The Impact Of Occupational Stress On Job Satisfaction Of Nurses

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Abstract

This study uses structural equation modeling (SEM) to test the impact of occupational stress on the job satisfaction of nurses. Research data were collected from 228 nurses working at central hospitals under the Ministry of Health in Vietnam. The research results indicate that psychological morbidity, work pressure, pressure from the manager, workplace relationships, income pressure, and working conditions affect nurses' occupational stress. Most importantly, the study has demonstrated that occupational stress negatively impacts nurses' job satisfaction.

Keywords: occupational stress, job satisfaction, nurse, hospital.

Introduction

Every type of job has its features and potential risks. Occupational stress is essential for the health and safety of workers (Kompier & Cooper, 1999). Work stress is an all-time problem and is concerned by researchers. According to WHO, people suffering from stress are considered unhealthy, inefficient at work, and high risk of accidents. Stress seriously affects the quality of healthcare services and the efficiency of medical service delivery. Especially, it impacts nurses who directly take care of patients. Stress not only harms nurses' health but also reduces their concentration at work. Stress may cause mistakes that endanger the lives of patients (Shinde & Mane, 2014). Nurses have close contact with patients and their relatives, so they are at a high risk of work stress (Watson et al., 2009; Dobnik et al., 2018). Work overload and the problems related to patient deaths are the primary causes of stress (Hamaideh et al., 2008). Researches have pointed out many factors that lead to nurses' work pressure (Andal, 2006; Fukuda, 2008). High work stress may cause negative effects on the job satisfaction of nurses (Cheng et al., 2015; Dobnik et al., 2018). Although there have been several studies defining and describing occupational stress of nurses in Vietnam, these studies have not fully measured its factors and impacts on their job satisfaction. Therefore, this

study was conducted to find out factors included in occupational stress and its effects on the job satisfaction of nurses in Vietnam.

Theoretical framework and research hypotheses

Theoretical framework

Occupational

As presented by Selye (1956), stress is a nonspecific biological response of the body to stressors. Stress is all wear and tear caused by life. Stress is a combination of constraints and demands (Selye, 1956). Employees suffer from work stress if they have to perform tasks that require certain independence and authority to achieve results while the company does not delegate the authority for them (Vansell et al., 1981). Work stress is any discomfort feeling at the personal level with events or situations that are too frequent, intense, and beyond the worker's ability (Luthans, 1995). According to Irene Houtman (2005), job stress is a combination of employees' reactions when their skills and abilities are unable to meet the job requirements. Stress is associated with several significant physiological, psychological, and behavioral symptoms of the individual (Hopper, 1988). Some common symptoms include anger, burnout, exhaustion, guilt, and hurt (Saleh et al., 2013), anxiety, lethargy, and illness (Saleh et al., 2013; Applebaum et al., 2010).

Job satisfaction

Job satisfaction is the degree to which employees love their work, which is an attitude based on their perceptions (positive or negative) about the job characteristics or working environment (Ellickson & Logsdon, 2002). The job satisfaction of employees reflects the level at which employees' needs and demands are met (Kusku, 2003). Also, it represents the level of employees' job satisfaction, which is their feelings or emotions towards the job (Luddy, 2005). In a study in 2007, Karatepe and Kilic confirmed that job satisfaction/dissatisfaction is defined as a person's positive or negative attitude about their job performance, with no intention/intention to leave the organization, and tell the good/bad about the organization to others. Researches on job satisfaction are mainly based on the Hierarchy of Needs of Maslow (1943), Two Factor Theory of Herzberg (1959), Equity Theory of Adams (1963), Expectancy Theory of Vroom (1964), Hackman & Oldham's Job Characteristics Model (1974), McClelland's Achievement Motivation Theory (1988).

Research model

Based on the above literature review, the study indicates six affecting factors related to the work stress of nurses. They include

psychological morbidity, workload pressure, pressure from the manager, income pressure, relationships, and working conditions.

Psychological morbidity: Mental breakdown is a very common work-related syndrome of medical staff (Felton, 1998; Adebayo et al., 2013). Nurses have to face psychological problems which are reflected by the pain or the death of the patient, or unreasonable demands of the patient and their relatives (Hay & Oken, 1972; Norbeck, 1985; Boey et al., 1997; Watson et al., 2009).

Work pressure: If the set goals are beyond the ability of employees, they may feel depressed and frustrated (French & Caplan, 1972). Work overload is considered a burden that people who work under pressure tend to be exhausted at work (Cooper & Marshal, 1976). In the healthcare industry, work pressure is the main cause of occupational stress (Hay & Oken, 1972; Bhatia et al., 2010; Saini et al., 2011; Al Hosis et al., 2013).

Pressure from the manager: The close supervision and strict control of the manager, or the lack of timely support from the superiors are the main causes of work stress (Nizami et al., 2006; Nelson & Burke, 2000). Medical employees feel stress at work when they perceive their leaders are unfair and not timely supporting (Hay & Oken, 1972; Saini et al., 2011; Al Hosis et al., 2013; Saleh et al., 2013).

Workplace relationship: Workplace relationships consist of personal interactions between employees and colleagues, or between employees and managers. Sauter et al. (1990) pointed out that poor relationships with colleagues or with supervisors are a factor leading to job stress. If the relationships at the workplace are not good or unbeneficial, job stress easily occurs among medical staff (Hay & Oken, 1972; Al-Aameri, 2003; Milutinović et al., 2012; Saleh et al., 2013).

Income pressure: If employees recognize the inequality in pay and welfare policy, they feel stressed, which then turns into anger (Robbins & Judge, 2010). Work stress occurs when medical employees consider their income is not commensurate with their working capacity which does not cover their living expenses (Khaghanizadeh et al., 2008; Shukla & Srivastava, 2016; Zhou et al., 2017; Rakhshani et al., 2018).

Working condition: Working conditions include working space, facilities, equipment, workplace regulations, etc. The working condition is a significant factor in the formation of occupational stress (Shahu & Gole, 2008). The poor working environment leads to the uncomfortable feeling of medical staff, which easily causes work stress (Al-Aameri, 2003; Alnems et al., 2005; Saleh et al., 2013).

The relationship between job stress and job satisfaction: The more the job stress, the greater the job dissatisfaction (Cooper & Marshall, 1976; Adams, 1980). Research by Landsbergis (1988) has shown that the level of job stress is negatively correlated with job satisfaction. In the medical field, many studies have demonstrated that work stress negatively impacts the job satisfaction of healthcare staff (Norbeck, 1985; Alnems et al., 2005; Kamal et al., 2012; Rita et al., 2013; Jang et al., 2015; Cheng et al., 2015; Dobnik et al., 2018). Therefore, the study proposes the hypothesis "Occupational stress negatively affects the job satisfaction of nurses."

Based on the literature review and research hypotheses, the study organizes two group discussions (qualitative research) with ten nurses (five in each group). These nurses are working at four central hospitals under the Ministry of Health in Vietnam. The nurses selected for discussions have extensive working experiences. The discussion results tested the relevance of the research hypotheses and identified the appropriate scales for the model. The proposed research model is as below.

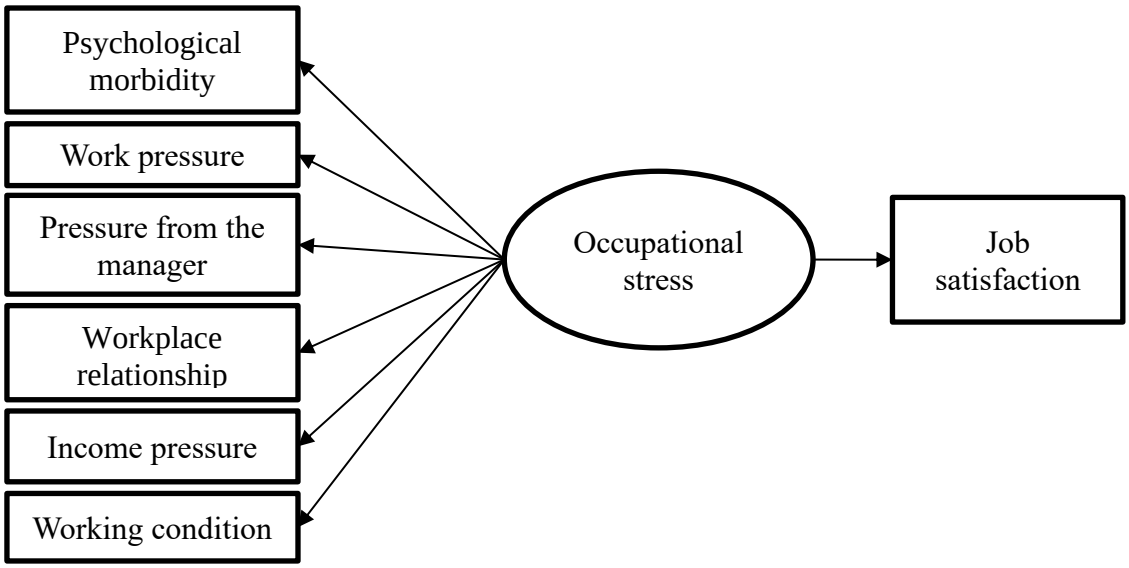

Figure 1: Proposed research model

Table 1: Interpretation of observed variables in the research model

Factor	Observed variables	Scale	Reference resources
Psychological morbidity (PM)	PM1: Unreasonable demands and bad behaviors of the patient and their relatives	Likert 1-5	Hay & Oken, (1972), Norbeck (1985), Boey et al. (1997), Watson et al. (2009)
	PM2: Frequently exposed to dangers to health and safety	Likert 1-5	

	PM3: Implement painful procedures and see the patient suffering from the pain	Likert 1-5	
Work pressure (WP)	WP1: Feel pressured with the assigned tasks	Likert 1-5	Bhatia et al. (2010), Saini et al. (2011), Hosis et al. (2013)
	WP2: Overload of the current workload	Likert 1-5	
	WP3: Have to work overtime frequently	Likert 1-5	
Pressure from the manager (MP)	MP1: The manager does not support employees	Likert 1-5	Saini et al. (2011), Hosis et al. (2013), Saleh et al. (2013)
	MP2: The manager puts pressure on assigned tasks	Likert 1-5	
	MP3: The manager does not understand nurses' workload	Likert 1-5	
Workplace relationship (WR)	WR1: Colleagues do not collaborate	Likert 1-5	Al-Aameri (2003), Milutinović et al. (2012), Saleh et al. (2013)
	WR2: Have conflicts with colleagues	Likert 1-5	
	WR3: Colleagues do not support when facing difficulties at work	Likert 1-5	
Income pressure (IP)	IP1: The salary is not commensurate with work capacity	Likert 1-5	Khaghanizadeh et al. (2008), Shukla & Srivastava (2016), Rakhshani et al. (2018)
	IP2: The reward policy is not reasonable	Likert 1-5	
	IP3: The welfare policy is not reasonable and satisfactory	Likert 1-5	
Working condition (WC)	WC1: The workplace creates an uncomfortable feeling	Likert 1-5	Al-Aameri (2003), Alnems et al. (2005), Saleh et al. (2013)
	WC2: Lack of necessary equipment	Likert 1-5	
	WC3: Feel uncomfortable with working rules	Likert 1-5	
Job satisfaction (JS)	JS1: The manager always supports and encourages	Likert 1-5	Alnems et al. (2005), Kamal et al. (2012), Rita et al. (2013), Jang et al. (2015), Cheng et al. (2015)
	JS2: Good salary and welfare policy	Likert 1-5	
	JS3: Active working environment	Likert 1-5	
	JS4: Satisfied training and promotion policy	Likert 1-5	
	JS5: Satisfied working conditions	Likert 1-5	

Research methodology

Analytical method

To test the research hypotheses, the analytical methods applied include Cronbach's alpha test, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM). In this study, the scales to evaluate observed variables are all 5-level Likert scales, with level 1 = strongly disagree and level 5 = strongly agree.

Data collection method

The SEM model requires a large sample size as it is based on the sample distribution theory (Raykov & Widaman, 1995). To ensure the reliability in the suitability test of SEM, a sample size between 100 and 200 is satisfactory (Hoyle, 1995). According to Hoelter (1983), the limited sample size of the linear structure is 200. This

study uses quota sampling based on the criteria such as age, seniority, and workplace to collect data. Survey subjects are nurses working at central hospitals under the Ministry of Health, Vietnam. The survey area is concentrated in two main cities in Vietnam, including Ho Chi Minh City and Can Tho City. The authors surveyed from October 2020 to December 2020 by online interviews and emails. The sample size achieved after screening is 222. Thus, the sample size meets the requirements, ensuring the reliability to test the research hypotheses.

Research results and discussion

Evaluate scale reliability

To test the internal correlation between observed variables, the authors apply Cronbach's alpha test. Based on the result in table 2, all 7 scales with 23 observed variables have a high-reliability value (above 0.7) and the observed variables have item-total correlation values greater than 0.3. It concludes that all research scales meet the reliability requirement (Nunnally, 1978; Peterson, 1994; Nunnally & Bernstein, 1994; Slater, 1995).

Table 2: Test the reliability of scales

Observed variables	Mean	Standard deviation	Factor loading	Cronbach's alpha
Psychological morbidity (PM)				0.716
PM1	2.89	0.801	0.802	
PM2	2.89	0.775	0.539	
PM3	2.89	0.778	0.640	
Work pressure (WP)				0.766
WP1	2.73	0.793	0.870	
WP2	2.74	0.716	0.571	
WP3	2.75	0.775	0.600	
Pressure from the manager (MP)				0.732
MP1	2.63	0.842	0.626	
MP2	3.02	0.878	0.664	
MP3	2.54	0.852	0.679	
Workplace relationship (WR)				0.799
WR1	3.07	0.865	0.749	
WR2	3.05	0.822	0.696	
WR3	3.07	0.839	0.846	
Income pressure (IP)				0.840
IP1	2.84	0.911	0.855	
IP2	2.93	0.831	0.673	
IP3	3.00	1.011	0.833	
Working condition (WC)				0.790
WC1	2.68	0.807	0.705	
WC2	2.64	0.775	0.840	

WC3	2.81	0.883	0.629	
Job satisfaction (JS)				0.823
JS1	3.46	0.792	0.676	
JS2	3.50	0.765	0.866	
JS3	3.45	0.645	0.582	
JS4	3.46	0.793	0.662	
JS5	3.45	0.678	0.708	

EFA is used to test the convergent and discriminant validity of the scales in the research model. Following the test result, statistical values are guaranteed: (1) The reliability of observed variables is satisfactory with factor loading values higher than 0.5 (Hair et al., 1998; Jabnoun & Al-Tamimi, 2003). (2) The model's suitability test is accepted with KMO = 0.855 (Hair et al., 1998). (3) Bartlett's test on the correlation of observed variables meets the requirements with Sig. = 0.000 (Hair et al., 1998). The cumulative variance test reaches 68.22% > 50% (Anderson and Gerbing, 1988), meaning that the observed variables included in the model have high explanatory power. To sum up, 7 factors are formed from 23 observed variables which are consistent with the proposed scales in the model.

CFA is used to test the appropriateness of the research data. The test result points out that the statistical indicators are guaranteed. Chi-square/df = 1.262 < 2 with P = 0.006 ≤ 0.05 (Carmines & McIver, 1981). The TLI and CFI values achieve 0.965 and 0.971, respectively, higher than 0.9 (Bentler & Bonett, 1980). RMSEA = 0.034 < 0.08 (Steiger, 1990). These numbers prove that the model fits the market data.

Table 3: CFA and SEM testing result

Criteria	**CFA**	**SEM**	**Comparative value**	**Resources**
χ^2	263.688	283.989		Anderson and Gerbing (1988), Hair et al. (2014)
Df	209	223		
χ^2/df	1.262	1.273	≤ 2	
P-value	0.006	0.004	< 0.05	
TLI	0.965	0.964	≥ 0.9	
CFI	0.971	0.968	≥ 0.9	
RMSEA	0.034	0.035	≤ 0.08	

Based on the test result, the standardized weights of scales are all greater than 0.5 and the unstandardized weights are statistically significant, so the factors acquire convergent validity. Correlation coefficients between factors are less than 1 with standard deviations less than 0.05, so the research factors achieve discriminant validity. Besides, the composite reliability (Pc) of the scales is satisfactory, greater than 0.5 (Jöreskog, 1971). Although the average variance extracted (Pvc) of some scales are a bit low

(0.4 < Pvc < 0.5), the Pc values are all larger than 0.6, so the scales meet the reliability requirements (Fornell & Larcker, 1981).

Table 4: Test the scales in the research model

Factor	Number of observed variables	Composite reliability (P_c)	The average variance extracted (P_{vc})	Resources
Psychological morbidity (PM)	3	0.72	0.46	Fornell & Larcker (1981)
Work pressure (WP)	3	0.77	0.52	
Pressure from the manager (MP)	3	0.73	0.48	
Workplace relationship (WR)	3	0.80	0.57	
Income pressure (IP)	3	0.84	0.64	
Working condition (WC)	3	0.79	0.56	
Job satisfaction (JS)	5	0.83	0.49	

Test the research hypotheses

Structural equation modeling (SEM) is applied to test the research hypotheses. The analytical result is shown in table 5.

Table 5: Test the relationship between factors in the model

Relationship			Unstandardized			Standardized estimated value	P-value
			Estimated value	Standard error S.E.	Critical ratio C.R.		
Psychological morbidity	<---	Occupational stress	1			0.711	***
Work pressure	<---	Occupational stress	0.965	0.161	6.008	0.780	***
Pressure from the manager	<---	Occupational stress	1.058	0.172	6.159	0.762	***
Workplace relationship	<---	Occupational stress	1.002	0.170	5.900	0.625	***
Income pressure	<---	Occupational stress	1.224	0.190	6.456	0.691	***
Working condition	<---	Occupational stress	1.128	0.173	6.518	0.714	***
Job satisfaction	<---	Occupational stress	-0.530	0.134	-3.945	-0.344	***

Table 5 shows that six factors promote the formation of occupational stress of nurses include psychological morbidity, work pressure, pressure from the manager, workplace relationship, income pressure, and working condition. In particular, psychological morbidity has the most impact on nurses' occupational stress. The research results are consistent with studies by Hay & Oken (1972), Norbeck (1985), Boey et al. (1997), Watson et al. (2009). Moreover, the test results proved

that work stress harms the job satisfaction of nurses. The higher the occupational stress, the lower the job satisfaction of nurses (Norbeck, 1985; Alnems et al., 2005; Kamal et al., 2012; Rita et al., 2013; Jang et al., 2015; Cheng et al., 2015; Dobnik et al., 2018). Therefore, reducing stress is an effective solution to enhance nurses' job satisfaction.

Conclusion

The study has achieved the set goal of evaluating the impact of occupational stress on the job satisfaction of nurses. Research results show that a high level of job stress leads to low job satisfaction. In addition to this, the study has identified the factors included in the job stress of nurses, including psychological morbidity, work pressure, pressure from the manager, workplace relationship, income pressure, and working condition. Based on the research findings, hospital administrators should develop appropriate solutions for each factor of job stress to well manage stress and improve the job satisfaction of nurses.

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