

ORIGINAL ARTICLE

Effects of job design and Generation Y nurse relations on Generation Y nurses, performance at tertiary level hospitals under the ministry of public health

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ABSTRACT

This predictive research was to analyze the effects and predict the job design and Generation Y nurses relations on Generation Y nurses' performance at tertiary level hospitals under the Ministry of Public Health. The researcher developed the concept of job design and Generation Y nurses relations from the Human Resource Management Practice Model (HRMP) of Noe, et al.¹ and adapted the concept of Task and Contextual Performance for Nurses: Job Performance Scale of Greenslade & Jimmieson.² The sample was 429 Generation Y nurses assigned to in-patient wards. The instruments consisted of 1) job design 2) Generation Y nurse relations and 3) Generation Y nurses' performance with five Likert scales. Five experts rated content validity with scores equal to 0.91, 0.93 and 0.95, respectively. The Confirmatory Factor Analysis showed that each model was congruent with the empirical data (CMIN/DF = 1.33, 1.25, 1.11, GFI = .97, .92, .99, RMSEA = .03, .02, .02, respectively). The data were analyzed by using descriptive and inferential statistics, which included independent t-test, Pearson's correlation coefficient and multiple regression analysis. The results revealed that job design, Generation Y nurse relations and Generation Y nurses' performance were at a high level ($\bar{x} = 4.29$, SD=36, $\bar{x} = 3.91$, SD=.48 and $\bar{x} = 4.14$, SD=.43, respectively). Generation Y nurses with different work experience had statistically significant differences in job design, Generation Y nurse relations and Generation Y nurses' performance ($p < .001$). Job design and Generation Y nurses' relations positively affected Generation Y nurses' performance at $\beta = .463$ and $\beta = .334$, $p < .001$ and $p < .001$, respectively, which accounted for 51.50% ($R^2 = .515$). Therefore, nurse administrators should facilitate study visits both inside and outside hospitals, provide adequate place importance on contextual roles and determine nursing policy on volunteering for additional duties.

Key words: job design, nurse relations, job performance, Generation Y nurses.

INTRODUCTION

The performance of nurses is an important part in the provision of quality care and plays a vital role in achieving the desired healthcare outcomes of hospitals.³ The work of professional nurses involves task and contextual performance. Task performance includes provision of information, technical care, provision of support and coordination of care, while contextual performance includes job-task support, interpersonal support, compliance and volunteering for additional duties.² The current nursing shortage prevents care service ratios from meeting standards. In addition, inadequate preparations to use medical instruments and technologies in providing nursing care services has created excessive workloads, fatigue and injuries from long working hours. Furthermore, the aforementioned factors are a cause of medication errors, pressure sores, postoperative complications, injuries, falls and nosocomial infections.⁴ Therefore, professional nurses' work is essential for quality service and service recipient safety.⁵

Changes in the generation group structure among professional nurses in Thailand are numerous among Generation Y nurses who are aged between 23-39 years, born between 1980-2000⁶ and working as nurse practitioners in hospitals under the Thai Ministry of Public Health (62.50%).⁷ According to an annual manpower survey, Generation Y nurses working in the eastern region of Thailand with 1-5 years of work experience make up 52.97% of all nurses.⁸ Therefore, it is a challenge for nursing administrators to develop potentiality for the maximum efficiency of Generation Y nurses who provide direct nursing care to patients as important persons in steering the health service system.⁹

This research study based on Human Resource Management Practice Model by Noe,et al.¹ was related to job

design, nurse relations and job performance, together with the nursing performance concept of Greenslade & Jimmieson,² which defines job design as the processes of head nurses in determining the ways to administer nursing practice and the nursing activities that make job to achieve the desired job completion in order to achieve the goal of organization, consists of the following 3 components: 1) Job characteristic refers to the extent required by Generation Y nurses to possess various skills, abilities and knowledge in nursing practice; to perform nursing care according to professional standards; to recognize that the work performed is critical to the life and safety of patients and to perceive that nursing practice promotes organization success; 2) Social interaction refers to working as a team, helping each other and exchanging information and knowledge of team members for work development and 3) Growth and learning refers to having an explicit professional career path, developing individual competencies and development plans, including opportunities to study visit inside and outside the organization.¹

Generation Y nurse relations is defined as the relations from the perception of Generation Y nurses about good communication, benefits and safety management of organization policies, all of which will help Generation Y nurses establish relationships with personnel among teams, executive directors and organizations, all of which will make people committed to job performance,¹ which consists of the following 3 components: 1) Communication refers to obtaining policy information, gaining opportunity to attend meetings, cooperating and helping solve problems; 2) Benefits refers to being admired, receiving rewards, incentives and benefits according to eligibility, ability to complain and to be managed to have adequate medical equipment and tools and 3) Organization

policy refers to formulating the policies and guidelines of an organization for the safety of patients and operating personnel with assignments suitable for Generation Y nurses' competencies.¹

Job performance is defined as the behaviors of Generation Y nurses in performing nursing activities at tertiary level hospitals under the Ministry of Public Health and consists of the following 2 components: 1) Task performance refers to nursing practice that directly affects patients based on nursing roles and duties, including the provision of information, technical care, support and coordination of care and 2) Contextual performance refers to sustaining the activities of the organization that indirectly affect extra-role and duties, including job-task support, interpersonal support, compliance and volunteering for additional duties.²

According to previous studies, several factors have effects on performance. For example, job designs based on job characteristics help create challenges for personnel. Teamwork creates support and social interactions among colleagues. Learning from work and career progress helps individuals become determined to work successfully and have good performance.^{1,10} The above findings correspond with a study finding job design to have influence on personnel performance and be correlated with personnel performance with statistical significance.^{11,12,13} Furthermore, relations among personnel with communication can build clarity in the organization's goals, thereby giving organization management of rights and benefits consistent with needs and personnel safety policy-making. Relations at the personal and organization levels help personnel become part of the organization, which is similar to motivation to work successfully based on the organization's objectives.¹ These findings correspond with the findings of a study

asserting that personnel relations influence personnel performance with statistical significance.^{13,14} and can predict 58.20 % performance.¹⁵

Generation Y nurses, who make up the largest group of personnel in the organization who provide care directly for service recipients, are found to have job designs made by nursing administrators with a focus on assignments on a case-by-case basis without coverage of the suitability of necessary competence and job characteristics for their generation and work experience. Moreover, Generation Y nurses need relations in the area of communication to obtain sufficient data for performing work¹⁶, receive appropriate benefits as team members and acknowledge organization policies in the areas of work safety, while providing services for service recipients in addition to perceiving patient unit management, which may result in good performance. Previous studies were qualitative studies, most of which were conducted in foreign contexts and business organizations without coverage of job designs and relations of Generation Y nurses working in tertiary hospitals under the Ministry of Public Health. Based on the aforementioned, the researcher aimed to study the level, the influences and predictability of job design and Generation Y nurse relations on the performance of Generation Y nurses in tertiary level hospitals under the Ministry of Public Health in order to form guidelines to improve Generation Y nurses' performance with standard achievement and good performance.

RESEARCH OBJECTIVES

1. To study the levels of job design, Generation Y nurse relations and performance of Generation Y nurses working in tertiary level hospitals under the Ministry of Public Health.

2. To compare statistical differences in work experience based on job design, Generation Y nurse relations and performance of Generation Y nurses working in tertiary level hospitals under the Ministry of Public Health.

3. To study the influence of job design and Generation Y nurse relations on

the performance of Generation Y nurses working in tertiary level hospitals under the Ministry of Public Health.

4. To predict job design and Generation Y nurse relations affecting the job performance of Generation Y nurses working in tertiary level hospitals under the Ministry of Public Health.

Concept Framework

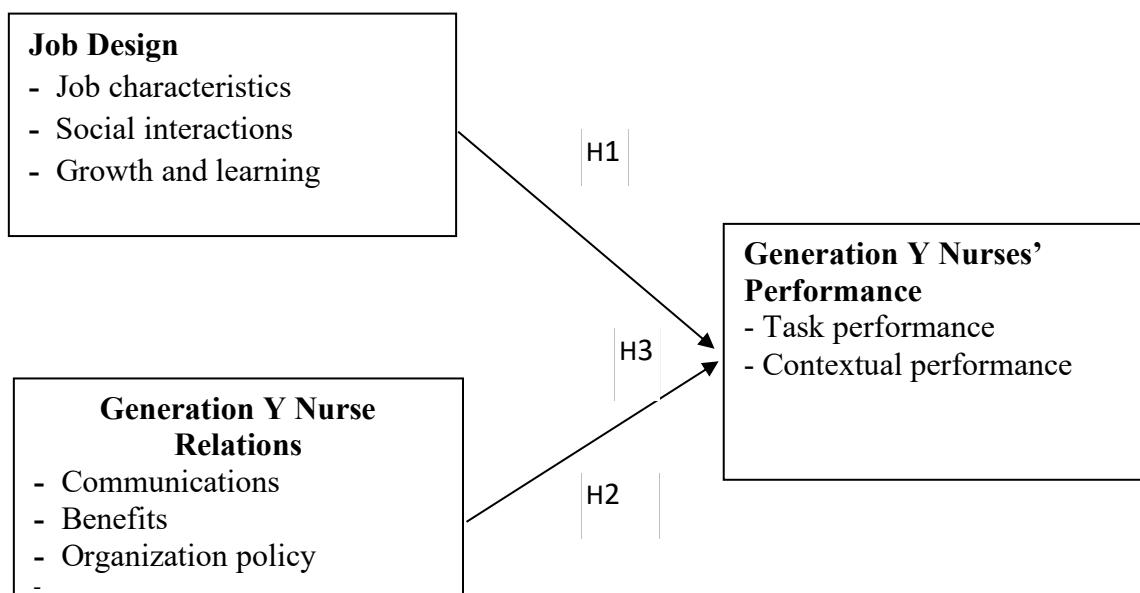


Figure 1 Conceptual framework of the study.

RESEARCH METHODS

Population and Sample

The population in this study was 5,899 Generation Y nurses aged 23 – 39 years (born in 1980 – 2000)⁶ with 1-5 years of work experience who worked in the in-patient wards or intensive care units of 33 tertiary level hospitals under the Ministry of Public Health.

Sample

The sample met inclusion criteria consisting of Generation Y nurses working at tertiary level hospitals under the Ministry of Public Health who performed nursing

work in the in-patient wards of obstetrics-gynecology departments, pediatric departments, internal medicine departments, surgery departments and intensive care units with 1-5 years of work experience. The exclusion criteria consisted of Generation Y nurses in nursing administrative positions or Generation Y nurses acting as supervisors. The formula of Krejcie & Morgan¹⁷ was applied to calculate the sample size. Simple random sampling was used for the sampling at each hospital, whereby a sample size of 429 people was obtained.

Research Instruments

The researcher developed the concept of job design and Generation Y nurses' relations from the Human Resource Management Practice Model (HRMP) of Noe et al.,¹ according to the instrument development steps of DeVellis.¹⁸ The researcher adapted the concept of Task and Contextual Performance for Nurses: Job Performance Scale² by back-translation. The scale design provided rating on 5-level Likert scales ranging from most true (5) to very true (4), moderately true (3), less true (2) and least true (1).

The criteria and interpretation of the mean scores of the study was classified into the following 5 levels based on Best and Kahn¹⁹: 4.50 - 5.00 means the highest, 3.50 - 4.49 means high, 2.50 - 3.49 means moderate, 1.50 - 2.49 means low, 1.00 - 1.49 means the lowest.

The demographic data questionnaire for Generation Y nurses collected data on gender, age, education attainment, working experience, training backgrounds and membership on organization and hospital committees.

The job design questionnaire contained five questions on job characteristics, four questions on social interactions and four questions on growth and learning for a total of 13 questions. Content validity index (CVI) for the entire questionnaire was 0.91. Construct validity was tested by performing exploratory factor analysis (EFA) of three factors and confirmatory factor analysis (CFA) with chi-square = 71.592, $df = 54$, $P = .055$, GFI = .974, AGFI = .957, CFI = .956, RMSEA = .028. Cronbach's Alpha Coefficient was 0.81.¹⁴

The Generation Y nurses' relations questionnaire contained five questions on communications, five questions on benefits and four questions on organization policies for a total of 14 questions. Content validity index (CVI) for the entire questionnaire

was 0.93. Construct validity was tested by performing exploratory factor analysis (EFA) of three factors and confirmatory factor analysis (CFA) with chi-square = 83.064, $df = 66$, $P = .076$, GFI = .972, AGFI = .956, CFI = .963, RMSEA = .025. Cronbach's Alpha Coefficient was 0.86.¹⁴

The Generation Y nurses' performance questionnaire contained a total of 23 questions on task performance covering provision of information, technical care, support and coordination of care. For contextual performance, the questionnaire contained 18 questions on job-task support, interpersonal support, compliance and volunteering for additional duties. The questionnaire contained a total of 41 questions. Content validity index (CVI) for the entire questionnaire was 0.95. Construct validity was tested by confirmatory factor analysis with eight factors with chi-square = 6.646, $df = 6$, $P = .355$, GFI = .996, AGFI = .977, CFI = .999, RMSEA = .016. Cronbach's Alpha Coefficient was 0.95.¹⁴

Ethical Considerations

The Ethical Committee of Christian University of Thailand approved the research project (Registration No. N. 24/2561) on June 26, 2018 and permission was obtained from the ethics committee on research involving human subjects at the selected tertiary hospitals where the research data were collected. Data was collected on the protected samples such as personal information and ethical concerns, which included informed-consent and maintaining confidentiality. The participants had the right to cancel participation in the study any time without any impact.

Data Collection

The researcher requested documents of approval for data collection from Christian University to the

administrators of 11 tertiary hospitals under the Ministry of Public Health to ask for support in data collection and certification of human research ethics. After ethics certification, the researcher coordinated with head nurses or representatives to explain the research objectives, questionnaire information and methods for completing the questionnaires along with sending questionnaires both by mail and in person. The research spent three months collecting data in July – September 2019. The researcher sent 450 questionnaires and received 429 questionnaires back (95.33%). After collecting the data, the researcher

performed data analysis by using inferential statistics.

Data Analysis

The researcher analyzed the sample's demographic data by using frequency and percentage, job design and Generation Y nurses' relations. Generation Y nurses' performance was analyzed using mean, standard deviation and comparing statistical differences in work experience with independent sample t- test. The influence and predictive power of job design and Generation Y nurses' relationships on Generation Y nurses' performance were analyzed by using multiple regression analysis (MRA).

RESULTS

Table 1 Demographic characteristics of Generation Y nurses (n=429).

Demographic Characteristic	Frequency	Percentage
Gender		
Female	417	97.20
Male	12	2.80
Age (years)		
23-26	221	51.52
27-30	208	48.48
Education		
Bachelor's degree	429	100
Work Experience		
1 to 3 years	209	48.72
3 to 5 years	220	51.28
Membership on Organization and Hospital Committees		
Nursing Practices	414	96.50
Nursing Quality Management	220	51.28
Nursing Academic/Project	50	11.65
Special Activities	15	3.49
Training Background		
Nursing Practices	427	99.53
Nursing Quality Management	375	87.41
Nursing Academic/Project	229	53.38
Special Activities	16	3.73

Table 1 shows that most of the sample was female (97.20%) and aged 23-

26 years (51.52%). All of the sample had educational attainments at the bachelor's

degree level (100%). The sample had worked for three to five years (51.28%), participated on organization/hospital and

nursing committees (96.50%) and most of the sample had been trained in nursing practice (99.53%).

Table 2 Descriptive statistics on job design, Generation Y nurse relations and Generation Y nurses' performance (n=429).

Variable	Min	Max	\bar{X}	SD	Level
1. Job Design	3.00	5.00	4.29	0.36	High
1.1 Job Characteristics	3.00	5.00	4.60	0.41	Highest
1.2 Social Interactions	2.75	5.00	4.42	0.46	High
1.3 Growth and Learning	2.00	5.00	3.85	0.55	High
2. Generation Y nurse relations	2.67	5.00	3.91	0.48	High
2.1 Communication	2.60	5.00	3.87	0.56	High
2.2 Benefits	1.60	5.00	3.69	0.61	High
2.3 Organizational Policy	2.25	5.00	4.17	0.53	High
3. Generation Y nurses' performance	2.54	4.95	4.14	0.43	High
3.1 Task Performance	2.42	5.00	4.33	0.44	High
3.2 Contextual Performance	2.00	5.00	3.95	0.52	High

Table 2 showed the mean score of job design to be high ($\bar{X} = 4.29$, $SD = 0.36$). When classified by components, job characteristics were found to have the highest mean score ($\bar{X} = 4.60$, $SD = 0.41$). The mean score of Generation Y nurse relations was high ($\bar{X} = 3.91$, $SD = 0.48$). When classified by individual aspects, it was found that all aspects had a high level of scores as follows: organizational policy ($\bar{X} = 4.17$, $SD = 0.53$), communication (\bar{X}

$= 3.87$, $SD = 0.56$) and the result of benefits ($\bar{X} = 3.69$, $SD = 0.61$) had the lowest mean scores. The mean score of Generation Y nurses' performance scores was high ($\bar{X} = 4.14$, $SD = 0.43$). When classified by individual side, the results of task performance had a higher mean score ($\bar{X} = 4.33$, $SD = 0.44$), while the results of contextual performance had a higher mean score ($\bar{X} = 3.95$, $SD = 0.52$), respectively.

Table 3 Comparison of work experience of job design, Generation Y nurse relations and Generation Y nurses' performance (n=429).

Variable	Work Experience		Work Experience		t	p		
	1 to 3 years		3 to 5 years					
	n = 209	SD	n = 220	SD				
Job Design	4.12	0.35	4.46	0.29	-10.59	.000		
- Job Characteristics	4.50	0.46	4.70	0.33	-5.46	.000		
- Social Interaction	4.24	0.46	4.60	0.36	-8.85	.000		
- Growth and Learning	3.63	0.53	4.07	0.48	-8.87	.000		

Table 3 Comparison of work experience of job design, Generation Y nurse relations and Generation Y nurses' performance (n=429). (cont.)

Variable	Work Experience 1 to 3 years n =209		Work Experience 3 to 5 years n =220		t	p
	\bar{X}	SD	\bar{X}	SD		
Generation Y Nurse Relations	3.70	0.44	4.11	0.43	-9.88	.000
- Communication	3.66	0.50	4.07	0.53	-8.21	.000
- Benefits	3.45	0.57	3.92	0.56	-8.45	.000
- Organizational Policy	3.98	0.52	4.36	0.48	-7.84	.000
Generation Y nurses' performance	3.95	0.42	4.33	0.35	-10.04	.000
- Task Performance	4.14	0.44	4.52	0.35	-10.05	.000
- Contextual Performance	3.77	0.46	4.13	0.46	-8.16	.000

Table 3 shows the statistically significant differences ($p < .05$) in work experience between 1 and 3 years as well as between 3 and 5 years of Generation Y nurses in each domain (job design, Generation Y nurse relations and Generation Y nurses' performance). Regarding job design, work experience was found to have significant differences in all

domains (job characteristics, social interaction and growth and learning). Work experience also had significant differences in all domains of Generation Y nurse relations (communication, benefits and organizational policy), including Generation Y nurses' performance; task performance and contextual performance.

Table 4: Regression coefficient of predictors in raw scores (b) and standard scores (β) of the multiple regression equation used in predicting the performance of Generation Y nurses (n = 429).

Predictor	b	β	t	P
Constant			3.850	.000
Job Design (Job D)	.542	.463	10.844	.000
Generation Y Nurse Relations (ER)	.296	.334	7.826	.000

*** $P < .001$ $R = .718$, $R^2 = .515$, $F = 226.508$, ***constant (a) = .659

Table 4 shows the results of the analysis of multiple regression coefficients. At least one variable was found to have effects on Generation Y nurses' performance with statistical significance at .05 ($F = 226.508$, $p = .000$), and Generation Y nurses' performance can be explained to have two independent variables consisting of job design and Generation Y nurse relations with statistical significance at .05. Both independent variables were able to co-predict Generation Y nurses' performance with statistical significance at 51.50% ($R^2 = .515$), which can be used to write the following equation in raw scores:

$$Y = .659 + 0.542 (\text{Job design}) + 0.296 (\text{Generation Y nurse relations})$$

DISCUSSION

The results of this research reveal that Generation Y nurses had high scores for perceived job design, Generation Y nurse relations and Generation Y nurses' performance. The above findings can be explained in that job design with job characteristics can create challenges for performing work requiring diverse special skills and personal abilities related to skills in using modern tools and equipment. Furthermore, in current job designs with social interactions, Generation Y nurses worked as team members on multi-disciplinary team, thereby causing Generation Y nurses to perceive work as a cooperative effort. Colleagues helped one other and nurses were able to play roles as team members' well²⁰. In addition, training opportunities related to knowledge and work skills were consistent with work contexts helped Generation Y nurses achieve appropriate development and advancement at work¹. The findings of this study are consistent with those of studies conducted by Yuxin, Kuaviktilikul & Thungjarenkul,¹¹ Loice, Geoffrey & Nehemiah¹² and Pinthong & Thaweeapaiboonwong²¹ who found mean job design scores to be high.

Furthermore, nurse relations with clear communication policies, objectives and goals cause Generation Y nurses to perceive better effectiveness and more opportunities to express opinions. Providing benefits and privileges when nurses have worked successfully can give them recognition from colleagues. In addition, clear and consistent organization policies designated as practice guidelines, rules, regulations and management standards help Generation Y nurses perceive care practice guidelines related to the safety of personnel. Practice guideline information helps Generation Y nurses perceive good relations about persons and

organizations.^{11,12} The findings of this study concurred with the performance concept of Greenslade & Jimmieson² related to professional nurses' performance in the areas of performance of duties for nurses' work to have quality meeting professional standards within contexts that will help the organization achieve set goals.¹⁹ In addition, Generation Y nurses who work in tertiary level hospitals under the Ministry of Public Health have to train in nursing practice with 60 hours of ongoing education per year, which will help nurses to improve quality of care in tasks and contextual performance consistent with organizational goals.^{1,8}

In the current study, Generation Y nurses' work experience between 1-3 years and 3-5 years resulted in significant differences in terms of job design, Generation Y nurse relations and Generation Y nurses' performance. This finding can be explained in that nurses at the proficient level²⁰ (3-5 years of experience) have more knowledge, better skills in nursing practice and improved relations, including performance of tasks such as giving specific information to patients and relatives in each case and coordinating care with multi-disciplinary teams.²¹

Furthermore, job design influenced the performance of Generation Y nurses working in tertiary hospitals under the Ministry of Public Health with statistical significance. The aforementioned job design was consistent with Generation Y personnel characteristics, thereby creating determination to successfully perform nursing work according to patient goals. This was consistent with the concept that job design based on job characteristics will create challenges for personnel and teamwork will create support, leading to social and work interactions that contribute to job learning and advancement in addition to creating determination to work

successfully with good performance.¹¹ In addition, Loice, Geoffrey & Nehemiah¹² found job independence to have direct and intermediate influence on job performance, while job identity had direct influence on professional nurses' performance ($\beta=0.44$ $p<.01$ and $\beta=0.12$ $p<.01$, respectively. Furthermore, Generation Y nurses' relationships influenced the performance of Generation Y nurses with statistical significance. Specification of methods for building relationships in patient wards by communicating, providing benefits and policies related to nursing performance in the areas of safety for Generation Y nurses and service recipients helped Generation Y nurses perceive acceptance as team members. This was consistent with the concept of relationships, which states that relationships at the personal and organizational levels causes personnel to perceive being part of the organization. Therefore, relationships are comparable to motivation to work successfully according to the organization's goals.² In addition, Omuya¹⁵ found government university personnel relationships to influence performance with statistical significance ($\beta=0.763$, $p<.001$). Moreover, Faroog, Sharms & Niazi¹⁴ studied the factors influencing the performance of 162 personnel in a case study of a Kabul telecommunications company and found personnel relationships to directly and positively influence performance ($\beta=0.21$ $p<.01$). In addition, personnel relationships were able to predict performance at 58.20%.

Job design and Generation Y nurses' relationships were able to co-predict the performance of Generation Y nurses working in tertiary hospitals under the Ministry of Public Health at 51.50% ($R^2=.515$). Job design by creating diverse skills in caring for critical and semi-critical patients, teamwork and working with patient ward personnel helped Generation Y nurses learn. In addition,

Generation Y nurses' relationships from working and being accepted as a member of patient wards and organizations helped Generation Y nurses have the determination to perform good nursing work in line with the concept that job designs based on job characteristics help create challenges for personnel. Teamwork creates support leading to social interactions and work that helps to create learning on the job and advancement, which will help personnel have the determination to do work successfully with good performance. Moreover, relationships at the personal and organizational levels help the personnel perceive being part of the organization as motivation to successfully perform work according to the organization's goals.¹ In addition, Kuzo & Ozilhan found²² personnel relationships and learning exchanges can explain hotel employee performance at 45% and Omuya¹⁵ found personnel relationships to be able to predict performance at 58.20%.

CONCLUSION AND RECOMMENDATIONS

Based on the findings, the researcher was able to conclude that this is the first time the Human Resources Management Practice Model⁸ used in business personnel management could be adapted to nursing research. Nursing administrators should prioritize job design and nurse relations to enhance Generation Y nurses' performance, especially for Generation Y nurses with work experience of 1-3 years. Directors of nursing should set policy to develop nurse relations among Generation Y nurses by focusing on growth and learning, promoting Generation Y nurse relations with effective communication, providing appropriate benefits to meet needs along with making clear organization policies for safety in maintaining good health. Furthermore, head nurses should provide training courses

on job design and create relations programs to improve the performance of nurses. For future studies, an action research should be conducted with mixed method and path analysis design of nurses at tertiary level hospitals under the Ministry of Public Health.

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