



Does Facilitating Conditions Affect Medical Officer's Intention to Pursue Postgraduate Medical Education? The role of Career motivation and Perceived Barriers

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Abstract. The low enrolment rate of medical officers in postgraduate programs is a pressing concern for the healthcare system. Undeniably, career motivation (CM) emerges as a pivotal element influencing medical officers' postgraduate study intention. However, it is bundled with challenges and uncertainties in pursuing a specialist career. In order to address this critical issue, a comprehensive understanding of medical officers' intention to pursue postgraduate medical education (PGME) is crucial. The purpose of this study is to investigate how facilitating conditions influence the postgraduate study intentions of medical officers. Career motivation acts as a mediator, while perceived barriers serve as a moderator for the hypothesis. A total of 363 surveys were collected from medical officers practising in healthcare clinics and hospitals in Malaysia. Structural equation modelling (SEM) was used to analyse the data. The findings revealed that greater facilitating conditions increase the medical officers' intention to pursue PGME. Career motivation is found to mediate this relationship while perceived barriers weaken the relationship between facilitating conditions and career motivation. The insights gained from this research hold substantial implications for the healthcare organisations, government and medical educational institutions in developing targeted strategies and support systems to encourage medical officers to pursue PGME.

Keywords: Facilitating conditions, Career motivation, Perceived barriers, Postgraduate study intention, Postgraduate medical education, Medical officers

1 Introduction

Postgraduate medical education (PGME) is the phase of planned preparation for specialisation that occurs after graduating from medical school and before being recognised as a medical specialist [1]. In Malaysia, the decision-making process for PGME usually takes place among the medical officers who are in the final phase of choosing a specialisation career. Spanning over more than nine years, PGME plays a pivotal role in transforming the medical officers into highly skilled and competent

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medical specialists [2]. This transformative journey demands medical officers to acquire in-depth knowledge and extensive practical skills which is often rigorous, demanding and lengthy.

As such, the arduous nature of PGME necessitates a substantial commitment, time and a profound investment of effort throughout the journey [3]. In light of this, it is vital for the medical officers to possess a high level of career motivation. Without career motivation, medical officers may not be willing to endure the demands associated with PGME. Nonetheless, many medical officers were found to struggle in maintaining their motivation towards specialisation, impacting their overall mental well-being and aspiration for career progression [4-5]. This could potentially hinder medical officers from pursuing PGME and contribute to a shortage of medical specialists in the nation.

Therefore, it is imperative for both the healthcare organisations and government institutions to assess the influence of support systems and resources on medical officers' intentions to pursue PGME. These elements play a significant role in facilitating the willingness of medical officers to embark on the PGME journey. Offering medical officers the requisite facilitating conditions can heighten their career motivation, cultivating positive experiences in both work and learning. Nevertheless, it is important to acknowledge that the impact of facilitating conditions on fostering career motivation for specialisation could depend on the obstacles perceived by medical officers in the pursuit of PGME [6]. The presence and impact of these barriers might significantly influence the dynamics between facilitating conditions and career motivation [7]. Hence, understanding the moderating role of perceived barriers between facilitating conditions and career motivation towards specialisation among medical officers in Malaysia is vital.

By shedding light on the intricate dynamics of facilitating conditions, career motivation, and perceived barriers, the research aims to inform strategies that could strengthen the healthcare system, stimulate career aspirations towards specialisation, and ultimately contribute to a healthier and better-equipped nation.

2 Literature Review

The intention to pursue PGME reflects medical officers' willingness to advance one's medical knowledge, skills, and expertise beyond the undergraduate level. This advanced training is crucial for becoming a specialist or subspecialist in a particular field of medicine. Research on PGME indicates that the willingness to pursuing further qualifications is evident in the enthusiasm, dedication, endeavours, and inclination in enhancing the expertise in the future [2-8].

In understanding the factors influencing medical officers' intention to pursue PGME, the availability of facilitating conditions emerges as a crucial element. For instance, according to an interview conducted with 21 medical officers, [9] found that support from senior staff and positive relationships with colleagues served as a buffer, helping them cope with challenges and fostering the intention to continue higher studies. [10] identified poor educational and clinical environments, mistreatment, perceived organisational injustice, and insufficient government financial support as significant factors influencing medical officers' planning to pursue PGME. However, though prior research has shown the impact of facilitating conditions on medical

officers' intention [11-12], the underlying mechanism of this relationship remains underexplored. Alternatively, [8] emphasises career motivation as a pivotal factor in influencing the decision for PGME. Nonetheless, there is limited research on this, leaving the phenomenon less understood [13]. Meanwhile, [6] postulates that even with the availability of sufficient facilitating conditions, career motivation towards specialisation can diminish when medical officers perceive several barriers in the pursuit of specialist career. Hence, more empirical evidence is needed to support this claim. By delving the unexplored intricacies of the underlying mechanisms, there is a substantial research value.

2.1 Theoretical Background

According to the prospective rationality of the London Career Motivation Theory (LCMT), situational factors influence the domains of career motivation, which, in turn, influence an individual's career decisions and behavioural intentions [14]. In this study, the researcher stipulated facilitating conditions and perceived barriers as situational factors, given their origin in the environments surrounding the PGME pathway. Facilitating conditions refer to the availability of organisational support and government support for the medical officers which eases their pursuit of PGME. Perceived barriers refer to the medical officers' perception of the possible difficulties or negative outcomes that could arise in the pursuit of specialist career. Consequently, the study evaluates whether career motivation towards specialisation, under these situational factors, propels medical officers' intentions to pursue PGME. Within this framework, it is assumed that facilitating conditions can directly or indirectly influence the behavioural intention to pursue PGME, either through the mediation of career motivation. Additionally, perceived barriers are assumed to moderate the impact of career motivation on the behavioural intention to pursue PGME.

2.2 Facilitating conditions and the Intention to pursue PGME

In the context of postgraduate study intention, organisational support refers to the assistance and favourable working conditions provided by the healthcare organisation. Meanwhile government support refers to the necessary resources, opportunities and essential conveniences. These support systems serves as facilitating conditions that eases the pathway to undertake postgraduate studies and attain the specialist career effectively. Comprehensive studies conducted among diverse countries including Germany, the Netherlands, Australia, Finland, Canada, and the USA [15-17] highlights the indispensable role of robust organisational support in positively influencing medical officers towards the pursuit of PGME. [9] emphasise that mentorship and guidance from experienced professionals helps medical officers to navigate the complexities of the postgraduate program application process. This access to a supportive organisational environment fosters their intention to engage with the postgraduate program.

[12] corroborate that multifaceted forms of organisational support emerge as crucial factors in facilitating house officers' intention to pursue postgraduate medical education in Malaysia. Meanwhile, when the medical officers lack the support systems (e.g. difficulty in connecting with seniors, inadequate clinical exposure, and a lack of formal information about complex PGME pathways), the doctor's willingness to pursue

postgraduate education diminishes [7]. Furthermore, [18] conducted semi-structured interviews to unearth the factors influencing Indonesian general practitioners' perspectives on formal postgraduate training. Their research underscores that the government support (e.g. provision of scholarships, exposure to formal training programs, financial resources, and the offer of incentives) significantly sway the attitudes of medical doctors concerning PGME. This suggests that the availability of tangible resources and incentives acts as a catalyst, inducing doctors to consider and engage with formal postgraduate training. Their findings also emphasise the importance of clear, well-defined guidelines delineating the pathway to PGME. Well-defined guidelines provide the necessary information for medical officers to make informed decisions about pursuing PGME. Thus, they are more likely to feel capable and prepared for the journey.

Hence, based on the discussions above, the availability of necessary supports and resources will make the pursuit of PGME more accessible and feasible for the medical officers. This leads to the following hypothesis:

H1: Facilitating conditions has a significant and positive relationship with the medical officers' intention to pursue postgraduate medical education.

2.3 Facilitating conditions and Career motivation

Career motivation propels medical officers towards specialisation by aligning their personal needs, interests, and unique traits with the specialised field of study [19]. This alignment not only ensures a sense of purpose and direction but also fosters unwavering dedication and resilience throughout the rigorous PGME journey. Interestingly, researches denotes that career motivation can be substantially heightened with the presence of facilitating conditions, which play a crucial role in ensuring a successful PGME journey [20-22].

For instance, [21] revealed that when there is a lack of facilitating conditions (e.g. ambiguity in the postgraduate career path, a deficiency of clinical practice in the curriculum, and an inadequate support system), the motivation of medical students towards specialisation in general medicine is significantly diminished. This highlights a critical insight whereby the absence of supportive systems available for specialisation can lead to disengagement, subsequently diminishing enthusiasm for specialist careers. In a study on UK medical doctors, [23] found that many struggled in getting consistent support for their postgraduate training. Limited help from organisations and inconsistent senior support led to frustration and reduced motivation for career progression, affecting interest in specialisation.

[20] highlighted that inadequate financial support, coupled with mental health stigmas and toxic work cultures marked by bullying and blame, led to psychological distress among junior doctors. This distress demotivated them from attaining specialisation. [22] found that when junior doctors felt undervalued, unsupported, or worked in pressured environments with limited autonomy, they experienced a sense of frustration and burnout. This leads junior doctors to reconsider or reduce their motivation from progressing into the specialist career trajectory.

Based on the discussions above, facilitating conditions creates an environment where medical officers feel supported, empowered, and equipped to venture into specialisation. By offering supports that align with medical officers' career goals,

facilitating conditions fuel their career motivation, leading to a stronger desire to become specialists. Hence, the following hypothesis is formulated:

H2: Facilitating conditions has a significant positive relationship with the career motivation towards specialisation among the medical officers.

2.4 Career motivation and the Intention to pursue PGME

In the study's context, grasping how career motivation influences medical officers' intention is crucial, given PGME's demand for sustained discipline, energy, and enthusiasm. [24] defined career motivation as an individual's multidimensional construct, including career resilience, insight, and identity. This is reflected in attitudes, decisions, and intentions towards their career. Medical officers embodying career resilience, career insight, and career identity might increase their success likelihood and intention to pursue PGME. For instance, [25] discovered that junior doctors who exhibit a strong enthusiasm for specialising in a particular area of medicine are naturally inclined towards seeking advanced education through PGME programs. [13] delved into the influence of career motivation among medical officers in Saudi Arabia, shedding light on its foremost role in shaping intentions to pursue PGME. This influence extends further to sculpting preferences for postgraduate specialties, underscoring the pivotal role that career motivation plays in the career decisions of medical officers.

Interestingly, [26] provide an insightful perspective on career motivation's components, particularly career resilience. They argue that such resilience empowers medical officers to confront the impending challenges and effectively navigate the complexities inherent in a specialist career. This facet serves as a foundational motivational pillar that significantly influences medical officers' decision-making when considering application for a PGME program. [27] conducted a cross-sectional gender-based study involving medical officers in France, revealing that a higher proportion of women remain uncertain about their postgraduate plans in comparison to men. This indecision is attributed to lack of career motivation arising from a limited level of career insights towards specialisation. [28] added to the discourse by investigating career motivation and intentions toward the Master of Public Health (MPH) program among medical officers at a South African university. Their findings illuminated a compelling connection whereby medical officers with elevated career motivation demonstrated a stronger intention to enrol in and successfully complete the MPH program within the designated timeframe. This underscores the significant impact of career motivation on academic pursuits within the medical field.

Hence, based on the discussions above, it is suggested that career motivation towards specialisation serves as a catalyst for sustained commitment, enthusiasm, and effort which propels medical officers to invest the necessary time and dedication required for PGME. Thus, the following hypothesis is formed:

H3: Career motivation has a significant and positive relationship with the intention to pursue postgraduate medical education among the medical officers.

2.5 Career Motivation as a Mediator

Building upon the LCMT model, it is noteworthy that the variable influenced by situational factors can also serve as a mediator in the study. Therefore, this research aims to amplify the predictive capacity of the LCMT model by introducing medical officers' career motivation as a mediator in the relationship between facilitating conditions and the intention to pursue PGME.

As emphasised above, [9] asserted that when junior doctors receive inadequate organisational support, including lack of encouragement from the supervisors and lack of flexibility in work arrangements to accommodate education commitments, it leads to lower career motivation towards specialisation. This lack of motivation eventually affects their desire to continue their education to become specialists. Apart from stressing the importance of providing a supportive working environment, [12] also encapsulated that future interventions should include providing adequate government support (e.g. covering the costs for the postgraduate programme). Such measures are believed to enhance the motivation of aspiring doctors to attain the specialist career which would be reflected in their intention to pursue PGME.

Correspondingly, [29] denoted that supports from the organisation and government play pivotal role in shaping the environments positively in which medical students, housemen and medical officers acquire medical knowledge, skills, competencies and resources that are essential for specialisation. Such facilitation enhances medical officers' engagement and motivation towards specialist careers, equipping them with the capabilities to adapt to novel and demanding scenarios. Consequently, this heightened involvement and motivation prompted their inclination to pursue PGME. [30] highlighted that consultants' provision of learning opportunities, constructive feedback, and attentive support positively impacted medical officers' career motivation towards specialisation. This motivation was further bolstered by the confidence instilled through the governmental support such as by providing financial assistance for PGME. The kindled career motivation subsequently influenced medical officers' intention to undertake PGME.

Based on the discussions, previous research has endorsed the idea that facilitating conditions enhance medical officers' career motivation for specialisation leading to a stronger intention to pursue PGME. Hence, the following hypothesis is made:

H4: Career motivation mediates the relationship between facilitating conditions and the intention to pursue postgraduate medical education.

2.6 Perceived Barriers as Moderator

In the realm of PGME, perceived barriers can be classified into two, namely, institutional barriers and individual barriers which makes the medical officers unable to implement their career goals effectively. These barriers include but are not limited to lengthy time taken for PGME completion, stressful clinical obligations, high competition to get into the masters programme, lack of perseverance and personal commitments [7-31]. Such barriers tend to hinder or impede one's motivation towards specialisation regardless of the availability of supports and resources.

For instance, [7] encapsulated that the presence of several barriers in the PGME journey were associated with the availability of facilitating conditions and motivation

for postgraduate career. That is, when the medical officers perceive significant barriers (e.g. competitive enrolment process, long duration for the PGME completion), they view even well-presented facilitating conditions (e.g. financial resources and good working environment) as less effective in overcoming those barriers, diminishing one's motivation towards specialisation. On the other hand, when they perceive fewer barriers, they are more inclined to capitalise on the facilitating conditions available to them leading to a higher motivation towards the postgraduate career. Similarly, a research from UK emphasises that despite the availability of government funding and good support from the superior management, some medical officers tend to take a break from clinical practice, especially before stepping into PGME [32]. The underlying reasons for this trend have received limited research attention, but preliminary insights suggest this relates to the perception of substantial workloads and an inadequate work-life balance in specialised roles, as well as the need for additional time to prepare competitive portfolios for admission to specialty training programs [6]. Such barriers impose an adverse impact on the career motivation of the medical officers towards specialisation. Intriguingly, [9] have asserted that even with the availability of robust support systems from both the organisation and government for the PGME journey, the career motivation of junior doctors may not attain the expected heights when these doctors perceive numerous barriers such as lack of perseverance and passion for specialisation. These perceived barriers seem to act as formidable deterrents to the pursuit of specialist careers, offsetting the influence of facilitating conditions.

Hence, based on the surveyed studies and ideas above, it is suggested the impact of facilitating conditions on career motivation could vary based on the level of perceived barriers. When perceived barriers are high, the effect of facilitating conditions on career motivation might be weaker, while when perceived barriers are low, the effect could be stronger. Thus, the researcher proceed to conduct direct tests of this hypothesis by formulating:

H5: Perceived barriers moderates the relationship between facilitating conditions and career motivation towards specialisation among the medical officers.

2.7 Proposed Conceptual Framework

Based on the hypothesis development, the proposed conceptual framework has been illustrated in Figure 1.

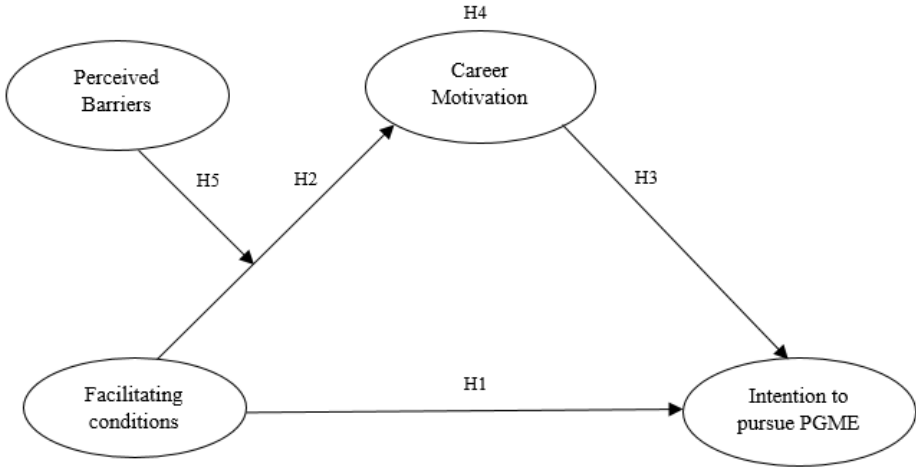


Fig. 1. Proposed Conceptual Framework

3 Research Methodology

3.1 Sampling Design

The target population in this study are the medical officers from various healthcare hospitals and clinics in Malaysia. Non-probability sampling technique was adopted as the sampling frame for the total number of medical officers in Malaysia is not specified. The study employed purposive sampling because the respondents needed to meet specific criteria to be eligible for the survey. For instance, they were required to be medical graduates holding a Bachelor of Medicine and Bachelor of Surgery (MBBS) degree and should have completed their housemanship service in Malaysia but not yet become medical specialists. These criteria ensured that the respondents align with the study's objectives. The sample size is measured using the G*Power software. The results generated has been illustrated in Figure 2. Based on the results, the minimum sample size needed for the present study is 119.

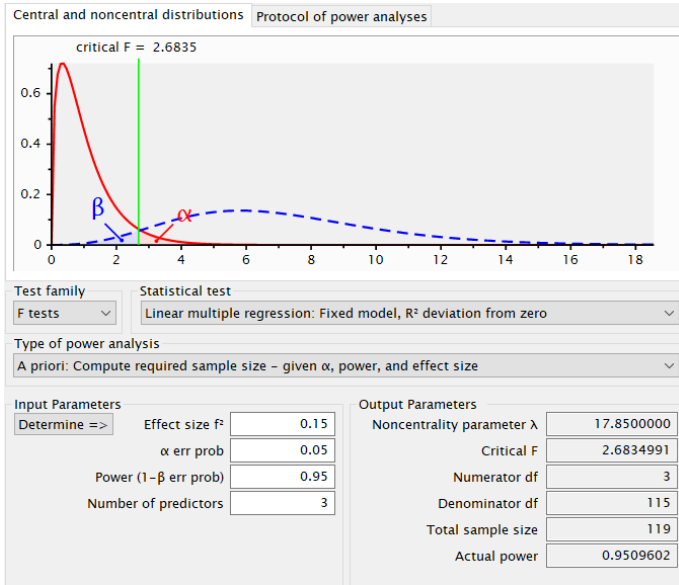


Fig. 2. G*Power results

3.2 Research Procedure

This research employs a quantitative approach to examine the factors influencing medical officer's intention to pursue PGME. It falls under the category of descriptive research and adopts a cross-sectional design. Each identified respondent is considered a distinct source of data. The chosen research strategy involves the use of an online survey questionnaire to collect relevant information. The online questionnaire was distributed to the targeted respondents via Google Forms. The URL link to the Google Form was disseminated to the medical officers via WhatsApp, Facebook, and Emails. It was emphasised to the respondents that the online survey was completely anonymous, and participation was entirely voluntary. Subsequently, a total of 381 responses were gathered. Prior to conducting data analysis, any incomplete online survey forms were excluded from the dataset. The study ultimately utilised a total of 363 complete and valid responses. Further details pertaining to the demographic profile of the respondents is indicated in Figure 3.

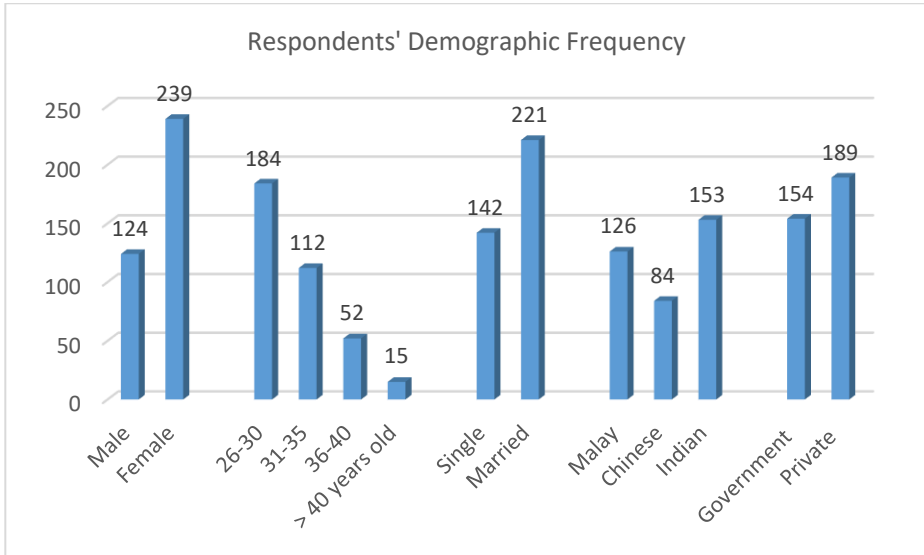


Fig. 3. Respondents' Demographic Distribution

The questionnaire survey comprised three distinct sections. The first section featured screening questions, the second section encompassed questions related to demographic profiles of the medical officers. The third section included items for assessing various constructs, namely facilitating conditions, career motivation, perceived barriers, and the intention to pursue PGME.

To assess facilitating conditions, a set of six items were adapted from a research by [33]. For the measurement of career motivation, nineteen items were adopted from [34]. For the perceived barriers, five items were adapted from [35]. To gauge respondents' intention to pursue PGME, five items were adapted from [31]. All items were measured using the 5-point Likert scale.

4 Data Analysis

In this study, Partial Least Square Structural Equation Modelling (PLS-SEM) technique using Smart PLS 4 software was utilised. Two step approach recommended by [36] was followed. Firstly, measurement model was analysed [37-38]. Then, the structural model was assessed to test the formulated hypothesis in the present study [37].

4.1 Descriptive Analysis

The data collected consisted of 363 respondents, with 124 males and 239 females. Notably, the majority of respondents fell within the 26 to 30 age group, comprising 184 medical officers, while a smaller number (15), were aged above 40. In terms of marital status, 221 respondents were married, and 142 were single. The ethnic distribution showed a majority of Indian respondents (153), followed by Malays (126) and Chinese (84). In terms of workplace sector, the private sector dominated with 189 respondents,

while 154 respondents worked in the government sector. These demographic details provide a comprehensive snapshot of the research sample and offer insights into the frequency distribution of respondents based on various characteristics.

4.2 Measurement Model Assessment

The model, with reflectively measured variables, underwent a rigorous assessment of internal consistency, reliability, and validity. Scrutiny of Loadings, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha (CA) ensured the robustness and integrity of the measurement model.

Table 1. Measurement Model Assessment

| Constructs | Items | Loadings | AVE | CR | CA |
|-----------------------------|-------|----------|-------|-------|-------|
| Facilitating conditions | FC1 | 0.889 | 0.621 | 0.910 | 0.907 |
| | FC2 | 0.754 | | | |
| | FC3 | 0.802 | | | |
| | FC4 | 0.795 | | | |
| | FC5 | 0.730 | | | |
| | FC6 | 0.748 | | | |
| Career Motivation | CMr1 | 0.775 | 0.666 | 0.975 | 0.974 |
| | CMr2 | 0.777 | | | |
| | CMr3 | 0.768 | | | |
| | CMr4 | 0.834 | | | |
| | CMr5 | 0.912 | | | |
| | CMr6 | 0.792 | | | |
| | CMr7 | 0.858 | | | |
| | CMi1 | 0.846 | | | |
| | CMi2 | 0.780 | | | |
| | CMi3 | 0.847 | | | |
| | CMi4 | 0.751 | | | |
| | CMi5 | 0.893 | | | |
| | CMid1 | 0.824 | | | |
| | CMid2 | 0.838 | | | |
| | CMid3 | 0.855 | | | |
| | CMid4 | 0.851 | | | |
| | CMid5 | 0.747 | | | |
| CMid6 | 0.847 | | | | |
| CMid7 | 0.772 | | | | |
| Perceived Barriers | PB1 | 0.724 | 0.713 | 0.930 | 0.924 |
| | PB2 | 0.899 | | | |
| | PB3 | 0.789 | | | |
| | PB4 | 0.877 | | | |
| | PB5 | 0.916 | | | |
| | PB6 | | | | |
| Intention to pursue PGME | PI1 | 0.800 | 0.781 | 0.949 | 0.947 |
| | PI2 | 0.887 | | | |
| | PI3 | 0.857 | | | |
| | PI4 | 0.911 | | | |
| | PI5 | 0.956 | | | |

Note. FC=Facilitating Conditions, CM=Career Motivation, PI=Postgraduate Intention, PB=Perceived Barriers

In Table 1, all construct loadings exceeded the recommended 0.60 threshold [39]. This indicates effective item contribution. The convergent validity was confirmed as AVE values surpass 0.5 for each construct, explaining at least 50% of indicator variance [40]. Reliability, assessed with Cronbach's Alpha met the recommended threshold of 0.7 [40]. Composite Reliability (CR), showed values for all constructs exceeded the minimum acceptable value of 0.7 [40] affirming the commendable reliability of the measurement model.

4.3 Structural Model Assessment

After the measurement model has been assessed, the researcher proceeded to conduct hypothesis testing to determine the significance of the relationships. Table 2 provides a summary of the results for testing the direct relationships between the variables.

Table 2. Hypothesis testing for direct relationships

| Hypothesis | Paths | Standard beta | Standard error | t-values | p-values | Results |
|------------|---------|---------------|----------------|----------|----------|-----------|
| H1 | FC → PI | 0.216 | 0.095 | 2.272 | 0.012 | Supported |
| H2 | FC → CM | 0.839 | 0.121 | 6.925 | 0.000 | Supported |
| H3 | CM → PI | 0.665 | 0.092 | 7.259 | 0.000 | Supported |

Note. FC=Facilitating Conditions, CM=Career Motivation, PI=Postgraduate Intention

Based on Table 2, the direct impact of facilitating conditions on the intention to pursue PGME was found to be positive and significant ($\beta = 0.216$, t -value = 2.272, $p < 0.05$), thereby supporting H1. Second, there was a positive and significant correlation between facilitating conditions and career motivation ($\beta = 0.839$, t -value = 6.925, $p < 0.05$), confirming H2. Finally, the direct effect of career motivation on postgraduate intention was also positive and significant ($\beta = 0.665$, t -value = 7.259, $p < 0.05$), providing support for H3 in this study.

4.4 Mediation Analysis

In testing H4, the study conducted mediation analysis on the role of career motivation (CM). Results showed that facilitating conditions (FC) had a significant total effect on postgraduate intention (PI) ($\beta = 0.773$, $t = 8.833$, $p < 0.05$). Even with CM in the model, the direct effect of FC on PI remained significant ($\beta = 0.216$, $t = 2.272$, $p < 0.05$). Importantly, CM revealed a significant indirect effect ($\beta = 0.557$, $t = 5.701$, $p < 0.05$). Thus, H4 was confirmed, indicating partial mediation of CM in the relationship between FC and PI. Table 3 summarises the mediation results.

Table 3. Mediation Results

| | Total effects | | Direct effects | | Hypothesis | Indirect effects | | |
|---------|---------------|---------|----------------|---------|--------------|------------------|---------|---------|
| | β | t-value | β | t-value | | β | t-value | p-value |
| FC → PI | 0.773 | 8.833 | 0.216 | 2.272 | H4:FC→ CM | 0.557 | 5.701 | 0.000 |

-> PI

 Note. FC=Facilitating Conditions, CM=Career Motivation, PI=Postgraduate Intention

4.5 Moderation Analysis

The study conducted moderation analysis on the impact of perceived barriers (PB) on the relationship between facilitating conditions (FC) and career motivation (CM). Results showed a significant and negative moderation effect of perceived barriers on this relationship ($\beta = -0.196$, $t\text{-value} = 2.335$, $p < 0.05$), confirming H5. The moderation results are summarised in Table 4.

Table 4. Moderation Results

| Hypothesis | Paths | Standard beta | Standard error | t-value | p-value |
|------------|----------|---------------|----------------|---------|---------|
| H5 | PB*FC→CM | -0.196 | 0.084 | 2.335 | 0.010 |

Note. FC=Facilitating Conditions, CM=Career Motivation, PI=Postgraduate Intention, PB=Perceived Barriers

5 Discussion

The findings of this study confirm the hypothesised positive relationship between facilitating conditions and medical officers' intention to pursue PGME. It means that when medical officers experience both levels of support, they are likely to perceive a comprehensive system that values and facilitates their PGME aspirations. This findings is supported by [9] who revealed the role of organisational support, such as mentorship and guidance in enhancing medical officers' intention to apply for specialised programmes. Besides, the pivotal role of government support in providing the necessary resources to positively shape doctors' attitudes towards PGME also has been indicated by [18]. The combined effect contributes to a sense of confidence and a belief that pursuing PGME is not only personally beneficial but also supported and encouraged by the larger professional and regulatory framework. Hence, with a holistic environment that provides a strong support system together with the necessary financial resources, medical officers' intention to pursue PGME can be enhanced as indicated by the findings of the study.

Besides, this research demonstrated that facilitating conditions have a significant positive relationship with the career motivation towards specialisation (H2). This means adequate facilitating conditions could make the medical officers to feel acknowledged and encouraged fostering a sense of belonging and motivation to advance in their careers. Lack of supporting environments and toxic work cultures could lead to psychological distress causing a loss of interest and enthusiasm to further venture into specialisation [20]. This implies that it is crucial to create working environments which foster a culture that values growth, collaboration, and well-being. By doing so, medical officers are more likely to feel motivated to invest in their professional development and aspire for specialisation.

As for H3, results showed that medical officers' career motivation towards specialisation positively influenced their intention to pursue PGME, consistent with the previous studies [13-28]. The findings indicate that with high level of career motivation, medical officers are more likely to recognise the significance of PGME as a strategic and purposeful step in achieving advanced expertise. This alignment of motivation with the educational pathway ultimately enhances their intention to pursue PGME. Also, career motivation provides a sense of commitment and determination to excel in the specialisation that results in a heightened intention to pursue PGME [25]. Further explanation has been given by [26], mentioning that medical officers with strong career motivation are more likely to persevere through challenges, viewing them as fundamental steps toward their specialisation goals. Consequently, this makes them more inclined to pursue PGME.

Furthermore, for H4, this study has provided evidence that medical officers' CM partially mediates the association between facilitating conditions and their intention to pursue PGME. These findings underscore the pivotal role of facilitating conditions in enhancing medical officers' CM, ultimately leading to a stronger intention to pursue PGME, as supported by [9-30]. In the present study, career motivation reflects how the organisational support and governmental support influence medical officers' internal drive, commitment, and enthusiasm to pursue specialisation through PGME. For example, a good organisational support creates positive experiences in both work and learning contributing to a holistic professional development. When medical officers perceive a synergy between their daily work and educational pursuits, it enhances their motivation for specialisation which would be reflected in their PGME intention. Also, governmental support that helps to lessen the economic burden associated with further education motivates the medical officers towards specialisation [12]. Consequently, this motivation is transformed into a higher intention to pursue PGME.

Lastly, H5 results demonstrated that perceived barriers negatively moderates the relationship between facilitating conditions and career motivation towards specialisation. It means that perceived barriers weaken the positive impact of facilitating conditions on the career motivation towards specialisation. These findings supported the notion provided by [7-9], that robust support systems may not fully elevate junior doctors' career motivation for specialisation when they perceive significant hurdles such as lengthy duration for PGME completion, inadequate work-life balance in specialised roles and a lack of perseverance. It is believed that barriers that medical officers anticipate in attaining a specialist career can have a psychological impact, creating a mindset of potential obstacles and challenges. When they perceive high barriers, it may overshadow the positive effects of facilitating conditions, making them less effective in influencing career motivation.

6 Conclusion

In conclusion, the research findings proved that facilitating conditions, career motivation and perceived barriers play significant roles in influencing the intention to pursue PGME among the medical officers in Malaysia. The four elements have yielded valuable insights and recommendations concerning areas requiring increased attention, particularly focused on enhancing facilitating conditions within the PGME framework.

These insights encompass improvements in healthcare organisational support and increased governmental support. For example, healthcare organisations can promote a good working and learning environment by minimising the overtime or on-call duties so that medical officers can have sufficient time for personal and academic pursuits. Also, providing networking opportunities with specialists often opens doors to mentorship possibilities. Establishing connections with specialists can offer medical officers personalised guidance, advice, and a roadmap for their professional development. Meanwhile, the government could initiate a few programmes that provide financial support, granting access to conveniences such as fully paid study leaves and an increase in permanent posts. Besides, the findings highlight the need for interventions that not only address external factors but also help medical officers overcome their misconceptions and concerns that might be perceived as barriers. In view of this, the healthcare organisations and medical institutions might develop workshops or training sessions aimed at addressing and mitigating perceived barriers. These sessions can focus on building resilience, coping strategies, and self-efficacy to overcome challenges that might deter medical officers from pursuing PGME. Hence, examining what makes medical officers pursue PGME enables the healthcare organisations, government and medical educational institutions to make informed decisions that align with the needs of medical officers and the broader healthcare landscape. It enhances speciality development and ultimately contributes to the delivery of higher quality healthcare services.

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References

1. World Federation of Medical Education. (2023). Postgraduate Medical Education. *WFME*. <https://wfme.org/download/pgme-standards-2023/>
2. Sriram, V., & Bennett, S. (2020). Strengthening medical specialization policy in low-income and middle-income countries. *BMJ Global Health* 5(2), e002053. <https://doi.org/10.1136/bmjgh-2019-002053>
3. Pillai, S. (2023). 'Stop Lying To The Public That We Have Enough Doctors': Contract Medical Officer, Perak. *CodeBlue*. <https://codeblue.galencentre.org/2023/02/07/stop-lying-to-the-public-that-we-have-enough-doctors-contract-medical-officer-perak/>
4. CodeBlue. (2020). A Call For Resolution On Issues Faced By Contract Medical Officers — MMI. *CodeBlue*. <https://codeblue.galencentre.org/2020/08/26/a-call-for-resolution-on-issues-faced-by-contract-medical-officers-mmi/>
5. Jun, S. W. (2023). Doctors' groups want clarity on new MoH funds for 1,500 medical officers. *Malay Mail*. <https://www.malaymail.com/news/malaysia/2023/02/26/doctors-groups-want-clarity-on-new-moh-funds-for-1500-medical-officers/56761>
6. Rizan, C., Montgomery, J., Ramage, C., Welch, J., & Dewhurst, G. (2019). Why are UK junior doctors taking time out of training and what are their experiences? A qualitative study. *Journal of the Royal Society of Medicine* 112(5), 192–199. <https://doi.org/10.1177/0141076819831872>

7. Sullivan, B., McGrail, M. R., Gurney, T., & Martin, P. (2021). Barriers to getting into postgraduate specialty training for junior Australian doctors: An interview-based study. *PLOS One* 16(10), e0258584. <https://doi.org/10.1371/journal.pone.0258584>
8. Bailey, N., Mandeville, K. L., Rhodes, T., Mipando, M., & Muula, A. S. (2012). Postgraduate career intentions of medical students and recent graduates in Malawi: a qualitative interview study. *BMC Medical Education* 12(1). <https://doi.org/10.1186/1472-6920-12-87>
9. Scanlan, G. M., Cleland, J., Walker, K., & Johnston, P. (2018). Does perceived organizational support influence career intentions? The qualitative stories shared by UK early career doctors. *BMJ Open* 8(6), e022833. <https://doi.org/10.1136/bmjopen-2018-022833>
10. Grech, M. (2021). The Effect of the Educational Environment on the rate of Burnout among Postgraduate Medical Trainees – A Narrative Literature Review. *Journal of Medical Education and Curricular Development* 8, 238212052110187. <https://doi.org/10.1177/23821205211018700>
11. Scanlan, G. M., Cleland, J., Stirling, S. A., Walker, K., & Johnston, P. (2019). Does initial postgraduate career intention and social demographics predict perceived career behaviour? A national cross-sectional survey of UK postgraduate doctors. *BMJ Open* 9(8), e026444. <https://doi.org/10.1136/bmjopen-2018-026444>
12. Nadarajah, A., Shankar, P. R., Jayaraman, S., & Sreeramareddy, C. T. (2022). House officers' specialist career choices and motivators for their choice– a sequential mixed-methods study from Malaysia. *BMC Medical Education* 22(1). <https://doi.org/10.1186/s12909-022-03845-2>
13. Aljerian, K. (2022). Factors Influencing Residents' Motives for Specialization and Satisfaction: Impact of Gender, Career Motivation and Life Goals. *Journal of Surgical Education* 79(2), 302–308. <https://doi.org/10.1016/j.jsurg.2021.09.018>
14. London, M. (1983). Toward a theory of career motivation. *Academy of Management Review* 8, 620-630.
15. Degen, C., Weigl, M., Glaser, J., Li, J. J., & Angerer, P. (2014). The impact of training and working conditions on junior doctors' intention to leave clinical practice. *BMC Medical Education* 14(1). <https://doi.org/10.1186/1472-6920-14-119>
16. Boerjan, M., Bluysen, S. J. M., Bleichrodt, R. P., Van Weel-Baumgarten, E., & Van Goor, H. (2010). Work-related health complaints in surgical residents and the influence of social support and job-related autonomy. *Medical Education* 44(8), 835–844. <https://doi.org/10.1111/j.1365-2923.2010.03724.x>
17. Ochsmann, E. B. (2012). Thinking about giving up clinical practice? A gender-stratified approach to understanding junior doctors' choices. *Academic Medicine* 87(1), 91-97.
18. Ekawati, F. M., Claramita, M., Istiono, W., Kusnanto, H., & Sutomo, A. H. (2018). The Indonesian general practitioners' perspectives on formal postgraduate training in primary care. *Asia Pacific Family Medicine* 17(1). <https://doi.org/10.1186/s12930-018-0047-9>
19. Yahaya, S. N., Wahab, S. F. A., Yusoff, M. F. M., Yasin, M. H. M., & Rahman, M. M. (2018). Prevalence and associated factors of stress, anxiety and depression among emergency medical officers in Malaysian hospitals. *World Journal of Emergency Medicine* 9(3), 178. <https://doi.org/10.5847/wjem.j.1920-8642.2018.03.003>
20. Riley, R., Kokab, F., Buszewicz, M., Gopfert, A., Van Hove, M., Taylor, A. N., Teoh, K., Martin, J. F., Appleby, L., & Chew-Graham, C. (2021). Protective factors and sources of support in the workplace as experienced by UK foundation and junior doctors: a qualitative study. *BMJ Open* 11(6), e045588. <https://doi.org/10.1136/bmjopen-2020-045588>

21. Nishikawa, K., Ohta, R., & Sano, C. (2022). Factors Associated with Motivation for General Medicine among Rural Medical Students: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health* 19(9), 5102. <https://doi.org/10.3390/ijerph19095102>
22. Balme, E., Gerada, C., & Page, L. (2015). Doctors need to be supported, not trained in resilience. *BMJ* h4709. <https://doi.org/10.1136/bmj.h4709>
23. Maisonneuve, J. J., Lambert, T. W., & Goldacre, M. J. (2014). Doctors' views about training and future careers expressed one year after graduation by UK-trained doctors: questionnaire surveys undertaken in 2009 and 2010. *BMC Medical Education* 14(1). <https://doi.org/10.1186/s12909-014-0270-5>
24. London, M., & Noe, R. A. (1997). London's career motivation theory: An update on measurement and research. *Journal of Career Assessment* 5(1), 61-80.
25. Smith, F., Lambert, T. W., & Goldacre, M. J. (2015). Factors influencing junior doctors' choices of future specialty: trends over time and demographics based on results from UK national surveys. *Journal of the Royal Society of Medicine* 108(10), 396-405. <https://doi.org/10.1177/0141076815599674>
26. Epstein, R. M., & Krasner, M. S. (2013). Physician resilience: what it means, why it matters, and how to promote it. *Academic Medicine* 88(3), 301-303.
27. Cathelain, A., Jourdain, M., Cordonnier, C., Cateau-Jonard, S., Sebbane, D., Copin, M. C., Berlingo, L., Rubod, C., & Garabedian, C. (2021). Career aspirations among specialty residents in France: a cross-sectional gender-based comparison. *BMC Medical Education* 21(1). <https://doi.org/10.1186/s12909-021-02494-1>
28. Zweigenthal, V., Marquez, E., & London, L. (2016). 'Why do an MPH?' Motivations and intentions of physicians undertaking postgraduate public health training at the University of Cape Town. *Global Health Action* 9(1), 32735. <https://doi.org/10.3402/gha.v9.32735>
29. Cleland, J., Johnston, P. R., Watson, V., Krucien, N., & Skåtun, D. (2017). What do UK medical students value most in their careers? A discrete choice experiment. *Medical Education* 51(8), 839-851. <https://doi.org/10.1111/medu.13257>
30. Spooner, S., Pearson, E., Gibson, J., & Checkland, K. (2017). How do workplaces, working practices and colleagues affect UK doctors' career decisions? A qualitative study of junior doctors' career decision making in the UK. *BMJ Open* 7(10), e018462. <https://doi.org/10.1136/bmjopen-2017-018462>
31. Burch, V., McKinley, D., Van Wyk, J., Kiguli-Walube, S., Cameron, D. A., Cilliers, F., Longombe, A., Mkony, C., Okoromah, C. a. N., Otieno-Nyunya, B., & Morahan, P. S. (2011). Career intentions of medical students trained in six sub-Saharan African countries. *Education for Health* 24(3), 614. <https://doi.org/10.4103/1357-6283.101416>
32. General Medical Council. (2017). Training pathways: analysis of the transition from the foundation programme to the next stage of training. https://www.gmc-uk.org/-/media/documents/Training_pathways_1_FINAL2.pdf_72695703.pdf.
33. Khalid, A., & Rathore, K. (2018). Mediating Effect of Work Life Balance On Work Motivation Of Post-Graduate Trainee Doctors In Public Sector Hospitals: Evidence From Pakistan. *Pakistan Economic and Social Review* 56(1). <https://www.jstor.org/stable/26616734>
34. Grzeda, M., & Prince, J. B. (1997). Career motivation measures: a test of convergent and discriminant validity. *The International Journal of Human Resource Management* 8(2), 172-196. <https://doi.org/10.1080/09585199700000047>
35. Saeed, I., Khan, N. F., Bari, A., & Khan, R. A. (2018). Factors contributing to the lack of interest in research activities among postgraduate medical students. *Pakistan Journal of Medical Sciences* 34(4), 913-917. <https://doi.org/10.12669/pjms.344.15411>

36. Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin* 103(3), 411–423. <https://doi.org/10.1037/0033-2909.103.3.411>
37. Hair, J. F., Thomas, G., Hult, M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling* (3rd ed.). Thousand Oakes, CA: Sage.
38. Ramayah, T., Jacky, C., Chuah, F., Ting, H., & Memon, M. A. (2018). Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 3.0. *Handbook of Market Research* (2th Edition). Pearson Malaysia Sdn Bhd. https://doi.org/10.1007/978-3-319-05542-8_15-1
39. Chin, W. W. (1998). Issues and opinion on structural equation modeling. *Management Information Systems Quarterly* 22(1), 7–16. <https://doi.org/10.5555/290231.290235>
40. Hair, Joseph F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science* 45(5), 616–632. <https://doi.org/10.1007/s11747-017-0517-x>

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