

## ORIGINAL ARTICLE

# Mediating Role of Job Satisfaction in the Relationship between Job Performance and Organizational Commitment Components: A Study among Nurses at One Public University Hospital in Malaysia

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## ABSTRACT

**Introduction:** In light of the importance of the nurses' performance in health services, this study was established to examine the relationship of job performance with organizational commitment components and job satisfaction among nurses. It is also, to examine the mediating effect of job satisfaction in the relationship between organizational commitment components and job performance among nurses. **Methods:** This was a cross-sectional study conducted among nurses at Hospital Universiti Sains Malaysia. A sample size of 192 staff was selected using stratified and systematic random sampling methods. The study data were collected using a questionnaire consists of three scales: the organizational commitment scale of Allen and Meyer, the job satisfaction scale of Van Wood, and the task performance scale of Williams and Anderson. Besides, respondents were asked about their demographic profiles. The response rate was 92% (n= 176). Regression analysis according to Baron and Kenny technique and Pearson correlation were conducted to get the study results. **Results:** The study results showed that all organizational commitment components positively and significantly correlated with job satisfaction and job performance. Further, there is a positive relationship was found between job satisfaction and job performance. Moreover, findings of regression analysis showed that job satisfaction partially mediates the relationship between all organizational commitment components and job performance. **Conclusion:** Improving organizational commitment and job satisfaction among nurses could increase their performance. Nurses' managers should create suitable approaches and strategies to promote the organizational commitment and job satisfaction of nurses to the highest level, which in turn enhancing their job performance and the quality of care.

**Keywords:** Organizational commitment component, Job satisfaction, Job performance, Nurses, Malaysia

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## INTRODUCTION

In the healthcare setting, nurses' job performance (JP) emphasizes on recognizing the needs of patients by ensuring adequate care. It is essential that nurses be able to adapt their performance to match the realities of patients. Schermerhorn (1989) defined JP as the quality and quantity of individuals or groups obtained after achieving a task (1). It involves behaviors related to the organizational objectives which be controlled

by the individual employees (2). In particular, JP is a multi-faceted concept with several issues surrounding its level, such as human traits, workload, job satisfaction (JS), social support, and leadership behavior (3-7). Besides, low JP due to workplace stress and reduced JS is recognized as a health hazard for patient safety (8).

In the literature of industrial and organizational psychology, the concept of organizational commitment (OC) has grown in popularity. Meyer and Allen (2004) provide a specific, Three-Component Model (TCM)-based concept of OC: (a) affective commitment AC (Desire-based) which is defined as an individual's emotional linkage to the organization, (b) normative commitment NC (obligation-based) which is defined as a sense of

obligation to continue an individual’s employment, and finally (c) continuance commitment CC (cost-based) which is defined as attachment depending on the sum of values, such as the loss of prestige, or status (9). Several studies determine the JP as the most important outcome of OC. High OC may promote one’s performance in the organization (10). It was found that a strong interest in organizational principles and priorities, a willingness to make a great deal of effort on behalf of the organization, and a deep desire to remain a part of the organization would motivate workers to work better (11, 12).

In the comparative analysis of three dimensions of OC, it was shown that there is a positive relationship between NC and employees’ JP (10). In addition, another study revealed that NC and AC were positively correlated to the JP whereas CC was negatively correlated to the JP (13). Moreover, all workers’ OC components in the automotive industry were significantly and positively correlated with JP (14). These results are in line with another study that found a positive effect of all OC components on employees’ JP (15).

Empirical studies investigate the relationship between JS and OC. They reported that there is a direct and positive effect of JS on OC (16). Similarly, employees with higher JS have more OC, which in turn tends to improve their organizational effort to achieve their tasks (17). Nevertheless, the order of the causal relationship between JS and OC has not been clearly defined. The relationship between OC and JS has two opinions. First opinion that JS is considered a prerequisite for OC (17, 18), while the second opinion indicates that JS is induced by OC (13, 19).

In comparison between the three components of OC, there is a positive correlation between NC and AC with the JS level, while there is a negative relationship between CC and JS (13). However, a study conducted in Taiwan shows that nurses have a high level of OC in all of its components which in turn improves their JS and decreases their intention for turnover (18). Furthermore, another study conducted in Iran revealed that all OC components predict the JS variable (20). Contrarily, another study done in Malaysia among the staff of higher learning education institutions reported that there was no statistical relationship between all OC components and JS (21).

Further, JS can be briefly described as a mixture of the positive or negative feelings of the employees have towards their job (13). Wood, Chonko, and Hunt (1986) classified JS include satisfaction with supervisor information, variety, and freedom, ability to complete tasks, and with pay and security (22). Meanwhile, JP among the nursing profession is seen as an important parameter of JS. Several studies showed that JP is explicitly and strongly linked to JS in the nursing sector (13, 23). However, poorer performers would be less

satisfied with their jobs, more likely to be absent, and leave the organization (24).

While numerous studies have examined the relationship between the OC components and JP among nurses (10, 25), there is a gap in the examination of the mediating role of JS in the relationship between OC components and JP among nurses. However, the study of Dinc et al. (2018) considers the only study that investigates the mediating effect of JS in the relationship between OC components and JP among nurses (13). They revealed that JS fully mediates the relationship between AC and JP while it partially mediates the relationship between NC and CC with JP (13). Therefore, this study considered the first research was conducted in ASEAN countries particularly in Malaysia, in assessing the relationship between OC components, JS and JP among nurses at Hospital Universiti Sains Malaysia (Hospital USM).

The conceptual framework for this study was according to the Meyer and Allen TCM that recognizes the varied nature of the relationship between OC components and JP by (a) the effects of OC components can depend on commitment with other goals affecting individual goal choices; and/or (b) contextual factors moderate the effects of OC components on the JP. Following this theoretical prediction, the JS was selected to be a mediator in this hypothesis model because of its important effect over JP in the literature. Apparently, a non-significant or negative relationship between JS and JP is an unusual finding. However, a meta-analysis of the relationship between JS and JP revealed that only one out of 48 studies showed a negative relationship between JS and JP concluding that the reason for this negative relationship could not be identified (5). Fig. 1 shows the proposed model of the study conceptual framework.

Also, the Baron and Kenny technique was used to examine the mediation effect of JS in the relationship between OC components and JP among nurses. According to their technique, mediation exists if (a) independent variable (OC components) predicts the dependent variable (JP), (b) independent variable predicts the mediator (JS), (c) the mediator predicts the dependent variable, (d) relation between the independent variable and dependent variable reduces (partial mediation) or

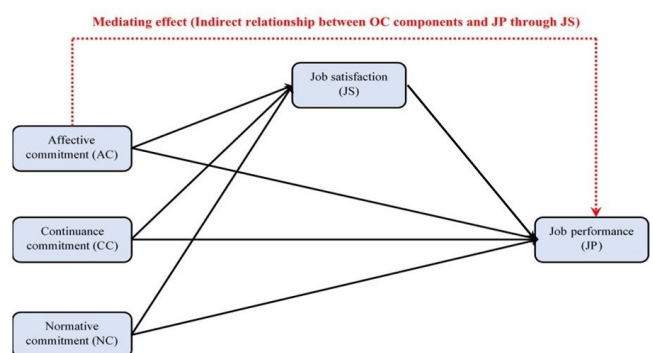


Figure 1: The proposed research model

remains no longer significant (full mediation) when the mediator is controlled (26).

## MATERIALS AND METHODS

The study population of the present cross-sectional study consisted of nursing staff working at Hospital USM. The inclusion criteria were being a staff nurse working at inpatient departments with at least one year of experience to ensure that nurses have enough time to deal with all organizational policies and have a personal impression of the organization. Nurses from outpatient services were excluded because their role differs from that of inpatient nurses and did not have direct day-to-day contact with patients. The exclusion criteria were being (i) nurse manager, head, and supervisor, these categories involve nursing management, which may contribute to informational bias in this study, and (ii) nurses who are not willing to take part in this study.

Based on the study objective to examine the relationship of JP with OC components and JS, the estimated sample size is 160 nurses (effect size 0.15 (medium effect), a power of 0.95, a level of significance at 0.05). However, oversampling is planned to provide more insight, representation, and generalization. Therefore, the sample size was expanded by approximately 20% to be 192 nurses. After applying the inclusion and exclusion criteria to all inpatient nurses, all names that met the criteria were entered in a specialty-classified record (stratified random sampling) according to specialties (medical, surgical, critical care units, oncology, obstetrics and gynecology, emergency, operation, pediatric and psychiatric), then nurses names were selected from the record every 5 names (systematic random sampling) to ensure a proportionate allocation of the sample across the wards and randomization.

To gain access to the study population and distribute the questionnaire for the nurses, approval of study settings was sought from the director of the Hospital USM. Due to the pandemic COVID 19, all instruments have been conducted electronically using Zoho-survey, a secure website dedicated to online surveys. Following the selection of eligible participants, the researcher invited the nurses individually using the WhatsApp application. 192 questionnaires were obtained and 16 of these questionnaires were incomplete and were thus omitted from the analysis process. The final research sample consisted of 176 questionnaires (n=176) with a response rate of 92 %.

The questionnaire includes 4 sections with 43 questions. The first section of the questionnaire consists of demographic information of gender, age, working area (specialty), years of experience, and educational level. The second section involves questions determining the level of OC while the third section consists of questions about the level of JS and the last section asking about

nurses' JP level. All scales that have been used in this study were rated according to the 5-Likert scale (ranging from 1= strongly disagree to 5= strongly agree). Therefore, any item that has a mean value of more than three was considered as a factor increasing the level of the variable. The higher total score indicated that the participant has a higher level of study variable.

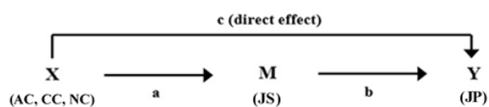
OC components were measured using the TCM of Allen and Meyer (27). The model consists of three domains or components (AC, CC and NC). Each component consists of 6 items (a total of 18 items). The English version of the OC scale used in this study is a valid and reliable scale that had been implemented among Malaysian nurses in many studies (28, 29). They identified that the overall Cronbach's alpha for the OC scale among nurses was 0.858 (28).

To measure the JS among nurses in this study, 14 items of the JS Scale developed by Wood et al. (1986) was used (22). The scale items assessed nurses' satisfaction with information from the supervisor, variety and freedom, ability to complete tasks and with pay and security. In terms of the English version of the JS scale that used in this study, it was also found that it is a valid and reliable scale that had been implemented among Malaysian nurses with Cronbach's alpha was reported to be within 0.7 (30).

Besides, the scale of 7 items for self-rating task performance developed by Williams & Anderson (1991) was used to measure the JP among nurses (31). The scale assessed performance activities such as adequately performing assigned tasks, fulfilling specified duties, and performing tasks required by the nurse. The English version of the nursing JP scale used in this study showed to be a valid and reliable scale (32).

According to Sekaran and Bougie (2016), reliability at less than 0.60 is considered poor, while reliability around 0.70 levels is acceptable and those above 0.80 are considered good (33). Overall, all the study scales' reliability in this study was above 0.60, ranging from 0.64 to 0.92. Briefly, the instrument used in this study to measure each variable was reliable.

The collected data were analyzed using SPSS version 26.0. Data were screened and cleaned for missing data, outliers and wide codes. To determine the relationships between all study variables (OC components, JS and JP), Pearson's Correlation coefficient was used. Also, simple and multiple linear regression were used to analyze the mediation effect of JS in the relationship between OC components and JP. The mediation analysis steps are shown in Fig. 2. Baron & Kenny (1986) suggested a four-step technique to assess the mediating effect between independent and dependent factors using simple and multiple regression analyses to evaluate the significance of the coefficients at each step (26). Moreover, mediation



	Analysis description	Path description
Step 1	Simple regression analysis, X predicting Y (c-path).	$X \xrightarrow{c \text{ (direct effect)}} Y$
Step 2	Simple regression analysis, X predicting M (a-path).	$X \xrightarrow{a} M$
Step 3	Simple regression analysis, M predicting Y (b-path).	$M \xrightarrow{b} Y$
Step 4	Multiple regression analysis with X and M predicting Y.	$X \xrightarrow{c \text{ (direct effect)}} Y$ $M \xrightarrow{b} Y$

**Figure 2: Mediating analysis steps.** The X represents the study independent variables (AC, CC, NC), and M represents the mediator (JS) while Y characterizes the study dependent variable (JP).

analysis steps at Fig. 2 show that steps 1-3 (c, a and b path) attempt to determine that if there is a relationship between study variables or not. If at least one of these relationships is nonsignificant, mediation is not possible or likely (26). Assuming that all relationships due to step 1-3 are significant, step 4 will be conducted to determine if the mediator (JS) partially or completely mediates the relationship between independent variables (AC, CC and NC) and dependent variable (JP).

Apart from its non-parametric equivalent, linear regression, works under many assumptions. Those involve existence of the linearity, homoscedasticity and normality and absence of multicollinearity (34). The scatterplots matrix demonstrated that the straight line can be used to model the relationship between all independent variables (OC components and JS) and dependent variable (JP), indicating that the relationship between these variables were linear. The second assumption of linear regression is a homoscedasticity. The plot of standardised residuals vs standardised predicted values shows no apparent signs of funnelling and the data distributed around the horizontal midline, indicating that the assumption of homoscedasticity was met.

Furthermore, the normality assumption represents the normal distribution of the residual values. The P-P plot for the model showed that most of the data points near to the diagonal line, assuming that the assumption of normality was met. The last assumption of linear regression was the absence of multicollinearity or absent of high correlation between the independent variables (predictors) of the regression model (35). The assumption of the absence of multicollinearity will be met if the value of the variance inflation factors (VIF) is under 5 and tolerance value is above 0.2 (35). Results of multicollinearity at Table I showed that all the values of the VIF are below 5 and tolerance values are more than 0.2, indicating that the assumption of absence of multicollinearity has been met.

**Table I: Multicollinearity test results**

Variable*	B (estimate)	Collinearity Statistics	
		Tolerance	VIF
AC	0.13	.267	3.745
CC	0.01	.582	1.719
NC	0.23	.398	2.514
JS	0.20	.360	2.776

\*. Dependent variable: JP

For ethical consideration, approval for the study was obtained from the Human Research Ethics Committee (HREC), Universiti Sains Malaysia with the code USM/JEPeM/19120977. Prior to the questionnaire questions, an introductory letter explaining the purpose of the study, voluntary and confidential declaration, researcher information, and informed consent were provided.

**RESULTS**

192 online questionnaires were distributed to the nurses who agreed to participate in the study through the Zoho-survey website application. 192 questionnaires were obtained by the researcher and 16 of these questionnaires were incomplete and were thus omitted from the analysis process. The final research sample consisted of 176 questionnaires (n=176) with a response rate of 92 %.

**Sociodemographic Characteristics of Respondents**

The socio-demographic characteristics of the respondents at Table II indicated that 86.4% of the respondents were females (n=152). The mean age of the respondents was 32 years with 72.2 % (n=127) of them belongs to the 25-34-year age group. The majority of

**Table II: Sociodemographic characteristics of respondent (n= 176)**

Variable	n	%	M	SD
<b>Gender</b>				
Male	24	13.6%		
Female	152	86.4%		
<b>Age</b>			32	0.33
< 25 years	5	2.8%		
25-34 years	127	72.2%		
35-44 years	38	21.6%		
> 44 years	6	3.4%		
<b>Education Level</b>				
Diploma	161	91.5%		
Bachelor	15	8.5%		
<b>Year of Experience</b>			8.4	0.35
1-5 years	34	19.3%		
6-10 years	81	46.0%		
>10 years	61	34.7%		
<b>Specialty</b>				
Critical	44	25.0%		
Emergency	14	8.0%		
Medical	22	12.5%		
Oby-Gyne	17	9.7%		
Oncology	13	7.4%		
Surgical	31	17.6%		
Operation Theater	18	10.2%		
Paediatric	14	8.0%		
Psychiatric	3	1.7%		

M: mean; SD: standard deviation

respondents had 6-10-years' experience (n=81, 46%) with nurses' experience mean of 8.4 years. Furthermore, the results showed that 91.5% of respondents with a diploma degree (n=161). The higher number of survey respondents were from critical care units (n= 44, 25%).

### Levels of OC, JS and JP among Nurses

All scales that have been used in this study were rated according to the 5-Likert scale (ranging from 1= strongly disagree to 5= strongly agree). Therefore, any item that has a mean value of more than three was considered as a factor increasing the level of the variable. According to OC mean among nurses, the results showed that 90% of nurses have OC mean more than three with total OC mean of 3.48 (high level of OC). Furthermore, the means of AC, CC and NC respectively were 3.55, 3.40, 3.49. Sequentially, the JS mean of the nurses was 3.49 with 85% of nurses have JS mean more than three (high level of JS). In addition, all nurses showed high level of JP with total mean of 3.77.

### The Relationships between OC Components, JS, and JP among Nurses

Results of correlation coefficient in Table III showed that there is a strong and positive relationship between the AC and JS ( $r = 0.792, p < 0.01$ ), CC and JS ( $r = 0.525, p < 0.01$ ) as well as between NC and JS ( $r = 0.667, p < 0.01$ ). Sequentially, the relationship between AC and NC with JP was strong and positive relationship ( $r = 0.609, p < 0.01$ ;  $r = 0.606, p < 0.01$  respectively). In addition, CC has moderate positive relationship with JP ( $r = 0.432, p < 0.01$ ). The study findings of the relationship between JS and JP revealed that there is a strong and positive relationship ( $r = 0.597, p < 0.01$ ).

**Table III: Pearson's Correlation Coefficients of the study variables**

		1	2	3	4	5
1	AC	1				
2	CC	.615**	1			
3	NC	.750**	.593**	1		
4	JS	.792**	.525**	.667**	1	
5	JP	.609**	.432**	.606**	.597**	1

AC: affective commitment; CC: continuance commitment; NC: normative commitment; JS: job satisfaction; JP: job performance; \*\* Correlation is significant at the level  $< 0.01$  (2-tailed).

### Mediating Effect of JS in the Relationship between OC Components and JP among Nurses

Results of the mediation analysis in Table IV showed that the direct effect between AC and JP (c-path) is significant and positive ( $B = 0.44, p < 0.01$ ). Additionally, a-path showed that there is a significant and positive relationship between AC and JS ( $B = 0.69, p < 0.01$ ), as well as b-path showed that there is a positive and significant relationship between JS and JP ( $B = 0.49, p < 0.01$ ). Finally, the results showed that the relationship between AC and JP when controlling for JS was still significant ( $B = 0.26, p < 0.01$ ). Thus, the results concluded that the relationship between AC and JP was partially mediated by the JS.

**Table IV: Mediating analysis results**

Step	Predictor	Outcome	B
1 (c-path)	AC	JP	0.44**
2 (a-bath)	AC	JS	0.69**
3 (b-path)	JS	JP	0.49**
4	AC, JS	JP	0.26**, 0.25**
1 (c-path)	CC	JP	0.37**
2 (a-bath)	CC	JS	0.55**
3 (b-path)	JS	JP	0.49**
4	CC, JS	JP	0.14*, 0.42**
1 (c-path)	NC	JP	0.47**
2 (a-bath)	NC	JS	0.63**
3 (b-path)	JS	JP	0.49**
4	NC, JS	JP	0.29**, 0.28**

AC: affective commitment; CC: continuance commitment; NC: normative commitment; JS: job satisfaction; JP: job performance; \*  $p < 0.05$ ; \*\*  $p < 0.01$

Mediating results between CC and JP through JS (Table IV) showed that the direct effect between CC and JP (c-path) is significant and positive ( $B = 0.37, p < 0.01$ ). Also, a-path showed that there is a significant and positive relationship between CC and JS ( $B = 0.55, p < 0.01$ ), though b-path showed that there is a positive and significant relationship between JS and JP ( $B = 0.49, p < 0.01$ ). Finally, the results showed that the relationship between CC and JP when controlling for JS was still significant ( $B = 0.14, p < 0.05$ ). This means that the relationship between CC and JP was partially mediated by JS.

Mediating results showed that all paths (a-path, b-path, c-path) of the mediating analysis between NC and JP through JS were positive and significant. Additionally, the relationship between NC and JP when controlling for JS was still significant ( $B = 0.29, p < 0.01$ ). This means that the relationship between NC and JP was partially mediated by JS (Table IV). To validate the significant pathway of the JS mediating effect, Sobel test was applied. Table V shows that all pathways of JS mediating effect in the relationship between study independent variables (AC, CC, NC) and dependent variable (JP) were significant ( $p < 0.01$ ).

**Table V: Sobel test statistics of JS mediating effect**

Variables			Sobel test statistic	p
AC	JS	JP	8.455	0.000
CC	JS	JP	6.248	0.000
NC	JS	JP	7.505	0.000

AC: affective commitment; CC: continuance commitment; NC: normative commitment; JS: job satisfaction; JP: job performance.

## DISCUSSION

According to the findings of Pearson's correlation in the present study, there was a significant relationship found between OC components and the level of JS among the

nurses at Hospital USM. The finding was similar to the previous studies which reveal that all OC components (AC, CC, and NC) were positively correlated with JS among nurses (18, 20). According to Spector (2008), JS and AC were correlated because they are both reflected from the employee's behavior (36). Likewise, the positive relationship between JS with NC and CC among nurses in this study suggests that employees who are satisfied with the aspects of JS (pay, security, supervisor) may feel more grateful to the organization and as such remain working at their organization (37).

Nevertheless, there was a significant positive relationship between all OC components and JP of nurses at Hospital USM. The finding was consistent with the finding from previous studies which revealed that AC, NC and CC were positively correlated to JP among nurses (10, 14, 38). According to several studies, individuals with a high level of OC could demonstrate a constructive attitude, perform the best as they can, have a desire to remain in the organization and improve their work well (39, 40). This result may be explained by the fact that wherever employees were committed to the organization for whatever cause, either psychological (AC, NC) or financial benefits (CC), they will show a high level of JP (10). The possible explanations for this study are the findings that the Hospital USM provides some benefits for the nurses, including leaves (maternity, annual), housing and car loans and medical benefits. In the context of the economic crisis, as well as rising medical costs, nurses are able to maintain their quality of life with these benefits. Making them more committed to their organization which in turn increase their productivity and JP.

Moreover, there was a strong positive relationship between JS and JP among nurses at Hospital USM. The finding was similar to the previous studies conducted in Saudi Arabia, Iran and Greece which found that nurses with a high level of JS also present with a high level of JP (23, 41, 42). Obviously, employees who are comfortable and satisfied with their work are much more willing to take on the responsibilities with passion and willpower which lead to increase their level of JP.

Study results revealed that JS has a very considerable mediating effect on the relationship between OC components and JP among nurses at Hospital USM. Although several nursing studies have been conducted to evaluate the relationship between the OC and the JP (10, 25), there has been a gap in the evaluating of the mediating effect of JS in the relationship between the OC components and the JP. Therefore, the present study is considered to be the first study in ASEA particularly in Malaysia that evaluates the mediating effect of JS in the relationship between OC components and JP among nurses. The results of this study indicate that JS was found to partially mediate the relationship between AC, NC, as well as CC with JP. The findings of the JS

mediating effect are consistent with the previous study revealing that a mediation model was reinforced by the finding that the path between the OC components and JP was a path through JS (43).

In giving significance to the mediation effect of JS in the relationship between OC components and JP, all hospitals in Malaysia should look for ways to increase the nurses' AC, CC and NC level. As one recommendation for effort to boost the relational commitment of nurses to their institutions, hospital managers may arrange extracurricular events. However, the JS of nurses need to be increased. According to Wood et al. (1986), there are four important ways to make individual satisfied: the satisfaction with information from the supervisor, satisfaction with variety and freedom, satisfaction with ability to complete tasks and satisfaction with pay and security (22). The previous studies indicated that one of the causes of low staff level of satisfaction was low salary and the interaction between nurses (44, 45). Therefore, nurses' administrators could be able to increase nurses' satisfaction with their work by assessing and evaluating the relationship between nurses and their managers, continuing educational programs, raising salaries and giving promotions. In addition, Malaysia also faces nursing migration at an attrition rate of 400 per year and around 25,000 Malaysian nurses are currently working in other countries, such as the Middle East (46) for many reasons include attempts to gain more education and training, as well as higher or more acceptable pay and benefits. Thus, the significant implications of this research are that nurses in Malaysia who are committed to their hospitals may show enhanced JP, but this needs the promotion of their JS by increasing their salaries, empowering and promoting the growth of nurses and allowing them to continue their education in order to minimize and eradicate their desire to migrate to Middle East and other countries.

Consideration should be given to the results of this study in view of many possible limitations. One limitation is the cross-sectional design of the present research. While all hypotheses have been suggested based on related theories and data seen in the literature and due to the lack of a longitudinal design, it is not possible to conclude causal relationships between variables. Furthermore, the measurement of the study variables was done by getting a subjective report from the participants via questionnaire (self-reported issues). Therefore, there will be a possibility of samples giving bias and not a genuine response to the questionnaire. Besides, the study sample is not large enough and this will affect the result generalization to the population. The final limitation of this research is insufficient literature about the relationship between all study variables in one study.

## CONCLUSION

Nurse's JP is an essential and important outcome

for hospitals. Hospitals must excel in boosting the performance of their nurses. The results of this study reported that OC components have a relationship with JP through JS with partial mediation effect of JS. In addition, this present study showed that all OC components were strongly and positively correlated to each of JS and JP. Also, JS among nurses positively correlated with JP.

Due to improvements in the health care system and workplace environment which aimed to improve the nursing care and quality, nursing educators, researchers, and nurses' managers should create suitable approaches and strategies to promote the OC and JS of nurses to the highest level, which in turn enhance their JP and the quality of care.

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