OCCUPATIONAL STRESS AFFECTS WELL-BEING AND JOB PERFORMANCE OF DOCTORS: A CASE STUDY IN THE COVID-19 EPIDEMIC CONTEXT

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ABSTRACT

Objective: The goal of the study is to demonstrate the impact of work stress on the well-being and performance of doctors in the context of the Covid-19 epidemic.

Method: In this study, quota sampling based on the criteria such as gender, age, education background, working place is used to collect data. The survey areas are major cities in Vietnam, including Ho Chi Minh City, Da Nang City, and Can Tho City. After the data screening step, the study collects 252 observations. The study applies structural equation modeling to analyze the data.

Results: The result has shown factors constituting doctors’ occupational stress include work overload, pressure from superiors, time pressure, income pressure, working conditions, and workplace relationships. Stress at work negatively affects doctors’ well-being and performance. Besides, the study has pointed out a positive relationship between perceived happiness and doctors’ performance.

Conclusions: Hospital administrators need to control the causes of work pressure to improve the feeling of happiness and performance. The causes include work overload, pressure from superiors, time pressure, income pressure, working conditions, and workplace relationships. In particular, work overload needs to be paid the most attention.

Keywords: occupational stress, well-being, job performance, doctor.

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ESTRESSE OCUPACIONAL AFETA O BEM-ESTAR E O DESEMPENHO PROFISSIONAL DOS MÉDICOS: ESTUDO DE CASO NO CONTEXTO DA EPIDEMIA DE COVID-19

RESUMO

Objetivo: O objetivo do estudo é demonstrar o impacto do estresse no trabalho sobre o bem-estar e o desempenho dos médicos no contexto da epidemia de Covid-19.

Método: Neste estudo, a coleta de dados é feita por amostragem de cotas com base em critérios como sexo, idade, escolaridade, local de trabalho. As áreas de pesquisa são as principais cidades do Vietnã, incluindo Ho Chi Minh City, Da Nang City e Can Tho City. Após a etapa de triagem dos dados, o estudo recolhe 252 observações. O estudo aplica modelagem de equações estruturais para analisar os dados.

Resultados: O resultado mostrou que os fatores que constituem o estresse ocupacional dos médicos incluem sobrecarga de trabalho, pressão de superiores, pressão de tempo, pressão de renda, condições de trabalho e relações laborais. O estresse no trabalho afeta negativamente o bem-estar e o desempenho dos médicos. Além disso, o estudo apontou uma relação positiva entre a percepção da felicidade e o desempenho dos médicos.

Conclusões: Os administradores hospitalares precisam controlar as causas da pressão do trabalho para melhorar a sensação de felicidade e desempenho. As causas incluem sobrecarga de trabalho, pressão de superiores, pressão de tempo, pressão de renda, condições de trabalho e relações laborais. Em particular, a sobrecarga de trabalho deve ser objeto de maior atenção.

Palavras-chave: estresse ocupacional, bem-estar, desempenho no trabalho, médico.

1 INTRODUCTION

Different industries have different peculiarities and potential risks of occupational stress. Work stress occurs when employees perform tasks that require certain independence and authority while the organization does not delegate them adequately (Vansell et al., 1981). Job stress easily arises when the job demands exceed employees' responsiveness (Luthans, 1995). Work stress causes negative effects on employees’ well-being (Karimi et al., 2014; Lu et al., 2003). On the contrary, if employees feel happy, they will have positive perceptions, thereby reducing work stress. Happiness has a positive effect on employee performance; however, it is dominated by workplace stress (Wright & Cropanzano, 2000; Bogdanova et al., 2008; Taris & Schreurs, 2009). Therefore, managers should pay attention to factors that affect employees’ psychology (Grant et al., 2007). According to Taris & Schreurs (2009), improving employees' perception of happiness helps enhance their work performance. In the context of the Covid-19 epidemic in Vietnam, medical employees have made effort to meet their job requirements and respond to the epidemic. This has put significant pressure on the medical team’s work and life. As a result, this
study was conducted to demonstrate the relationship between occupational stress, well-being, and work performance of Vietnamese doctors in the Covid-19 context.

2 THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

2.1 THEORETICAL FRAMEWORK

2.1.1 Occupational Stress

Work stress arises when employees are not adequately delegated to perform tasks that require independence and authority to achieve good results (Vansell et al., 1981). Occupational stress is different from general stress because it revolves job-related problems (Chen & Silverthorne, 2008). Work stress manifests differently towards different individuals and environments (Achour et al., 2019). According to Bashir and Ramay (2010), workplace stress comes from work overload, pressure from superiors, colleague pressure, and estimated time to complete. Besides, poor working environment and colleague relationships, or low salary easily cause stress (Bashir & Ramay, 2010; Badar, 2011; French & Caplan, 1972; Dahmodharan & Arumugasamy, 2011).

2.1.2 Well-Being

Well-being is a concept that includes both physical and mental health (Warr, 2002), job satisfaction (Diener, 2000), life satisfaction that reflects a high-quality life (Lu, 2001; Grant et al., 2007; Taris & Schreurs, 2009; Li et al., 2014). Happiness is an integral part of a fulfilling and contentful life. It is closely related to one's ability to work, maintain positive relationships, and experience positive emotions (Diener et al., 2010; Seligman, 2012). Psychologically, perceived happiness has an impact on the quality of life (Veenhoven, 1991; Taylor & Brown, 1994).

2.1.3 Job Performance

According to Jamal (1984), work performance shows the level of task completion, and how resources are optimally used. Judge et al. (2001) has proved that work performance is measured by superiors' assessment, colleagues, and the objective evaluation of the employee themselves. Performance is assessed by working time, customer relationship, colleague relationship, reviews from superiors, and self-confidence (Karunaithy & Ponnampalamm, 2013). The nature of job performance is based on the job requirements, goals, and the organization's missions (Befort & Hattrup, 2003).
2.2 RESEARCH HYPOTHESES

According to the above literature review, six factors that constitute work stress include work overload (Bashir & Ramay, 2010; Badar, 2011; Sharma & Devi, 2011; Karunaithy & Ponnampalam, 2013), pressure from superiors (Nelson & Burke, 2000; Dhamodharan & Arumugasamy, 2011), time pressure (Bashir & Ramay, 2010; Badar, 2011; Khattak et al., 2011), income pressure (Badar, 2011; Khattak et al., 2011; Karunaithy & Ponnampalam, 2013), workplace relationships (Karunaithy & Ponnampalam, 2013; Jou et al., 2013), and working conditions (Shahu & Gole, 2008; Bashir & Ramay, 2010; Karunaithy & Ponnampalam, 2013; Jou et al., 2013).

2.2.1 The Relationship Between Occupational Stress and Well-Being

When employees feel stressed at work, job dissatisfaction appears that reduce their perceived happiness (Klassen & Chiu, 2010; Iqbal & Waseem, 2012; Khattak et al., 2011). According to Lu et al. (2003), Karimi et al. (2014), there exists a negative relationship between work stress and employees' perceived happiness. Therefore, the study proposes Hypothesis H1 as “Occupational stress negatively affects doctors' perceived happiness.”

2.2.2 The Relationship Between Occupational Stress and Job Performance

Research by Bashir & Ramay (2010), Yurtkorub (2013), Arshadi & Damiri (2013), Hoboubi et al., (2017) have shown that stress at work harms employees' performance. A high level of stress leads to a low capacity of employees to work. This harms their job performance (Chang & Chang, 2007; Shahu & Gole, 2008; Badar, 2011). Thus, hypothesis H2 is as follows: Occupational stress has a negative influence on doctors’ job performance.

2.2.3 The Relationship Between Well-Being and Job Performance

As presented by Bogdanova et al. (2008), there is a beneficial relationship between happiness and the performance of employees. Wright & Cropanzano (2000) have dedicated that happiness and job satisfaction are correlated with each other and have an impact on job performance. This has been confirmed in the studies of Sheridan & Slocum (1975), Taris & Schreurs (2009) that to promote employee performance, it is necessary
to enhance their perceived happiness. Hence, the study suggests hypothesis H3 as *Well-being has a positive impact on doctors’ job performance.*

Based on the research hypotheses, the research model on the impact of occupational stress on doctors’ well-being and job performance is proposed as follows:

**Fig 1. Proposed research model**

![Proposed research model diagram]

**Source:** Author’s proposal, 2021

| Table 1: Interpretation of observed variables in the research model |
|-----------------|----------------|------------------|
| **Factor**      | **Observed variables** | **Scale** | **Reference resources** |
| Work overload (WO) | WO1: My work is backlogged. | Likert 1-5 | Cooper & Marshal (1976), Bashir & Ramay (2010), Badar (2011) |
|                  | WO2: My job has a high level of risk. | Likert 1-5 |  |
|                  | WO3: I am overloaded with my workload. | Likert 1-5 |  |
| Pressure from superiors (SP) | SP1: Managers do not understand their employees’ workload. | Likert 1-5 | Badar (2011), Sharma & Devi (2011), Dhamodharan & Arumugasamy (2011) |
|                  | SP2: Managers always put pressure on their employees to work efficiently. | Likert 1-5 |  |
|                  | SP3: Superiors do not support their employees with difficulties at work. | Likert 1-5 |  |
| Time pressure (TP) | TP1: The time to complete assigned tasks is not appropriate. | Likert 1-5 | Bashir & Ramay (2010), Badar (2011), Karunanithy & Ponnampalam (2013) |
|                  | TP2: I have to work overtime very often. | Likert 1-5 |  |
|                  | TP3: I do not have time for my family and friends. | Likert 1-5 |  |
| Income pressure (IP) | IP1: The salary is not commensurate with my competence. | Likert 1-5 | Bashir (2010), Badar (2011), Dhamodharan & Arumugasamy (2011) |
|                  | IP2: The reward policy is not reasonable. | Likert 1-5 |  |
|                  | IP3: The welfare policy is not satisfactory. | Likert 1-5 |  |
| The working condition (WC) | WC1: My workplace is not comfortable. | Likert 1-5 | Shahu & Gole (2008), Bashir & Ramay (2010), Karunanithy & Ponnampalam (2013) |
|                  | WC2: I do not have enough equipment to complete tasks. | Likert 1-5 |  |
|                  | WC3: I am uncomfortable with the working rules (dress code, time rule, etc.). | Likert 1-5 |  |
| Workplace relationships (WR) | WR1: My colleagues do not support me with my job. | Likert 1-5 | French & Caplan (1972), Bashir &  |
|                  | WR2: I often argue with my colleagues. | Likert 1-5 |  |
3 RESEARCH METHODOLOGY
3.1 DATA COLLECTION METHOD
The sample size should meet the requirements of the analytical methods used in the study. Structural equation modeling (SEM) requires a large sample size because it is based on the theory of sample distribution (Raykov & Widaman, 1995). To meet the reliability requirement, the sample size from 100 to 200 is satisfactory (Hoyle, 1995). However, the sample size should be larger than 200 for higher reliability (Hoelter, 1983). In this study, quota sampling based on the criteria such as gender, age, education background, working place is used to collect data. The survey areas are major cities in Vietnam, including Ho Chi Minh City, Da Nang City, and Can Tho City. After the data screening step, the study collects 252 observations. Thus, the sample size meets the requirement, ensuring the reliability to test the research hypotheses.

3.2 ANALYTICAL METHOD
In this study, the quantitative analysis is used in the following order: Step 1: Test the reliability of the scales by Cronbach’s Alpha. Step 2: Exploratory factor analysis (EFA) to evaluate the convergent and discriminant validity. Step 3: Confirmatory factor analysis (CFA) to assess the relevance of the data to the market. Step 4: Structural equation modeling (SEM) to test the proposed research hypotheses.
4 RESEARCH RESULTS AND DISCUSSION

4.1 RELIABILITY TEST OF SCALES

4.1.1 Step 1: Evaluate the Reliability of Scales

The study applies Cronbach’s Alpha coefficient to test the internal correlation among observed variables. The result in table 2 shows that 8 factors with 28 observed variables have high-reliability values (above 0.7) and all corrected item-total correlation coefficient values are greater than 0.3. It proves that the scales are reliable and 28 observed variables can be used for the next EFA step (Nunnally, 1978; Peterson, 1994; Slater, 1995).

<table>
<thead>
<tr>
<th>No.</th>
<th>Scale</th>
<th>Number of observed variables</th>
<th>Cronbach’s Alpha</th>
<th>Min corrected item-total correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Work overload</td>
<td>3</td>
<td>0.752</td>
<td>0.541</td>
</tr>
<tr>
<td>2</td>
<td>Pressure from superiors</td>
<td>3</td>
<td>0.846</td>
<td>0.468</td>
</tr>
<tr>
<td>3</td>
<td>Time pressure</td>
<td>3</td>
<td>0.761</td>
<td>0.530</td>
</tr>
<tr>
<td>4</td>
<td>Income pressure</td>
<td>3</td>
<td>0.820</td>
<td>0.626</td>
</tr>
<tr>
<td>5</td>
<td>Working condition</td>
<td>3</td>
<td>0.786</td>
<td>0.588</td>
</tr>
<tr>
<td>6</td>
<td>Workplace relationship</td>
<td>3</td>
<td>0.713</td>
<td>0.524</td>
</tr>
<tr>
<td>7</td>
<td>Well-being</td>
<td>4</td>
<td>0.800</td>
<td>0.537</td>
</tr>
<tr>
<td>8</td>
<td>Job performance</td>
<td>4</td>
<td>0.799</td>
<td>0.562</td>
</tr>
</tbody>
</table>

Source: Surve data, 2021

4.1.2 Step 2: Exploratory Factor Analysis (EFA)

After testing the reliability of the scale, the study carried out the EFA to assess the convergent and discriminant validity of scales. Values are guaranteed as follows: (1) The reliability of observed variables with loading factor > 0.5. (2) Research model’s suitability test with $0.5 < \text{KMO} = 0.849 < 1.0$. (3) Bartlett test on the correlation of observed variables with Sig. = 0.00 < 0.05. (4) Cumulative variance test achieves 69.05% > 50%. Therefore, the research data are consistent (Gerbing & Anderson, 1988; Hair et al., 1998). The test results have formed 8 factors with Eigenvalue = 1.002 and there is no disturbance among variables, so the factor names remain the same.

4.1.3 Step 3: Confirmatory Factor Analysis (CFA)

After the EFA stage, the above eight factors are included in the CFA. The CFA results are as follows: Chi-square/df = 1.293 < 2 with $P = 0.000 \leq 0.05$. The TLI and CFI achieve the value of 0.961 and 0.967. All values are greater than 0.9. RMSEA = 0.034 < 0.05. This proves that the model is consistent with the market data. All the standardized
coefficients of the scale are greater than 0.5 and the unstandardized coefficients are statistically significant. Thus, the factors acquire convergent validity. Besides, the correlation coefficients among factors are all less than 1 with the standard deviation < 0.05. Therefore, the research factors achieve discriminant validity. The results of composite reliability (Pc) and average variance extracted (Pvc) show that Pc is satisfactory while Pvc is a bit low (< 0.5). However, Pvc can be accepted at the value of 0.4 or higher under the condition that Pc is greater than 0.6 (Fornell & Larcker, 1981; Fraering & Minor, 2006). Thus, all factors in the model are suitable for the next step of SEM.

Table 3: The testing result of scales in the model

<table>
<thead>
<tr>
<th>Factor</th>
<th>Number of observed variables</th>
<th>Composite Reliability (Pc)</th>
<th>Average Variance Extracted (Pvc)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work overload</td>
<td>3</td>
<td>0.76</td>
<td>0.51</td>
<td></td>
</tr>
<tr>
<td>Pressure from superiors</td>
<td>3</td>
<td>0.85</td>
<td>0.66</td>
<td></td>
</tr>
<tr>
<td>Time pressure</td>
<td>3</td>
<td>0.77</td>
<td>0.53</td>
<td></td>
</tr>
<tr>
<td>Income pressure</td>
<td>3</td>
<td>0.83</td>
<td>0.61</td>
<td>accepted</td>
</tr>
<tr>
<td>Working conditions</td>
<td>3</td>
<td>0.79</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>Workplace relationships</td>
<td>3</td>
<td>0.71</td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td>Well-being</td>
<td>4</td>
<td>0.80</td>
<td>0.51</td>
<td></td>
</tr>
<tr>
<td>Job performance</td>
<td>4</td>
<td>0.80</td>
<td>0.50</td>
<td></td>
</tr>
</tbody>
</table>

Source: Survey data, 2021

4.2 RESEARCH HYPOTHESES TEST

Structural equation modeling (SEM) is used to test the research hypotheses. The analytical result is in table 4.

Table 4: Research hypotheses test

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Standardized estimated value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work overload</td>
<td>Occupation stress 0.768</td>
<td>***</td>
</tr>
<tr>
<td>Pressure from superiors</td>
<td>Occupation stress 0.648</td>
<td>***</td>
</tr>
<tr>
<td>Time pressure</td>
<td>Occupation stress 0.728</td>
<td>***</td>
</tr>
<tr>
<td>Income pressure</td>
<td>Occupation stress 0.715</td>
<td>***</td>
</tr>
<tr>
<td>Workplace relationships</td>
<td>Occupation stress 0.754</td>
<td>***</td>
</tr>
<tr>
<td>Working conditions</td>
<td>Occupation stress 0.689</td>
<td>***</td>
</tr>
<tr>
<td>Well-being</td>
<td>Occupation stress -0.332</td>
<td>***</td>
</tr>
<tr>
<td>Job performance</td>
<td>Occupation stress -0.286</td>
<td>***</td>
</tr>
<tr>
<td>Job performance</td>
<td>Well-being 0.243</td>
<td>***</td>
</tr>
</tbody>
</table>

Note: ***: Significant at 1%
Source: Survey data, 2021.
According to the test result in table 4, doctors’ occupational stress is formed from work overload, pressure from superiors, time pressure, income pressure, working conditions, workplace relationships. In which, work overload has the most impact on the work stress of the medical team with the highest standardized estimated value. The result is similar to studies of Bashir & Ramay (2010), Badar (2011), Sharma & Devi (2011), Karunaithy & Ponnampalam (2013).

The result in table 4 indicates that occupational stress negatively affects doctors’ perceived happiness. The higher the work stress, the lower the level of happiness they achieve. This result is consistent with the discovery of Lu et al., (2003), Klassen & Chiu (2010), Iqbal & Waseem (2012), Karimi et al., (2014), Khattak et al., (2011). In addition to this, the research result points out that work pressure negatively influences the job performance of doctors. The higher the work stress, the lower their work efficiency. These results support the findings of Chang & Chang (2007), Shahu & Gole (2008), Bashir & Ramay (2010), Bashir (2011), Yurtkorub (2013), Arshadi & Damiri (2013), Hoboubi et al., (2017). Finally, the study has demonstrated a positive relationship between well-being and job performance. This claims that the higher the perceived happiness, the better the job performance. This finding is similar to the researches of Sheridan & Slocum (1975), Wright & Cropanzano (2000), Bogdanova et al., (2008), Taris & Schreurs (2009).

5 CONCLUSION

Overall, the study has proved the negative influence of occupational stress on doctors’ well-being and job performance. Also, the study has pointed out a positive relationship between well-being and job performance. From the above results, hospital administrators need to control the causes of work pressure to improve the feeling of happiness and performance. The causes include work overload, pressure from superiors, time pressure, income pressure, working conditions, and workplace relationships. In particular, work overload needs to be paid the most attention.
REFERENCES


