

The current study reported that team job crafting had an indirect significant impact on the connection between team job resources and nurses' work engagement. This demonstrates that the link between team job resources and nurses' work engagement was completely mediated by team job crafting. This result signifying that team job crafting serves as a mediating mechanism through which team job resources; such as team support, shared autonomy, team learning opportunities, and participative decision-making; are translated into enhanced work engagement among nurses. This relationship is especially relevant in nursing contexts where teamwork and interdependence are critical. As well, teams with high collective resources are more likely to engage in collaborative crafting behaviors, such as redistributing tasks, improving communication flow, or streamlining team goals, thereby creating conditions that indirectly foster individual work engagement. In the same line, **Jutengren et al (2020)** showed that in highly interdependent teams, such as nursing units, shared crafting behaviors contribute to collective engagement through the shared utilization of team resources. Respectively, **Han (2023)** showed that relational and task job crafting, especially when done collectively, significantly impacted nurses' engagement and well-being, highlighting the team-based application of crafting strategies as an intermediary factor. Congruently, **Goel et al, (2023)** provided an empirical support that team job crafting mediates the effect of team-level resources (e.g., supportive leadership and shared autonomy) on engagement in healthcare teams.

### Conclusion:

Based on the main findings, the study concludes that individual resources exerted a direct and significant impact on nurses' work engagement, whereas team resources showed a

direct but non-significant effect. Additionally, Individual job crafting demonstrated a positive and significant effect on nurses' work engagement in the direct correlation, but through the structural equation model, has a significant and negative effect on nurses' work engagement. Conversely, team job crafting had a strong and significant positive effect on work engagement. In terms of mediation, individual job crafting partially mediated the relationship between individual resources and work engagement, while team job crafting fully mediated the association between team resources and work engagement among nurses.

### Recommendations:

Drawing from the key findings of this study, the following recommendations are proposed:

#### 1.Hospitals' administrators/nursing managers should:

- **Foster a supportive work climate** through encouraging open communication, recognizing achievements, and providing consistent feedback to boost morale.

- **Enable job crafting opportunities** by providing nurses with autonomy, flexibility, and time to participate in both individual and team-based work redesign.

- **Develop resource-building programs** through organizing workshops on resilience, stress management, and professional skill development to enhance individual resources.

- **Promote team job crafting** via facilitating structured team discussions to collectively address challenges, redesign workflows, and optimize resources.

- **Integrate engagement metrics** via using engagement surveys and feedback sessions to guide targeted interventions and track progress over time.

#### 2.Nurses should:

- **Engage in individual job crafting** by proactively adjust work tasks, relationships, and approaches to align with your strengths, values, and interests.

- **Leverage personal resources** via building self-efficacy, resilience, and emotional intelligence through continuous self-development and reflection.

- **Strengthen peer collaboration** through seeking opportunities to share knowledge, provide mutual support, and co-create solutions with colleagues.

- **Monitor engagement levels** by regularly assess their own engagement and identify early signs of fatigue or disengagement to take corrective action.

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