

The Relationship between Role Ambiguity and Burnout in Malaysia's Public Healthcare Sector: A Quantitative Study of Medical Doctors

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Abstract: Medical doctors in Malaysia's public healthcare system frequently contend with excessive workloads, unclear expectations, and competing responsibilities. These workplace conditions can lead to role stressors, which are significantly correlated with burnout. Burnout, in turn, may negatively affect not only the medical doctors' mental health but also the quality of patient care. Despite growing concerns, empirical research on the link between role stressors, specifically role ambiguity and burnout among Malaysian public healthcare doctors remains limited. This study aims to address the gap by examining the relationship using a quantitative approach. This quantitative study employed a cross-sectional survey design involving 471 medical doctors from public hospitals across Malaysia. Standardized instruments were used to measure role (using the Role Stressor Scale) and burnout (using the Maslach Burnout Inventory). Data were analyzed using SPSS and PLS-SEM, employing descriptive statistics, correlation analysis, and multiple regression to examine the strength and direction of the relationships between variables. A total of 471 medical doctors from eight state hospitals across Malaysia participated in the study, representing various grades and clinical departments. The measurement model demonstrated good convergent and internal reliability, with all constructs exceeding recommended thresholds (Average Variance Extracted [AVE] > 0.50 and Composite Reliability [CR] > 0.70). Structural model analysis using Partial Least Squares Structural Equation Modelling (PLS-SEM) revealed that role ambiguity significantly influenced burnout. Bootstrapping with 5,000 resamples confirmed the significance of the path from role ambiguity to burnout, with a path coefficient of 0.147 and a t-value of 4.207. The findings point to a clear link between role ambiguity and burnout among medical doctors in Malaysia's public healthcare sector. This highlights the need for practical organisational efforts such as providing clearer job descriptions, ensuring balanced workloads, and offering effective stress management support. Tackling role-related stress not only supports the mental well-being of healthcare professionals but also helps strengthen the overall quality of care delivered to patients.

Keywords: *Role ambiguity, burnout, Peninsular Malaysia, state hospitals, medical doctors, PLS-SEM*

1. Introduction and Background

Burnout is no longer a new phenomenon within the healthcare system. Cases continue to rise steadily, posing a significant impact, particularly on frontliners and healthcare professionals. Globally, the effects of burnout are evident. For instance, in China, Yuan et al. (2023) and Wang et al. (2024) found that work-related stress not only reduced the quality of care provided but also increased healthcare professionals' intention to leave their jobs due to burnout. The results indicate that burnout affects healthcare professionals regardless of age, gender, marital status, length of service, or departmental placement (Lee, Sim, & Tuckey, 2024). This suggests that the negative effects of burnout can occur across all levels of employment within the healthcare system. Moreover, this issue is not limited to developed countries; it also poses a significant challenge in developing nations, irrespective of their technological capabilities or healthcare infrastructure.

As a developing country, Malaysia's healthcare system has played a pivotal role in enhancing the quality of health services. In the Malaysian context, primary care doctors, including general practitioners (GPs), medical officers (MOs), and family medicine specialists, serve as the main providers of general medical care to patients. These professionals are often burdened with substantial workloads and responsibilities, which contribute to prolonged occupational stress. Such stress has been linked to negative outcomes, including work delays, absenteeism, hypertension, musculoskeletal disorders, and cardiovascular conditions (Shahrudin et al., 2025). Efforts to enhance the quality of health services have encountered several challenges. However, emerging

evidence from Huang et al. (2024), Mohd Yunus and Mahajar (2015) and Sulaiman et al. (2023) suggests that the healthcare system is gradually addressing these barriers. Despite these improvements, one critical issue remains unresolved: the well-being of healthcare professionals continues to be at risk, with burnout emerging as a significant and ongoing concern. (Ali et al., 2021).

According to Yusof and Zolkefley (2024), nearly one-third of medical officers employed in public hospitals in Malaysia are experiencing symptoms of depression and anxiety. These mental health outcomes have been strongly associated with burnout, which is predominantly attributed to prolonged exposure to role-related stressors, specifically, role ambiguity, role conflict, and role overload. (Fadli et al., 2024; Zakaria et al., 2021). According to a report by *Free Malaysia Today*, approximately 67 percent of Malaysian workers are experiencing severe levels of burnout, primarily attributed to long working hours and a lack of work-life balance. (Ismail & Qi, 2025; Ragu, 2024). Such role stressors impose excessive psychological and emotional demands on healthcare professionals, fostering persistent uncertainty, incompatible job expectations, and overwhelming workloads. Collectively, these factors substantially elevate the risk of burnout among medical personnel (Ali, N. et al., 2021; Sinnathamby et al., 2025). Furthermore, the implications of burnout extend beyond mere physical exhaustion and diminished occupational performance (Lee et al., 2025). When inadequately managed, burnout may progress into more severe psychological conditions, including clinical depression and anxiety disorders. These mental health issues not only undermine the overall well-being of healthcare providers but also compromise essential cognitive functions such as clinical judgment and decision-making. As a result, burnout poses a direct threat to the quality and safety of patient care, underscoring the urgent need for systemic.

Although burnout among healthcare professionals has been widely studied globally, the specific contribution of individual role stressors, particularly role ambiguity, remains insufficiently explored within the Malaysian public healthcare context. Most local studies on burnout have primarily focused on broader organizational or emotional demands, often giving limited attention to the specific impact of unclear job roles and expectations. Majid, Roslan, and Suryanto (2024) identified several organizational factors contributing to burnout among nurses in Malaysian public hospitals; however, role ambiguity was only briefly mentioned and not explored as an independent variable. Similarly, Mohamed (2025) investigated role ambiguity among healthcare professionals but focused primarily on its relationship with alienation rather than burnout. This limited attention to the direct pathway between role ambiguity and burnout highlights a crucial research gap, especially given the growing complexity and fluidity of roles in Malaysia's public healthcare system. Addressing this gap is essential for targeted interventions and more nuanced human resource management practices. Therefore, this study aims to quantitatively examine the direct relationship between role ambiguity and burnout among medical doctors in Malaysia's public healthcare sector, to provide clearer insights into the underlying factors contributing to this ongoing issue.

2. Literature Review

Role ambiguity: According to House and Rizzo (1972) and Rizzo, House, and Lirtzman (1970) defined role ambiguity as the clarity of the individuals who possess the roles that require them to perform appropriately, in which they are particular about their duties, authority, time allocation, relationship with others, and ability to predict sanctions as they clearly understand their roles that direct them to behave accordingly. In layperson's terms, role ambiguity has been illustrated as a degree of individual insecurity in job anticipation (Akanji, 2012; Ferro et al., 2024; Tharmalingam & Bhatti, 2014). Role ambiguity occurs in several conditions. First, role ambiguity happens if the job is vague when employees conduct their work due to uncertainty about their roles on how to complete the task, such as they have insufficient information on how to do it. Another role ambiguity situation is where they cannot predict or evaluate their responsibility when performing their roles. Various research shows a positive relationship between role ambiguity and the health of employees (Alyahya et al., 2021; Faraji et al., 2019; Ferro et al., 2024). Therefore, role ambiguity affects an employee during their job performance by creating dissatisfaction, nervousness, worry, anxiety, distorted reality, and extra concerns. Consequently, they will perform less, henceforth jeopardizing their health status, such as burnout (House & Rizzo, 1972; Maisonneuve et al., 2024; Rizzo et al., 1970; Tharmalingam & Bhatti, 2014; Wen et al., 2020). Evidence-based samples among healthcare professionals indicate those burnout symptoms are more likely to emerge when role ambiguity is excessive (Huang et al., 2024). Specifically, a survey of 148 Australian

salespeople who directly interacted with clients experienced burnout when role ambiguity was high. Other studies confirm that professionals who provide service to others tend to experience burnout over time due to role ambiguity (Fadli et al., 2024; Peiro et al., 2001; Putri et al., 2025; Yunus & Mahajar, 2015; Zohar, 1997). Therefore, the following hypothesis is proposed:

H1: There is a positive relationship between role ambiguity and burnout

3. Research Methodology

This study employed a quantitative, cross-sectional research design to examine the direct relationship between role ambiguity and burnout among medical doctors in Malaysia's public healthcare sector. A purposive sampling technique was used to ensure the selection of respondents with relevant exposure to occupational stressors in clinical settings. The target population consisted of medical doctors serving in six clinical departments, such as general medicine, orthopaedic, O&G, general surgery, paediatric and emergency medicine across twelve state hospitals located in Peninsular Malaysia. The sample included medical doctors from various job grades, ranging from UD41 to UD56, to capture diverse experiences and responsibilities associated with different career levels. A total of 997 structured questionnaires were distributed to potential respondents. Data were collected using a self-administered questionnaire, comprising items adapted from validated instruments. The construct of role ambiguity was measured using the scale developed by Rizzo, House, and Lirtzman (1970). The role ambiguity scale consists of 6 items, each rated on a seven-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". Sample items include: *"I do not have clear, planned goals and objectives for my job"*, *"I do not know that U have divided my time properly"*, *"I do not know that U have divided my time properly"*, *"I do not know what my responsibilities are"*, *"I do not know exactly what is expected from me"*, *"I do not feel certain about how much authority I have done on the job"*, and *"The explanation is not clear of what has to be done."* The internal consistency reliability of the role ambiguity scale in this study was measured using Cronbach's alpha, yielding a value of 0.87, indicating high reliability.

The construct of burnout was assessed using the abbreviated version of the Maslach Burnout Inventory (aMBI) by McManus, Winder and Gordon (2002) It is specifically designed to measure burnout among professionals in human service and healthcare settings. The instrument consists of 9 items grouped into three dimensions: Emotional Exhaustion (3 items), Depersonalization (3 items), and Personal Accomplishment (3 items). Respondents rated each item on a seven-point Likert scale ranging from 1 "Never" to 7 "Every day", reflecting the frequency with which they experienced each described condition. Sample items include *"I feel emotionally drained from my work"* (Emotional Exhaustion), *"I feel I treat some patients as if they were impersonal objects"* (Depersonalization), and *"I have accomplished many worthwhile things in this job"* (Personal Accomplishment). In the present study, the aMBI demonstrated high internal consistency, with Cronbach's alpha coefficients of 0.87.

SPSS Version 26 was used to compute descriptive statistics, while PLS-SEM Version 3.3.2 was employed to test the hypotheses and to validate the structural model. Ethical approval for the study was obtained from the Medical Research Ethical Committee (NMRR-19-1500-48412) and the Human Research Ethics Committee of USM (JEPeM Code: USM/JEPeM/19050334), and informed consent was collected from all participants. The confidentiality and anonymity of respondents were strictly maintained throughout the research process.

4. Results

As illustrated in Figure 1, data were collected from eight state hospitals across various states in Peninsular Malaysia. These hospitals were selected from a total of twelve state hospitals in the region, of which only eight agreed to participate in the study. A total of 997 questionnaires were distributed to eligible medical doctors serving in key clinical departments. Of these, 488 responses were returned, yielding a response rate of approximately 48.9 percent. After screening for completeness and consistency, 471 responses were deemed usable for analysis and included in the final dataset.

Figure 1: List of Participating Hospitals

No.	State Hospital	Questionnaire Distributed	Questionnaire Received
1	Hospital Kuala Lumpur	130	49
2	Hospital Melaka	70	64
3	Hospital Tuanku Jaafar, Negeri Sembilan	150	64
4	Hospital Sultanah Bahiyah, Kedah	141	74
5	Hospital Pulau Pinang	131	77
6	Hospital Tuanku Fauziah, Perlis	70	51
7	Hospital Tengku Ampuan Afzan, Pahang	120	39
8	Hospital Raja Perempuan Zainab II, Kelantan	185	70
Total		997	488

Based on Table 1, which presents the demographic profile of the respondents, the majority were female medical doctors, comprising 63.1% of the sample. In terms of race, 58.6% identified as Malay, followed by 27.2% Chinese, 13.0% Indian, and 1.3% from other ethnic backgrounds. Regarding educational attainment, the majority held an MBBS degree (87.3%), while 10.4% possessed a Master's degree, 1.3% a PhD, and 1.1% reported other qualifications. In terms of marital status, 58% of the respondents were single, 41.2% were married, and 0.8% reported other statuses. The majority were appointed at the UD41 grade level (56.3%), while the lowest proportion was at the UD55/UD56 levels (3.4%). Concerning departmental distribution, the highest number of respondents were from the Emergency Medicine Department (32.7%), whereas the lowest participation was recorded from the Orthopedic Department, with only 4.0% of respondents.

Table 1: Demographic Profile

VARIABLE	FREQUENCY	PERCENTAGE
GENDER		
Males	174	36.9%
Females	297	63.1%
Total	471	100%
RACE		
Malay	276	58.6%
Chinese	128	27.2%
Indian	61	13%
Others	6	1.3%
Total	471	100%
EDUCATIONAL LEVEL		
MBBS or equivalent	411	87.3%
Master or equivalent	49	10.4%
PhD or equivalent	6	1.3%
Others	5	1.1%
Total	471	100%
MARITAL STATUS		
Single	273	58%
Married	194	41.2%
Others	4	0.8%
Total	471	100%
JOB GRADE		
UD41	265	56.3%
UD43/44	67	14.2%
UD47/48	79	16.8%
UD51/52	23	4.8%

UD53/54	21	4.5%
UD55/56	16	3.4%
Total	471	100%
Department		
General Medicine	85	18%
Orthopedic	19	4%
O&G	31	6.6%
General Surgery	40	8.5%
Pediatric	142	30.1%
Emergency Medicine	154	32.7%
Total	471	100%

As presented in Table 2, the study evaluated the measurement model through factor loadings, Average Variance Extracted (AVE), and Composite Reliability (CR). The CR values indicated strong internal consistency, with role ambiguity and burnout demonstrating reliability coefficients of 0.929 and 0.838, respectively. In line with Henseler, Hubona and Ray (2016), internal consistency can be assessed through indicator loadings, where values of 0.70 and above are generally considered acceptable. The loading values for both role ambiguity and burnout met this criterion, with most items exceeding the 0.70 threshold. Furthermore, AVE values were above the recommended cut-off of 0.50, suggesting adequate convergent validity (Byrne, 2016). Specifically, all AVE scores in this study were above 0.60. According to Hair, Risher, Sarstedt and Ringle (2019), factor loadings are acceptable even if a few items fall slightly below 0.708, provided that the overall model meets the required reliability and validity benchmarks. In this study, no item had a loading below 0.708, thereby supporting the adequacy of the measurement model.

Table 2: Measurement Model for the Second-Order Constructs Outer Loadings Values, Composite Reliability (CR), and Average Variance Extracted (AVE)

Constructs	Items	Loadings	AVE	CR
Role Ambiguity	RA1	0.793	0.685	0.929
	RA2	0.808		
	RA3	0.840		
	RA4	0.871		
	RA5	0.865		
	RA6	0.785		
Burnout	EE	0.853	0.633	0.838
	DPN	0.722		
	RPA	0.807		

Table 3 presents the results of the structural model analysis. The evaluation of the structural model was conducted by examining the path coefficients to determine the significance and relevance of the hypothesized relationships, using a bootstrapping technique with 5,000 resamples. This approach follows the recommendations of Ramayah, Jacky, Chuah, Ting and Memon (2018) as well as Wong (2013). The path coefficient for the relationship between role ambiguity and burnout was 0.147, with a corresponding t-value of 4.207. Furthermore, the bootstrapped confidence intervals at the 99% and 90% levels did not include zero within the lower and upper bounds, indicating a statistically significant effect. These results confirm a positive association between role ambiguity and burnout. Hence, Hypothesis 1 (H1) was supported.

Table 3: Hypothesis Testing for Direct Path

Hypothesis	Std Beta	Std Error	t-values	p-values	BCL LL	BCI UL
H1: Role Ambiguity -> Burnout	0.147	0.035	4.207	0.000***	0.071	0.225

*p<0.01

Discussion

The findings of this study confirm a statistically significant positive relationship between role ambiguity and burnout among medical doctors in Malaysia's public healthcare sector, thus supporting Hypothesis 1. With a path coefficient of 0.147 and a t-value of 4.207, the data demonstrate that increased ambiguity in job roles is associated with higher levels of burnout. This supports the tenets of Role Theory and the Job Demands-Resources (JD-R) Model, both of which suggest that unclear roles function as job demands that contribute to strain and emotional exhaustion. In line with earlier studies by Schaufeli and Buunk (2003) and Ahmad et al. (2020), the findings reinforce the notion that role ambiguity disrupts professional efficiency and heightens psychological stress, particularly in high-pressure environments such as public hospitals. Theoretically, they extend the application of established occupational stress frameworks to the Malaysian public healthcare setting, confirming the relevance of JD-R constructs in this context. Practically, the findings highlight an urgent need for hospital administrators and policymakers to address role ambiguity through clearer job descriptions, improved communication of responsibilities, and structured orientation programs. Interventions such as mentoring systems and role clarification training could serve to alleviate burnout and improve workplace morale. Additionally, demographic insights such as the predominance of young, single medical doctors at the UD41 level and the high representation from departments like Emergency Medicine suggest that early-career professionals in high-stress units are particularly vulnerable to burnout.

5. Managerial Implications and Recommendations

The findings of this study have important managerial implications for healthcare administrators and policymakers in the Malaysian public sector. The positive relationship between role ambiguity and burnout highlights the need for improved clarity in job expectations, especially for medical doctors working in high-pressure environments. Hospital management must prioritize clear and consistent communication of roles, responsibilities, and reporting lines, particularly for early-career doctors, such as those at the UD41 level, who may lack the experience to navigate ambiguity effectively. One practical recommendation is for the Ministry of Health (MOH) and hospital administrators to standardize job descriptions and clinical protocols across departments to minimize confusion and inconsistency in task assignments. Regular role clarification meetings, interdepartmental briefings, and performance feedback sessions should be institutionalized to ensure alignment between expectations and actual responsibilities. Additionally, the implementation of structured onboarding programs and mentorship systems can provide junior doctors with guidance and support in navigating their roles, which may reduce the likelihood of burnout due to uncertainty or lack of direction.

Furthermore, hospitals should consider incorporating stress management workshops and resilience training into professional development initiatives. Such programs can help medical professionals build coping strategies to manage work-related ambiguity and pressure. The high burnout risk among doctors in departments like Emergency Medicine, as seen in this study, suggests a need for targeted interventions in high-stress units, such as rotating shifts, increased staffing, or peer support groups. At the policy level, the MOH should explore institutional frameworks that promote psychological safety, encourage open communication, and empower doctors to voice concerns about unclear roles or excessive demands without fear of repercussions. Establishing formal channels for feedback on role-related issues will enable continuous improvement and responsiveness to frontline staff needs. By addressing role ambiguity proactively, hospital management can help create a healthier work environment, reduce doctor burnout, and ultimately improve the quality of patient care and staff retention in Malaysia's public healthcare system. These contextual elements warrant further exploration. However, several limitations must be acknowledged. The use of cross-sectional data limits causal inferences, and reliance on self-reported questionnaires may introduce response bias. Furthermore, the sample was drawn from only eight public hospitals and examined a single role stressor, which constrains generalizability. Future research should adopt a longitudinal design and incorporate additional predictors such as emotional labor, organizational support, and personal resilience to provide a more comprehensive understanding of burnout. Comparative analyses involving private healthcare professionals or rural hospitals may also enhance the applicability of the findings across different healthcare contexts.

Conclusion

This research investigated how role ambiguity contributes to burnout among medical doctors in Malaysia's public healthcare sector. The findings provide empirical support for a significant positive relationship between

unclear role expectations and increased levels of burnout, reinforcing the conceptual foundations of Role Theory and the Job Demands-Resources (JD-R) Model. These results are particularly relevant given the demanding and complex nature of clinical environments within the public health system. The study offers both theoretical and managerial contributions. Theoretically, it extends the application of established occupational stress frameworks to the local healthcare context. From a practical perspective, it highlights the need for interventions that reduce ambiguity in job roles through improved communication, standardized role definitions, and structured support systems for healthcare professionals, particularly those at the early stages of their careers or serving in high-intensity departments.

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