

## **Determinants of Hospital Nurse Burnout: The Moderating Role of Supervision**

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### **Abstract**

Health care has become a rapidly growing industry where the role of nurses as a group of emotional labor employees is central and prone to burnout. The purpose of this study was to examine the role of supervision in moderating burnout caused by the effect of work intensity, customer contact, and self-efficacy, where the moderating role of supervision on burnout with its various predictors is still unstable. This quantitative study was based on research samples collected through questionnaires from 131 hospital nurses spread over two different locations. The questionnaire asked about supervision, work intensity, customer contact, self-efficacy and burnout used a Likert scale, which was then analyzed using SEM-PLS. The results indicated that work intensity and self-efficacy had a significant effect on burnout, while customer contact had no significant effect on burnout. Supervision as a moderator only significantly

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moderates the effect of work intensity on burnout, while supervision is not significant as a moderating variable on the effect of customer contact and self-efficacy on burnout. This study can contribute to the development of theories about burnout and practically can be used as a reference by policy makers in enhancing the role of supervision for nurses in hospitals.

*Keywords:* burnout, self-efficacy, customer contact, work intensity, supervision, Indonesia

Burnout is a variable that has invited a great deal of attention over the last decades due to shifts in the workplace. Some research argues that burnout is a work-related stress syndrome that was initially observed among those who work in dealing with humans (Maslach et al., 2018). However, other studies have shown that the core dimensions of burnout are exhaustion and cynicism or disengagement, which can be observed in almost all occupational groups (Bakker et al., 2014; Leiter & Maslach, 2016). Burnout has been indicated as a consequence of an inadequately designed workplace setting apart from the job, suggesting that burnout is less about the type of jobs, but rather how the work is managed (Patel et al., 2018).

Burnout for health workers is a state of mental and physical exhaustion caused by a person's professional life in their work, which is measured by the dimensions of fatigue, cynicism, and professional efficacy (Gualano et al., 2021). Likewise, age, academic degree, as well as the length of time in the profession and in institutions, will cause long-term consequences that can lead to burnout syndrome (Ozkula & Durukan, 2017). Lack of empowerment of health workers in hospitals, which is related to stress and poor working conditions, is the main source of nurses' fatigue (Greco et al., 2006). Structural empowerment with indicators of resources, support, and information has a direct effect on psychological empowerment.

Compared to many other professions, nursing has more risks associated with it due to exposure to potentially hazardous materials and infectious diseases, which also increases burnout. A study in Europe notes that burnout is experienced by 90% of

nurses compared to 32% of teachers. In addition, 43% of administrative and management workers, 4% of workers in the field of law and the police, and 2% of other workers experience burnout (Prestiana & Purbandini, 2012). The healthcare sector, where there is direct contact between consumers and employees, has the potential for burnout. This has implications for increasing employee performance, which, in turn, can enhance organizational performance in terms of reaching profits and business goals. In addition, the organizational performance can be evidenced by increasing hospital efficiency and enhancing patient satisfaction (Choi et al., 2019; Wu et al., 2020; Barello et al., 2020).

Studies on this topic are increasing. For instance, a preliminary study mentioned that psychological empowerment can reduce burnout syndrome (Nursalam et al., 2018). In addition, the absence of appreciation by the hospital administration can result in negative feelings about the task and a lack of motivation to be a high performer. Several studies remark that the performance of Indonesian nurses is not optimal, and it is associated with knowledge and attitudinal factors (Hidayah & Putri, 2020; AbuAlrub & Al-Zaru, 2008). Some mentioned the role of supervision as part of the organizational factors that support the performance of nurses (Lin et al., 2015; Holland et al., 2017). However, few studies have attempted to understand factors related to nurses' burnout.

Job demands, which consist of variables such as job intensity, surface acting, role ambiguity, workload, and customer contact, are predictors that can have an effect on increasing burnout (Kim & Wang, 2018). Meanwhile, other predictors, such as job resources, which consist of variables such as self-efficacy, job autonomy and social support, have a negative impact on burnout (Sokmen & Kilic, 2019). In the health industry, nurses face many patients both in terms of the number of patients and the frequency of their contact. There is the potential that nurses will face an unbalanced relationship between job demands and job resources, which in turn makes nurses experience emotional tension and affects depletion of emotional resources (Kim & Wang, 2018).

On the other hand, the role of supervision, both as a technical guide for work and motivation of superiors, is expected to moderate the burnout faced by nurses. In

many studies, poor supervision has a negative impact on the mental health of their subordinates (Xu et al., 2015; Han et al., 2017). Burnout with various causes, of course, will result in performance issues, which have an impact on decreasing service quality (Bakker et al., 2014). The challenge for hospitals is to provide high-quality services to respond to the changing needs of the population and to provide healthcare to the community (Dunlop et al., 2020).

This study provides some contributions to the research on this topic. First, this study provides insight into how to reduce burnout among nurses in the Indonesian context by elaborating on the supervision variable, which was missing in prior studies. The study in Indonesia is unique due to lack of supervision being one of the causes of low performance of nurses in Indonesia (Barber, 2007). Second, despite many researchers trying to show that low levels of supervisory support contribute to job burnout, the moderating effect of supervisor support and subjective vitality on this interaction is still not completely clear, and previous studies showed different results (e.g., Elci et al., 2018; Bakker et al., 2005; Elmonita et al., 2017). Therefore, this research attempts to reveal the moderating role of supervision on burnout, which is influenced by predictors of patient contact, self-efficacy, and work intensity.

## **Literature Review**

### **Job Demands Resources Model Burnout**

The Job-Demands Resources (JD-R) model was originally developed by Bakker and Demerouti (2017). This model explained how working conditions affect employees, and how employees actively affect their own working conditions. Organizational life should be modeled on multiple levels (organization, team, and individual), which influence each other over time. Thus, the nature of stability and dynamics of occupational welfare can begin to be understood (Bakker & Demerouti, 2017). The final product of the workforce in the modern era is very diverse, so that various uses of technology such as search engines, the use of artificial intelligence, robots, and others have brought differences to each organization. It is thus clear that working conditions will differ between organizations.

Despite these differences, the JD-R theory (Bakker & Demerouti, 2017) proposes that all job characteristics can be classified into two main categories, namely, job demands and job resources, which have unique properties and predictive value. Job demands are aspects of work that require costs and energy, such as workloads, complex tasks, and conflicts. Workload and complexity can be understood as the challenging demands related to performance, while conflict is an obstacle to job demands that weakens performance (LePine et al., 2005). The JD-R model was enhanced by Kim and Wang (2018).

In the JD-R model, burnout can be caused by job demands, personal resources, job resources, personal demands, and gender aspects (Salmela-Aro & Upadyaya, 2018). In their study, Kim and Wang (2018) developed a clearer framework, especially regarding burnout for employees who deal with customers directly. Kim and Wang (2018) build a theoretical model which states that burnout is influenced by aspects of emotional labor, job demands, and job resources. The results of their research explain that aspects of job demand, and job resources can have a positive or negative direct effect on burnout and can have a moderating effect between emotional labor and burnout.

## **Burnout**

Maslach et al. (2018) define burnout as a psychological syndrome consisting of three dimensions, namely, emotional exhaustion, depersonalization, and low personal accomplishment. Initially, Freudenberger (1973), a psychologist, used the term burnout or fatigue to describe emotional depletion and loss of motivation (Kim & Wang, 2018). Burnout or fatigue is defined as a state of mental and physical exhaustion caused by one's professional life, and as death of motivation or incentives/stimuli, especially when one's dedication to a goal or relationship fails to produce the desired results. Generally, individuals who experience burnout in their work will drain and run out of their energy resources and lose their engagement (Kim & Wang, 2018).

As a result of burnout, employees will experience depersonalization. The term depersonalization refers to an individual's negative attitude towards work in general in showing an indicator of illness when feelings become excessive, overpowering, and

interfere with daily life. Depersonalization can be expressed by unprofessional comments directed to customers (Maslach et al., 2018). Another consequence of burnout is the occurrence of low personal accomplishments caused by feelings of guilt, feeling that they have treated clients negatively, feeling that they have become a poor-quality worker, and acting badly towards clients. Some of the consequences of burnout can refer to the results of previous research in the field of psychology. Job burnout and engagement are separate constructs that describe the positive and negative sides of employee well-being (Salmela-Aro & Upadyaya, 2018).

Work burnout refers to feelings of fatigue, cynicism, and incompetence at work (Maslach et al., 2001; Schaufeli et al., 2002). Referring to Salmela-Aro and Upadyaya (2018) who conducted research by integrating the life span approach with the Job-Demands-Resources (JD-R) model, the research focuses on the relationship between personal and work demands, resources, job burnout, and engagement. The results show that, while the early, middle, and late career stages differ in line with the life span approach, the results for personal demands indicate that, during the early stages of a career, economic problems are often associated with job burnout symptoms, whereas during the late career stage, parenting demands are associated with job burnout and negatively affect job involvement.

In line with the JD-R model, job resources are related to work engagement at all career stages and with high resilience, which is supported by demands, work involvement, and burnout. Fatigue is the result of emotional labor. Burnout has been integrated as part of working emotions into the concept of burnout (Morris & Feldman, 1996). Based on the JD-R model, Demerouti et al. (2001), propose that burnout goes through two processes, including job demands and job resources. First, job demands cover some activities that can cause fatigue, such as physical workload, time pressure, recipient contact, physical environment, and work shifts. Second, the lack of job resources is related to several factors, such as feedback, rewards, job control, participation, job security, and supervisor support.

Likewise, Bakker et al. (2014) found that, in the JD-R model, the two processes operate independently. An energy-driven process is job demands on burnout have a negative impact on performance, while a motivation-driven process is work on

resources causes engagement and results in positive performance (Bakker & Demerouti, 2017). In addition, Kim and Wang (2018) build a theoretical model that states that burnout is influenced by aspects of emotional labor, job demands, and job resources. The results of their research explain that aspects of job demand, and job resources can have a positive or negative direct effect on burnout and can have a moderating effect between emotional labor and burnout.

### **Intensity and Burnout**

The frequency of face-to-face interactions with clients over a long period of intense emotional effort is associated with higher levels of emotional exhaustion. Morris and Feldman (1997) found a negative correlation between frequency of emotional effort and burnout. In addition, Fiorili et al. (2015), found that the requirement to display certain emotions was positively correlated with emotional exhaustion. Other studies (Brotheridge & Grandey, 2002; Kim & Wang, 2018), found that there is a positive relationship between job intensity and burnout. Therefore, the following hypothesis is suggested.

H1. Work intensity has a positive effect on burnout.

### **Customer Contact and Burnout**

Service workers are usually responsible for making contact with customers. In the JD-R model, customer contact is one of the significant variables influencing burnout, in particular, exhaustion and disengagement (Demerouti et al., 2001). The customer contact variable used in this study is related to how workers experience emotional fatigue when they cannot fulfill a demand or provide satisfaction when serving customers (Michel et al., 2013). In this regard, customer contact refers to how contact with demanding or unsatisfied patients has a positive effect on burnout. However, when customers are more demanding, and are negative and aggressive towards service workers, then the contact worsens the existing relationship (Kim & Wang 2018; Demerouti et al., 2001). Thus, the following hypothesis is suggested.

H2. Customer contact with demanding or unsatisfied patients has a positive effect on burnout.

## **Self-Efficacy and Burnout**

Niu (2010) states that self-efficacy is the result of the interaction between the external environment, adjustment mechanisms, and personal abilities, experience, and education. Meanwhile, Hetherington and Santrock (2007) define self-efficacy as a person's belief in their ability to master the situation and produce something profitable. Job resources can influence the relationship between job demands and burnout. Bakker et al. (2014) explain that self-efficacy generally reduces fatigue. Skaalvik and Skaalvik (2007) found that, in teachers, self-efficacy mediates their collective perception of efficacy and external control, which reduces the likelihood of burnout. Many studies have found that self-efficacy has a negative effect not only on current burnout but also on future burnout (Schwarzer & Hallum, 2008). Previous research also strengthens the hypothesis that self-efficacy has a negative effect on burnout (Bakker et al., 2014; Shoji et al., 2016; Kim & Wang 2018). Therefore, the following hypothesis is suggested.

H3. Self-efficacy has a negative effect on burnout.

## **The Role of Supervision**

In general, supervision includes planning, directing, guiding, teaching, observing, encouraging, improving, trusting, and evaluating continuously for each nurse patiently, fairly, and wisely (Huber, 2017). Supervision in the field of nursing is defined as a process of facilitation for the completion of nursing tasks (Roussel et al., 2006). The purpose of supervision is to provide assistance to subordinates directly so that with this assistance subordinates will have sufficient provisions to carry out tasks or work with good results (Brunero & Stein-Parbury, 2008). Educative, Supportive, and Administrative Cycle (ESA-C) is a model of nurse supervision that is recommended to be used in supervising nurses (Setiawan et al., 2019).

Clinical supervision that is carried out properly is expected to continue to improve nursing care activities so that they become even better (Snowdon et al., 2017). Although many researchers have tried to show that low supervisory support contributes to burnout, the moderating effect of supervisor support and subjective vitality on this interaction is still not completely clear, as many researchers have shown



different results (Roussel et al., 2006; Bakker et al., 2014; Snowdon et al., 2017). Therefore, the following hypotheses are suggested.

H4. Supervision moderates the effect of intensity on burnout.

H5. Supervision moderates the influence of customer contact on burnout.

H6. Supervision moderates the effect of self-efficacy on burnout.

## **Methodology**

### **Design, Participant, and Procedure**

We randomly selected 150 nurses who worked at the hospitals in Jakarta and Bogor from a list provided by nurses' professional organizations at the city and hospital level in these and invited them to take a survey. Those two cities were selected because they have several international and local hospitals. Invitations were sent using WhatsApp and Telegram, May-July 2022. A total of 131 responses were received, for a response rate of 87.3%. The participants in this study were provided anonymity and they voluntarily completed the questionnaire. In addition, the ethical clearance has been issued by Universitas Negeri Jakarta, Indonesia.

### **Measures**

The statements in the questionnaire used Likert scales to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena. The instruments used to measure the burnout variable were adapted from Maslach et al. (2018), consisting of a 21-item burnout inventory, while self-efficacy was measured using 15 items from Bandura (2006). In addition, customer contact was measured using eight items from Kellogg and Chase (1995), and work intensity was measured using 12 items from Morris and Feldman (1997). Lastly, the supervision variable was adopted from the Educative, Supportive and Administrative Cycle (ESA-C). The instruments were translated to Bahasa Indonesia, as the respondents were Indonesian nurses, and were checked using back translation. All instruments have been tested in the form of expert judgments to ensure the statements are relevant to the research purposes.

## Data Analysis

The procedures for analysis in this study follow the criteria of Hair et al. (2014), including outer model measurement, inner model measurement, and hypothesis testing. The outer measurement model consists of convergent validity (AVE > 0.5), discriminant validity (diagonal variables should higher than 0.7), and composite reliability (CR > 0.7). The process for analysis of the data used the partial least square structural equation modelling (PLS-SEM) with Smart-PLS version 3.0. The use of PLS-SEM is beneficial in testing a small number of responses.

## Results and Discussion

### Demographic Respondents

**Table 1**

*Demographic Characteristics of Respondents (N =131)*

Criteria	Scale	n	%
Age	20 - 30 Years	62	47.3
	31 - 40 Years	45	34.4
	> 40 Years	24	18.3
Gender	Male	23	17.6
	Female	108	82.4
Years of service	0 - 5 Years	55	42.0
	6-10 Years	16	12.2
	>10 Years	60	45.8
Hospital Ownership	Government/Army	127	97.0
	Private	4	3.1
Hospital Location	Jakarta	3	2.0
	Bogor	128	98.0
Married Status	Married	46	35.1
	Not married	85	64.9
<b>Total Sample</b>		<b>131</b>	<b>100.0</b>

Table 1 contains demographic information about the respondents who participated in this study. In general, a majority of the participants were female nurses (82.4%), and a plurality were in between the ages of 20-30 years old (47.3%).

Respondents were most likely to have worked as nurses for more than 10 years (45.8%), followed by those who had worked from 0 to 5 years. Most of the respondents (97.0%) worked in government hospitals.

### The Outer Model Evaluation

The outer model test aims to specify the relationship between latent variables and their indicators. The first estimate is convergent validity using AVE (Average Variance Extracted) which must be higher than 0.5. The results in Table 2 indicate that the construct explains more than half of the indicator variance.

**Table 2**

*The Results of Outer Model Calculation*

Construct	Item	Factor Loading	Cronbach's Alpha	CR	AVE
Self-efficacy (A1SE)			.85	.89	.53
	SE14	.77			
	SE22	.82			
	SE25	.70			
	SE26	.72			
	SE32	.71			
	SE33	.75			
Work intensity (A2WI)	SE34	.69			
			.87	.90	.52
	WI12	.73			
	WI14	.73			
	WI15	.72			
	WI 21	.78			
	WI 22	.72			
	WI 23	.72			
WI 32	.82				
WI 33	.78				
Customer contact (A3CC)			.87	.91	.72
	CC12	.88			
	CC21	.83			
	CC22	.79			
Supervision (A4SUP)	CC31	.89			
			.94	.95	.69
	SUP1	.75			
	SUP12	.80			
	SUP22	.86			
	SUP31	.81			
	SUP32	.88			
	SUP33	.83			
SUP42	.87				
Burnout (B BO)			.82	.87	.53
	BO11	.75			
	BO14	.73			
	BO16	.70			
	BO22	.72			
	BO31	.77			
BO32	.76				

*Note.* A1SE = self-efficacy, A2WI = work intensity, A3CC = customer contact, A4SS = supervision, B BO = Burnout, CR = composite reliability, AVE = average variance extracted

In addition, Table 2 also shows the Composite Reliability (CR) values for each construct ranged from 0.926-0.978, exceeding 0.7, which is the limit value to achieve the CR criteria (Hair et al., 2014). Furthermore, the discriminant calculation can also be seen in Table 3, using the Fornell-Larcker as a measure of discriminant validity. The cross loadings are lower than the loadings on its latent construct. It shows these variables have fairly good discriminant validity.

**Table 3**  
*Discriminant Validity (Fornell-Larcker)*

	A1SE	A2IP	A3CC	A4SUP	B BO
A1SE	<b>.73</b>				
A2IP	-.13	<b>.72</b>			
A3CC	.64	-.02	<b>.85</b>		
A4SUP	.60	-.19	.73	<b>.83</b>	
B BO	-.42	.59	-.24	-.36	<b>.73</b>

*Note.* = A1SE = self-efficacy, A2WI = work intensity, A3CC = customer contact, A4SS = supervision, B BO = Burnout

**Goodness of Fit (GoF)**

The results of the Goodness of Fit (GoF) test can be seen from the value of Standardized Root Mean Square Residual (SRMR) < 0.085, which means the model will be considered suitable or appropriate. Then, the Normal Fit Index (NFI) value is between 0 and 1. The closer to 1, the better, in accordance with the model built (Hu & Bentler, 1999). The SRMR value is 0.053. This value is less than 0.08, so the model is considered appropriate. Next, the NFI is 0.802, which is closer to 1, meaning that it can be stated that the model is considered appropriate.

**Inner Model Assessment**

The measurement model shows adequate convergent validity and discriminant validity. Therefore, the next step in PLS analysis is to develop an inner model that can be used to assess the relationship between constructs. All data were run using 500

bootstrap samples. Path coefficient analysis was also implemented to evaluate the inner model, using bootstrap resampling, as mentioned above. This is a non-parametric approach used to estimate the accuracy of SEM-PLS estimation. The results of the outer model testing are described in Table 2, where the results support three hypotheses, as  $p < .05$ . Through analysis testing, the results show  $p > .05$ , meaning that there is no significant difference between males and females (see Table 4).

**Table 4.**  
*Hypothesis Testing Using PLS*

No	Hypothesis	Path coefficient	t	p	Decision
H1	Work intensity → Burnout	0.59	8.19	.000	Supported
H2	Customer contact → Burnout	0.03	0.31	.760	Rejected
H3	Self-efficacy → Burnout	-0.36	3.79	.000	Supported
H4	Supervision →, Work intensity → Burnout	-0.17	2.19	.029	Supported
H5	Supervision → Customer contact → Burnout	0.03	0.19	.849	Rejected
H6	Supervision → Self-efficacy → Burnout	-0.06	0.42	.676	Rejected

The results of hypotheses testing (Table 4) indicate that the intensity of work has a significant positive effect on burnout, ( $p < .001$ ), which means that an increase in work intensity will increase burnout. This result suggests that H1 is supported. Customer contact has a positive effect on burnout, but it was not significant ( $p = .760$ ), which leads us to reject H2. Self-efficacy has a negative and significant effect on burnout ( $p < .001$ ), this shows that the hypothesis can be accepted, meaning that an increase in self-efficacy will reduce the level of burnout. Thus, H3 is supported.

Supervision significantly moderates the effect of work intensity on burnout (p

= .029), supporting H4. Supervision does not significantly moderate the influence of customer contact on burnout ( $p = .849$ ), which means that H5 is rejected. Supervision does not significantly moderate the influence of customer contact on burnout ( $p = .676$ ), meaning H6 is rejected.

## Discussion

Of the six proposed hypotheses, three hypotheses were rejected and three were supported. H1 reveals that work intensity has a significant positive effect on burnout, which is consistent with previous research (Brotheridge & Grandey, 2002; Kim & Wang, 2018). Where work intensity is measured by the dimension's frequency, duration, and emotional dissonance (Morris & Feldman, 1997), increasing work intensity will increase burnout. This indicates that management can control work intensity to diminish nurses' burnout, which in turn can enhance the hospital performance. Changing from a night shift to a day shift is beneficial to reduce this issue so that it will help nurses avoid burnout.

Customer contact had no significant effect on nurse burnout (H2), where customer contact was measured by nursing practices that were carried out, attention to patient interests, boredom, and demands requested by patients or their companions, which is consistent with previous research (Lim et al., 2017). The findings were different from Demerouti et al. (2001), which showed that customer contact is one of the significant variables influencing burnout, in particular, exhaustion and disengagement.

In addition, the H3 considers self-efficacy to be a result of the interaction between the external environment, adjustment mechanisms, and personal abilities, experience, and education, which further can reduce nurse burnout. Our results are consistent with previous research (Shoji et al., 2016); Kim and Wang (2018), remarked that self-efficacy can affect nurses' burnout. Meanwhile, the supervision variable which is thought to moderate the effect of work intensity, customer contact, and self-efficacy on burnout, was only supported as a moderator of the effect of work intensity on burnout, not customer contact and self-efficacy. The rationale behind this finding is

that a good supervisor can help address work intensity adequately but is limited in their ability to affect the other two areas.

The findings provide an insight to further study on the role of supervision, which in this study is measured by the dimensions of supervision in the form of supervision of nurses in terms of technical skills, patient education, emotional support, and assistance to patients and families based on the formulation of the Educative, Supportive and Administrative Cycle (ESA-C). Ideally, supervision is able to reduce the influence of customer contact and self-efficacy on burnout as other research has suggested (Snowdon et al., 2017). However, previous studies have also shown that the moderating effect of supervision on this interaction is still not completely clear, because many researchers show different results (Bakker et al., 2014; Snowdon et al., 2017). Thus, the role of supervision as a mediating variable in the aspect of nursing burnout still requires further research.

Burnout as a psychological syndrome consists of three dimensions, namely, emotional exhaustion, depersonalization, and low personal accomplishment (Maslach et al., 2001). These dimensions are important to control in order to maintain workers' mental health, especially emotional labor workers, namely, employees who display the required emotional expression according to the demands of work and organizational operational standards (Williams, 2012). There is often asymmetry between the desire to provide maximum service and excessive customer demands, so that employees must submit to external forces (Hochschild, 1979; Morris & Feldman, 1997). Such conditions often result in burnout, which in the end will have a negative impact on performance results (Baker et al., 2014)

### **Conclusion**

Bunout is observed to occur in almost all occupational groups and adversely affects employee performance. This study makes a number of important contributions to academic and practical literature to establish the role of supervision in safeguarding the mental health of employees from burnout problems. This study shows robust results when examining the structural model of the influence of the variable self-

efficacy and work intensity or intensity of work, which significantly affect burnout. Meanwhile, the customer contact variable has no effect on burnout. The role of supervision as a moderator has different moderating effects on each predictor variable of burnout. There is an opportunity for future researchers to test with different loci.

The role of supervision, which was expected to have an effect on reducing burnout from various burnout predictors, can moderate one variable. This study shows that the role of supervision has not consistently moderated burnout with its various predictors. The limitation of this research is the limited number of respondents and place of work, where there may be differences in policies in the implementation of management and supervision practices. This research opens opportunities for further studies on the role of supervision in controlling burnout for nurses or studies using other worker respondents, such as teachers, public service officers, and other workers who are classified as emotional laborers.

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