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Determinants of the Turnover Intention Amongst Junior Doctors in the Ministry of Health Malaysia Hospitals

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ABSTRACT: This paper investigates the complex phenomenon of high turnover intention among doctors within Ministry of Health Malaysia hospitals. This paper will investigate the determinants of the turnover intention amongst the junior doctors which have been working for less than five years in the Ministry of Health Malaysia hospitals. Despite the critical role that doctors play in delivering the healthcare needed by the public, the persistent issue of turnover intention amongst these doctors poses significant challenges to the stability and effectiveness of the Malaysian healthcare systems. The major issue with turnover intention in the healthcare industry is that it leads to the inability to provide a continuous good healthcare service delivery. By conducting a comprehensive review of existing literature and empirical data, this research will be examining the multifaceted factors influencing the junior doctors' intentions to quit the public service. Utilizing questionnaire surveys which will be distributed to the public hospitals in Selangor and Kuala Lumpur, the study delves into organizational, personal, social, and contextual determinants of turnover intention. Factors explored includes training & development structure, employment security, remuneration, career advancement opportunities, and workplace co-workers relationship. Additionally, this paper investigates the impact of an external factor which is the family support received or required by these junior doctors, either financially or emotionally. The findings from the survey revealed that the most significant predictor of turnover intention is remuneration, employment security and career advancement opportunities. Meanwhile, training & development and co-workers relationship was found to be less significant predictor of the turnover intention. In addition, family support played a role in reducing the turnover intention among the junior doctors. By combining the findings from various perspectives, this research aims to provide valuable insights for policymakers, hospital administrators, and healthcare professionals to develop targeted strategies and interventions aimed at reducing the turnover intention and fostering a more sustainable and supportive work environment for doctors in Ministry of Health Malaysia hospitals. Recommendations to mitigate the turnover intention requires tackling both the intrinsic and extrinsic factors, which includes laying out a well-structured career progression pathway, better remuneration scheme with improved working hours policy and implementation of a well monitored mentoring programme to guide and retain the junior doctors in the public service in Malaysia.

KEYWORDS: Turnover Intention Among Junior Doctors, Determinants of Turnover Intention of Junior Doctors, Turnover Intention Among Junior Doctors in Malaysia, Malaysian Junior Doctors Turnover Intention.

CHAPTER 1
INTRODUCTION

1.1 Background to the study

Over the years, the issue of employee turnover continues to be a major problem amongst organizational scholars, human resources managers, fellow workers, and policy makers (Serenko, 2024). Employee turnover can be divided into voluntary or mandatory (Budhwar et. al., 2022). Voluntary turnover of an employee turnover is when an employee himself chooses to leave or resign from the job. Involuntary or mandatory turnover is when the employer dismisses the employee from his/ her on-going job (Awwad & Heyari, 2022). Turnover intention meanwhile can be defined as an employee's plan of quitting the organization he currently is attached to (Mossarah, 2023). Turnover whether it is voluntary or involuntary, has a cost associated to it. Turnover leads to financial losses of an organization, which includes the cost to recruit new employee to fill the vacancy and reduced the morale of the employees still working in the organization (Khan, Alam, Badar & Ahmad, 2023). Over the years, many reasons for employees to turnover has been identified by researchers, which includes job stress, job dissatisfaction, pay scale and other benefits, job security, job performance, organisational commitment and organisational stability (Shrivastava, Raghuwanshi & Khare, 2023). Job dissatisfaction amongst employees is one of the many factors' leadings to turnover, and achieving job satisfaction amongst employees is important. Job satisfaction is the employee cognitive reactions and affective behaviours to their job (Chigbundu & Muda, 2022).

In recent studies, more predecessors and antecedents of employee turnover intention has been identified by researchers around the world (Park & Min, 2020). From the many predecessors and antecedents that have been identified as the causes for employee turnover, researchers grouped them into three levels that have been identified and each level divided into smaller categories. These levels are the individual level; the unit-level; and

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the organisational level. The individual level is further categorised into personal and occupational characteristics, which includes pay, job satisfaction, work commitment and work performance. The unit-level is also categorised down into the work conditions, the unit culture and the inter-personal relationship at workplace. The last level, which is the organisational level is categorised into the internal and external organisation (Kim & Kim, 2022).

Employee turnover causes a negative impact on the company performance and an organization loses its trained and skilled talents due to this turnover amongst the employees (Gumede, 2021). Implications from increased employee turnover leads to unwanted expense to the organization, which ranges from impairment in quality of productivity and shortage of manpower with stress amongst remaining workforce due to shortage of employees and due to substitutes by inexperienced co-workers (Mey, Poisat & Stindt, 2021). Therefore, it is important to know that the employee productivity is a principal factor in the positive performance and success of any organisation (Jimoh & Kee, 2022). In fact, human capital in the industry is considered the main factor that drives the growth in the industry and the overall economic growth (Piao & Managi, 2022).There will be financial expenses that will be used to search for new employees, educating and training new employees, as well as impact on the organization's overall performance occurred due to the lost in social and human capital and the inability to have a sustainable society (Parent-Lamarche, Marchand & Saade, 2022). It therefore costs the organization a lot when there is an issue of employee turnover as it causes losses from the direct effect like in the cost of hiring, selecting, and recruiting new employees as well as training them to be prepared for the job. Also, when an employee in an organization quits, the efficacy of the employees remaining in the organization is reduced, and the capacity of production will be disrupted.

Therefore, it is important to retain employees as the organization will be sustainable and capable of improving their service, performance and productivity, thus increasing its competitive advantage (Vallasamy, Muhadi, Kumaran & Retnam, 2023).

According to Khan (2021), the most valuable resources in an organization are the human assets, and it helps an organization to increase its financial and overall performance. An organisation without its intellectual capital resources will not be able to increase their productivity and performance. However, it has become and becoming more difficult to retain skilful employees due to desires to leave arising from probably better job environment and job satisfaction elsewhere. Due to variety of desires from each employee, the challenges of retaining constant supply of workforce and highly skilled employees have been a constant issue, leading to many research and studies been conducted to identify the factors causing turnovers intention amongst employees in various industrial organizations. Employees will only have no intention to turnover and have a belongingness feeling towards the organization if they are satisfied with their job (Sara, Saputra & Utama, 2021). Many industry sectors are affected by turnover intentions, and many studies have found relationship between job satisfaction and turnover intention (Jocelyne & Kariuki, 2020).

The healthcare industry is also not excluded in this high turnover amongst its work-force. The healthcare sector is as important if not more important as other industries, as its fundamental to the growth in a nation's social and economic sectors (Foster, Munro, Golder & Mitchell, 2025). A good healthcare sector will foster a healthy population which will create a productive workforce, spur the economic growth and in return increasing the social stability (Clay, 2024). However, in the healthcare sector, the healthcare workers around the world are dealing with lengthy work hours, dealing with increased workload and stress on the role as a healthcare provider itself (Ocean & Meyer, 2023). The healthcare sector is a highly labour-intensive job and is dependent on highly skilled professionals like doctors, nurses and other support staff.

However, around the world, the healthcare organizations are under tremendous pressure in to improving their efficiency and quality of service delivery, they are also facing issues with human resource shortages (Yusefi et. al., 2022). The issue of shortages of healthcare staff disrupts the delivery of health services, compromises the quality of care intended to be delivered, increases the waiting time for a health service to be delivered and eventually affects the general population health. Therefore, the need for retention of these talented staffs of the healthcare sector is essential for continuation of patient service delivery in this modern world, both in urban and rural areas (Filip et. al., 2022).

The problems that are identified to make employees leave their current job in the healthcare sector are like shouldering high workload, poor remuneration, unsatisfactory working environment, poor work-family balance, lacking support from their superiors or supervisors and the restrictions in advancing in their career, and these factors have caused these employees to leave and explore into pursuing other jobs in other fields (Berman, Bowman, West & Van Wart, 2021).

In previous surveys, healthcare staff in the government hospitals have responded to a lower salary rate compared to their work nature and their colleagues in the private sector (Aslan, Ochnik & Cinar, 2020). Studies have shown that attractive remuneration received by employees in the healthcare industry leads to enhanced work efficacy and performance, job satisfaction, job engagement, motivation of employees, an increase in the quality-of-service delivery and increased employee retention (Ilea et. al., 2020). This leads to certain younger healthcare staff opting for part-time jobs as dual employment to make ends meet. Studies too show the negative impact of pay received on the staff productivity and the quality of service delivered to patients (O'Sullivan, Cross & Lavelle, 2021). For the remaining healthcare staff to stay on and reduce turnover, an organization needs to make an attractive remuneration system and incentives as employees are satisfied with attractive remuneration systems (Svacina, 2021). The main reason identified in many studies involved in creating turnover amongst employees is the pay scale. Bae et. al., (2021) discovered that wages amongst the healthcare staff is significantly lower compared to employees in any other industry. An employee who is in search of a job, or desperate for a job will take any job initially while searching for another job with better pay scale. However, if the employee receives pay which is competitive compared to the other organizations in the same industry, the employee will be more likely to stay on and be more committed to the company (Fabiani, 2025). Besides, employees are found to perform at higher levels and continue working with the organization when they perceive that they are paid and compensated according to the amount of work they have done.

The issue of healthcare staff turnover had left the healthcare industry with shortages of human resources. This leaves the employees in the healthcare care industry with increased work demand which includes longer working hours and shouldering high workload due to understaffing. The working hours are a significant part in an employee's life; however, the personal hours are important too in an employee's social or family time. When there is an imbalance between these working and personal or social hours, and with no support from the organisation to promote a good balance between work and non-work time, it creates a negative effect on the employee (Ogata et. al., 2024). Employees working in jobs with excessively

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long working hours have shown to have personal and social issues, including breakage or relationships, and most importantly increases the risk of doctors making consecutive mistakes (Us & Gerulaitiene, 2022). However, when there is a high-quality social relationship instilled in employees in an organization's network, it helps generate exchange relationship, helps in nurturing good behaviours at workplace, and promotes inter-individual's respect. All these positive outcomes also contribute to the organization by the employees having a sense of personal sacrifice and feel embedded into their organization, making them less likely to turnover (Ampofo & Karatepe, 2022). Furthermore, previous studies show that a well-balanced work pattern enhances a good work-family balance, thus the employee receiving and providing a good family support in return (Shah et. al., 2020). Therefore, there is a need to reduce the turnover amongst the healthcare employees to enable a good work-family balance lifestyle, thus retaining and hiring high quality employees will be easier for organizations.

Increased turnover in the healthcare sector leads to understaffing the hospitals. Understaffing causes dissatisfaction amongst the employees of an organizations. When the workload increases and there is with understaffing, the quality of the service delivered will be compromised. Understaffing in the healthcare industry is a major setback in providing a highquality service (Senek et. al., 2022). Studies have shown that more healthcare providers employed in an organisation can reduce patient mortality and secondary infections (Puro et. al., 2022). This was further strengthened by Musy et al. (2021) involving thousands of patients, that in units which were understaffed, the mortality rate was 6% higher compared to fully staffed units. It is also shown that in hospitals which are understaffed, the risk of infections, deep vein thrombosis, pneumonia, sepsis, and upper gastro-intestinal bleeding amongst patients admitted are higher (Needleman et. al., 2020).

The public and social implication of the healthcare organization too will be unfavourable as it is unable to deliver the desired healthcare service. Furthermore, the healthcare professionals are likely to be undergoing physical and emotional exhaustion due to the increasing workload, causing them to turnover to other jobs in other industries too. Here, they have the loss of interest in the physical and emotional resources that can be caused by interpersonal demands or insufficient patient to healthcare provider ratio, which in term causes the lack of interpersonal contact with the patients and their families, thus resulting in the failure of delivering quality healthcare service (Zaranko et. al., 2023). In view of the healthcare industry is public in nature, the job of a healthcare provider is a complex job, because the job requires complex multidiscipline approach, and each patient shows a different combination of symptoms; for example, fever, pain, trauma, and chronic illnesses (Keeling et. al., 2021). Also, this job comes with little or no space for error as the patients expect a quality service, and the job demand involves pressure due to the excessive workload (Gillet et. al., 2021). These reasons make the healthcare employees more prone to suffer emotional and physical exhaustion. Therefore, it shows that emotionally exhausted healthcare staff will end up not doing their work correctly, also having less commitment towards the organization and having an increased turnover intention (McFarland & Hlubocky, 2021). Amongst the healthcare workers, the role of job demands, role conflict and excessive workload has been found in previous studies to cause exhaustion (Gillet et. al., 2021). In the job demand-resources theory, it explains that when the job demand increases or the work overloads, but the job resources are low, it leads to job stress, emotional depletion, motivation loss and increase in burnout at work (Blanco-Donoso, 2022).

Delivering healthcare service is a labour-intensive job where the service delivery must meet the need of a diversity of patients. The healthcare workers must feel that the job is attractive in terms of the wage, work culture, relationship with their supervisors and co-workers, and with a good work-family balance (Kitsios & Kamariotou, 2021). Training new healthcare staff requires time, and if the turnover is high there won't be adequate replacement to fill the understaffing due the shortages in the manpower, thus leading to increased workload and feeling of unsatisfactory amongst the healthcare staff, leading to other issues like frequent absenteeism, conflict amongst co-workers and resulting in a poor leadership in the organization (Karaferis, Aletras, Raikou & Niakas., 2022). Therefore, training is an important aspect of employees on-going talent and skill improvement, and a form of rewarding the loyal employees. Employees will feel the sense of security when the employee sends them for training and new skills development. This in return gives the feeling of belongingness to the employee for the organization, and the intention to turnover will be eliminated. Job performance, responsibilities and willingness to fulfil the job increases (Kitsios & Kamariotou, 2021).

The organization and the co-workers are the only support the employees have when there are difficulties faced at work, because without an effective system to support these employees these issues of increased job demand, work-family balance and hostile working environment within the organization will lead to the employees turning over their job and seek other job (Abdou et. al., 2022). However, if the employees feels that the employee is supporting them by taking care of their well-being and valuing their increased work-load especially by incentives and financial rewards, the possibility that the employees leaving the organization is low, therefore retaining skilful and experienced healthcare staff are possible (Shardhana, 2023).The employee too must take good consideration the issue of positive relationships amongst their employees as the outcome from this positive relationship is beneficial to the organization in terms of service delivery and promoting a healthy relationship between the employees and their supervisors, and in return between them and the organization itself (Bernhardt & Bunning, 2022). The social-exchange theory well explains this relationship between employees in an organization and the positive outcomes of it, as the employees in return will put up with actions as to correspond to what they have received from the other employees.

Another issue amongst the employees turning in their job is because of bullying amongst coworkers. Studies conducted have shown that healthcare workers choose to leave their job when they experienced bullying (Hammig, 2023). Over the years, bullying at workplace by coworkers has increased. Some studies have also found that bullying of an employee at workplace leads to absenteeism and lack of self-motivation causing poor productivity (Zapf et. al., 2020). The employees undergoing bullying by the abusive supervisors or co-workers are also more likely to undergo detrimental physical and mental health problems (Leon-Perez, Escartin &

Giorgi, 2021). Support from supervisors is important as it benefits the employees in facing issues during work by providing guidance and support, which also helps in the employee work engagement, stimulating learning, promotes growth and development, and leads to reducing turnover intentions (Haas, 2020).

There has also been substantial evidence of poor leadership and management styles in the healthcare industry and the turnover intention in previous studies (Pattali et. al., 2024). Romi et. al. (2022) found that to provide a good and quality healthcare, a good leadership is an important factor. A good leadership positively impacts the organizational identity and its employees. Therefore, the role of supervisors and superiors, and the

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relationship between the employees and their supervisors, and their superiors are important in maintaining a healthy work environment. Generally, the healthy work environment will lead to a positive relationship between the employees and their supervisors. These in return will produce creativity, increased work engagement and positive work attitudes amongst the healthcare workers (Egbon, 2023). This too helps to build a constructive organizational culture which is needed to increase satisfaction amongst the healthcare staff and promoting positive interactions amongst coworkers creating a positive work culture. In fact, job satisfaction and job-related stress have been identified as an antecedent for employees to have a higher level of turnover intention (Yukongdi & Shresta, 2020). This shows that employees that have positive work attitude produce better work performances, which in turn results in the organization achieving higher profits, increased productivity and greater customer satisfaction (Cherian, Gaikar, Paul & Pech, 2021).

The turnover amongst healthcare staff also has been related to the scarce opportunity to continue studies, training, and opportunities in specialised services. In previous studies, it has shown that the main factors that increase the human capital in and industry includes the education, job training, work skills and the employee overall health status (Diaz-Perez et. al.,

2025). Employees that are provided support for their further education and given opportunities to specialise in their field of interests show an enhanced competency, increased work satisfaction, productivity, reduction in job stress and a rise in retention of staff. The lack of promotion opportunity too leads to increased turnover amongst employees in the healthcare industry (Szromek & Wolniak, 2020).

The healthcare industry, if left understaffed with employee shortages will lead to many issues in the delivery of not only quality healthcare, but also the basic healthcare required by patients. For instance, the need and demand for quality patient care is high in the healthcare sector, and the demand for healthcare workers are increasing at an above average rate along the years due to increase in the overall life expectancy (Alnowibet et. al., 2021). In fact, the need of basic healthcare service delivery is vital in the well-being of the people and the development of economy of the country. This need and demand increase over time and with the healthcare sector facing difficulty achieving the intended quality of care of patients, it gives an adverse impact in delivering efficient patient care (Omanwar & Agrawal, 2022). The failure in delivering the healthcare service leads to dissatisfaction, disappointment and regretful feeling amongst the patients which are the customers of this service in return results in a gap between the expectation and the experiences that the patients received (Demeke, van Engen & Markos, 2024). The negative image of the healthcare organization will cause it to be unpopular amongst healthcare staff searching for job and making existing staffs of the organization to turnover to join into another organization, be it in the same industry or another. It is important for the organisation to have a positive brand as it will increase employee retention and increased recruitment demand (Bejtkovsky & Copca, 2020).

Most of the studies done previously have focused on turnover intention amongst employees in the developed countries, which are in the western world (Allen & Vardaman, 2021). In Malaysia, the public healthcare system is also affected by the challenges of retaining its workforce, thus increasing the patient to doctor ratio and the impact on the service that is intended to be delivered to the public (Soomro & Ramendran., 2024). The Malaysian public healthcare system offers an affordable and easily accessible medical service to its 34.1 million populations (Department of Statistics Malaysia, 2024), through about 10.41% or RM41.2 billion of the federal budget spent on public healthcare sector (Ministry of Health Malaysia, 2025).The public healthcare sector in Malaysia provides health services to about 70 percent of the population (Ministry of Health Malaysia, 2021). Therefore, the public healthcare sector in Malaysia is a critical pillar for the well-being of the population.

Delivering this task is held by various staff ranging from doctors to support staff. However, there is an increasing trend of turnover intention among the healthcare staff in the public hospitals in Malaysia, especially amongst the junior doctors. Junior doctors are the first line of service providers amongst the doctors in the Ministry of Health Malaysia facilities and consist of the house officers and junior medical officers. These junior doctors undergo long hours of working in high demanding conditions where about 70% of the population seeks for treatment. Therefore, the role of these junior doctors is crucial in maintaining the delivery of the public healthcare system in Malaysia. However, there has been an increasing trend of turnover amongst the junior doctors in Malaysia (Ar & Sharifa Ezat, 2020). Factors discussed earlier like poor remuneration, intrinsic job dissatisfaction, poor job security in term of implementation of contract employment system, poor relationship with co-workers leading to bullying culture, increased workload in term of shouldering others work burden and working longer hours and work-family conflict have been found to be the leading causes for the turnover intention amongst doctors working in the public hospitals in Malaysia (Harun, Mahmood & Md. Som, 2022). A survey conducted in Malaysian government hospitals by the Malaysian Medical Association in 2022 showed government doctors have responded to a lower salary rate compared to their work nature and their colleagues in the private sector (Malaysian Medical

Association, 2022).

The increasing trend of turnover amongst these junior doctors have been the highlight in major newspapers in Malaysia, and it has created a negative public perception of the service provided by the government hospitals, also reducing the morale and well-being not only of the remaining doctors in the government service but also the junior doctors that are about to join the government service. The Malaysian Medical Association in 2022 conducted a survey in 2022 and found that about 60% of junior doctors were turnover intention to leave the public service, with the factors outlined above being the main reasons (Malaysian Medical Association, 2022).

Despite the increasing recognition of this issue of turnover intention among junior doctors in

Malaysia, there still lack theory-based research and studies in determining its antecedents. Also, previous studies have not focused on the issues facing these junior doctors leading to turnover intention. Therefore, it is important in understanding the gap in the relationship between the job and the turnover intention of these junior doctors in Malaysia. Thus, understanding the issues and challenges faced by these junior doctors in Malaysia will not only be important for improving individual well-being, but it will also promote sustainability, stability and a healthy effective working culture in the public service (Ching et. al, 2024). It is very important to understand the cause that is causing this increase in turnover intention among the junior doctors in Malaysia to supplement the policymakers and healthcare planners on this information.

1.2 Problem Statement

In the recent days, the increase in emerging diseases and increase in the number of populations, added with the current issue of the global Novel Corona Virus Pandemic, the burden on the healthcare sector has increased tremendously. Increased work burden has led to an increased turnover

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amongst healthcare staff globally. As said by Refsum & Britnell (2023), one of the sectors of the industry, which is dealing with the shortage of workforce globally, is the healthcare sector. The number of healthcare workers globally as of January 1, 2025, is around 27 million, whereas the number of populations is 8.09 billion (WHO, 2025). This had caused a shortage in the manpower resource in the healthcare industry. The global healthcare shortage was 15 million in 2020, and it's projected to reduce by another 10 million by 2030 (Boniol et. al., 2022). The World Health Organization (WHO) meanwhile reported that to cater for the unmet healthcare expectations globally, they estimate that about 27 million healthcare providers will need to be required by the year 2030 to fulfil this gap. This issue of shortages of healthcare staff comes at a time where the healthcare systems around the world are trying to improve the efficacy and quality of their service delivery added with constraints of other resources (WHO, 2023).

In Malaysia, the population currently stands at 34.1 million and the largest population group is the between the age of 15-64 years, which accounts to70% of the total population (Department of Statistics, Malaysia, 2024). For Malaysia, the Ministry of Health has a target of achieving a doctor to patient ratio of 1:400 by the year 2025. Despite improving significantly from the year 2012 where the ratio of doctor to patient was 1: 758, to 1:633 in the year 2016 and to 1:412 in the year 2022, the gap is still substantial (MOH, 2022). This population group between 15-64 years which is the main source of the workforce is still not able to fill the gap in the healthcare sector in Malaysian public hospitals. It also becomes a major problem as the healthcare sector is unable to fill the gap left by employees who have quit with qualified personnel (Dwivedi & Gupta, 2024). Issues arising from lack of staff resources leads to reduced productivity, increased patient waiting time to be seen by a healthcare staff, reduced patient satisfaction on the quality of service delivered and negative perception of the public on the healthcare system of a country (Tamata & Mohammadnezhad, 2023).

According to the Ministry of Health Malaysia, it will require additional 4000 more medical officers to the currently available 59040 medical officers between 2022 and 2025 to fill the gap in the Malaysian public healthcare system, as it will help to reduce the burden currently being faced by the nation's healthcare system (Code Blue, 1 April 2022).The Malaysian Medical Association in 2024 had advocated the government to increase the number of Houseman-ship doctors and increasing the number of training hospitals available in Malaysia, to fill the gap in placing the number of medical officers in government hospitals to create a sustainability plan to ensure effective delivery of healthcare services (Malay Mail, 20 January 2024). This number of medical officers targeted to be available is disrupted by the large numbers of doctors turning over their job. Furthermore, while battling the recent pandemic and emergence of new diseases and increasing the resources required to increase the quality-of-service delivery, the creation of job for additional 4000 medical officers between 2022 and 2025 will cost the Government of Malaysia a whopping RM337 million a year (Code Blue, 1 April 2022). The ministry of health Malaysia has claim that it will increase the permanent medical officer positions however it will require an additional funding yearly.

For the budget presentation of 2025, The Malaysian health ministry received the second largest allocation among all ministries for the healthcare sector which amounts to RM45.3 billion, which is said to be the biggest allocation yet for the ministry, which is a significant 9.8% increase from the previous year of 2024, which was RM41.2 billion (The Star, 18 October 2024). However, this allocation will also be needed to treat the raising non-communicable diseases like diabetes and hypertension, the increasing road traffic accidents and giving treatment for the ageing population, also preparing for emergence of another pandemic. This allocation to treat non communicable diseases has been increasing over the years and in a survey done by the Malaysian National Health and Morbidity Survey in 2023 shows that about 3.6 million Malaysian adults have diabetes which is about 15.6% of the total adult population, and 6.7 million Malaysian adults which is 29.2% of the adult population have hypertension, and it shows Malaysia as one of the nations in the South East Asia region with the highest number of diabetics and hypertensive population (Institute for Public Health Malaysia, 2024).

However, the number of doctors working in the Ministry of Malaysia hospitals has been declining in the last few years. The number of contract doctors which started quitting in large numbers began in the year 2016 when the Ministry of Health changed the status for all new fresh medical graduates joining the government service as house officers to contract status. Prior to this, all fresh medical graduates joining the government service were roped into a permanent status. This increasing number of contract junior doctors quitting further worsened following the Covid-19 crisis in 2020. Since this period, the MOH Malaysia has been experiencing a healthcare exodus of doctors at all levels, especially the junior doctors consisting of the house officers and contract medical officers, at the same time having a larger number of people seeking medical care at the public hospital's emergency and trauma departments, specialist outpatient clinics and health clinics. This issue of doctors quitting in the public service in Malaysia was further worsened with the government's decision on freezing all new medical degree courses provided by new medical universities, leading to a massive decline in the number of fresh medical graduates available to be absorbed into the public service. This is evident in the number of contract house officers that were inducted into the service in 2019 which were 6134 personnels, and in 2023 the number was reduced to only 3271, a significant reduction of about 50% of contract house officers absorbed into the service (Code Blue, 25thMarch 2024).

This decision by the government led to a significant reduction in the number of the total doctors serving in the public service. Furthermore, the number of contract doctors not accepting their permanent position increased as they were posted away from their families. This increasing number of junior contract doctors quitting is shown on the graph below where the rate of quitting due to being posted away from their families rose 1333% from 2022 to 2023, where

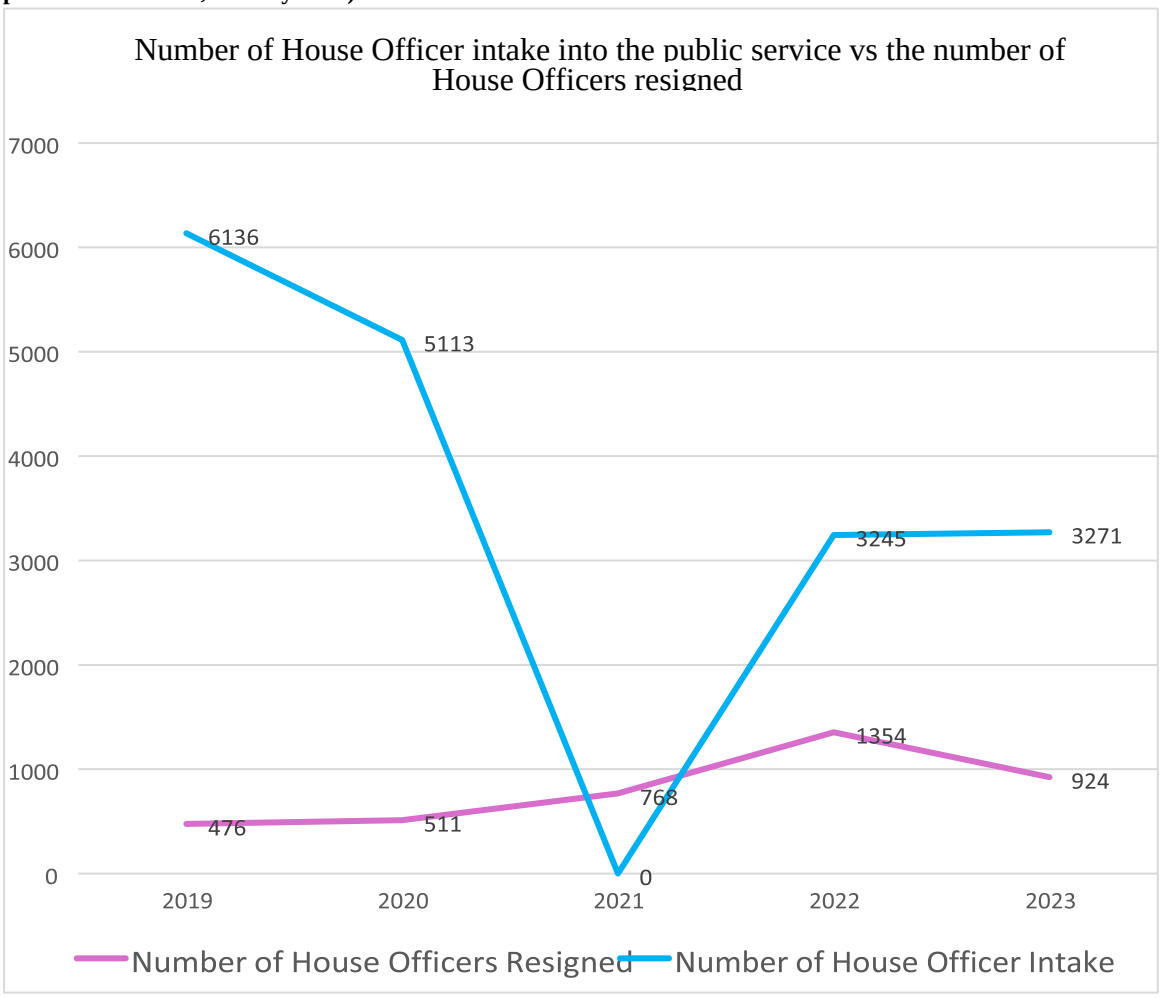
78 junior contract doctors quit in 2022 meanwhile 1118 of them quit in 2023 (The Star, 28

February 2024). This shows that the rate of overall resignation is three times higher than the rate of intake of doctors in the public service in Malaysia (The Malaysian Insight, 13 September 2024). This issue of relocation of junior contract doctors away from their families led to a large number of junior doctors declining the permanent position offered to them. In 2023, 1000 junior contract medical officers from the Klang Valley were affected in the massive relocation decision by the MOH (Code Blue News, 20 July 2023). Thus, the large declining number of junior medical officers in the public service led to the senior medical officers taking up dual roles of both the house officers and medical officers. This increased in workload also comes with increased clinical workload, paired with poor pay, long working hours, extended contract positions, increased no-clinical workloads, poor chances of getting into the specializing training program and slow career advancement. This further led to increasing

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turnover at all levels at MOH Malaysia, where from 2019 to 2023, 2385 permanent medical officers quit the government service (Code Blue News, 23 December 2023).

Table 1.1: The Number of House Officers Intake versus the Number of House Officers Resigned (adapted from The Star, 2nd July 2024)



Why are these doctors, especially the junior doctors which at early part of their career quitting and why are those still working have high turnover intention? The reasons identified from several studies and reports includes the issue with contract employment leading to job insecurity as low chances of getting absorbed into the permanent scheme, poor remuneration system, career advancement uncertainty in terms of being in the contract grade for a long time, no opportunity in getting into the speciality training and development programme, bullying culture among co-workers and toxic work environment and increased work burden with long working time leading to work-family conflict (Roslan et. al., 2021).

In a report by the Code Blue in 2020, the government offered 100 out of 1500 contract Medical

Officers practicing under the Malaysian Ministry of Health hospitals a permanent position of Medical Officers grade UD41, compared to the contract grade of UD44. However, 28 out of these 100 contract medical officers declined this offer, and 2 quit (Code Blue, 13th April 2020). But why did they reject a permanent position in the government service? This reduction in grade comes with annual reduction in wages amounting to RM8000. An article by Code Blue on 21 March 2024 states that majority junior doctors they have interviewed plans to just end the contract term in service and move on to private practice, as they have grown tired and weary, and expected to share the same workload and burden as the more senior doctors, but at lower wages and concern of being posted away from their families across to Sabah or Sarawak.

The permanent position may come with job security however the wage is not attractive and makes most of the junior doctors to not accept this offer and remain in their contact grade or quit. In fact, the number of permanent positions has not been increased since 2015, as the permanent positions are only filled when the medical officers retire or quit. Currently the Malaysian public healthcare system has 51, 793 doctors altogether, and with 63% or 32,813 of their workforce in contract grades, which are the junior doctors (Code Blue, 23 December 2024). The number of permanent medical officers quitting have been increasing over the years, where 2385 permanent medical officers have quit from 2019-2023 (Bernama, 4th August 2023). The Star in 2024 reported that 1696 permanent medical officers have resigned in 2022 alone, with the reasons for them to turnover being moving to the private sector due to better pay, personal reasons due to poor work-life balance or being posted away from their families, work family conflict and health issues (The Star, 28th February 2024). This career uncertainty in the public services in Malaysia will discourage the younger generation to pursue into medical studies, and those who are waiting to join the service after qualifying medical school to quit.

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This employment insecurity in the Ministry of Health Malaysia is contributing to the increasing turnover intention among doctors at all levels in the public service.

These junior doctors are working under the challenging conditions in the Malaysian public hospitals like having extended working hours, frequent and long shifts, increasing patient load and the work burden itself should be compensated well, however their remuneration does not compensate their demanding job and sacrifice, despite handling life-or-death situations daily. In fact, even the flexi allowances of RM 600 that are given to permanent doctors for the unexpected and irregular duration of work are not given to contract junior doctors makes the issue worse despite both contract and permanent medical officers perform the similar duties and the contract doctors having a lower pay scale (Malay Mail, 21 March 2020). This issue of poor remuneration was highlighted in a survey done by the Malaysian Medical Association in 2023 which found that over 60% of junior doctors working in the public hospitals work longer than they are supposed to, mainly due to overworked or forcefully, are not compensated accordingly for the extra hours spent at work, thus leading to dissatisfaction among these doctors leading to higher turnover intention (Code Blue, 16 October 2023).

Another issue highlighted amongst the junior doctors in the public hospitals is the poor career advancement. In an article by The Straits Times dated 29thJune 2021, it states that the contract doctors have no career advancement in view that there is no promise in their contract extension and there is no avenue for promotion and advancement in the career as the specializing program is not offered to contract doctors. The contract doctors too have only been offered a lower grade pay in the UD41 position, instead of the permanent doctors with the grade of UD44 with no annual increment and no timeline in getting their permanent position in the government service (Malay Mail, 18th September 2021). There is also no guarantee on permanent employment following completion of the house-officer training programme, and this leads to these doctors not advancing in the seniority in the service and not moving up the pay scale. Basically, these junior contract doctors will be working in the contract scheme with the same pay from the day they have joined the public service till the finally are accepted into the permanent scheme, which currently takes more than 4 years minimum (The Star, 23rd July 2021). The contract extension following completion of the compulsory house-officer training too depends on a merit-based assessment system through annual performance appraisals by supervisors, disciplinary records and a special committee at the MOH level (Malay Mail, 18th September 2021), which has been criticised frequently for having lack of transparency, low number of doctors getting their contracts extended and even lower number of doctors getting selected for permanent position (Roslan et. al., 2021).

Another reason for the high turnover among these junior doctors is because they are excluded from getting into the specialization program, which is offered to senior permanent medical officers. This group of junior doctors are placed at public hospitals and help address shortages in the number of doctors, however, have limited opportunities in advancing the field they are practicing in (The Straits Times, 29th June 2021). In fact, the government recommended these contract junior doctors to fund their own training and development in specializing training programs themselves or seek other opportunities abroad, which further bringing down the morale of these doctors on the government (Malay Mail, 26th July 2021). This has led to these doctors in Malaysia demanding for the possibility to be accepted to continue their studies in specialisation by allowing them to apply for federal scholarships. Currently federal scholarship is given only to permanent medical officers and specialists in the Ministry of Health Malaysia to progress their career into specialists and sub-specialists (The Star, 16thSeptember 2021). This limited career progression for junior contract doctors, added with all other problems faced by the junior medical doctors in Malaysia has led to their frustration, also lead to symbolic nationwide strikes held in July 2021, called ‘Hartal Doktor Kontrak’ which was call out against the treatment the junior medical doctors in the Health Ministry of Malaysia are facing (The Star, 26th July 2021). However, this issue of junior doctors funding their training and development themselves doesn’t get solved because contract renewal is done on a 2-year fixed term, whereas the specializing training spans for a complete 4 years or more, thus further increasing the difficulty in getting admitted and completing the training program (Code Blue, 17 July 2020). This issue of being denied into advancing in their training and development in their specializing field creates constant challenges to these junior doctors and will further contribute to their high turnover intention.

Another issue amongst the junior doctors in the public hospitals in Malaysia are the poor support and motivation from their co-workers and superiors. These have created a toxic work environment in the Ministry of Health Malaysia hospitals. A study done in 2021 among 1074 junior doctors found that close to 15% of them have had workplace bullying in the form of verbal abuse, ordered to perform tasks beyond their competence and humiliated, and the main perpetrators were identified as the senior medical officers (Samsudin, Isahak, Rampal, Rosnah & Zakaria, 2021). There is lack of teaching, motivating and inspiring without being abusive the junior doctors. The Malaysian Medics International (MMI) stated that several reports have helped reveal the presence of workplace harassment and violence towards junior doctors in the Ministry of Health Malaysia hospitals. This was revealed in survey done by the Malaysian Medical Association in 2023 which shows that about 40% of junior doctors in the Malaysian public hospitals has had some form bullying at work, leading to them having turnover intentions, and many of their colleagues quit (The Straits Times, 16 October 2023).

Bullying in the medical field, especially in the public hospitals includes harsh training and disrespectful communication, working longer hours than they are supposed to, emotional abuse, racist remarks and oppressing policies. In an earlier report in 2020, about 70% of junior doctors that are working in the Ministry of Health Malaysia have undergone any form of bullying at their workplace, with ages ranging from 26 to 35 years old. Of this percentage, 75% of these junior doctors admitted being losing their interest in work (The Straits Times, 16 October 2023). These junior doctors which are already under physical and work stress due to increased work burden and long working hours, troubled with the issue of bullying at workplace, are at risk of developing anxiety, depression, distress, negative emotions, coping issues and insomnia. In fact, in April 2022, a qualified junior medical officer working at one of the public hospitals under the Ministry of Health Malaysia committed suicide by jumping from his residence building (Malay Mail, 6 May 2022). This follows another death of another doctor had alleged mistreatment, overworked and oppression by her senior colleague in the hospital she was working in, causing her to not able to hold her stress anymore, leading to her committing suicide in her home in 2024 (Channel News Asia, 16 September 2024).

The bullying in Malaysian public hospitals also includes these junior doctors being forced to work longer and at irregular hours, where each shift can stretch up to 36 hours, also working for up to 75 hours a week without a single rest day (Samsudin, Isahak, Rampal, Rosnah & Zakaria, 2021).

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The working hours set in Malaysia by the Ministry of Health Malaysia is 62 hours a week, however some junior doctors have expressed their concerns on the media for working more than 75 hours a week, where the maximum working hours set by the ILO in Malaysia stands at 48 hours a week (Malay Mail, 28 February 2024). By doctors enduring to long working hours, this can lead to job-related fatigue causing reduction in productivity, occupational health and safety problems and poor job performance, mental problems including stress, burnout and suicidal thoughts, also work-life imbalance (Maria, 2024). To overcome this issue, the MOH proposed and were about to implement a shift-based working system called the 'Waktu Bekerja Berlainan'(WBB) (Malay Mail, 25th January 2025). However, its pilot project failed to lift off as it was terminated by MOH due to protest and negative feedback from the entire MOH workforce, mainly due to it doesn't address the issue of understaffing, thus not resolving the problem of being overworked, plus further reducing the income of already poorly paid public healthcare staff and the proposed plan was not discussed with the stakeholders in the healthcare system as the news was only known through leaked circular (Code Blue News, 24th January 2025). Thus, this issue of poor support from co-workers and superiors will increase the burnout and mental health issues among junior doctors, thus increasing the turnover intention of these junior doctors.

Another issue which is seen amongst the junior doctors in the public service which is still not much focused on is the issue of poor family support. Family support is important as it creates a positive impact on the mental and physical status of these junior doctors. The demanding nature of the house-officer training and the burden carried by the role as a junior doctor makes it difficult for these doctors to cope with many issues in life, thus requires some or much help from their families, especially to prevent unwanted mental and emotional problems (Behrman, Baruch & Stegen, 2020). As for junior doctors with children and spouses, their nature of work which requires them to be at work for longer hours, and inability in applying for leave during important events, also getting called to replace other colleague's shift at times when they should be spending time with their families requires them to have a good family support (National Academies of Sciences, 2019). Majority of these junior doctors require their family support and rather be living with or close to their families. This is evident when the issue of relocation of junior contract doctors from the Klang Valley were affected in the massive relocation decision by the MOH in 2023 away from their families to Sabah and Sarawak led to many junior doctors declining the permanent position offered to them and quit (The Star, 23 July 2023). Many of these doctors quit, while others quite after their appeal to not be relocated away from their home state instead placed in the state they are currently assigned to were not entertained by the government (Astro Awani, 10th July 2023).

In a survey done by Code Blue in 2025 showed that a whopping 62% of juniors want to stay and serve the public hospitals at their home state instead of getting posted away, as they want to be with their families, and the main reason being that their family is more important than their career progression (Code Blue News, 23rd April 2025). These junior doctors have lashed out in the media that they should be given the choice of where they would want to serve as they are already being over worked and poorly compensated, thus at least having their family nearby as their main support will at least help them reduce their work stress and minimize the travel needed to make a visit to their family for support (The Star, 20thApril 2025). This large number of contract junior doctors quitting as they are not happy with their relocation orders away from their families has increased the issue of turnover intention and increased the issue of doctor shortages in almost all facilities in the Ministry of Health Malaysia (The Star, 2nd January 2025). Getting posted away from their families too causes strain in family relationships, problems with personal well-being, mental and social issues and financial issues. As family plays an important role in these junior doctors' life and career, this issue of family support should not be overlooked, and the gap of knowledge in this issue should be further investigated.

Putting in these factors of inadequate funds received by the Ministry of Health Malaysia, high turnover rate amongst doctors who are undergoing houseman-ship training, contract medical officers and junior medical doctors having no job security, understaffed healthcare workforce, work-life imbalance, under paid and over worked doctors at government hospitals leading to burnout amongst the healthcare workforce in Malaysian public hospitals, with no opportunity to promotional opportunity into getting into the specialization program funded by the government, poor co-workers and supervisors support, and toxic workplace environment should be further looked into. If these factors identified in the many articles, media headlines, studies and research are not looked into, it will cause a further increase in the turnover rates amongst the junior medical doctors in the Ministry of Health Malaysia, which in turn will cause a disruption in the delivery of service in the public hospitals in Malaysia.

1.3 Research Questions

It will be important to identify the reasons why junior doctors are quitting the service, thus contributing to the high turnover intention amongst the junior doctors working in the Ministry of Health Malaysia hospitals. Looking at the discussion above at the background of the study and the problem statements, the following research questions have been developed for this research.

RQ 1: What consequences do training & development opportunity have on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals? RQ 2: What is the relationship between career advancement and the turnover intention amongst junior doctors working in the Ministry of Health Malaysia hospitals? RQ 3: Does remuneration have a positive and significant influence on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals? RQ 4: What effect does employment security have on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals?

RQ 5: How much significant influence do co-workers have on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals?

RQ 6: Does family support have a mediating effect on the relationship between training
& development and the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals?

RQ 7: To what extend does family support have as a mediating effect on the relationship between career advancement and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals?

RQ 8: How significantly does family support have as a mediating effect on the relationship between remuneration and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals?

RQ 9: What impact does family support have as a mediating effect on the relationship between employment security and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals?

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RQ 10: What impact does family support have as a mediating effect on the relationship between co-workers and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals?
RQ 11: How significantly does family support have an effect on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals?

1.4 Research Objectives

It is important to carry out this research to know the determinants of the turnover intention amongst the doctors in the Ministry of Health Malaysia hospitals. It is also important to identify the amount of influence the facets in job satisfaction, like career advancement, remuneration, employment security, co-workers relationship and training and development that are most commonly affected by the working condition in the Ministry of Health hospitals in Malaysia by the medical officers, contract medical officers and junior medical officers have on the high turnover intention. This research too will look at the magnitude and scope the role of family support plays in mediating the turnover rate amongst the junior doctors in the Ministry of Health hospitals in Malaysia. Therefore, the research objectives that have been developed are as below:
RO 1: To assess the scale of significance training and development opportunity have on the turnover intention amongst the junior doctors working in Ministry of Health
Malaysia hospitals.
RO 2: To measure the implication career advancement of junior doctors have on the turnover intention amongst junior doctors working in the Ministry of Health Malaysia hospitals.
RO 3: To evaluate the degree of influence remuneration has on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals. RO 4: To examine the size of impact employment security has on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals. RO 5: To quantify the influence co-workers have on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.
RO 6: To assess the magnitude of impact family support has as a mediating role on the relationship between training and development and the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.
RO 7: To evaluate the extend of impact family support has as a mediating role on the relationship between career advancement and the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.
RO 8: To determine the scale of impact family support has as a mediating role on the relationship between remuneration and the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.
RO 9: To quantify the impact family support has as a mediating role on the relationship between employment security and the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.
RO 10: To assess the degree of impact family support has as a mediating role on the relationship between co-workers and the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.
RO 11: To determine the degree of influence family support has on the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.

1.5 Significance of the Study

There will be significant benefits following the completion of this study. This study will be significant to the individuals, society, institutions, organizations, and the government. It is important to know the determinants of the turnover intention amongst the doctors in the Ministry of Health Malaysia hospitals because it will identify the facets which lacks attention and support, and therefore changes can be implemented these facets. It is also important to identify the facets in job satisfaction, like Career Advancement, Remuneration, Employment Security, Co-Workers and Training and Development that are most affected by the working condition in the Ministry of Health hospitals in Malaysia by the medical officers, contract medical officers and junior medical officers, because these younger generation of doctors will be the one that will be replacing the older generation of doctors in the healthcare scenario in Malaysia in years to come. These facets of job satisfaction once identified and changes implemented will make sure that the future of the healthcare sector in Malaysia will be bright, where turnover rate can be reduced and there will be enough doctors to fill the shortages in providing quality healthcare service to the public. If the issue of high turnover or turnover intention amongst the Malaysian junior doctors remains at a significant number, this will lead to shortages in the doctors in the Ministry of Health Malaysia, thus the inability to support the already burnt-out doctors throughout Malaysia.
It is also important in looking at the role Family Support plays in mediating the turnover rate amongst the doctors in the Ministry of Health hospitals in Malaysia. The family support can be in the form of social, financial, or emotional support. Family support for the junior doctors can significantly impact their decision in remaining in the service or to quit the profession. Thus, it is important to determine whether Family Support has a positive and significant influence on the turnover intention amongst doctors in Ministry of Health Malaysia hospitals, because if family support does significant impact on the turnover intention of junior doctors, then family values and the importance of family support should be emphasized at an early age amongst Malaysian. This is so that junior doctors will know how to speak up and reach out for help from their family whenever needed, be it financially, socially or emotionally, indirectly hoping for a reduction in turnover intention. By exploring family support as a variable as well as a determinant in turnover, it will create an opportunity to identify the influences that were not identified in existing models and literatures which focused mainly on personal and organizational factors. This study will therefore contribute to the development of new constructs and categories which are more culturally and healthcare related within the turnover literature.
The outcome and findings of this study will also help to contribute to the body of knowledge in the theories of employee turnover, job satisfaction and organizational commitment. Even though these concepts have been examined extensively in prior studies, there still remains gap in the literatures pertaining especially to the junior doctors in the Ministry of Health Malaysia who work in a highly structures hierarchical system. While most studies on turnover have been developed and tested in the corporate and public-sector industries, this study meanwhile will be applied to the professional group of employees in the government sector, specifically the junior doctors working in the Ministry of Health Malaysia hospitals.

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This study will also look into variables which are often overlooked like contract-based employment, forceful and frequent relocation order and limited access to specialization programs. Variables like workfamily conflicts and family support will be studied as these factors are closely related to the general Asian culture of prioritising family values and family obligations when involving personal and professional decision making, compared to the western context where these theories were developed and tested (Tan, Maki, Lopez-Olivo, Geng & Volk, 2023).

This study will help enhance the theoretical framework of motivation, thus integrating newer findings and discoveries in the already vast field of knowledge, also enriching the turnover theories such as Herzberg's Two-Factor Theory, Job Demand-Resources Theory and Social Exchange Theory. This study will provide a model which in future can be theoretically generalized to be used in all sectors and industries. This study will help in uncovering areas which were rarely covered or studied prior to this, especially in Malaysia, and the South-East Asia region, where this study will allow future theories being built more appropriate culturally and structurally to Malaysia and the South-East Asia region. This study is hoped to serve as a benchmark for other countries in the South-East Asia region that are facing the issue of retaining their junior doctors, and to fill the gap in the regional healthcare human resource literature. It will also benefit the entire healthcare society and the Ministry of Health Malaysia in knowing what seems to be the factors determining the high turnover amongst the junior medical officers in their organization. By addressing the junior doctors in Malaysia, this study adds a career-stage dimension the theories of turnover intention, where the junior doctors are in the exploration stage of their working career, thus laying a better understanding in addressing the gap present in the theories of job satisfaction and turnover intention. The recommended measures in this study can be applied by the scholars, respective individuals, supervisors, and the administrators in an organization to consider the challenges and evolving expectations experienced by professionals from any industry or sector in the different stages of their career.

Lastly, this study will be significant for future researchers and also students who wish to conduct research in this industry or any other. The outcome and significance of this study can be referred to for future use and will indirectly lead to more contributions to this particular issue. Students will be able to look upon this study as an example for guidance and significant past findings in the subject they are study in. This study will also be significant in contributing to transition programs in any industry that will be carried out in future. Like any study, this study will significantly provide new knowledge to researchers. The hope for this study to significantly create awareness regarding the factors affecting the high turnover amongst the junior medical officers in Malaysia is much intended. The findings from this study can be incorporated into healthcare reforms to increase job satisfaction through revision of policies to meet the evolving needs and expectations of the junior doctors, thus reducing turnover intention among the junior doctors in the Malaysian public hospitals.

Therefore, there are many reasons this study will be significant theoretically, academically, and practically in the field of healthcare or any other industry, also socially and administrational in the level of society, organizations and governmental. Apart from that, it will also benefit individuals, students, scholars, and libraries in the form of new addition to the body of knowledge, contributing in any way possible to help future students or researchers in carrying out their studies.

1.6 Scope of the Study

The scope of this research will be to look into the precursors and predictors in the turnover intention amongst the doctors in Ministry of Health Malaysia hospitals. This research will take into account only the doctors that are working in the Ministry of Health Malaysia hospitals in the states of Kuala Lumpur and Selangor. This is also partially due to the many large tertiary Ministry of Health Malaysia hospitals and many of the university hospitals are located in these two states of Malaysia, leading to the large amount of junior and contract doctors working in these hospitals (Ismail et. al., 2024). This research will include only doctors which are practicing for not more than 5 years, as the highest rate of turnover amongst doctors in Malaysia are found to be amongst junior medical doctors and contract medical officers in Ministry of Health Malaysia hospitals (The Star, 24th February 2023). Therefore, this particular population of junior doctors practising for not more than 5 years will provide valuable findings in relation to this study. The variables that are the precursors of the turnover intention are of the many constituents of job satisfaction. Therefore, the theory that will be under pinning this research will be one of the many theories of job satisfaction.

The reason for limiting the study to junior medical doctors and contract medical officers in Ministry of Health Malaysia hospitals working not more than 5 years is because the highest rate of turnover in the Ministry of Health doctors is amongst the junior medical doctors and contract medical officers (The Star, 24th February 2023). There has also been lack of previous studies in the field of healthcare in Malaysia, especially junior doctors, therefore the need to study this population. Upon extensive research, there were a few studies done involving healthcare workers, but not on junior medical officers, and not any were found related to doctors working in the Ministry of Health Malaysia hospitals. But studies from other countries, for example in the African continent, South America and India have focused on these problems faced by their healthcare providers which includes medical officers. The importance of previous studies is because they are required to set the scope, importance, and objectives of this study. However, since this issue problem of high turnover amongst the junior medical doctors in Malaysia is rising, there is a need to understand the problem and studies in different industries were used as examples.

1.7 Definition of Key Terms

In the introduction, background and problem statement chapters of this study, there are many words or terms that are probably new to many. Therefore, below are definitions to these terms taken from established dictionaries and scholarly literatures with its meanings.

1.7.1 Contract

A contract is a mutual obligation between two or more parties, be it individual, group or in an organization (Collins Dictionary, 2025). In this study, a contract medical officer is a qualified medical practitioner who has completed their compulsory houseman-ship training for two years and is then bound with an agreement with the Ministry of Health Malaysia for another two years as a contract medical officer with no further extension (Jamaluddin, Baharum, Jamil & Kamel, 2021).

1.7.2 Training & Development

Training is an organised plan and process which is targeted at developing the skills and knowledge of an employee to be more efficient in his/ her field of job (Matolic et. al., 2023), where training focuses on improving job skills, whereas development prepares the employee into higher level

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roles (Al-Mosawi, 2022). Training & Development is a continuous learning process through workshops, seminars, specialization studies and other hands-on trainings, where it will enhance job satisfaction and enhance competency among employees (Alshraa, Manaf & Mahmud, 2024).

1.7.3 House Officer

These are individuals with a medical degree, which are employed by a hospital or organization to provide services to patients while undergoing training in the medical specialty (Alshumaymiri et. al., 2024). In Malaysia, according to the Medical Act 1971, a house officer is person provisionally registered as a medical practitioner solely for the purpose of obtaining the experience (Malaysian Medical Council, 2022).

1.7.4 Medical Officer

A medical officer is an officer who is gazetted to the government for services involving the health and medical services for the public (Oxford Reference, 2025). These individuals who are medical officers oversee the healthcare of individuals in a particular group like the general public in public hospitals, which may be in the form of surgical or medical attention (Collins Dictionary, 2022).

1.7.5 Career Advancement

Career advancement is the progression and forward trajectory of an employee's career life, where the employee acquires more skills, moving to a higher-level position and takes on more responsibility at work, which may come with an increase in the salary (Lu, White & Barriball, 2020; Cambridge Dictionary, 2025). It is also the promotion an employee receives as sort of appreciation from the employer on the loyalty to the organization, which can also be advancement from a temporary short-term roles or contract work terms to a substantive and permanent role at work (Al-Mosawi, 2022).

1.7.6 Remuneration

It is the compensation or monetary form of payment received by an employee for the amount of job that he/ she has done (Lu, White & Barriball, 2020; Cambridge Dictionary, 2025). Remuneration is given to the service that has been performed by the employees for the organization, which can be in the form of salary, wages, commissions, bonuses or any other form of monetary compensation (Merriam-Webster Dictionary, 2025).

1.7.7 Burnout

It is a syndrome experienced by employees, in this context the healthcare workers, like exhausted, listless, reduced performance and the inability to cope due to the severe stress and high demand of the work nature (Channawar, 2023). Amongst the healthcare employees, long standing stress and frustration leads them to emotional, motivational and physical exhaustion (Merriam-Webster.com Dictionary, 2025).

1.7.8 Public Hospital

Generally, a hospital is a place where individuals who are sick or injured gets treated in the form of medical or surgical care (Merriam-Webster.com Dictionary, 2025). The public hospital meanwhile is the healthcare institution, which is owned by the local, state or federal government which serves the same purpose of treating sick or injured individuals (Law Insider, 2025).

1.7.9 Employment Security

Employment security is the confidence and assurance an employee has that he/ she will not lose the job currently they are attached to and being protected from any unfair dismissal (Nugroho et. al., 2024). It is when an employee has the perception that he/ she has a stable job, feels valued by their employer and knows that he/ she has a secured job and financial income (Karl et. al., 2024 Cambridge University, 2024).

1.7.10 Specialization

It is the process of becoming specialized, which includes being designed, trained, nurtured, or fitted for a particular purpose, job or occupation (Merriam-Webster.com Dictionary, 2025). In the discussion above, a medical doctor undergoes specialization to expertise, improve the knowledge and build up his or her skills in a more specific task or field, for example specializing in the field of Paediatrics, General Surgery, Cardiology and Orthopaedics (Sartirana, Giacomelli, Vide, & Buongiorno Sottoriva, 2025).

1.7.11 Tertiary Hospital

It is a hospital with highly specialized medical care which includes advanced and complex sub-specialties, procedures and treatments, which has state of the art facilities (Collins Dictionary, 2025). While also providing general and basic medical and surgical care to patients, a tertiary hospital can also be a university hospital which includes specialists and doctors providing skilled care and highly knowledgeable decisions for management and treatment of more complex and rare conditions or diseases (Al-Worafi, 2023).

1.7.12 Toxic Work Environment

It is also known as hostile environment harassment where there is discrimination of an employee, either through verbal or physical. This discrimination may be in the form of jokes, comments, and acts, and include topics that is sensitive including race, ethnic religion, age, stature or appearance. This hostile environment thus affects the affected individual's work performance (Merriam-Webster.com Dictionary, 2025). Toxic work environment too can be described as offensive, narcissist, harassment, threatening, bullying and aggressive behaviour of supervisors, superiors, or co-workers towards an employee, and leads to increased levels of burn-out, strain and stress, which affects a person's work and social lifestyle (Tiwari & Jha, 2022).

1.7.13 Co-workers

Co-workers are individuals who are employees of an organization that work at the same place and carry out the same role (Merriam-Webster Dictionary, 2025). They are fellow workers in an organization, and they share the same expertise and knowledge (Isha et. al., 2020), where positive relationship between co-workers is beneficial in increasing job commitment, job involvement and job satisfaction (Jacobs, Hellman, Markowitz & Wuest, 2020).

1.7.14 Family Support

Family support is any form of help or assistance received by an employee from his family member, which helps him/ her to carry out the work commitments and personal responsibilities (Kamaryati & Malathum, 2020). Family support for an employee can be in the form physical, emotional, psychological, instrumental or financial support which can be a guidance to perform their work efficiently and productive, in way reducing work stress, eliminating personal burden and achieving a good work-family life (Shamsikhani, Ahmadi, Kazemnejad & Vaismoradi, 2023).

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1.7.15 Social Diseases

These are diseases that are prevalent and having an occurrence amongst a particular socioeconomical group due to underlying work conditions or living standards, for example like hypercholesterolemia, sexually transmitted diseases, diabetes mellitus, hypertension, and anxiety disorder (Cambridge Dictionary, 2025). Social diseases or simply saying diseases that arise from the social, psychological, economic, and behavioural consequences of a population, and it too leads to increased burden on the healthcare system (Zhao et. al., 2021).

1.7.16 Turnover Intention

It's the deliberate and conscious decision made by an employee to quit the job currently he/ she is attached to in an organization to search for another job (Ahmad Saufi et. al., 2023). Turnover intention is a psychological state where it includes the idea of leaving a job, the thought of searching for a better job and the actual quitting of the job itself (Lu,
While & Barriball, 2020).

1.8 Chapter Conclusion

Reflecting back into this chapter, it gives the introduction, background and objectives of conducting this study. The introduction to this study is explained, and the issues faced by the healthcare industry globally and here in Malaysia are discussed. The reason for this study is to look at the precursors and predictors in the turnover intention amongst the junior doctors in Ministry of Health Malaysia hospitals. With the increase in emerging diseases and increased in the number of populations, added with the current issue of the global Novel Corona Virus Pandemic, the burden on the healthcare sector employees has increased tremendously, and thus this topic is being conducted. Also discussed in this chapter are the research questions and the hypotheses that were developed from the framework that will be discussed in Chapter 2 of this study. Furthermore, this chapter also includes the significance of conducting this study. The limitations faced upon conducting this study too are discussed. Since this study includes certain words from the medical field, the definitions of some key terms used in the discussions in this chapter have been described. Finally, this chapter, which is the opening chapter to this study will give a clear explanation regarding the reason this study is being conducted and its significance, the precursors and predictors of the problem stated and the questions arising from the problems stated in this chapter. The following chapter will be looking into the literature review of previous studies related to this study and the theoretical aspect of this study.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction to the chapter

The research title was developed upon reading through many news articles in the last 3 to 5 years, related to the turnover intention amongst doctors working in the Ministry of Health Malaysia hospitals. Based upon the research questions developed in the Chapter 1, the key variables were identified and listed down, which are the independent variables consisting of training & development, career advancement, remuneration, employment security and coworkers, the mediating variable which is the family support and the dependent variable which is the turnover intention. The theories most related to these variables and problems were chosen to under-pin this research, which are the Herzberg's Two-Factor Theory, Social Exchange Theory and the Job Demands-Resources Theory. In this chapter, these theories will be discussed. The discussion in this chapter will create better understanding of the determinants of turnover amongst the junior doctors working in the Ministry of Health Malaysia hospitals, since the turnover intention amongst the junior medical officers in the Ministry of Health
Malaysia hospitals is the highest amongst all the categories of public healthcare employees (Harun, Mahmood & Som, 2022). This created the need for extensive research into this issue to better understand it. This chapter too explains the hypothesis development and the research framework was developed based on it and is included into this chapter and all its variables are defined, together with the literature review. An extensive literature review was done and is discussed in this chapter. The conclusion to this chapter is attached at the end of this chapter.

2.2 Overview of the Healthcare System in Malaysia

In the early days, before the current Malaysian healthcare system came into existence, the practice of healing and medicating was more of traditional practices amongst the Malays, Chinese and Indian, with each ethnic community having their traditional methods and knowledge of healing the sick carried down form generations (Tan et. al., 2020). The current healthcare system came into existence following the colonization of Malaya, which what Malaysia was called before its independence, where the ruling British government began to build hospitals providing western medical treatment around Malaya and Borneo (Ramya, Othman, Hatta & Wan, 2024). The first general hospital providing western treatment of diseases was established in 1872 in Selangor, and later in all the states by the year 1910 (Park, Yi & Kwon, 2022). The current Malaysian healthcare system has been acknowledged internationally by the World Health Organization (WHO) as one of the most successful healthcare systems around the world (WHO, 2023). The Malaysian government has its healthcare system as one of the 12 National Key Economics Areas in its development plan, in the 10th Malaysia Plan curated by the Ministry of Finance Malaysia and the Prime Minister's department and through the Economic Planning Unit of each of the ministries. In fact, when the New Economic Policy was first revealed in 1970 by the government of Malaysia to promote unity and minimizing poverty, the healthcare sector was an important an important contributor to the policy (Skrine, 2021).

The healthcare system in Malaysia is generally divided into two tiers, which consist of the government owned, and funded healthcare system which provides healthcare services to about 70 percent of the population, and a private healthcare system which is owned by many private organizations which services are sought by the rest of the population (Quek, 2014: MOH, 2021). The Malaysian Ministry of Health's objective is to give affordable, equal, efficient, and technologically advanced healthcare services to all population with the aim to increase and promote health quality and quality of life (Ministry of Health Malaysia, 2025). The government owned public healthcare system is funded by the federal treasury under the Ministry of Finance Malaysia, allocated from the annual budgets. Therefore, patients who are citizens of Malaysia seeking service and treatment at the government owned public facilities pay only a very small amount for all the services provided by the Ministry of Health Malaysia (MOH, 2023).

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The government funded healthcare system is mainly divided into three different tiers, which are the federal level, a state level and the district level which all makes the entire healthcare more efficiently manageable (MOH, 2024). The modes used by the Ministry of Health Malaysia to deliver the healthcare services and facilities to the population are by the availability of health clinics, rural clinics, community clinics, mobile clinics, hospitals and medical or university institutions (Mustapha et. al., 2020). Over the years, the number of these facilities to deliver the Ministry of Health Malaysia's healthcare services has increased, along with the growth of the population (DOSM, 2024). Alongside the Ministry of Health Malaysia's facilities, there are other government ministries that also supplement the bit of delivering healthcare services to the public. These ministries include the Ministry of Higher Education (MOHE), Ministry of Human Resources (MOHR), Ministry of Defence (MINDEF), Ministry of Housing and Local Government (KPKT), and the Ministry of Rural Development (KPLB) (Khairy, 2022).

The healthcare facilities in Malaysia, be it under the Ministry of Health Malaysia or under the other government agencies are well integrated. The primary healthcare in Malaysia is provided by the available health clinics, rural clinics, community clinics, and mobile clinics (DOSM, 2023). The location and distribution of healthcare facilities to provide this primary healthcare service to the population in the numerous districts and parts in Malaysia is depending on the need and size of the population in the respective area. Mobile clinics which include flying teams and mobile teams on four wheeled trucks and boats are present to deliver primary healthcare services to those populations of Malaysia that lives in the areas inaccessible via road or land, especially in Sabah and Sarawak (UNICEF, 2023). The primary healthcare services in Malaysia provide an effective coverage, with the Ministry of Health having any type of a healthcare facility within a radius of 5 kilometres from another available healthcare facility (MOH, 2023).

With the Malaysian healthcare system being well integrated, the primary healthcare facilities can refer unmanageable cases or patients who require advanced healthcare attention and management to the many available hospitals, which are situated in various parts of the states in the country, with the larger ones being in the state capitals (Abdullah et. al., 2020). Normally, the referral of these cases from the primary healthcare facilities to hospitals are done through an available referral system, where patients can be transferred to the nearest hospital through ambulances, helicopters and airplanes provided by the Ministry of Health Malaysia (Hee, Giee, Johnny & Yee, 2024). These processes are done in a systematic way where patient care is not compromised, as any error in handling these patients may lead to further deterioration in their condition or risking their lives (Bahari et. al., 2022). In fact, in a case of any mishaps in this transition, not only the lives of the patients will be compromised or affected, but it will also affect their immediate family members, friends and relatives.

In the Ministry of Health Malaysia hospitals, the hospitals are divided into different levels of hospitals based upon the type of services they offer, and the different needs of the population catered (MOH, 2022). The government too, has privatized a few of its previously public hospitals, like the Institut Jantung Negara (IJN) in 1993 and the University Malaya Specialist Centre (UMSC) in 1998 (Ab Hamid et. al., 2023). These centres were previously funded by the government, however, were corporatized with the government still owning the centres.

There are currently 149 Ministry of Health Malaysia public hospitals, consisting of 14 state hospitals, 55 specialist hospitals, 69 non-specialist hospitals and 11 special medical institutions providing 45,848 beds (Ministry of Health Malaysia, 2025). These hospitals have their specialized roles in managing different patients. District hospitals are hospitals that are in certain districts catering for the population around the region (Soh, Samad, Yusof & Kamarunzaman, 2024). These hospitals are primary hospitals which have services for childbirth, surgeries, laboratories, and intensive care units, with in patient ward for patients requiring hospital admission. There are some district hospitals with specialists like Hospital Pakar Sultanah Fatimah in Muar, Johor, Hospital Temerloh in Pahang, and Hospital Taiping, Perak; and district hospitals without specialist like Hospital Tangkak in Johor, Hospital Sungai Bakap in Penang, and Hospital Kuala Kubu Bahru in Selangor (Ministry of Health Malaysia, 2025).

The Ministry of Health Malaysia has also many general hospitals, which have been around since the pre-independence era, like Hospital Sultanah Aminah, Johor Bahru; Hospital Raja

Permaisuri Bainun, Ipoh and Hospital Melaka (Soh, Samad, Yusof & Kamarunzaman, 2024). These hospitals are secondary hospitals and are in larger cities, especially state capitals, with some states having more than one general hospital, like Selangor, Johor, and Penang (Ab Hamid et. al., 2023). Malaysia has achieved an equal level amongst other developing countries by having at least one general hospital in every state. These hospitals treat all medical and surgical cases, with also having a large emergency and trauma department to attend to accidents and cases which needs immediate and priority attention. In patient wards are with larger bed capacity and have advanced medical technologies in imaging like Magnetic Resonance Imaging (MRI) and Computerized Tomography Scan (CT-Scan), and larger number of

operating theatres, labour rooms and laboratories (Chien, 2020).

Then there are also tertiary hospitals under the Ministry of Health Malaysia. Tertiary hospitals are hospitals that provide medical services for other highly specialized or sub-specialty cases.

These include cases in the field of cardiothoracic surgery, oncology, neurology, cardiology, nephrology, and infectious diseases (Ismail et. al., 2024). The tertiary hospitals under the

Ministry of Health Malaysia are such as Hospital Sungai Buloh, Hospital Ampang, Hospital

Selayang, Hospital Serdang, Hospital Kuala Lumpur, and the Ministry of Higher Education

(MOHE) such as the University Malaya Medical Centre (UMMC), Hospital University

Kebangsaan Malaysia (HUKM) and Hospital University Sains Malaysia (HUSM) (Khairy,

2022). Majority of the tertiary and larger government hospitals are in the states of Kuala Lumpur and Selangor, but there are also large and tertiary hospitals in most of the hospitals in the capitals of the other states like Hospital Pulau Pinang, Hospital Queen Elizabeth Kota

Kinabalu, Hospital Sultanah Aminah Johor Bahru and Hospital Raja Permaisuri Bainun Ipoh (Leong, 2023).

Meanwhile, the number of registered doctors in Malaysia was at 74, 694 in 2022, where 58, 193 are in the public service and 16, 501 are in the private practice (MOH, 2023). These numbers of doctors in the public service includes both permanent and contract doctors (The

Star 4 March 2025). There are different types of doctors practicing in the Ministry of Health Malaysia, which includes the training junior doctors or the house officers, junior medical officers, medical officers, specialists, and consultants. Junior doctors who join the housemanship program

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under the Ministry of Health Malaysia is allowed to work, at the same time complete their training as house officer in general and tertiary hospitals, and certain selected districts hospitals with specialists. These new medical graduates will join the public service with a 5-year contract by the Public Services Department of Malaysia (SPA), which includes the first three years maximum for houseman-ship training and another 2 years for junior medical officer tenure (Samsudin et. al., 2021). There are many other different names that are used around the world to call junior doctors in training, such as resident doctors, doctor in training, intern doctor and foundation doctor, and these names can be seen used in journals, articles, and the movies. In Malaysia, junior doctors in training are called house officers undergoing houseman-ship. These hospitals that are accommodating junior doctors as house officers are called government hospitals accredited with houseman-ship training (GHAHT) (Binti Mohd Sabri et. al., 2024).

The junior doctors undergoing houseman-ship will be given provisional registration by the

Malaysian Medical Council under the Medical Act 1971 and will need to undergo a compulsory 2 years training with minimum 4 monthly rotation in certain specialty, which are the medical specialty that includes paediatrics and general medicine; the surgical specialty that includes orthopaedics surgery and general surgery; and the other compulsory specialties like anaesthesiology, psychiatry, obstetrics and gynaecology, accident and emergency medicine and primary care, to developed the necessary skills and knowledge required (Malaysian Medical Council, 2024). These junior doctors are scheduled to work according to a new shift system, unlike the traditional on-call system practiced by the medical officers and specialists, developed by the Human Resources Department (JPA) to reduce the occurrence of work fatigue and behavioural issues such as depression, also to promote relaxation between flexible working hours to increase the quality of their training and reducing the occurrence of junior doctors quitting the houseman-ship program (Ministry of Health Malaysia, 2024).

Following the completion of the required training, the Committee for Houseman Training of the Medical Qualifying Board under the Malaysian Medical Council (MMC) will promote the house officer to a medical officer, with the provisional registration upgraded to a permanent registration, and will be able to apply for the medical practitioners' Annual Practicing Certificate (APC) offered by the Malaysian Medical Council (MMC). The newly upgraded medical officers will however still be under the contract scheme as contract medical officers and will need to apply for a permanent employment through the Public Services Department of Malaysia (Fuad, 2021).

Meanwhile, the medical officers, both permanent and contract officers in the public healthcare sector are the largest workforce of the medically trained personnel, which stand at 44, 155 in number in 2024 (Code Blue News, 23 December 2024). A fully registered medical officer under the Medical Act 1971 is a medical practitioner who doesn't need to be under direct supervision of a medical specialist or consultant (Malaysian Medical Council, 2022). There are certain centres under the Ministry of Health Malaysia, like some district hospitals and health clinics, where there are no specialists but manned entirely by medical officers under guidelines and work processes set by the head of services in the field who are specialist (Bahari et. al., 2022). Medical officers have the authority to assess patients, to perform procedures and interventions, advice and offering other clinical services for patients' betterment, with good clinical practice and etiquette. Medical officers in the Ministry of Health hospitals are scheduled to work according to the on-call system, where active on-call medical officers and specialists are to be working in the hospital for a period of 24 hours and being contactable during that period of work, performing the duties they are credentialed to perform. There are also passive on-call medical officers and specialists that are scheduled to work according to the on-call system, but they can be at home however to be able to be contacted during that period of work, and ready to come back to the hospital in the case of their service is required (Fadzil et. al., 2022).

A medical officer is only allowed to leave the public service after completing a compulsory service under the Ministry of Health Malaysia for a minimum of 2 years after being conferred the full registration, to be able to continue practicing in the healthcare sector in Malaysia as a fully registered medical practitioner (Malaysian Medical Council, 2020). Medical officers who leave the government service after they have received their permanent registration under the

Malaysian Medical Council will be able to apply for their Annual Practicing Certificate (APC).

This certificate will enable the medical practitioners to practice medicine anywhere in Malaysia.

The medical officers that continue being in the government service will normally pursue their career further by undergoing the specializing program offered through the federal training sponsorship (HLP), however there are also many who actually remain as medical officers and get appointed to the administration level in the Ministry of Health Malaysia, and some as remain as senior medical officers (Nadarajah, Shankar, Jayaraman & Sreeramareddy, 2022). Medical officers who want to progress as specialists will have to fulfil the compulsory training requirements as a medical officer and complete a minimum 4-year long clinical master program, or a clinical post-graduate course (Academy of Medicine, 2024). The training to undergo specializing in Malaysia is done entirely in the Ministry of health Malaysia hospitals with the training modules from the universities under the Ministry of Higher Education (Fadzil et. al., 2022). The clinical master programs like in the fields of internal medicine, paediatrics, surgery, orthopaedics surgery, obstetrics and gynaecology, public health and pathology are offered by the government through various universities under the Ministry of Higher Education likes University of Malaya (UM), University Putra Malaysia (UPM), University Sains

Malaysia (USM), University Malaysia Sarawak (UNIMAS), The National University of Malaysia (UKM) and University Islam Antarabangsa (UIA) (Ahmedy et. al., 2025).

However, there are also medical officers pursuing specializing training under parallel programs offered by foreign universities like The Royal College of Surgeons, Ireland and The Royal College of Physicians, England, and they will need to fund the fees for these programs by themselves while continue working under the Ministry of Health Malaysia (Binti Mohd Sabri et. al., 2024). This parallel pathway specialization program is approved by the government, and it will help the government to achieve their target of having 28,000 specialists by the year 2030, which is 14.33 specialists for every 10,000 patients (Malay Mail, 28 September 2021).

Currently there are around 13000 specialists in Malaysia, which is about 3.88 specialists for every 10,000 patients, where a significant number of them are in the private sector (Academy of Medicine Malaysia, 2023).

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2.3 Theories Underpinning the Study

Many motivational theories including social psychological and sociological theories were developed at the turn of the 20th century, as employers realized the need for the betterment of work conditions of the employees and improving the welfare of the industry (Chaika, 2024). This move by the industrial leaders then led to the current work welfare and human resources management and showed that the industry cared for and was responsible for the employees (Abuladze & Skorkova, 2021). There are many well-known theories on needs and motivation like Maslow's Hierarchy of Needs (Maslow, 1954), Herzberg's Two-Factor Theory (Herzberg et. al., 1959), McGregor's Theory-X and Theory-Y (McGregor, 1960) and McClelland's Achievement Motivation Theory (McClelland, 1965). There are also social psychological and sociological theories that were developed, which are the Social Exchange Theory (Blau, 1964), Theory of Planned Behaviour (Ajzen, 1991), The Job Demands-Resources Theory (Demerouti et. al., 2001), Cognitive Dissonance Theory (Festinger, 1957) and Attribution Theory (Heider, 1958). In this study, one theory of motivation and two social psychological and sociological theories will be used as the underpinning theories, which are the Herzberg's Two Factor

(Motivator-Hygiene) Theory, the Social Exchange Theory and The Job Demands-Resources Theory.

2.3.1 Herzberg's Two Factor (Motivator-Hygiene) Theory

The Herzberg's Two Factor Theory or also known as the Motivator-Hygiene Theory was developed in 1959 by Frederick Herzberg, an American behavioural scientist, and a psychologist, along with his collaborators Bernard Mausner and Barbara Bloch Snyderman (Mitsakis & Galanakis, 2022). It is one of the most significant theories of job satisfaction (Robbins & Judge, 2022). The study was a result of a five-year research program on job attitude started with the grant received from The Buhl Foundation in Pittsburgh, Pennsylvania, United States of America. The need for a study like this was a very necessary one during that period, especially in Pittsburg, which was the centre for heavy industry at that time. During that time, there was prevalence of job dissatisfaction such as strikes, slowdowns in work pattern of workers and filing of grievances towards employers by the employees (Duryea, 2014).

Therefore, there was a need for a better insight into the attitudes of workers towards their jobs.

Herzberg then published this theory in the book titled 'The Motivation to Work' in the year 1959.

This theory focuses on job satisfaction as the main component of motivation. It has also been widely used as a method to explore job satisfaction amongst employees (Kurt, 2021). This theory was developed by Herzberg, as he conducted research on the issue of what people wanted from their work. Based upon these findings from his research, he proposed two factors that influences motivation at work, and Herzberg was able to come out with two factors which according to him are the key drivers for job satisfaction; the motivator factors (the intrinsic factors), and the hygiene factors (the extrinsic factors) which surrounds the doing of the job (Robbins & Judge, 2022). Prior studies to Herzberg's explained that job satisfaction and job dissatisfaction as extremes on only a single continuum, with a neutral condition in the middle or the mid-point of the continuum, a point where the worker is neither satisfied nor dissatisfied (Roos, Reale & Banning, 2021). Also, previously workers were shifted along this single continuum as factors are introduced or changed, as employers and companies focused on hygiene factors only to improve productivity. Herzberg stated that job satisfaction and job dissatisfaction are affected by two different sets of factors, and thus these two factors can't be measured on the same continuum. According to Herzberg, to increase job satisfaction, the motivator factors need to be improved too; therefore, jobs should be structured or restructured to allow the employees to achieve goals that are meaningful for doing the job.

Figure 2.1: Herzberg's Two Factor (Motivator-Hygiene) Theory of Job Satisfaction, adapted from Ibrahim et. al., 2023)

Motivator Factors	Hygiene Factors
Work	Company policies
Career advancement	Supervision
Recognition	Wage/ Pay
Responsibility	Co-workers relationship
Achievements	Working conditions

Therefore, it is also called as the motivation-hygiene theory. The Intrinsic or motivator factors includes achievements, recognition, the work itself, responsibility, advancement, and growth, whereas the extrinsic or hygiene factors are the factors that surrounds the doing of the job itself includes company policies, the quality of the supervision by the company, co-worker relationships or employee's relationship with their peers, working conditions, pay or remuneration, and employment security. In general, the hygiene factors are the external influencers of an employee, and the motivation factors are the internal state of the worker's mind itself, therefore making the theory a bi-factor theory (Yousaf, 2020).

Motivation, per say, is the act of giving someone an encouragement or a reason for doing something. As a result, motivation is an effective and powerful tool that affects a person's direction, intensity, and persistence of their intended behaviour, which when done right may lead to great results (Kooktapeh et. al., 2023). The motivation factors, or the intrinsic factors is the result of interaction between the unconscious and conscious factors, for example factors such as the intensity of personal needs and desire, rewards and incentive value for achieving a certain goal and expectation by a person and of his or her peers (Roos, Reale & Banning, 2021). Motivation factors lead to positive job attitudes because they satisfy the need for selfactualization.

In the theory, Herzberg explained that the hygiene factors are the factors that aren't that dominant and strong in contributing to the satisfaction of the employee, but the presence of the hygiene factors are important and required to be available to meet the employee's expectation and thus preventing the employees from having the feeling of job dissatisfaction. Therefore, the hygiene factors can be described as the factors that are related to the environment in which the job is performed (Peramatzis & Galanakis, 2022). In case the hygiene factors are fulfilled but not to the

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expectation of the employee, it will lead to increase in the level of dissatisfaction thus forcing the employee to give up on their jobs. Therefore, it can be stated that the hygiene factors are the main requirements by the employees to maintain the level of their employee satisfaction, thus making it impossible to have the intention or feeling of job dissatisfaction (Robbins & Judge, 2022).

Herzberg also explained that job satisfaction factors and job dissatisfaction factors are two different and separate factors. Therefore, it's the two factors, the motivators and the hygiene factors are separated into two different dimensions, and they affect different aspects of job satisfaction (Mansour-Fakih, 2024). For example, by removing the dissatisfaction factors, the employee may still be not satisfied with his work. Herzberg, 1966 also explained that the opposite of job satisfaction is not job dissatisfaction, but it would be 'no job satisfaction'. Meanwhile, the opposite for job dissatisfaction would be 'no job dissatisfaction (Jackson,

2022). Rogers in 1975 explained this simply in an example as adequate salary, good working conditions, respected supervisors and likeable co-workers will not necessarily produce satisfied workers, but rather they will produce a worker who is not dissatisfied (Wagner & Hollenbeck, 2020). The traditional continuum of job satisfaction has job satisfaction and dissatisfaction in the same continuum. Herzberg's theory deviates from the usual traditional approach, which perceives job satisfaction and job dissatisfaction in the same continuum, however in opposite ends (Robbins & Judge, 2022).

Herzberg (1959) also described that there are six intrinsic factors that are responsible to motivate employees in the job are the work itself, responsibility, achievement, recognition, growth, and advancement. In the event of absence of these factors, employees will be 'not satisfied' with their job, and 'not dissatisfied' with their work. Also, if the hygiene or extrinsic factors are adequate, employee might still be not motivated in their work. Workers who are not satisfied in the job tend to not be involved in their job or lending in any extra effort in their job to increase their productivity (McTaggart & Loonam, 2024). Employees who are satisfied with their job tend to invest more effort in their work and thus increasing their productivity. Therefore, for an employer to motivate their employees, they will offer other rewarding factors, which are related with the work or outcome of the work. In summary, in a job if hygiene factors are absent, employees tend to have a reduced productivity (Robbins & Judge, 2022). Thus, if the hygiene needs are satisfied, they can prevent dissatisfaction and poor work performance, but the only the satisfaction of the motivator factors can bring the productivity betterment needed by the employer or the company (Sypniewska, 2020). As an example, instead of an organization providing an increased salary, stable job security and excellent organizational policy which are is the hygiene factor, the employees of an organization will be more motivated and perform effectively when the motivational factors like increased responsibility, recognizing employee achievements and involvement in decision making are furnished by the employer, therefore making the motivational factor the main factor to achieve job satisfaction (Mitsakis & Galanakis, 2022).

Both the hygiene and motivator factors work on an employee to lead to job satisfaction (Alrawahi et. al., 2020). If an employee if given a challenging job, but he or she enjoys the work, this will make the employee more productive, attain career growth and gaining achievements. Therefore, when both these hygiene and motivators are present in an employee, it can result in four different scenarios (Mustafa et. al., 2022). When an employee is has high hygiene and high motivation, it is a perfect work condition where the employee is highly motivated and doesn't have any complaints about the work condition. When an employee has low hygiene and low motivation, this is the worst work condition an employee can be in as the employee is lowly motivated and has a lot of complaints about the work. In the case of an employee having high hygiene but with low motivation, the employees will be not motivated and has only a few or no complaints about the work, therefore the employee is just working as he or she just considers the job as a source of income (Kurt, 2021). The last scenario will be when an employee has low hygiene and high motivation, where the employee will have lots of complaints about the work but is highly motivated; making a situation where the employee has an exciting job, but the salary and work condition are not favourable to the employee (Robbins & Judge, 2022).

Following Herzberg's motivation-hygiene factor theory published in 1959, there were many more studies which emerged, which showed similar results as the original Herzberg's study. Even in the 21st century, Herzberg's motivation-hygiene factor theory is still supported by newer studies such as the more recent ones by Sobaih & Hasanein (2020), Buyukbese et. al.

(2021) and Elshami et. al. (2023). This theory has been strengthened by a study by McTaggart & Loonam (2024) where they found both the extrinsic and intrinsic factors are positive predictors of employee motivation working in a restaurant. Herzberg's two factor theory was also validated in another study by Kumar, Upadhyay, Yadav & Goyal, (2022), where the satisfaction amongst seasonal workers in the hospitality workers were more of the higher needs, like achievement and growth, instead of the wages. So far, Herzberg's two-factor theory has been widely applied in various studies on employee satisfaction, mostly in industries and occupational groups other than the health industry and professions (Alrawahi et al., 2020).

2.3.2 The Social Exchange Theory

The Social Exchange Theory (SET) is a theory of social interaction in the field of social sciences. This theory postulates that the relationships in humans are established and maintained on a cost-benefit analysis, where humans tend to maximize on the rewards and minimize on the costs in their relationship (Mishra & Mund, 2023). This theory emphasizes the balance between the positive and negative exchanges that take place in an individual's relationships. This theory can be applied to a variety of relationships like friendship, romantic partnership, professional relationships and family relationships, therefore not only limited to the organization where the employee works (Kim, So & Wirtz, 2022). With the evolving pattern of organization operations, his theory can be applied to understand the behaviour of employees at their workplace. This theory studies how an employee interacts sociologically and psychologically in weighing the outcome in terms of the costs, which is the negative outcome and benefits, which is the positive outcome in one's relationship (Meira & Hancer, 2021). This theory suggests that human relationships are maintained mainly on a cost-benefit evaluation, where an employee weighs the outcome of a relationship based on the sacrifices and effort, they have put in (Ahmad et. al., 2023). The positive outcomes for example are love, money, support and appreciation which an employee gets from a relationship, and the negative outcomes are time, stress, emotional strain, conflicts or efforts involved in a relationship. Therefore, the likeliness of an employee continuing in a relationship that is giving them more benefit than the costs incurred is higher (Khera & Suri, 2024).

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The creation of this theory had several contributors over the years (Ahmad et. al., 2023). The foundation to this theory is said to be developed by George C. Homans in 1958 (Homans, 1958) when he laid the principles of behavioural psychology to social interactions through his work 'Social Behaviour as Exchange' and 'The Human Group', where he emphasized that social behaviour is a dynamic exchange process in which humans maximize rewards and minimize cost (Ogbonna & Mbah, 2022). This was followed by Harold Kelley and John Thibaut in 1959 which broadened this theory by the conception of the 'comparison level' (CL) and 'comparison level for alternatives' (CLalt), which further enhanced this theory to allow humans to evaluate the stability and satisfaction of a relationship (Forgas, Crano & Fiedler, 2022). 'CL' in this theory is the expected standard of rewards and costs an individual perceives to get out of a relationship based on cultural expectations, social practices or from previous experiences. For example, an individual with many unhappy relationships prior to this will have a low 'CL' and will accept and settle with a relationship that offers lower rewards than the individual deserves (Lee, Xu & Wang (2021). The 'CLalt' meanwhile is used to evaluate the strength and stability of a relationship, where it evaluates the rewards and costs of remaining in the current relationship the individual is in, as compared to the rewards and costs in a new relationship or not being in a relationship (Wang, Zhang & Chen, 2025). Here, an individual which believes that he/ she can receive more rewards and lower cost in a new relationship that he/she is currently in, or even being alone, this individual will have a higher CLalt than the current relationship (Forgas, Crano & Fiedler, 2022).

This theory was further enhanced by Peter Blau in 1964 through his work 'Exchange and Power in Social Life'. His contribution to this theory significantly advanced this theory into show how relationships between individuals are affected by power dynamics and social structures. He added the idea of showing that human relationships are beyond simple exchanges among individuals but are influenced by social structures such as hierarchy and power dynamics which is the ability to command or influence others (Ohemeng et. al., 2020). The social structures that affect the human relationship like the hierarchy within an organization or group can cause imbalances leading to unequal exchange, leading to the issue where one individual has more to offer than the other, or being too dependent on the other individual (Stafford & Kuiper, 2021). Meanwhile, the power dynamics in human relationship involves the ability of one individual to influence or control the other and having a decision-making authority, and this causes an imbalanced exchange in a relationship. This creates a problem where one individual benefit more than the other in the exchange, which can lead to a power-based relationship (Fousiani, 2020).

The key components of this theory are its core factors, which are the rewards and costs, the

'comparison level' (CL), 'comparison level for alternatives' (CLalt), the reciprocity and equity (Wang, Zhang & Chen, 2025). The reciprocity is a mutual exchange of benefits which may be positive or even negative, which can affect the dynamics of a relationship. Individuals usually are obliged to return the favours and benefits to maintain the fairness in a relationship. Here, individuals usually reciprocate positive actions with a respond of positive actions, and negative actions with negative actions (Fousiani, 2020). The equity meanwhile is the fairness which is perceived to be present in a relationship, where balanced contributions and benefits occur in interactions amongst individuals. Here, both the individuals in a relationship feel that what they are getting is in proportion to what they are supposed to get, thus creating an equitable or fair relationship. Inequity in a relationship occurs when an individual gets lesser than he/ she is supposed to leading to under-benefiting or gets more than what he/ she is supposed to be getting leading to over-benefiting (Polk, 2022). Therefore, maintaining a fair and equitable relationship is essential to foster commitment, satisfaction, loyalty and trust.

The Social Exchange Theory is beneficial to be used in an organizational setting as it helps to analyse the nature of relationships and stresses on the importance of the equity of rewards and costs implied to the relationships (Alqahtani, 2024). It helps in understanding the interpersonal and workplace dynamics, where high quality social exchanges are linked to high organizational commitments and increased job performance. This theory too helps to give an understanding of the employee job satisfaction and motivation. The evaluation of the relationship between employers and employees has shown that exchanges with good support and perceived fairness led to increased motivation and job satisfaction (Ahmad et. al., 2023). This theory too can be used as a guide to resolve conflicts at workplace and to reach out for a solution to settle a workplace issue. By examining the interpersonal exchanges and workplace dynamics, the issue with fairness and reciprocity can be addressed, and conflicts can be resolved. Individuals will only engage in positive exchanges to resolve a conflict when they recognise that the exchange is fair. In return, individuals that are motivated will reciprocate favours and actions which will help to resolve a conflict and further negotiate a solution in overcoming the issue (Alqahtani, 2024).

This theory can therefore be implemented to promote the culture of equity and reciprocity in an organization, thus increasing the number of positive relationships and increasing the job satisfaction and motivation of the employees (Bilal, Raza & Khan, 2024). Studies have shown that high quality social exchanges in an organization leads to a more positive employee behaviour, leading to a productive organizational culture and increased work performance which benefits the organization (Sarigul, Zakaria & Erum, 2023). The Social Exchange Theory is a very versatile study, as it can be applied to any field like psychology, sociology, organizational studies and economics (Ahmad et. al., 2023).

These exchanges are not limited to workplace only. Exchanges are extended to the family, relatives, friends and other personal relationships of an individual too. Therefore, in reference to family support, the Social Exchange Theory explains the cost and benefit in a dynamic relationship between employees and their families (Xu, Kellermanns, Jin & Xi, 2020). These exchanges that occur between the individual and his family may also be subtle and fine, where it may also include non-tangible rewards like time, attention, emotional support and reciprocity. Thus, in the context of family support, it may consist of acts like financial assistance by the family or the employee, psychological and emotional care by the family, family responsibilities like care for elderly parents or child-care by parents and family love (Huang et. al., 2021). It helps in understanding how the family members give and receive their support such as emotional help, family time, physical care, financial aid and household responsibilities in exchange for a return in the form of family love, time, care and respect (Jahangir et. al., 2025).

This theory is also important as it explains the exchanges across generations in a family, specifically for family support (Liu, 2023). Family supports are in the form of parents providing financial support and care for the employee and his/ her spouse or children to invest in the wellbeing of their children in term of relationship and career, in return also expecting emotional love and care in their later elderly life (Xu, Kellermanns, Jin & Xi, 2020). Reciprocally, employee too will provide love, financial aid and care for their elderly parents in their later adult life based on the past

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parental support. This family support will remain and maintained if the fairness and reciprocity are kept equal between both parties, thus the family relationship will remain positive and strong (Liu, 2023). However, if the adverse occurs, where there is inequality in the support which is given between the employee and the family, it will lead to family conflicts and failure in the support (Akinrolie, Okoh & Kalu, 2020).

However, this theory has its limitations. This theory doesn't have the ability to critically explain the more complex human behaviour like self-centeredness, egoism, narcissistic and sexism. These complex human behaviours make the reciprocity in a relationship more one sided (Rajaa & Mekkaoui, 2025). As the theory explains that human nature is to return the favour or reward one has received and naturally practicing reciprocity, however this is not the case with all individuals. Thus, this theory depicts the real-life relationship amongst individuals as a simple transaction that is based on cost-rewards analysis, where it neglects dwelling further to include the subtle and fine factors present in the interpersonal relationships (Ahmad et. al., 2023). Also, this theory overemphasizes on rationality, but it's not the same scenario in the real-life scenario where individuals usually make critical decisions based on emotions, reality and irrational factors (Jahangir et. al., 2025). Despite this theory explaining on the outcomes of relationships and exchanges among individuals, there has been lack of studies identifying the outcomes in interpersonal relationships (Davlembayeva, Papagiannidis & Alamanos, 2020).

In some recent studies, researchers have explained the positive and negative actions in relationships; however, there is still lack of critical understanding on how these positive and negative actions are defined in the context of family support (Machia, Tan & Agnew, 2024). For example, the natural nature of a parent is giving the best life and education to their children, which contradicts with the theory's core component which states that a return in favour is expected for every favour that has been offered (Stuckelman, Strouse & Troseth, 2022). This theory too focuses on immediate and tangible rewards in a relationship in its core elements, however, doesn't investigate the long-term intention or benefits of a relationship, for example the long-term dynamics in the family relationship (Davlembayeva, Papagiannidis & Alamanos, 2020). Other long-term intention and benefits from a relationship can include developing skills for personal gain, achieving emotional satisfaction, being committed and investing in a lifelong bond like family relationship (Robles & Sarcon, 2023). Also, quantifying these costs and rewards in relationships are challenging as the nature of humans and their individual perception of reward and costs might differ between individuals, thus making these measurements
difficult.

Finally, the cultural aspect that has not been taken into consideration in this theory plays an important role too. For example, the value of family relationship for an Asian individual may more importantly compared to his western counterpart, as the Asians are known to prioritize their families more than anything else (Ahmad et. al., 2023). This theory doesn't include the employees who are strongly influenced by their traditions and cultural norms, where family relationship is strong and not affected by inequity or cost-reward analysis outcomes, due to the relationship is present as part of a family duty or cultural expectation (Ruciswandaru, Evelyn, Hamka & Ratnasari, 2025). This too includes family relationship between individuals and parents which last over the entire lifetime and does not require reciprocity and equity in its transaction; furthermore, the relationship is asymmetrical and in fact evolves over time to also include intergenerational relationships (Robles & Sarcon, 2023).

2.3.3 The Job Demands-Resources Theory

The Job Demands-Resource Theory or JD-R is a newer theory compared to the theories discussed in this chapter. This theory was developed by Demerouti, Bakker, Nachreiner, and Schaufeli in 2001 where it explains how the environment of a workplace affects the performance and well-being of an employee (Tummers & Bakker, 2021). The introduction of this theory provided a substitute to older models such as the Job Demand-Control model and the Effort-Reward Imbalance model (Karasek, 1979; Siegrist, 1996; Demerouti et. al., 2001). This theory provides an extensive and flexible framework created to understand the employee's well-being and his/ her performance. This theory describes that the two main characteristics of any work environment is categorised into two different groups, which are the job demands and the job resources. The job demands are the components of a job which requires psychological or physical effort, which can lead to possible health issues (Bakker, Demerouti & Sans-Vergel, 2023). The job resources meanwhile are the component that help an individual in achieving work goals, promote personal goals and reducing job demands (Bakker & De Vries, 2021). Both these factors affect employees positively or negatively, in terms of mental health, work engagement and work performance. Also, this theory proposes that stress related to work is not necessarily due to increased job demand, but it can also be a result of inadequate resources to manage the increase in demand (Bakker, Demerouti & Sans-Vergel, 2023).

The job demand is one of the two core components of this theory. Job demand is defined as any psychological, physical, social or organizational aspect of a job that requires continuous skills and effort. This effort can be emotional demands when dealing with difficult clients, time pressure, the workload, interpersonal demands when dealing with conflicts among co-workers or cognitive demands required in problem solving (Mazzetti et. al., 2023). Therefore, employees in jobs with high job demand will require putting in continuous extra energy and effort to sustain which may lead to mental and physical strain or burnout. Furthermore, constant high job demand can also lead to employees developing emotional exhaustion, disengagement from work, deterioration in health and reduced performance at work (Bakker, Demerouti & Sans-Vergel, 2023).

The job resources meanwhile are the other core component of this theory. Job resources are defined as the psychological, physical, organizational or social aspect of the job which supports an employee to achieve personal growth and development, career advancement, work goals and reduce job demands (Bakker, Demerouti & Sanz-Vergel, 2023). Examples of these job resources are support from co-workers or supervisors, positive organizational culture, decisionmaking autonomy, control of job, diverse skills, job enrichment and development opportunities (Mazzetti et. al., 2023). Job resources therefore lead to positive outcomes in an employee's work-life leading to motivation, work engagement and efficacy, job satisfaction and increased work performance. Therefore, increase job resources aids an employee in effectively handling his/ her job demand, thus lessening the effect of job stress. Also, the lack of resources may lead to the increase in the negative effects of job demand (Bakker, Demerouti & Sans-Vergel, 2023).

The Job Demands-Resource Theory suggests that its model is flexible and can be applied to various work types, therefore it can be used to analyse employee well-being and numerous job characteristics (Mazzetti et. al., 2023). Its model outlines its two core psychological processes which are the motivational process which can be triggered by the job resources and the health impairment process which can be triggered by the job demands

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(Trepanier et. al., 2020). Therefore, the fundamental concept of this theory is that its core psychological concepts can active different processes, which are the Health Impairment Process or the Motivational Process (Bakker, Demerouti & Sans-Vergel, 2023). These two processes outlined in this theory are crucial in understanding the ability of this model to speculate on the emergence of employee engagement and burnout.

The health impairment process occurs when an employee has increased job demands in the form of mental and physical exhaustion which leads to overburdening, job disengagement, health problems and burnout (Zakaria et. al., 2022). The incidences of job burnout are particularly high in the healthcare sector employees as their work requires them to be constantly attending and utilizing all their mental and physical effort in various patients who need treatment throughout their stay in the hospital (Mazzetti et. al., 2023).

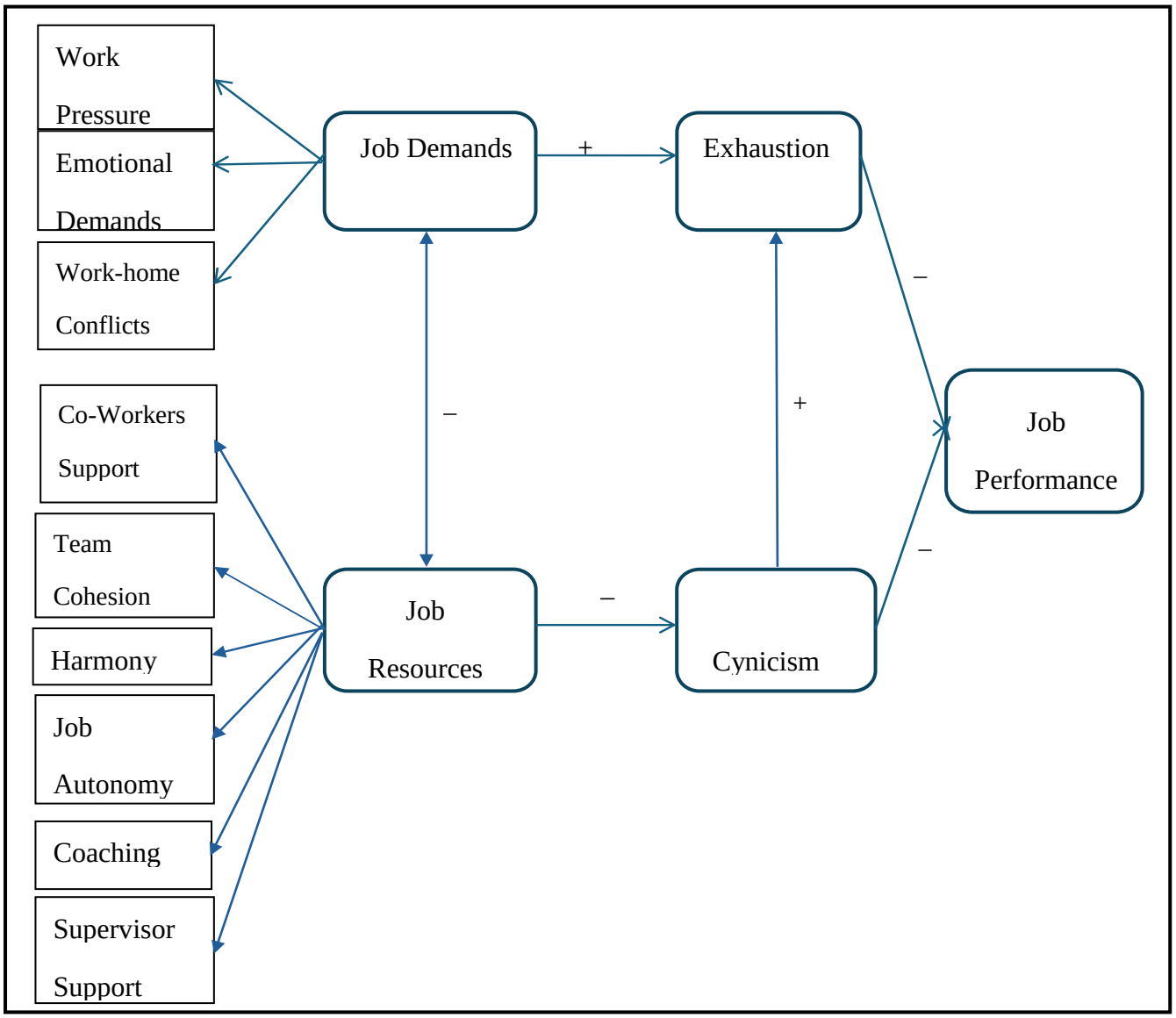


Figure 2.2: The Job Demands-Resources model (adapted from Bakker, Van Emmerik & Van Riet, 2008).

The motivation process meanwhile is triggered by increased job resources, where the employee has been able to fulfil his/ her basic psychological needs like decision-making autonomy, control of job, diverse skills, job enrichment and development opportunities (Gleason et. al., 2020). The triggering of this process promotes the work engagement of the employee, thus increases the work performance, efficacy at workplace and improves organizational outcomes (Bakker & Van Wingerden, 2021). Increased job resources can also lead to lower cynicism, thus contributing to intrinsic and extrinsic motivation (Katou et. al., 2022). Intrinsic motivation is the engagement of an individual in an activity for personal fulfilment to enjoy the activity and at the same time personally benefitting the individual, whereas external motivation is the engagement in an activity to avoid punishment or to gain reward externally, which may be in the form of money or recognition (Trepanier et. al., 2020). Enrichment of job resources therefore may buffer the negative effects caused due to increased job demand or burnout.

The Job Demands-Resources Theory is beneficial for organizations as it considers both the positive and negative psychological outcomes of an employee, where it investigates not only the risks that impact employee health and productivity, but it also investigates the factors that drives the well-being and success of the employees (Shaukat, Chaudhry, Ch & Dar, 2020). It too can be used in any job in any industry as it is designed to be a broad and encompassing type of model theory, furthermore its key concept of job demands, and job resources consists of factors which are

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universal and relevant to all type of job (Zakaria et. al., 2022). Furthermore, this theory has evolved over the years to also include leadership styles, team-level dynamics and personal resources which are relevant as the changing nature of the way work is done, which includes work from home, hybrid work concept and agile work environments (Bakker, Demerouti & Sans-Vergel, 2023). It can therefore be used by any organizations to enhance the job resources of their employees by designing work environments that is low in job demands, which in turn will reduce absenteeism, turnover rates and increases job satisfaction (Andawari, Zahari & Hapsara, 2024). It will also prevent burnout among employees by managing excessive stress due to increased workload by understanding the job demands that the employees are facing at their workplace.

This theory too differs from the earlier theories as the latter focused on employee stress and burnout mainly, however the Job Demands-Resources Theory has a dual focus concept which is the health impairment process and the motivational process (Shaukat, Chaudhry, Ch & Dar,
2020). This concept is beneficial for organizations as they don't just reduce the harm and demands at the workplace but also boost the engagement and motivation at workplace by increasing the resources to create a positive organizational behaviour (Katou et. al., 2022). Despite the resources of an employee are fulfilled, the underlying chronic job demands of an employee may lead to exhaustion which will in long term result in the inability to perform at work (Zakaraia et. al., 2022). Therefore, this theory can be applied by employers to identify the long term demands to retain its employees and have a motivated, productive and sustainable workforce.

However, there are also certain limitations of the Job Demands-Resources theory. Despite it being highly inclusive and flexible, it's been criticized for being too generalised where the core concept of job demands and job resources can be considered too vague which in turn may reduce the accuracy of a hypothesis (Leifels & Zhang, 2023). With these core concepts being too generalised and vague, it makes it difficult at times to identify the most critical components of the resources or demands, as it is difficult in isolating certain effects due to the complex interaction between the components of this theory (Bakker & Demerouti, 2024). This theory considers the components in job demands and job resources as static variables. However, these variables are ever evolving as they are dynamic and fluctuant from time to time, for example job demand of certain employees which fluctuates every now and then or seasonally (Bakker, Demerouti & Sans-Vergel, 2023). Also, the relationships between these variables are linear in this theory, which is dynamic and probably interactive or non-linear. These dynamic interactions which are not described in this theory might create interactions between the variables thus creating a buffer or amplifying effect on either the demand or resources component (Sanclemente, Gamero, Arenas & Medina, 2022).

Like other theories from the Western world, the adaptability of the Job Demands-Resources theory too might be difficult in certain cultures. Employees from different cultures perceive job differently and their understanding and importance of job resources and job demands may differ from an employee from another culture or country (Rattrie, Kittler & Paul, 2020). The understanding and importance of these components might also differ among individuals as certain individuals are able to cope with more demands compared to others, and some individuals have higher expectations of certain components even before taking on the job (Leifels & Zhang, 2023). As this theory focuses on individuals and the factors affecting them in their job, the broader context which is the organizational level focus is overlooked. These organizational level factors include leadership styles, economic context, organizational cultures and the inequalities in the system, and with the presence of multinational corporations, this theory is found to have limited reflections of the organizational level (Bohle et. al., 2024).

2.3.4 Comparison of the Underpinning Theories

Both these theories were developed as there was the need for the betterment of work conditions of the employees and improving the welfare of the industry (Jaffar, Munir & Waqas, 2024).

The more prominent and commonly used theories of job satisfaction are Herzberg's Two Factor
(Motivator-Hygiene) Theory, Maslow's Hierarchy of Needs Theory and McGregor's Theory X and Theory Y (Teoh, Hassard & Cox, 2020), whereas the more common social psychological and sociological theories used are the Social Exchange Theory (Blau, 1964), The Job DemandsResources Theory (Demerouti et. al., 2001), Theory of Planned Behaviour (Ajzen, 1991) and Cognitive Dissonance Theory (Pestinger, 1957).

The Herzberg's Two Factor (Motivator-Hygiene) Theory is a prescriptive theory that focuses on factors that motivate individuals like recognition and rewards received by the individual leading to employee satisfaction or dissatisfaction, whereas the Social Exchange Theory is a study which posits that the relationship in humans works on reciprocity, and it uses economic principles to describe human social behaviour. The Job Demands-Resources Theory meanwhile is an organizational level model that categorizes job character into two categories and describes how job resources can promote job performance and motivation, also how job demands can cause stress and burnout (El-zohery, El-wkeel & El-shaer, 2022). The distinctive feature of the Herzberg's Two Factor theory is despite it having two factors that decides the motivation of an employee, it only considers the motivator factors as the motivation factor for employees, that makes employees be more productive and efficient and does not consider the hygiene factors as a motivating factor (Huang, 2024). The Social Exchange Theory meanwhile analysis the transaction between individuals in a relationship where they seek to reduce the costs involved and maximizes on the benefits in the interaction (Cook & Hahn, 2021).

The Herzberg's Two Factor Theory is applicable in professional workers as it gives a more focused look into the motivational issues faced by professionals, as it focuses on employee motivation and their job design (Alshmemri et. al., 2017). The most prominent Herzberg's Two Factor Theory advantage is the that it emphasizes on the motivation from within the employee itself through the motivator factors, so issues like working environment and company profiles in the hygiene factors doesn't necessarily make an impact in an employee's motivation in achieving his or her goal (Atkinson & Peijnenburg, 2010). The Social Exchange Theory meanwhile is a good theory that can be broadly applied to various industries, as it describes and analysis employee-employer relationships in an organization, where cost-benefit analysis is done, and employees respond to organizational support, treatment and fair reward with organizational commitment, loyalty and increased performance (Ahmad et. al., 2023). The Job Demands-Resources Theory is also easily applicable to various organizations as it is inclusive, dynamic and flexible, allowing this theory to be applied to individuals in different roles, industries and evolving work environments too (Bakker & Demerouti, 2024).

From the comparison between the theories discussed above, Herzberg's Two Factor Theory is a perspective theory that looks at job satisfaction and job dissatisfaction acting on the same factor that can be applied to this contemporary time. Therefore, in this theory, the Herzberg's Two Factor

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(Motivator-Hygiene) Theory will be used as one of the underpinning theories. This theory provides the key elements that are required to evaluate job satisfaction, as it includes both the intrinsic (motivator) and extrinsic (hygiene) factors involved in motivating an employee (Bundtzen, 2021). The factors explained in this theory has been vastly tested and can be used to understand the determinants of the high turnover rate amongst the junior doctors working in the ministry of health hospitals in Malaysia. By implementing this theory too, the Herzberg's decade's old theory can be applied to the current situation in the public healthcare industry in Malaysia and the efficacy of its factors tested.

The Herzberg's Two Factor Theory doesn't take in to account the role of family support, or anything related to family relationship in the factors leading to job satisfaction in either of the hygiene or motivator factors (Kim, Ma & Wang, 2023). This is probably due to traditionally, the work force in the industries and sole bread winners for families used to be the men, and the utmost priority was then to work in order to earn money to make a living; additionally Herzberg too carried out his study in Pittsburg, which was the centre for heavy industry at that time which most likely was a more men dominated occupation (Milosevic, 2022). However, over time women begin to join the industries with the emergences of factories and production lines, later into more significant management and corporate roles. This led to involvement of both men and women in the working culture, thus shifting the importance of women handling the family to a joint responsibility between the men and women (Yoo, 2022). This led to the issue of workfamily conflict, which in turn leads to the inability of an employee giving his best at work, thus reducing work efficiency and performance (Angraini, Puspitawati & Muflikhati, 2024). This indicates the importance of a good work-family balance. The Social Exchange Theory will also be applied to underpin this study as it offers a theoretical framework to understand the reciprocity of the transaction between employee and family support (Khairul Anam, 2025). In this study, the Job Demands-Resources Theory will also be applied to further strengthen the theoretical framework by investigating how does family support as a mediator helps as a job resource in reducing the job demands faced by the junior doctors working in the Ministry of Health Malaysia hospitals.

The Social Exchange Theory meanwhile can be applied to a variety of relationships, not only to employee-employer relationship, but also to friendships, romantic partnerships, professional relationships and family relationships, therefore not only limited to the organization where the employee works (Shahi et. al., 2023). Therefore, since its nature of focusing on social, psychological and relational behaviour of an individual over time and explaining the perception of fairness in a reciprocal relationship, this study will be ideal to study the relationship family support has on the turnover intention of the junior doctors working in the Ministry of Health hospitals in Malaysia. The same goes with The Job Demands-Resources Theory, where it too can be applied to a variety of relationships as its dynamic and flexible. This theory can examine the employer-employee relationship, team dynamics and work-family balance or relationship, as it is able to look at the balances between the job demands and resources.

In this study, the factors leading to the increased turnover amongst the junior doctors working in the Ministry of Health Malaysia hospitals will be looked in to, focusing on the factors described in the Herzberg's Two Factor (Hygiene-Motivator) Theory. Another factor which is not in this theory will be tested, is the importance of family support as a mediating variable, where its relationship can be explained by the Social Exchange Theory (Medina-Garrido, Biedma-Ferrer & Ramos-Rodriguez, 2023) and The Job Demands-Resources Theory (BassettJones, 2023). This variable of family support is to value the importance of having a good workfamily relationship in determining the reduction in the turnover amongst the junior doctors practicing in the Ministry of Health Malaysia hospitals. This is because in the Asian culture, the family remains as the main source of support and hope for an employee (Nozaki &
Kobayashi, 2024).

A good family support and family relationship enrichment provides to the general well-being and job satisfaction amongst employees and the relationship between family and work is gained when the enhancement and experiences gained from the family or participation in the family life helps enhance the performance at work, thus increasing work efficiency and increasing job satisfaction (Heskiau & McCarthy, 2021). In a study done by Thant & Chang in 2021, where the Herzberg's Two Factor Theory was applied, they found that hygiene factors did influence the job satisfaction, however it was particularly involving personal life, inter-personal relationships and other factors in their personal lives which has been explained in the theory. In another study, where both Herzberg's Two Factor Theory and the Social Exchange Theory were integrated to explore how leadership styles and human resources practices influenced the turnover intention amongst doctors, and the reciprocal employee-employer relationship between these doctors and their employer was demonstrated (Hassan, 2022). There is also another study that incorporated both these theories however in the retail industry, where the Herzberg's Two Factor Theory was applied to the organization's practices as the hygiene and motivator factors, and the Social Exchange Theory to understand the reciprocity in the relationship between the employees and their employers (Tan et. al., 2024). Another study by
Hassan et. al. (2022) which applied the Herzberg's Two Factor Theory and the Social Exchange Theory to understand the healthcare sector employees was carried out showed how variety of factors influenced job resources and employee outcomes, as described in Job DemandsResources Theory.

Both the Herzberg's Two Factor Theory and the Social Exchange Theory were created seven decades ago, where over the years the type of industries involved in the initial study have revolutionized and changes have occurred to the general population due to modernization, engineering advancement, information and technological revolution and the internet insurgence, whereas the Job Demands-Resources Theory was created about two decades ago where the internet and the way of telecommunications has evolved. With the introduction of the internet and the world wide web in the year 1993 by scientist Tim Berners-Lee, over the years the internet underwent transformational changes and took the world by storm (Abbate, 2024). The internet revolutionized the way communication, sharing of information and business is done. The revolution in the way we communicate has allowed multinational companies to do business and communicate with employees in their facilities around the world using the internet (Huang et. al., 2021). During the pandemic of Novel Corona Virus (Covid19), when social distancing and home stay orders were installed by governments globally, businesses and communication could still go on with employees not leaving their homes, using the method of 'work from home', thanks to the evolvement of the internet (Dey, Frazis, Piccone & Loewenstein, 2021). Many companies had major changes in

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the working environment as they needed to adapt to digitalization to stay in business when the Covid-19 pandemic led to work from home orders (Knapp, 2024).

This is a change in the way work, business and communication is done, and this is one of the variables that can be investigated in the existing Herzberg's Two Factor Theory, as well as understanding the relationship between the individual and family as very few literatures or studies are found to have investigated this variable due to situational changes (McTaggart & Loonam, 2024). This variable, which is a situational change in the way a job is done, has allowed flexibility and balance between the work-family relationships of employees around the world. In a study by Schmid & Dowling (2020), they have found that the factors that motivate employees working from home does apply to Herzberg's Two Factor Theory, but the employees too are motivated by the flexibility in their work, also having the control of their work-family schedule and a better quality of personal life. Work from home might be practiced by more employees in future and can be called a hybrid working system which is a situational change in the normal working system (Malaysian Employers Federation, 2022). In another study done by Sonnenschein, Hagen, Rostad & Wiik in 2022, they found that employees who spent the time working from home during the Covid-19 pandemic had considerably less stress, better job satisfaction and increased productivity compared to the time they had to travel to their workplace following the lift of the social distancing order, which are other hygiene factors that are not explained in the Herzberg's Two Factor Theory, however can be considered as other hygiene factors such as work-family balance or work flexibility (Buyukbese, Dikbas, Asilturk & Cavus, 2023). Meanwhile, there were also beneficial reciprocal relationships demonstrated in studies which Social Exchange Theory were applied when employees worked from home and received significant family support (Rahmi, Mardiah & Sufiawan, 2023). Studies done investigating working from home and the role of family support with the application of Job Demands-Resources Theory showed the elimination of job demands and positively influenced the employee's health, well-being and work productivity (Seinsche et. al., 2022).

Over the years too, many companies have expanded their businesses, venturing into more countries other than their home country. These MNC corporations are known to have huge profits and large amount of assets around the world. Their businesses and operations are run in different countries with talents from around the world, normally from the pool of countries where they operate in. This mix of talent from different regions of the world and nationalities allows the MNCs to hire the best person for the job in their facilities (Nwaigwe, 2024). This mix of employees working in different regions around the world leads to the emergence of cultural differences amongst the employees. In Herzberg's Two Factor Theory, Social Exchange Theory and the Job Demands-Resources Theory there are no variable or consideration on cultural differences in the hygiene factors or in its care concepts. In fact, most of the other theories of motivation created decades ago don't investigate this variable (DaisyMonalisa et. al., 2023). This is most likely due to the time when these theories were developed; these studies were done in the industries where the workforce was generally locals. In a study done by Andersson in 2017, it was found that the Herzberg's Two Factor Theory needs to be more intricate to also include the cultural differences amongst employees. In fact, the Social Exchange Theory too doesn't include influences from traditions and cultural norms, where in the Asian family relationship is strong and not affected by inequity or cost-reward analysis outcomes, due to the relationship is present as part of a family duty or cultural expectation (Ruciswandaru, Supriyadi & Rahman, 2023). The Job Demands-Resources Theory is a newer theory however it too doesn't describe about cultural differences, however it is very necessary as employees from different cultural backgrounds perceives job differently and their job demands and resources might differ (Bakker, Demerouti & Sanz-Vergel, 2023). It is therefore necessary to investigate this variable as more MNCs are emerging as companies are going global with the advancement of the internet and employment of employees from different nationalities allows the creation of more creative and innovative ideas (Kalimuthu et. al., 2023). Herzberg's Two Factor Theory was found to be be very reliable but not being suitable for the cultural background (Daisy-Monalisa et. al., 2023).

Therefore, the selection of these three theories to underpin this study is ideal as both these theories contribute important understandings of the issues of the junior doctors working in the public hospitals under the Ministry of Health Malaysia. The selection of these three theories will provide an appropriate theoretical foundation as they offer significant understanding of the factors that influences turnover intention among these junior doctors. The Herzberg's Two Factor Theory will help to analyse the motivator and hygiene factors involved for the turnover intention at the job level among the junior doctors in the Ministry of Health hospitals Malaysia, whereas the Social Exchange Theory and the Job Demands-Resources Theory will help to investigate the effect of the family relationship of these junior doctors on the turnover intention.

By underpinning these three theories to this study, a comprehensive approach is possible in understanding the multiple factors that influences these junior doctors in the Ministry of Health Malaysia hospitals.

2.4 Hypotheses Development

This research is being conducted to look at the determinants of the turnover intention amongst the junior medical doctors working in the Ministry of Health Malaysia hospitals. Therefore, many studies involving job satisfaction and job motivation were studied to further understand the importance of understanding the determinants of job satisfaction and the factors that motivate an employee. In previous studies, many different variables were examined with many different types of motivation theories. In this study, the Herzberg's Two Factor (HygieneMotivator) Theory, the Social Exchange Theory and The Job Demand-Resources Theory will be incorporated into the theoretical framework to better understand the determinants of the turnover intention of the junior doctors employed by the Ministry of Health Malaysia. The mediating variable in the theoretical framework of this study will be the role of family support, which will further support the theories underpinning this study. Prior studies have extensively examined predominantly employee job satisfaction and motivation; the variable of family support or influence has received lesser attention scholarly. Therefore, this study seeks to address this gap in the previous literatures by applying these three theories into its theoretical framework to make it more detailed and refined. With the role of family support acting as a supportive variable to the existing theories, this study is also expected to contribute to the existing body of knowledge and help enrich the literatures of the past and present.

2.4.1: The Effect of Training & Development and Turnover Intention

Training & development or in-job training is a major factor in the career success of an employee (Suriadi et. al., 2024). Training and development in a person are the work that is done to increase the education and knowledge level of a person, through workshops, trainings curriculums and

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scholarships to pursue a higher degree of education with learning and teaching opportunities (Saedin et. al., 2024). Opportunity in training or educational development for an employee reduces the intention for turnover (Nurmalasari, Sylvia & Sultan, 2022). In fact, a study by Tews, Hoefnagels, Jolly & Stafford (2020) found that a step to promote retention amongst employees in an industry is by having a good training climate by either providing job support or training support. In some aspect, in-job training & development too may include assigning novel or challenging job assignments, to develop the skills of the employees. However, these in-job training & development can only be given to employees who are experienced and have some skills to begin with, in order not to interrupt the workflow and work operation efficiency (Omar & Mahmood, 2020). With an efficient in-job training & development over time, an organization will benefit by producing a workforce which is highly skilled and versatile, thus increasing the sense of job security and job responsibility amongst the employees and reducing costs related to turnover amongst employees (Tews, Hoefnagels, Jolly & Stafford, 2020).

There has been much research that has found a positive relationship between training & development and a decreased turnover intention. Sukarela (2020) found a significant positive relationship between training & development and job satisfaction, resulting in decreased turnover amongst employees. They also found that by providing good supervision and job training to employees, the organization can increase their profits, improve their productivity, and reduce turnover through employee job satisfaction. Furthermore, employees that are provided with in-job training or regular training & development will help increase the value of an organization by creating a highly competent workforce well equipped with skills and knowledge (Aremu, 2020). With these values achieved, an organization will be able to have human capital which can work in a self-directed style. Furthermore, an efficient job is a factor leading to job satisfaction (Tiwari et. al., 2023).

In another study by Mampuru, Mokoena & Isabirye (2024) conducted among a South Africa university academic staff, they too found a positive relationship between training & development and a decreased turnover intention. They found that when an organization spends on training their employees in the job that they are doing, the employees involved will behave or respond in a manner which is beneficial for both the employee and the employer. This will create satisfaction at work and the overall employee mental and social behaviour. The training & development programs or activities provided by the employer are necessary to develop and nurture a positive attitude of the employees towards their job and their employer. A positive attitude towards their job and employer creates job satisfaction and thus reduces the intention to turnover. Furthermore, those employees who are engaged in any in-job training & development activities are less likely to develop negative attitudes related to work (Mampuru, Mokoena & Isabirye, 2024).

Meanwhile, Nasution & Nurbaiti (2024) in a study done in Indonesia found a positive relationship was found between training & development and training at work to turnover intention. They found that when employees expect training, skills development, and operational expertise through employer involvement by providing in-job training and job enrichment programs, it fulfils the expectations of the employees thus creating job satisfaction and leads to reduced turnover intentions. The importance of training & development provided to an employee is reflected in the positive behaviour of the employee at work, which consequences lead to reduced turnover intention (Syed, Khan & Faisal, 2023). The training & development provided to an employee too can be a determinant psychological decision for an employee, which effect leads to their decision whether to remain in the organization or to quit. The training provided to the employees can be an effective interventional tool to prevent turnover intentions amongst employees. Training & development for an employee not only improves their required skills for performing their job, but also it also increases the employability of an employee, giving the employees a sense of job security (Mampuru, Mokoena & Isabirye, 2024).

Also, a positive and significant relationship was found between training & development and turnover intention in studies done amongst the employees in the hotel industry in Serbia by Miric & Slavkovic (2023). They found that in organizations that have less training programs, there was a higher rate of turnover amongst employees due to a decrease in job performance, compared to organizations which provide adequate training to their employees. Employees expect their employer to provide them with quality training & development workshops and programs, while also sponsoring them. For the employer, this allows them to have employees who are committed and faithful to the organization. Employers too can benefit from this situation, as they are able to reduce the rate of turnover amongst employees, as turnovers are costly to employers (Mampuru, Mokoena & Isabirye, 2024).

There were also positive and significant relationships found between training & development and turnover intention in studies done by Haliansyah et. al., (2024), conducted amongst the employees in the Indonesian Air Force. They found a significant and positive relationship between employee job satisfaction with the availability of training & developmental activities and supervisor supported training in an organization. They also found that employees recognize the value of training provided by the employer and in return provide continuous commitment and affection to the organization in fact; to motivate employees in their job, employers can encourage and guide their employees about the advantages and benefits of enrolling into training & development workshops and courses. This is because, some employees need some encouragement and understandings regarding trainings whereas some employees take their own initiatives to attend training and development workshops and courses to make themselves as more employable employees. For the employers, they can adapt this strategy of providing regular training & development courses for their employees and benefit from these initiatives as they will be able to invest in a highly skilful and competitive workforce in their organization, making production more effective, increasing job satisfaction and organizational loyalty amongst the employees, and reducing the rate of turnover (Suryani, Santanu & Karwini, 2023).

In another study done by Setiawati & Mujanah (2025), they too found a significantly positive relationship between training & development and turnover intention among the employees in the banking sector in Indonesia. This study investigates the importances of competency development programmes among employees in talent retention in the banking sector. They also discussed that if training & development programmes are not well implemented, it can lead to increase in employees having intention to quit for better job opportunities elsewhere. They too explained the importance to carefully aligning the training & development programme along with the career advancement programme and organizational goals. They too found that organizations emphasizing continuous learning and training in the skills development of an employee especially in a highly knowledge dependent industries like the banking sector leads to employees recognizing the growth and development opportunities provided, causing them to remain loyal. Therefore, it's pivotal for an employer to provide adequate training & development opportunities for its employees

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which is customised to meet both the employee and the organizational needs to enhance work performance and engagement, thus reducing the employee turnover intention (Palma-Moreira, 2024).

In another study carried out by Syed, Khan & Faisal (2023) also in the banking sector found that training & development positively influenced the turnover intention of their employees. This study showed that training & development programmes provided by the employers increased the employee organizational commitment, where significant and positive relationship was seen between training & development and organizational commitment. This organizational commitment in turn reduces the turnover intention among employees, as employees that received adequate training & development courses had higher perceived organizational commitment. Employees that received adequate training & development courses not only were able to enhance their knowledge and skill, but they too felt that they were appreciated by their employers and their effort and hard-work to the organization has paid off, leading them to have less intention to leave, thus reducing the turnover intention (Palma-Moreira, 2024).

Meanwhile, in another study conducted by Ozdemir (2024), he too found training & development among employees to significantly reduce the intention to leave the job. He investigated the relationship between different types of training & development practices across different industries and how they influence the employee decision in staying or leaving an organization. He found that factors which influenced employees to stay were structured training programmes provided by the employer and the opportunities given to all employees in an organization, which led to employees achieving their career goals and the organization having higher employee retention, in the long-term creating a sustainable work-force. In his study too, he found that good training & development provided by an employer led to reduced turnover among employees in different industries and was further enhanced with the combination of constructive feedback from the employers to the employees with training & development opportunities provided to all employees in and organization (Ozdemir, 2024).

Finally, in a study done by Jahya et. al. (2020) in Malaysia among millennial employees, they too found that training & development had a significant and positive relationship with turnover intention. They found that employee training & development initiatives enhanced employee performance and organizational commitment, which reduced the chances of employees quitting. They too suggested that with the results showing significant influences of training & development on turnover intention, employers should invest in providing complete training & development programs as a tool to enhance employee performance and organizational commitment, and to include all employees in an organization into a structured training & development plan. This structured training & development plan can act as a strategic instrument to drive employee retention and thus reducing turnover intention (Islam et. al.,
2023).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H1: There is a positive and significant relationship between training & development and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.4.2: The Effect of Career Advancement and Turnover Intention

Career advancement or also known as promotion in an employee's career is the act of moving an employee from a lower level to an upper level in an organization with an increase in salary, responsibility and status. Career advancement also is when an employee moves from one position to a higher position with greater responsibility (Li, Fan & Zhang, 2023). To make the employee's goal and the organizations' goal parallel, promotion can be used as a tool to reward the employee in fulfilling the goals set by the organization (Olafsen & Deci, 2020). Career advancement also normally comes with a significant increase in pay for that employee, thus increasing the job satisfaction of the employee, and eventually leading to reduction in turnover intention (Aburumman, Salleh, Omar & Abadi, 2020).

Significant and positive relationship between career advancement and turnover intention has been seen in previous studies. For example, Wu & Liu (2022) conducted a study amongst the healthcare staff in various hospitals in China and found that organizational commitment amongst the employees can be developed by providing opportunity for employee personal growth and career promotion or advancement. Job commitment of an employee is increased and intention to quit is reduced when an employee knows that there is an opportunity for career advancement or promotion along their career in that organization, thus increasing career commitment (Zhang et. al., 2020). Career advancement or job promotion is an important factor in job satisfaction as employees feel satisfied at their job knowing that there will be opportunity for a career advancement, thus building a sense of belongingness to the organization. If an employee is not given the opportunity of career advancement after they have fulfilled the required tasks, the employee will have a higher intention to turnover. In fact, one of the factors identified in reducing an employee's turnover intention is recognition and promotion in one's career (Chen et. al., 2021).

A study done by Louis, Sulaiman & Zakaria (2022) among auditors in accounting firms in Malaysia too found significant and positive relationship between career advancement and turnover intention. They found that training and development helped in the career advancement and growth opportunities of an employee. If an employee is not given a career advancement opportunity after they have performed their best in the required tasks, the employee will have a higher intention to turnover. In fact, when career advancement is provided to younger employees, they tend to feel motivated as they will benefit significantly from this opportunity, thus making them build stronger bonds and relationships with the organization. When employees build good relationships and loyalty to their organization, it will affect the employee positively in ways that they will show greater effort at work, increased job performance and reduced intention to turnover. Employees too will have a sense of job security as they receive opportunities in career advancement along with their working experience (Zhang et. al., 2020). Therefore, it is important for an organization to increase their role in providing opportunities in career advancement or growth to employees to increase the engagement of their employees in their job. This in return nor only increases the job satisfaction of an employee but also increases the productivity and efficiency of both the employee and the organization, which indirectly reduced the rate of turnover, because turnover may be costly for the organization, as recruiting and training of new employees requires more capital to be spent (Ml & Ali, 2024).

In another study conducted in China among the high-tech industry employees by Liu & Ibrahim (2024), they too found significant and positive relationship between career advancement and turnover intention. They found that employees do not consider leaving an organization when they

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perceive a prospect for career advancement or growth. They too found that effective organizational leadership which provided opportunity for employee career advancement or growth significantly increased organizational commitment and reduced the intention to leave. They too found that employees who perceived opportunities for career advancement had higher psychological well-being, where they demonstrated job engagement and personal growth thus reducing the intention for turnover. They too found that career advancement opportunities for employees led to alleviation of job stress and acts as a motivator factor for career and personal growth, thus reducing the turnover intention. Therefore, career advancement also should not just be about position promotions, however, should also include career mobility, skills growth and good future prospect for the employees (Hongal & Kinange, 2020).

A study done by Cuonga, Anhb & Huec (2024) in Vietnam found significant and positive relations between career growth or career advancement and turnover intention. The author found that career advancement is an important factor in creating both organizational commitment and reducing turnover intention, as career advancement indirectly mediates the career commitment of an employee and in turn mediates the reduction in turnover intention. Even the younger and motivated employees tend to enrol into organizations that have a known identity in providing good career advancement opportunities to their employees. Some employers maintain their identity as a concerned employer by providing career advancement opportunities to their employees, as to prevent the higher cost incurred in hiring new employers, disrupting the productivity process and reduced profit due to high turnover. In the old days, employees used to work in a single organization for a very long time, sometimes for the entire working career. However nowadays, employees tend to quit when the organization does not provide them with the needs that motivate them at work, one of them being career advancement (Ratan, Shahriar & Khatun, 2020). Therefore, organization that have a good identity in providing opportunity in career advancement of their employees have employees with better attitudes towards the organization and an increased tendencies of employees being loyal and committed to the organization (Cuonga, Anhb & Huec, 2024).

In another study done by Smama'h et. al. (2023) amongst the healthcare employees in Jordan, they too found significant and positive relations between career advancement and turnover intention. They also found that career advancement is a way to show that the effort and skills of an employee is acknowledged and makes the employee evolute into a more resolute and motivated individual. There are in certain instances where employers are sceptical in providing career advancement as they are worried about the future of the employee at the organization, as some employees are more concerned about their individual career achievement and leave when they have achieved whatever they have expected in their career into other organization with better employability. For example, employees who joins at the lower tier of an organization, upon getting career advancement where they have moved rank and position to much higher level, leaves the organization as they get better job opportunity, as the employee is more employable (Lee, Xu & Yang, 2021). However, this should not deter employers to provide career advancements to their employees, as nowadays employers are recognized and identified by job-seekers by the ability of these organizations in understanding the employee needs, providing professional development and career advancement, as it gives a perception of job security for employees. It is important for employers to understand the employee behaviour and their needs, to increase their motivation to work, being loyal to the organization and reduce the intention to leave amongst the employees (Wongleedee, 2020).

Finally, significant and positive relationship was also found between career advancement and turnover intention in a study done by Al Balushi et. al. (2022). The study was conducted in the public service sector in Oman, where its public service career has slow career advancements and poor promotions. They conducted the study to examine the relationship between career advancement and the high turnover intention, where they found that the opportunity given for career advancement significantly reduced the employee intention to leave. They found that career advancement structured by the organization effectively affected the organizational commitment of the employees leading to employee retention. Employees were found to be more committed to their job when they realised that their career and personal growth were supported by their employer. Perceived employer support in career advancement leads to employee being affectively and continuingly committed to their organization, thus reducing the intention to leave (Peiris, 2024).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H2: There is a positive and significant relationship between career advancement and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.4.3: The Effect of Remuneration and Turnover Intention

Remuneration or pay or salary is defined as an amount which is paid monthly or is a fixed wage by an employer to the employee on the work that has been done by them (Armstrong & Taylor, 2023). Remuneration is considered one of the most important factors in job satisfaction of an employee (Yun-Chi, 2021).In jobs that require long hours of work and those which require safety issues, like the healthcare industry, employees get tired and therefore employees will desire and expect better pay or remuneration for the effort they have out in the job (Ackah, Addo & Yornu, 2025). There are many previous studies that show a significant and positive relationship between remuneration and turnover intention (Berber & Gasic, 2024).

In a study done investigating the employees in various sectors in China by Long & Cooke (2023), they found significant and positive relationship between employee remuneration and the turnover intention. They found that the employees are not satisfied with their remuneration in their industry and this led to high turnover intention. Their study used the Herzberg's Two Factor Theory as the underpinning theory to investigate the job satisfaction of these employees which showed remuneration being the least satisfied. Their study has the implication that the policy makers will need to create a more rewarding career advancement programme which will be attractive for employees, thus creating organizational commitment and employee retention. This study too showed that remuneration is an important determinant of the turnover intention among the employees in any industry.

In a study done by Le, Lee, Nielsen & Nguyen (2023), they found a positive and significant relationship between remuneration and turnover intention among the workers in the manufacturing industry in Vietnam. This study found that remuneration has a positive effect on employees, where it increases the motivation, effort and productivity of an employee leading to increased job satisfaction, thus leaving the idea of turnover. This study used the Social Exchange Theory as its underpinning theory and found that the healthcare employees that were paid handsomely based

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on their effort and time spent, were found to have less intention to leave their organization, thus concluded as remuneration is a strong factor in employee retention. When the remuneration received by an employee is not adequate or equivalent to the job they are doing, the urge of searching for other job with better renumeration arises, thus the intention to turnover increases amongst other employees too. Organizations need high performing employees to deliver their services and generate financial profit. To do that, organizations not only need to provide training and development or career advancement but also reward the employees well through remuneration or other rewards (Alkhraishi, Eivazzadeh & Yesiltas, 2023). Remuneration not only helps the employee to achieve their financial need but also allows the organization to achieve an efficient productivity, increased profit, and increased employee retention. Furthermore, employees are an organization's most important asset, as without them the organization will not be able to generate or produce any output, therefore all factors to motivate employees to be committed to the organization should be taken, for example remuneration (Ackah, Addo & Yornu, 2025).

In another study conducted in Indonesia among the employees in the finance and business sectors by Bahari, Nadlifatin & Anshori (2024), they too found a positive and significant relationship between remuneration and turnover intention. They also found that remuneration; either the salary, bonuses or other incentives strongly affected employee performance and intention to stay at the current workplace. Therefore, employers must prioritize the remuneration of employees as it is an important factor in making them loyal to the organization and preventing the issue of lowly motivated employees and poor productivity. They too found that good remuneration acts as a booster for job satisfaction and in the long term leads to reduced turnover intention. In fact, the issue of remuneration equity amongst employees in other organizations in the same industry should be constantly reviewed by the employer, as employees will leave an organization that has lower renumeration compared to other organization in the same industry that rewards better remuneration. Employees too prefer regular incentives and rewards, compared to a routine interval salary scheme, as employees know that they are appreciated for the work and effort they have put into obtaining the reward (Yun-Chi, 2021). By doing this, employees will strive to achieve even higher targets and accomplishments in the following months, as they know that there is a reward for the work they have done. It is also important that wages and incentives are paid timely as the employees as delay in payment of wages can negatively affect the employees psychologically and socially (Kakar, Misron, Meyer & Durrani, 2023).

Similar findings of positive and significant relationship between remuneration and turnover intention were also found in a study done in Indonesia by Kintani & Wahyuningtyas (2024). According to them, in the old days, employees used to remain in the same organization till they retire, however times have changed and nowadays employees tend to understand the value of compensation for the work they are doing. They found that when the organization they work for doesn't compensate according to the work and effort they have put in, the employees will quit the job and leave for another with better remuneration. In fact, highly qualified, experienced, and skilful employees turn away or do not accept job offers with remuneration that is not up to their requirements. They too found that fair and higher compensation added with bonuses and incentives remarkably influenced the reason for retention. For employers it is important to compensate their employees promptly, as it will not only improve the retention of their workforce but also improve the identity of the organization and attract other highly skilled and experienced employees from other firms in the same industry. Highly skilled and experienced employees leaving other organizations in search for better remuneration will bring renewed energy, motivation, and fresh ideas to the existing employees in the organization, thus transforming the organization into higher level (Bashir, Wright & Hassan, 2023). This will lead the organization to have a workforce made up of highly motivated, skilful, and committed individuals, and eventually attract and retain a highly productive workforce.

Meanwhile, Wajdi & Nafisa (2023) found a significant positive relationship between remuneration and decreased turnover among young employees in various sectors in Indonesia. They found that good pay practices and compensations have positive outcomes on an employee's behaviour in being committed and motivated in an organization. They too found that employees prefer employers that compensate them fairly and competitively as per the other organizations in the same industry. Appropriate remuneration also led to an improved employee performance, lowered absenteeism, increased job satisfaction, and reduced turnover intention amongst employees. Good remuneration will also create a positive psychological well-being among the employees, where they will have perceived feeling of improved morale, organizational commitment, financial stability and they are confident in planning for long-term goals (Ackah, Addo & Yornu, 2025). Therefore, an organization which has a workforce that is highly committed following good remuneration, the organization will have a workforce that is capable to work in a self-directed manner, which will lead to a more efficient workflow and increased productivity (Van den Broeck, 2021).

There was also a significant and positive relationship between remuneration and turnover intention amongst employees done by Saeed, Mir, Hamid, Ayaz & Iyyaz (2023) in the banking sector in Pakistan. They found that satisfaction with the level of remuneration is an important factor in determining job satisfaction and intention to not quit. They too concluded that organizations should reward their employees accordingly as it will increase the retention of reliable and experienced employees in their workforce. Their study found that employees are more committed to an organization when they are well compensated based on the effort, time and passion they have contributed to the organization, and have no intention to quit when this factor is fulfilled. Remuneration is one of the most important reasons why an individual works; for the needs of himself or for an employee's family. Therefore, when the employee' physical needs are fulfilled, the employee will be more motivated and display positive behaviour at work, therefore increasing job satisfaction, job performance and committed to the organization they are working in (Wajdi & Nafisa, 2023).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H3: There is a positive and significant relationship between remuneration and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.4.4: The Effect of Employment Security and Turnover Intention

Employment security or job security can be defined as the relative assurance owned by an employee that gives them the assurance against damages and losses that would result from the loss of their employment (Aman-Ullah et. al., 2022). Employment security has also been described as the employee's thought that they will be having the employment for as long as they want, and there will be no factors that will make them likely to lose the job (Oweidat et. al., 2025). Studies have shown that employment security was higher amongst employees in the government sector

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compared to the employees in the private sector (Baker, 2024). Also, employment security is the lowest amongst contract workers as contract workers which are hired temporarily are prone to employment insecurity and have higher turnover intention (Xia, Sun, Zhang & Zhang, 2022). Employment security is also one of the most important factors of job satisfaction, as employees tend to leave their current job when they have a sense of employment insecurity (Khalid & Sahibzada, 2023). There are many previous studies that show a significant and positive relationship between employment security and turnover intention.

In a study done by Yansah & Meilani (2024) among nurses practicing in hospitals in Jakarta, Indonesia, they found a significant and positive relationship between employment security and turnover intention. They found that employment security among nurses practicing in the private hospitals in Indonesia was more than those practicing in the government hospitals. They found that employees who have the sense of reduced employment security in an organization will tend to turnover, whether to some other firm in the same industry or other industry. They too found that employment security gives an employee a positive effect mentally where the confidence of a permanent job, stable salary, and the feeling of being valuable to the organization is created. Therefore, the organization that has taken methods in increasing the sense of employment security will have their employees being motivated to work, display positive behaviours, be highly productive and have retention of employees, eventually reducing the turnover intention amongst the employees. There are many factors to emphasize to employees and employment security is increased such as promoting job stability, enhancing the management supportiveness towards the employees, and improving job satisfaction amongst the employees (Masykuroh & Muafi, 2021).

In another study by Maleki et. al., (2023) conducted amongst the nurses working in both private and public hospitals in Kermanshah, Iran, they too found a significant positive relationship between employment security and turnover intention. They found that younger nurses felt the sense of less employment security compared to the senior nurses, likely due to job-related stress, shortages of staff with increased workload and high turnover amongst co-workers. The employment security was also more prevalent in the private sector in Iran, as there was redundancy of nurses' supply which left the public sector due to excessive workload, poor career advancement schemes and lack of support from the organization. They too found that the sense of job insecurity among the nurses tend to arise when there is lack of support from the supervisors, poor training and developmental activities, the presence of inequality of work distribution and lack of responsibility and autonomy descriptions. They found that the nurses were left mentally disturbed as this increases job-related stress, which in turn leads to increased turnover intention. When employees have the sense of employment insecurity, it reduced the motivation at work, thus leading to reduced productivity as employees don't give their best and search for job elsewhere, whether in the same industry or other. Employees tend to leave their current job when they feel not satisfied with their employment security (Masykuroh & Muafi, 2021). There are also some organizations that actually intentionally instil the fear of employment insecurity amongst their employees, as it will increase the performance of their employees and reduced the operational costs, with the basis of thinking that employees in fear of losing their employment will not ask for increased remuneration and will work harder to avoid being unemployed, however it may also lead to increased turnover and more cost will be incurred in order to recruit and train new employees (Yansah & Meilani, 2024).

A study by Leovani & Inharjano (2020) too showed a positive and significant relationship between employment security and turnover intention. The study conducted in Indonesia amongst employees working in banking agencies, found that lack of employment security or job unreliability significantly impacted turnover intention. They too found that employees who are affected by employment security react less cooperative with the management and other coworkers in the organization, making them less loyal and committed. They also found that other than having lack of loyalty and commitment towards the organization, the employees affected will also display defeatist behaviour, which includes anxiety and stress from the thought of losing the job, affecting their mental and physical health status too, which may last for way longer even after leaving the job. They too found that employees who had perceived job insecurity has increased stress and dissatisfaction with the job and organization thus increasing the intention to turnover. However, the employees with great job security feel that they are valued by their organization for their effort and time, and this feeling makes them loyal to their organization and thus not having the intention to quit (Wajdi & Nafisa, 2023).

In another study investigating the practices amongst telco company employees in Pakistan by Munir & Hameed (2024), they too found a positive and significant relationship between employment security and turnover intention. They found that employment security caused employees to have a lack in performance and decreased productivity, affecting achievement of the organization's strategy and goals. An uncertainty in employment security also causes employees to feel undervalued and detached from the organization, as they feel that the knowledge and skills they have is not appreciated. This sense of a lack of employment security also affects these employees by triggering all emotions linking to the loss of job of other coworkers too and may lead to valuable and highly productive employees to turnover in search of a job with more employment security, causing increased employee turnover, making the organization lose their employees that are worth retaining to fulfil the organization's goals.

Therefore, employment security has a detrimental effect on the organization too (Jiang, Xu & Wang, 2021).

In another study done in Canada by Ballesteros-Leiva, St-Onge & Dufour (2023), they too found positive and significant relationship between employment security and turnover intention. They found that when employment security is high, the turnover intention in low, and this not only reduced the turnover intention, but it also increases the morale of the employees where they have strong emotional attachment to the organization and increased psychological mental wellness. This perceived job security leads to increased job satisfaction thus having the employee being more motivated and engaged in their work and making them more productive and reducing the thought of an employee seeking for another job. They too found that temporary or part-time employees had higher employment insecurity then permanent employees due to long term financial and personal growth prospects. They also found that older aged employees tend to value their employment security more than the younger aged group of employees probably due to financial, personal and family commitments. However, highly skilled and trained employees tend to poorly tolerate employment insecurity with having the idea of searching for other job opportunities and quitting when they received a better job offer (Balz & Schuller, 2021).

In another study done by Amri (2023) conducted in Indonesia, they too found positive and significant relationship between employment security and turnover intention. Their study was conducted to investigate the influence of employment insecurity on turnover intention among the

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employees in companies manufacturing medical equipment in Indonesia. They found that a supportive organization and increased employment security leads to reduced turnover intention and enhances employee well-being. They found that these employees were working in highly skilled manufacturing facilities which are highly demanding and required them to be focused on their job, which led them to be stressed at work, but due to a supportive organizational policy and high employment security, these employees were highly motivated with high organizational commitment. These employees who had high employment security were satisfied with their organization which provided them with time-to-time company performance reports and future expansion plans which includes the plans for retaining the current workforce. Therefore, their study concluded that employees with high employment security will stay committed to the organization the employee is attached to and will have no intention to turnover.

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H4: There is a positive and significant relationship between employment security and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.4.5: The Effect of Co-Workers and Turnover Intention

Co-workers are employees who have one or more of the following criteria: they work in the proximity of the supported employee, perform the same or similar duties as the supported employee and/ or take breaks or have meals in the same place as the supported employees (Brox & Lechner, 2024).It is important for the employees to have a good co-workers relationship and support to have a healthy working environment, thus having better employee job satisfaction and reduced turnover intentions, thus leading to employee retention (van der Put & Ellwardt, 2022). A good co-worker relationship initiates job satisfaction and job commitment (Lucius & Damberg, 2024). In certain jobs, the employees have no or least communication with the upper management level which makes them more attached and communicates more with their co-workers (Mohamed et. al., 2024). A positive relationship between co-workers also increases job satisfaction and organizational commitment (Amran et. al., 2021). The relationship between co-workers leads to a positive relationship between increased job satisfaction and therefore an increase in employees' commitment to the organization (Sukmawati et. al., 2024). Employers should increase the identification of coworkers relationships to increase the rate of job satisfaction amongst employees (Hanafin et. al., 2022).

In a study by Rahman (2024) among employees of the food and beverage industry in Bangladesh, he found a significant positive relationship between co-workers support and turnover intention. He found that the turnover rate is the highest amongst the newly hired employees, where the reason being the lack of co-workers physical and mental support. He also stated that employees that had abusive or uncivil co-workers was found to have increased work stress and increased turnover intention. He too found that when the relationship between co-workers is harmonious, it creates friendship between co-workers, and it helps to alleviate the stress and job-demand at workplace, especially for newly employed worker, thus reducing the turnover intention. He too stated that co-workers play an important role where the support from more experienced colleagues may benefit co-workers who require job-pertaining support, also psychological support in overcoming the demand and stress at work. The co-workers receiving support from other work colleagues will have the feeling of appreciation towards the other employee and this will in turn create an environment consisting of concerned, supportive and caring employees, creating a harmonious work environment, which in turn increases job satisfaction and increased employee retention. An organization having a positive interpersonal relationship amongst their co-workers too sees an increased productivity rate and low rate of absenteeism at work, which creates a sense of loyalty and commitment to the organization (Norizan, Ismail & Hamzah, 2022).

In another study done by Wijaya & Khan (2024) in Indonesia, there was also a positive and significant relationship found between co-workers support and turnover intention. They found that positive relationships between co-workers at workplace engages an employee to stay at the present employment and increases the retention of employees at an organization. They too found that a good co-workers relationship promoted job motivation, thus increasing job engagement and reducing the intention to quit. Furthermore, co-workers behaviour and relationship between one another is very significant in determining the orientation of the workflow in the organization as it creates a positive work culture. They too stated that positive relationship between co-workers improves the interactions between employees, thus improves the cooperation and assistance amongst the employee's allowing construction of skills amongst employees and increasing employee confidence. A good relationship and friendship between employees in an organization allows supportive behaviour, which allows a constructive change in fellow employees where motivated employees be a positive influence and increases the job engagement and job satisfaction amongst the co-workers (French & Allen, 2020). In organizations where there are poor communication and interaction between employees, whereby poor co-worker support and relationship exists, social gaps are created amongst employees, thus leading to an unfavourable hostile environment at workplace, leading to increased turnover (Khairunisa & Muafi, 2022).

In a study by Abugre & Acquaah (2022) conducted among the private and government sector employees in Ghana, they too found a significant and positive relationship between co-worker relationship and turnover intention. They found that relationships between co-workers are an important factor in determining the productivity and efficiency in an organization as employees can interact and be interdependent amongst each other. They found that with a good co-workers relationship, the workplace environment will be free of scepticism and distrust among its employees, thus creating a harmonious work environment. A workforce with good co-workers relationship and support can carry out tasks that are difficult and challenging successfully with great collaboration, unity and teamwork (Zhou, Li & Gao, 2020). They also found that the quality of the co-workers relationship affects the efficacy of the work-flow, where positive relationship between senior and junior employees helps the transfer of skills and knowledge required in their industry, creating a workforce that is self-directed and sustainable. Strong relationship and support amongst co-workers allow trust to be developed, thus leading to a strong bond between employees, allowing and promoting an effective team of workers which cooperate not only in job assignments, but also in supporting each other in psychological and social-related issues (Pluut, lliex, Su & Weng, 2022).

In another study done by To & Billy (2023) conducted to investigate the conflict amongst coworkers and turnover intention amongst employees in the banking industry in Macao, they too found a significant and positive relationship between co-worker relationship and turnover intention.

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They found that the co-workers attitude influences the work environment in a workplace. Thus, conflicts amongst employees arises when there is an opposition to an impression or thought recommended by another employee, which leads to a sense of mistrust and dubiety in that employee, causing a sour relationship between co-workers. They too found that among employees where there were no conflicts, but instead had good co-workers relationships, the employees created creative and innovational ideas to generate a better work process, which in turn increases the job satisfaction amongst them, which reduces the turnover. They also recommended that organizations too could play a role by providing training for managing inter-personal relationships between employees to address the issues arising among co-workers. Employees that are satisfied with their job and have a good co-workers relationship will influence other newly recruited employees, making the organization a healthy environment to work, which also benefits the organization by having a committed and highly productive workforce, reduced employee turnover and increased profitability (Rahman, 2024).

Finally, in another study conducted in Korea by Lee, Kim & Park (2021), they too found significant and positive relationship between co-workers relationship and turnover intention. They found that co-workers bullying culture affected the stress and exhaustion level of the other employees. Employees that are psychologically stressed and physically exhausted had poor work motivation and had higher turnover intention. Bullying at work-place among coworkers thorough intimidation, verbal abuse, unfair treatment or exclusion creates a toxic work environment for the affected employees. They too found that employees that are working in toxic work environments also undergo poor productivity and lesser chance in advancing in their career at their current workplace, making them to quit in search for a better job environment. The number of employees turnover will affect the organizations as they lose their human resource which will lead to disruption in productivity and poor organizational reputation. Therefore, organizations too can take up roles in implementing anti-bullying policies and conducting mental health checks for employees, to dissolve the negative work environment to reduced employee turnover intention (Ambrose & Ganegoda, 2020).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H5: There is a positive and significant relationship between co-workers relationship and turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.4.6: The Effect of Family Support and Turnover Intention

Turnover intention is the mental decision that persuades when an individual decides whether to remain in the job quit from it (Jogi et. al., 2024). Wan & Duffy (2022) explained that turnover intention has three different elements in it, which are the thought to leave the current job, the searching for another job and the intention to leave the current job. Turnover of employees is a not only a costly event for any organization as it involves the cost to terminate, advertising, recruiting, selecting, and hiring of employees, but it also a difficult process mentally and psychically for an employee as it requires searching and adapting a newer position and possibly a newer career (Heathfield, 2021). An employee meanwhile when given stressors like work conflicts which are brought home, or work from workplace that needs to be taken back to their home which disrupts their weekends or other leisure time will lead them to be outrageous and rebellious towards the employer as their private space and family dominion have been interrupted, leading them to have turnover intentions and begin searching for a new job (Lee, Gan & Chia, 2022). If employees have a good family support from their spouses, children, or parents, which encourages and assist them in accommodating time and space in completing their task brought home from work, also mentally supporting them by instilling the idea of the increase in work demand is a job opportunity and a part of their career advancement (Bajaba, Azim & Uddin, 2022).

In a study done by Awalluddin (2020) among employees in the manufacturing sector in BRIC nations comprising of China, Brazil, India and Russia, they found that there is a positive and significant relationship between family support and turnover intention. Though both Western and Asian employees had significant relationship between family support and turnover intention, but they found that employees, especially Asians, having family values are the most important part of their lives, and the support they receive from their family determines their career progress and outcome like advancing or turning over, compared to the western employees who seem to be more individualistic. They too found that the Asian employee had their career decisions influenced by their family as compared to the Western employees, and higher family support among both Asian and Western employees were found to increase job satisfaction, thus reducing the turnover intention. Employees with strong family bond and support are also concerned in achieving their career goals, but not with the expense of their work coming between them and their family, which makes them to start having turnover intentions and start looking for other job, as this uneasiness causes mental and psycho-social stress to them making their performing poorly at work (Vonderlin et. al., 2021). The employees who have good bond and support from their families too do not hesitate to turnover to search for another job which doesn't conflict with their family life and cause stress on their family ties, as they have the support of their families to turnover, both mentally and financially (Sari, Yenni & Aima, 2024).

In another study done by Wood et. al. (2021) among nurses at hospitals in the United Kingdom, they too found that there is a positive and significant relationship between family support and turnover intention. They found that the main reasons families support the decision of an employee in turning over is due to poor remuneration, lack of opportunities in advancing in their career and discrimination at their workplace. The employees that have the support of their families in quitting their job, and sometimes to start their own business, by providing them mental and financial support to start up their entrepreneurship, instead of going through the increasing workload, work-family conflicts and poor remuneration. These employees quitting from their corporate and organizational jobs which they have been working for many years has been increasing since the last few years, especially during and after the Novel Corona-Virus pandemic, where employees with families had to start working from home, thus making no boundaries between work and family or time at home (Wong, 2023). Employees that have good family support to quit their jobs claim to have good family financial stability, which not only helps them to leave a job that is disrupting their family bond, but the family too supports the employee in continuing their education and career path by enrolling into self-sponsored courses and trainings, in order to increase their employability to search for a better job in the future which has good work-family balance and a healthier work environment (Shin, Hur & Park, 2021).

In another study done by Le, Lee, Nielsen & Nguyen (2023) done among employees in the manufacturing sector in Vietnam, they too found that there is a positive and significant relationship between family support and turnover intention. This study used the Job DemandsResources model

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as their underpinning theory. They found that family support received by employees from their families led to job satisfaction and it moderated the effects of job demands, thus reducing the turnover intention. They too found that family support is related positively to the psychological need of an employee, and if disrupted leads to the intention to turnover. They also found that the support received from family or other social partner is seen to reduce and cope the job-stress levels at work, as employees are seen to be more comfortable seeking confirmation, encouragement, and psycho-social help form outside the workplace. The support that employees receive from their family is also found to be able to be absorbed into the work environment, where it affects the work attitude of an employee and help eliminate stress and tiredness experienced form work, thus increasing the determination and commitment in the work career, therefore reducing the turnover intention. Reduction in the turnover amongst the employees won't only benefit the employees and their families in terms of mental and financial stability, but also the organization, as there won't be the need for re-training of new staff and there will be continuous sharing of expertise, skills and knowledge between the older employees to the newer employees, compared to the training and adaptation process a new employee that is recruited needs, and will only be able to perform the full responsibility of the job left by the employee that has quit after some time, causing severe loss in productivity and profit (Guibert-Lacasa & Vazquez-Calatayud, 2022).

In another study conducted in Saudi Arabia by Bajaba, Azim & Uddin (2022) done among employees in both the private and government sectors, they too found that there is a positive and significant relationship between family support and turnover intention. This study had multiple theories underpinned, including the Social Exchange Theory. This study showed that among the reasons for employee turnover were job stress, job dissatisfaction, lack of career advancement and work-family conflicts. This study showed that the family support received by the employees directly affected their decision in quitting, where family support in the form of mental and monetary support was seen in reducing the stress at work-place, thus reducing their turnover intention. They too suggested that organizations and policy-makers should create a supportive work environment where policies should consider the inclusion of family as a factor to increase work productivity, employee well-being, organizational commitment and reducing work-family conflicts altogether. They too found that family and work have a reciprocal relationship where both these factors are to be satisfied to prevent work-family conflicts and to achieve a productive workforce and reduced employee turnover intention. Therefore, family support is an important factor in an employee as it can buffer the effects of high job stress, high job demands and insufficient co-workers support, thus improving the psychological well-being of an employee (Ersoy et. al., 2023).

In another study done by Jolly, Gordon & Self (2022) done among employees in the food and beverage industry in the United States of America, they too found that there is a positive and significant relationship between family support and turnover intention. They found that the key factor in deciding the turnover intention of the employees in the food and beverage service industry was the emotional stress from unsupportive supervisors. This finding was found particularly among the female employees where their supervisors were found to be not sensitive and having lack of empathy pertaining to the employee family needs and responsibilities, which increased work-family conflicts and increased intention to quit. These female employees were more affected by this lack of employer support related to family as they were more emotionally attached to their families and their responsibilities. They too found that these employees felt that they were not valued or appreciated for their service and effort, despite being the frontliners in a demanding industry, which leads to these employees having job dissatisfaction and poor organizational commitment. Family support for an employee is an important factor in determining the employee career development and personal growth, and as important for an employer in retaining a productive and sustainable workforce (Liu, Wei & Lee, 2022).

This was seen in another study by Luo et. al. (2022) which was conducted in China among the employees in the e-commerce industry, where they to found that family support and familysupportive employer allows the sustainability of employees, not only among the female employees but also the male employees. They too found positive and significant relationship between family support and turnover intention. They also found that employees that had a good balance between work and family life had a good mental and psychological well-being, and an increased job satisfaction, as they felt that there was no need to sacrifice their family life to achieve their career goals. They found that employers that were supportive with employee family related matters significantly increased employee organizational commitment, reduced absenteeism, increased career sustainability and reduced turnover intention. Therefore, family support for an employee is important as allows the management of work-life challenges, alleviating job demands and motivating to achieve long-term career goals (Medina-Garrido et.
al., 2023).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H6: There is a positive and significant relationship between family support and the turnover intention amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.4.7: The Effect of Family Support as a mediator between Training & Development and Turnover Intention

Family support is defined as an employee's perceived belief of the understanding and care given or reflected by the employee's family members that can be the spouse, parents, siblings, or their children (Uddin, Azim, Uddin & Akhter, 2023). Family support can be in the form of financial or emotional support, where good family support gives an employee a positive and satisfactory work-life balance (Medina-Garrido et. al., 2023). Meanwhile, in-job training or training and development is the education, practices or skills developing opportunities received and required by an employee to develop and enhance their working experience, while being on the job (Obeng-Tuaah, 2025). For an employee in either the private or government sector, injob training or training and development is mostly funded by their employers, however, there are also employees who actually spend their own money or funding by their families to undergo courses, training or further studies in the field they intend to enhance their knowledge and skills, also to increased their employability, whether as part-time while still being on their current job, or by quitting their job and relying on funds saved from previous saving or through family monies (Van, 2020).

In a study done by Pham (2024) among employees in Vietnam, he found that family support had a significant and positive effect as a mediator between training & development and turnover intention. He found that family support did have a significant effect on the training & development opportunity of an employee by the family providing emotional and mental help, also the support needed from the family when needed while

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undergoing the understanding and grasping a new skill or knowledge related to their employment, thus reducing the turnover intention of the employees. He also found that for employees, the support received from their family provided motivation and encouragement which enables them to achieve the career goals, allowing the employees to work harder to achieve more learning opportunities through their job-related training and development to make them more capable and competent in their career.

A good family support is considered a non-work-related motivation which is received by an employee which encourages and strengthens an employee's work engagement and willingness to improve and increase their employability, thus increasing the retention of employees (Nguyen & Tran, 2021).

In another study conducted in Spain by Ferrer & Garrido (2023) among the employees in the banking sector, they too found positive and significant effect of family support as a mediator between training & development and turnover intention. They found that family support in the form of understanding and care is necessary when the employee is at the early phases of employment where more training time and less leaves are available for the employee to train themselves to establish themselves in the organization and fully concentrate on their professional skills development. A good family support too allows the employee to take initiatives in enrolling into training & development programmes in enhancing their job performance and competency, thus improves the employee psychological well-being increasing job engagement and reducing turnover intention. This study also demonstrated that even tough employees training & development programmes are proven at improving employee skills and employability and employee retention, but the family support plays a significant role as it amplifies the effect of training & development amongst employees in reducing the turnover intention. With the support received from the family, the employee can have a greater commitment and engagement in the training & development opportunities available in increasing their professional skills (Medina-Garrido, Biedma-Ferrer & Ramos-Rodriguez, 2023).

In another study done by Gustina et. al. (2023) in Indonesia among final year university students, it showed positive and significant effect of family support as a mediator between training & development and turnover intention. Even though their study investigated university students, but the study showed positive and significant results that family support in terms of financial or psycho-social support on the career of an individual. This study showed that family support is required most when a student experiences difficulties at their studies, or also when issues arise in balancing social life and academics, which is comparable to employees balancing between work, in-job training and their work-family time. This study too showed that family support helped the students in the form of emotional and informational support for their career readiness. This study also showed that students undergoing these courses with achieved high scores when they have social and mental support from their families. The support received from family, if carried on till an individual has already started work, will have the same significant effect as it has during the pre-employment days (Zhou, Li & Gao, 2020). It is a different issue with employees which doesn't have good family support, whether socially or financially, which in turn burdens the employee, making them lose their interest in continuing developing their skills or pursuing into new training and development courses (Kaur, 2025). Mostly, training, and developmental programs and other related in-job training requires time, and in professions like the healthcare or science and research it may take years, with sometimes the income taken home is lesser compared to pre-training days, as the employee is not able to do overtimes or extra job, requiring a good financial and mental support from families of the employees involved (Yadav & Sharma, 2023).

In a study done in China by Zhou, Li & Gao (2020) among preschool teachers, they too found positive and significant relationship of family support as a mediator between training & development and family support. This study had the Job Demands-Resources theory as its underpinning theory. They found that there were a higher number of younger preschool teachers quitting as compared to senior teachers, and one of the reasons found was that the younger teachers couldn't handle the stress from the job as they were posted away from their families to various parts of China. This population of young teachers also found it hard to build their professional career and furthering into their expertise fields as they did not have their families nearby. The population of employees who have families of their own and are working a full-time job, and at the same time attending training and development courses can also be called the working parent-student individuals (Gull et. al., 2022). The employees that had full time jobs and had families with one or two children, needed not only financial assistance from their parents, whether enrolled into part-time or full-time programs, in order to complete a competitive course, but also needed social assistance in looking after their children and family while they are balancing between work and studying (Garcia et. al., 2025).

In another study conducted by Masdupi, Prajoso & Darni (2023) in Indonesia, they too found family support having a positive and significant influence as a mediator between Training & Development and Turnover Intention. They found that family support acts as a buffer in eliminating stress in employees undergoing the responsibility development and intensive training in developing skills to cope with the demanding needs of the job itself. The instrumental, emotional and social support an employee receives from their family helps the employee in focusing on their professional development, preventing work-family conflicts and helping the employee in managing the workplace conflicts better. They too suggested that organizations should not only focus on training & development courses that enhances the professional skills and expertise of an employee, but also to include programs which emphasize the role of employees' family, which will in turn help prevent work-family conflicts and employee turnover intention. Organization with family-friendly policies will have more committed and loyal employees who have less work-stress as they have a good balance between work and family responsibilities (Ferrer & Garrido, 2023).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H7: There is a positive and significant relationship of family support as a mediator between training & development and family support amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.4.8: The Effect of Family Support as a mediator between Career Advancement and Turnover Intention

Family support is any form of assistance, which may be in the form of social or financial backing received by employees from their families (Pham, 2024). Career advancement meanwhile is the opportunities an employee receives for progression and professional growth while working in an organization which may include promotions, rise in position and increased responsibilities (Gull et. al., 2022). Family support received by

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employees allows them to feel motivated and be highly productive at their workplace, leading to positive outcomes and getting career advancements in the form of promotions or recognitions at work (Huang et. al., 2021). Whereas, employees who have lack of family support, leading them into work-family conflicts, will experience negative behaviours and poor outcomes at their workplace, making them have social-related job stress, poor performance at work thus lack of chances of getting career advancements (Yang, Liu, Zhang & Zhang, 2023). Family support is important as a helping hand in the forward trajectory of employee's career advancement, as family helps set the employee's mind to put down career goals, to be determined in increasing their skills and develop extensive understanding of one's role roles and responsibilities in their career (Uddin, Azim, Uddin & Akther, 2023).

In a study done by Suriadi et. al. (2024) done among employees working in the higher education institutions in Indonesia, they found family support having a positive and significant relationship as a mediator between career advancement and family support. They found that the positive behavioural outcome following a good family support received by employees led to higher job satisfaction, leading to employee handling job stress, newer work policies and difficult working conditions when they have the backing of their families, thorough better handling of these situations mentally, socially and physically. They found that employees who received strong family support experienced high levels of job satisfaction, leading to increase in job performance, which in turn leads to career advancement, organizational engagement and reduced turnover intention. Career advancement are schemes which are developed by organizations to compensate the good performance done by the employees and to promote job satisfaction amongst employees, however at times employees are not able to perform their role as a highly productive employee due to negative effects following poor family support or high family-work conflict (Chen et. al., 2024). Family support is needed by an employee to prevent the negative effects from poor family support, whether financially or mentally, that will somehow overshadow and overpower of the skills, opportunities gained at work and work performance of an employee, leading to a poor career advancement (Abu Samah et. al., 2023).

In another study done among employees of the banking sector in Spain by Medina-Garrido et. al. (2023), they too found family support having a positive and significant relationship as a mediator between career advancement and family support. They found that family support added with family supportive policies positively affected employees in terms of mental and social well-being, job performance and turnover intention. They too found that employees who have a good financial and psycho-social support from their family demonstrated greater competency and can take greater responsibilities, which makes them to achieve greater authority, making them to get promoted and attain more career advancements, compared to those that don't have good family support. They also found that family support is not only important when in the job, but also when the employees are about to join the work, as it will motivate the employees in establishing their goals to be achieved. They too found that employees with families, especially those with both parents and children, tend to be higher achievers in career advancements, as they have a reason to increase the financial and social status of their families, in terms of providing better home for their parents and good education for their children, which makes them well prepared and stronger in handling the mental and psychical stress from the changes required to achieve career advancement. In fact, some employees who have experienced having a good family life as they were growing up together with their parents who were working, will realize the importance of a good family support to help them overcome work-related stress and to mentally support them when they undergo changes and restructuring of their job as they advance in their position (Stanley, Murphy, Brougham & Richardson, 2024). At times, following career advancement, the job scope and demand increases, leading to heavier workload and probably longer working hours, which there will be risks of family-conflicts occurring, however with an understanding and supportive family or partner, the employee is able to cope with the changes in work-demand and the family acknowledges the space and time the employee needs to cope, and not further increase the stress being experienced by the employee (Muzakki & Herachwati, 2023).

In a study done by Lim, Omar, Ho & Tee (2021) amongst academic and administrative employees of five Malaysian private universities in Malaysia, they too found a positive and significant relationship of family support as a mediator between career advancement and turnover intention. They found that employees needed the support of their family in their career advancement, as family support is seen as a good predictor of job satisfaction, which also prevents work-family conflicts. They also found that family support played an important role mentally, psychologically and financially in the turnover intention among the employees even when there were poor career advancement opportunities. A good family support is also needed when an employee is still in the phase of progressing in their career, where a lot more effort, time and money is spent on the pathway they have decided in, for example in taking care of their children by their nuclear family, financial help or loans from parents or spouse to pay for loans repayments and mental support as a shoulder to cry on when they need to de-stress from the work-related tensions (Nair, Jayabalan, Perumal & Subramaniam, 2021). Normally, employees who are undergoing difficult time in coping with new changes in their career advancement will reflect negative behaviours like having low motivation and poor productivity, therefore mental support received by employees from their family during their difficult times are important in maintaining a positive behaviour both at work and at home (Rahim, Osman & Arumugam, 2020). A good family support helps employees to have a better control of their job requirements and their family needs, which in turn reduces the risk of having work-family conflicts, making them to manage both roles as a family member and an employee in a balanced manner, letting them to be on tract in achieving their career goals and having less turnover intentions (Malik & Allam, 2021).

In another study done among the police officers and clerical personnel of the police department in Punjab, India by Kaur (2025), she too found a positive and significant relationship of family support as a mediator between career advancement and turnover intention. This study showed that amongst the work stressors identified among the personnel and officers were the monetary compensation, the work itself and family, and these stressors showed to affect the job performance of these employees. The study also showed that family support was more prevalent in stressful jobs like the police officers, as compared to the clerical and desk staff of the police department. The nature of these police officers as they advance in their career included getting posted to outdoor and rural postings, inflexible working hours and critical incidences at work led to requiring more family support. These police officers too found it difficult to address the issues and difficulties faced by their families when they were posted away, thus creating work-family conflicts, with many having turnover intentions. This study therefore highlighted the importance of family support in ensuring the well-being of the employees as they advance in their career, thus maintaining job efficiency, performance and employee retention. This therefore shows that employees who receive a good family support as they advance in their career can mitigate challenges faced from

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demanding job nature and are able to manage a good work-family relationship when they are able to attend to their family needs (Medina-Garrido, Biedma-Ferrer & Ramos-Rodriguez, 2023).

Finally, in a study done by Azim & Al-Halawani (2020) in Saudi Arabia among nurses, they too found positive and significant relationship between family support as a mediator between career advancement and turnover intention. They found that support received from family enhanced the confidence of employee abilities thus motivating them into increasing their work efficacy and efficiency, thus advancing in their career. This study also found that employees prefer policies which includes family matter, which makes them have a balanced work-life balance, ensuring that they have a positive relationship with their social life and at the same time advance in the career. The family support received by these employees will lead to positive emotional status which allows good handling of job stress and allows these employees to adapt to newer skills and advancing in newer roles and positions. This study found that employees with good family support had better job engagement and self-efficacy, enabling them to undertake any new role or job scope given to them. This also because when employees are supported at home, they feel that have a strong background to hold on upon psychologically and psychically to embrace into any new challenges or career advancement opportunities that comes in their career path (Le, Lee, Nielsen & Nguyen, 2023).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H8: There is a positive and significant relationship of family support as a mediator between career advancement and family support amongst the junior doctors working in Ministry of

Health Malaysia hospitals.

2.4.9: The Effect of Family Support as a mediator between Remuneration and Turnover Intention

Family support, whether financial or mental support, makes an employee feel valued, loved, and cared for (Medina-Garrido, Biedma-Ferrer & Ramos-Rodriguez, 2023). Remuneration meanwhile is the amount of salary which is paid monthly or is a fixed wage by an employer to the employee on the work that has been done by him/ her (Lestari, Fahmie & Zulaifah, 2021). Remuneration received is used by employees to fulfil their physical needs, improve their social status, and pay for the needs of their family (Afrin et. al., 2023). Attractive remuneration influences employees to be loyal and committed to an organization, increasing employee retention, and thus increasing job satisfaction, as they can fulfil their essential needs (Tetteh, 2020). In situations where some employees receive lower remuneration compared to other employees who receive higher remuneration, the job satisfaction in the higher paid employees is higher compared to lower job satisfaction among the lower paid employees, therefore they need some support from their family whether financially or mentally in coping with the lower remuneration (de la Torre-Ruiz et. al., 2024). Good remuneration rewards not only the employee and its family, but also the organization in terms of employee performance and productivity, also higher retention of employees and a lower turnover (Oladejo & Saka, 2024).

In a study done by Medina-Garrido et. al. (2023) amongst employees working in the banking sector in Spain, they found that there is a significant and positive relationship of family support as a mediator between remuneration and family support. They found that remuneration helps to motivate employees, thus increasing the positive behaviour, work performance, and a better work-family relationship, leading to the employee receiving good support from their family and having no intention to turnover. Employee behaviour was also observed to be more negatively reflected when remuneration is poor, and they were usually supported financially usually by their parents, spouses if it is a dual career household, or cash handouts received from the government or other welfare societies through federal poverty prevention schemes. Poor remuneration amongst some of the employees too required certain employees to do multiple jobs to support the financial needs of their family, leading to reduced family routines like meals and outing together. The reduced family time can lead to tensions in family relationships, also work and family roles, leading to work-family conflicts and increased turnover intention to seek job with better work-family balance (Chaudhary et. al., 2025). These employees require good mental support from their families to understand their situation in forces them to lack family time to help them reduce work-related stress, also work-family conflicts (Huang et. al., 2021).

In another study done by Didit & Nikmah (2021) in Indonesia, they found that there is a significant and positive relationship of family support as a mediator between remuneration and family support. They stated that financial support from parents or spouses to employees is any amount of money or payment received by the employee excluding birthday or holiday gifts. They found that employees who are working in low-income jobs receive financial support from their families, and the financial support received from their upper, working-class or lower-class parents differ. Young employees from upper class families at early stages of their career may obtain significant financial support, which may also include huge payment for vehicles or property, compared to young employees from lower or working-class families, where financial support in the form of smaller amount of cash or help in payment of some bills are sufficient for them. Financial support received by employees coming from smaller families where they are probably the only child or having a few siblings, and from both working parents are found to be significant in amount. Employees are found to need the most amount of financial support at the beginning of their careers and as they are advancing in their career, where their income is lower and can't afford to do multiple jobs to concentrate on their career development or family or spouse relationship. Financial support received by employees makes them feel loved for and thus have the move to continue working to advance in their career or to continue to undergo training and development programmes to increase their employability, staying on with the current organization with turnover intention (Nasution & Nurbaiti, 2024). However, they also found that great employee work outcome is generated when adequate remuneration added with good family support is received by an employee.

In another study done by Ribeiro et. al. (2021) done among employees from various sectors in Portugal, they too found that there is a positive and significant relationship of remuneration as a mediator between family support and turnover intention. They found that family support received by employees from their families led to job satisfaction despite having a fair compensation, thus reducing the turnover intention. This did not only include financial support but also included practical support which helped the employees to reduce their financial burden like household responsibilities, looking after their children and allowing these employees to stay in their parent's homes. Thus, family support here helps the employees to complement their income where the remuneration per say is not enough to retain the employee, however the job satisfaction is probably good from the nature of the job itself or employee selfdetermination of learning the skills. The trend of parents over-parenting or

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helicopterparenting, which refers to parents who are overly protective and constantly hover upon the moves and decisions of their children, is more prevalent nowadays and even carries on till their children are at their working career, where previously parents used to be over-protective over their children when they are at elementary, intermediate or high school. Over-parenting or helicopter-parenting is a very good form of family support and gives the employee a secure feeling of financial and mental support (LeBlanc & Lyons, 2022). Employees who are receiving poor remuneration and less flexibility at work has been called upon by families to negotiate about the long working hours and poor remuneration, at the meantime supporting their children or spouse to reduce their financial burden, reflecting a good financial, social and mental support from the family towards the employee. The protection and support received by employees from their families makes them psychologically and psychically stronger in coping with difficult situation at work-place and prepares them in enduring more obstacles in advancing in their career pathway (Le, Lee, Nielsen & Nguyen, 2023).

In another study conducted in Spain by Ferrer & Garrido (2023) among the employees in the banking sector, they too found positive and significant effect of family support as a mediator between remuneration and turnover intention. They found that employees that had received good family support had no turnover intention despite having fair or moderately satisfactory remuneration. They found that employees with family support in the form of practical, emotional and financial backing felt a sense of stability and security in their employment and had high job satisfaction and engagement. With their financial aspect backed by their families, there were less job stress and greater resilience to workplace challenges demonstrated by these employees, thus eliminating turnover intentions. The reduced financial burden of these employees allows them to be not overwhelmed by their expenses, emergencies, bills or unexpected uncertainties, which affects their mind positively thus elevating their job engagement and motivation at work (Sabri et. al., 2022). These employees too were able to undergo training & development programmes offered by the organization as they were psychologically positive to accept any new challenges. This study too suggested that organizations should consider family friendly policies alongside better remuneration scheme to reduce turnover intention and increase employee retention.

In another study conducted in Saudi Arabia by Bajaba, Azim & Uddin (2022) done among employees in both the private and government sectors, they too found that there is a positive and significant relationship between family support as a mediator between remuneration and turnover intention. This study showed that the family support received by the employees directly affected their turnover intention, where family support in the form of mental and financial support was seen in reducing the stress at work-place, increasing job satisfaction and motivation, thus reducing their turnover intention despite receiving insufficient remuneration. The psychological well-being of the employees which makes them feeling motivated and secured at their current role, while at the same time makes the employees able to cope with demanding work conditions as they can mitigate their job stress. There are also employees who receive support from their families to search for better job by helping them with new job application and offering monetary assistance during the transition period between jobs, for them to be in a job with appropriate compensation. This sort of support does not necessarily be only financially but also may include psychological support where the family positively influences the psychological impression of the employee about his current organization and the unsatisfactory remuneration, as they supposed to be compensated accordingly for the effort they have put in for the organization (Lee, Gan & Chia, 2023).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H9: There is a positive and significant relationship of family support as a mediator between remuneration and family support amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.4.10: The Effect of Family Support as a mediator between Employment Security and Turnover Intention

Family plays a role as employees can receive social support, express their emotions, and receive care (Trulik et. al., 2025). An employee's experiences and conflicts at work can be shared with family members and family support as it is a place that offers the availability to listen (Le et. al., 2023). In Asian cultures, the family is the main source of support for an employee. Family support is important as the role of a person, whether at work or with family, improves the quality of the person's role in either work or family (Allen, French, Dumani & Shockley, 2020). Employment security meanwhile is the relative assurance owned by an employee that gives them the assurance against damages and losses that would result from the loss of their employment (Das, Mishra & Dash, 2025). Employment security is very important for employees as it keeps them mentally and socially positive in performing their job as an employee and as a partner or a family member, as it is the source of income to carry out their expenses required for daily living, and a path for them to settle down in advancing in their career (Hur, 2022). In situations where employment security is unstable, family support plays an important role in providing mental, social also sometimes also financial support to allow the employee to cope and come out from the difficulty they are currently undergoing (Shahzad, Ghafoor, Batool & Ashraf, 2025).

In study done by Vargas-Jimenez et. al. (2020) amongst the hospitality industry employees in Mexico, they found that there is a significant and positive relationship of family support as a mediator between employment security and family support. They found that employment security is important as it the mean for an employee to obtain necessity any human needs to live a daily life, and when one lacks employment security it leads to mental health vulnerability, social life disruptions and work-family conflicts. They too found that the negative implications from an unstable employment security can be braced by a good family support by strengthening the employee's mental health, financial situation, and psycho-social behaviour. A good family support is needed for the employees to perceive the situation of employment insecurity in an orderly manner and deal with their problem with a stable and positive approach, on decisions to turnover for seeking another job and steps on increasing their employability by developing their career. A good family support thus allows an employee to come back from conflicts, failure or adversity. Therefore, family support is necessary and important to make an employee more resilient towards unexpected challenges that will face an employee's employment status (anak Stephen, Wider & Thomas, 2022).

In another study done by Kang & Li (2024) among counsellors in South Korea, they found that there is a significant and positive relationship of family support as a mediator between employment security and family support. They too found that in times of employment insecurity, family is the first group of people that employees seek help from in the form of financial or mental support, especially from spouses which have higher monthly wages compared to the employee. Employees who have good family support too are backed during times of employment insecurity in making the decision searching for a new job with better employment security, also by financially supporting an employee to undergo part-time

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studies or courses to increase their employability in their career (Srihadiningrat & Mauludin, 2025). They too found that employees with good family support are more likely to leave a job with unstable employment security, than staying on and developing psycho-social and work-family conflicts due to the stress due to job-insecurity, and rather proceed with searching for jobs which good employment security, which suits them the best as they have the mental and financial support from a strong family bond (Jolly, Kong & Kim, 2021).

Meanwhile, in another study done by Abbas, Malik & Sarwat (2021) among employees of the tourism sector in Pakistan, they too found that there is a significant and positive relationship of family support as a mediator between employment security and family support. This study found that employment security was positively related to depriving economic situation; however, its effects were significantly reduced by a good family support. They found that family member are an important part in the lives of an employee, as they are interdependent and linked through family ties, and negative changes in the working life of an employee can disrupt the connection that ties the family together, leading to work-family conflicts, unless the family is supportive mentally, psychically and financially towards the employee (Yilmaz, Woywod & Raetze, 2024). The employment insecurity affects single bread winner more compared to those with dual-career household, as it increases the hardship in obtaining materials, social entertainment, leisure time, accomplishing children education and completing self-development training and courses, unless the employee receives financial support from their family members temporarily till the employee secures a stable job (Prasad, Rao, Vaidya, Sriyogi, Singh & Srinivas, 2025). The stress level contributed by the sense of employment insecurity leads to not only financial issues, but also mental stress, which will affect the relationship between the employee and their parents, their children, and their spouses, making them more introvert and depressed and eventually having turnover intentions, but not if the family bond and inter-understanding amongst them is strong and they take steps in motivating and turning their affected family member into a resilient and adaptive character (Yap & Badri, 2021).

In another study done by Alcover et. al. (2022) among employees of various industries in Chile, they too found that there is a significant and positive relationship of family support as a mediator between employment security and family support. This study studied the employees that were affected by employment security when the rapid and mass effect of Covid-19 caused businesses to downsize and temporarily laying off their employees. This effect not only affected the employees in the context of employment security but also affected their families especially those with single bread winners where they relied for financial support from these employees, leading to the employee's negative psychosocial and mental health status, suicidal behaviours and family conflicts. This study found that support received whether social or family support helped to reduce the adverse effects of employment insecurity. They also found that the negative effects of employment security is more prevalent in low skilled employees with lower level of employability as they lack the skills and experience need to search for a new job. Family support received by these employees affected by employment insecurity can be in the form of emotional, physical or financial support to help the employee to hold on to their job even as it is not secured, or guide them in seeking for a new job when they have been terminated and also emotionally supporting them in case they have turnover intentions when they have doubts about the organization's operational and financial status (Yan et. al., 2022).

In another study done by Nasr et. al. (2024) among employees of various sector in Lebanon, they found that there is a significant and positive relationship of family support as a mediator between employment security and family support. This study investigated the employees who were parents which were affected by employment insecurity amidst Lebanon's severe economic crisis. Employment insecurity led to employees who were parents to have increased stress to make ends meet in case they were to lose their job, their children education and the family well-being. There were also reported suicidal intentions amongst employees who were negatively affected by employment security. However, in employees with strong family emotional and financial support, they demonstrated better handling of job stress, mitigation plan to cope with temporary loss of employment and better resilience in mental status. Family support is also important for employees to be satisfied in their current job and having employment security through increasing their performance, having positive affective reactions and having high in quality relationships which will all buffer the negative effects of workfamily conflicts and job demands, thus reducing their turnover intentions (Acoba, 2024).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H10: There is a positive and significant relationship of family support as a mediator between employment security and family support amongst the junior doctors working in Ministry of
Health Malaysia hospitals.

2.4.11: The Effect of Family Support as a mediator between Co-Workers and Turnover Intention

Co-workers are employees who work in the same proximity as the employee, perform the same or similar duties as the employee, and take breaks or have meals in the same place as the employees (Havel, 2024). A good co-workers relationship is a connection and understanding between employees where they have each other's trust, respect, and open communication, which aids in right-minded decision making and positive outcomes (Moe et. al., 2023). However, sometimes co-workers relationship can turn out to be disrupted, leading to poor interpersonal communication, confrontational aggressiveness, betraying and work-conflicts, creating an unpleasant working environment, leading to intention to turnover (Asfahani, 2022). Family support meanwhile is practical or emotional assistance that an employee receives from their family, which if positive will be beneficial for the employee (Gull et. al., 2023). Amongst employees who have good family support, they are more motivated in their career and have their family to make them more resilient and adaptive to overcome this toxic work-environment (Jalees et. al., 2023). These employees have their families to speak out about the stressful and hostile environment at work, also discussing and finding other ways to de-stress from the workconflicts, and rather continue in developing their career, at the same time not engaging in any aggressive confrontations among their co-workers (Campos & Campos, 2024).

In a study done by Norling & Chopik (2020) using data from a panel study in the United States of America, they found that there is a significant and positive relationship of family support as a mediator between co-workers and family support. They found that conflicts at work between co-workers caused the issue to be brought back to the employee homes and reflected negatively on their families. They too found that conflicts at home amongst employee and their family members are brought to work and reflected to co-workers through poor communication, inability to complete tasks due to lack of focus, below par productivity and turnover intention in the affected employee. Amongst employees with good family support, conflicts at workplace among co-workers are well understood by their families, and therefore the employees are well supported mentally

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and psychologically, making them more adaptive and able to take measures to come out or avoid the conflict, by focusing on their job and career progression, thus reducing turnover intention (Gull et. al., 2023). Employees juggling both work-life and family-life need support and integration from both co-workers and family members, as there is evidence of both these lifestyle work in both directions, as it affects one another, leading to a phenomenon called work-family interference (Lee, Gan & Chia, 2022). Therefore, employees with good family support are found to cope better with co-workers conflict, maintain better psychological wellbeing, resilient and adaptable to any job-related stress, and less likely having turnover intentions (Medina-Garrido et. al., 2023).

In a study done by Fadhira & Suyono (2024) among employees from various industries in Indonesia, they found that there is a significant and positive relationship between family support as a mediator between co-workers relationship and turnover intention. They found that the work life of an employee does affect the employee's family-life, mentally, psychically, and psychologically. The employees that have good relationship and support from their co-workers at work, will demonstrate less stressful but happier behaviour at home, and be more supportive and loving with their family relationship, being it their partners, spouses, parents, or children, leading to increased productivity both at workplace and at home, which promotes a healthy work-life balance. Employees can share their problems at work-place with their family, and exchange ideas and thought about better family values with their co-workers, making employees more expressive and reduce keeping their problems to themselves, thus reducing depressive behaviours, encouraging better work and family productivity, more focused on their career and skill development, and fulfil their career and family goals. However, for this to occur, the employees need to have a good family support, and these good support and relationship with the family will be carried on to their workplace where good relationship with co-workers can be maintained, job satisfaction can be achieved and reducing the turnover intention (Liu et. al., 2022).

In another study done by Taheri (2021) among employees from various government industries in Iran, she too found that there is a significant and positive relationship between family support as a mediator between co-workers relationship and turnover intention. She investigated a process called the crossover process, where stress from work-place due to poor co-workers support and toxic work environment is carried down to their homes and down to their families, which leads to family conflicts, which are found to be worse amongst families with dual-career couples. Families which understand each other well and have time to listen to each other's problems carried from work, tend to let the problems of the employee out through conversations with their spouses or parents, quality family leisure time and positive adaptive and resilient attitude of the employee itself. A good co-workers relationship is important as it benefits employees in terms of work-load sharing, social support, and lower job stress, however in situations where the work environment and co-workers support is poor, employees turn to rely on their families for mental and social support (Huang et. al., 2021).

A study done by Talukder (2022) among employees in the financial industry in Australia also found that there is a significant and positive relationship between family support as a mediator between co-workers relationship and turnover intention. He found that positive outcomes between family to work are gained when the enhancement and experiences gained from the family or participation in the family life like supportiveness, accountability and patience will help enhance the performance at work. The role an employee plays at home perfectly as a father, spouse or son can be reproduced at their workplace, where the values accumulated at home is transferred from the existing role to the role as a good employee, which includes tolerance, adaptability and understanding each other. This effect is called a positive workfamily spillover or family-to-work enrichment. A good family experience and support has demonstrated positive psychological and physical behaviours amongst employees, which in turn has an additive effect on the career advancement, co-workers relationship and job satisfaction of an employee (Kaur, 2025). Therefore, a good family relationship and support makes an employee emotionally more resilient and positive, thus creating a good co-worker relationship, increasing job engagement and reducing turnover intention (Le et. al., 2023).

Finally, in a study done by Noermijati et. al. (2020) done among Papuan employees working in Indonesia, they too found a significant and positive relationship between family support as a mediator between co-workers relationship and turnover intention. They found that workfamily and co-worker conflicts significantly increase the turnover intention of employees by causing emotional exhaustion and negative psychological mental status. These negative effects not only reduce the job engagement but also reduce the job performance of an employee. This employee poor performance causes the organization to have a poor work efficiency and productivity. They also found that when an employee has a good family support, they can mitigate the effects of poor co-workers relationships at their workplace. Therefore, encouraging a good family supportive policy in an organization is important to ensure that their employees can bring the positive and encouraging behaviour from home to their workplace to be applied to their job and maintaining good relationship with their co-workers. This does not only increase the job performance of an employee alone but also among the co-workers, thus creating a harmonious work environment which will make the workforce an efficient and selfsustaining group of employees., thus reducing the turnover intention (Huang et. al., 2021).

Therefore, based upon the previous studies, literatures and above discussion, the hypothesis as below was developed:

H11: There is a positive and significant relationship of family support as a mediator between co-workers and family support amongst the junior doctors working in Ministry of Health Malaysia hospitals.

2.5 The Research Framework

Following the discussion and based upon the variables in the previous sections, the proposed research framework is as follows:

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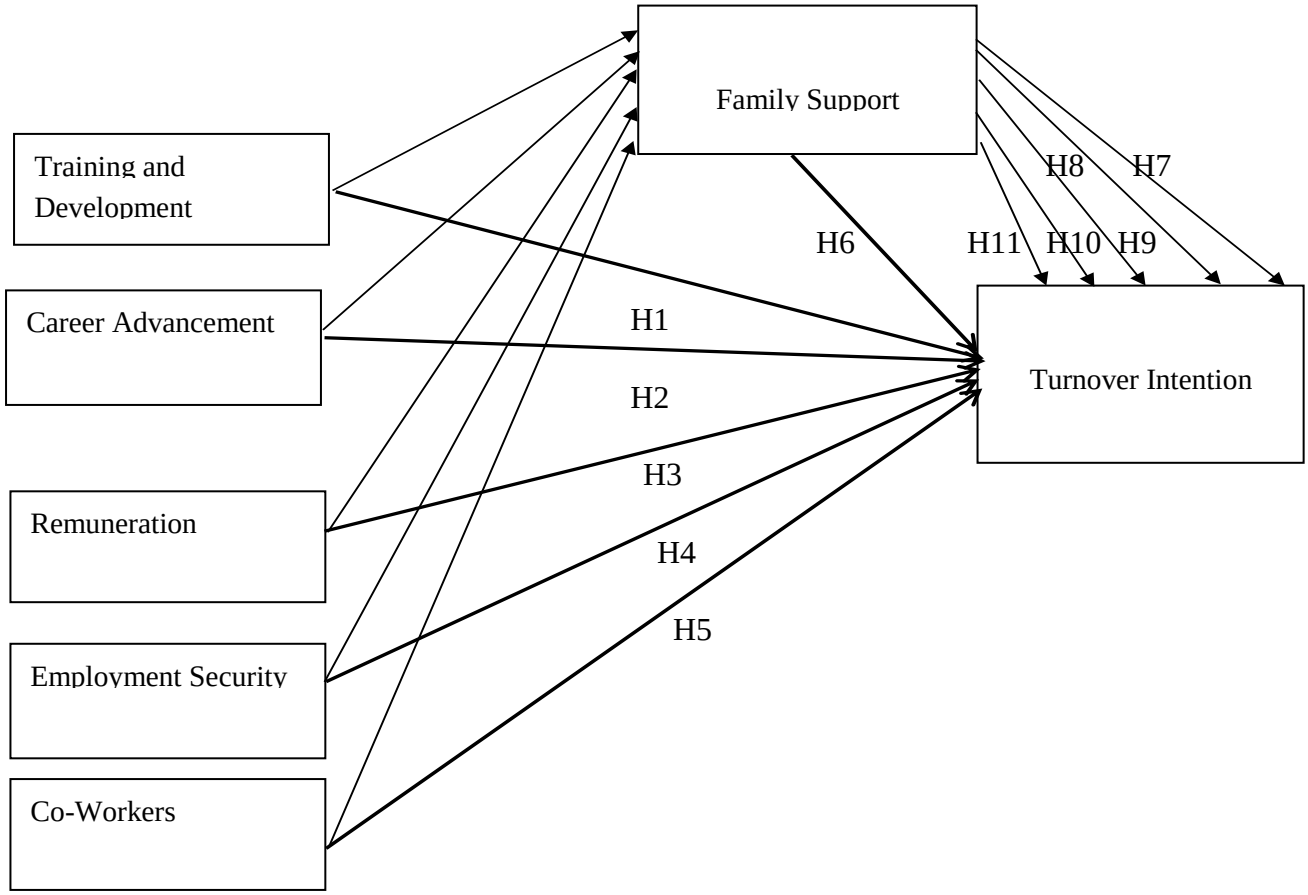


Figure 2.3: The Conceptual Framework

2.6 Chapter Conclusion

This chapter focused on the overview of the healthcare system and the doctors working in both the private and public sectors in Malaysia to understand better the existing and evolution of the current services and facilities under the Ministry of Health Malaysia, and the healthcare services currently present in Malaysia. The theory underpinning this study, which is the Herzberg's Two Factor (Motivator-Hygiene) Theory was discussed with a comparison with other theories related to job satisfaction. Furthermore, the role of the mediating variable which is the family support is discussed in relation to the other variables. Following these discussions, the research framework was developed with extensive review of previous literatures relating to relationships between the variables, with the establishment of hypotheses. A diagrammatic presentation of the research framework is included in this chapter.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The method adopted by this research will be explained and discussed in this chapter. The reason the research design chosen for this study will be described. This chapter too identifies the methodology and nature of the framework of this research. Further into the chapter, the instruments used for the data collection in this study will be outlined and described, which will include the population sampling methods, and the instruments used in the data collection process. Also included in this chapter are the methods used to analyse the data obtained through the data collection process. The importance and accuracy of the validity and reliability of the variables and the concept of this research will be evaluated.

3.2 Research Design

A research design is a crucial step in conducting research, and is the main plan chosen by the researcher that will define the methodology, techniques and procedures required for data collection, data analyzation and data discussion (Kumar & Praveenakumar, 2025). The research design will help the researcher in scheming a strategy to answer the research question (Tracy, 2024). The research design will include the process of identifying the problem statement, reviewing studies and literatures with related to the problem, defining and testing the hypotheses, describing the source and tool for data collection, and the techniques that will be applied to interpret the data collected (Fellows & Liu, 2021). Research too should have and meet the characteristics such as neutrality, reliability, validity and generalization to have a successful study (Tisdell, Merriam & Stuckey-Peyrot, 2025). The researcher too has the choice to choose the research design from the qualitative research, quantitative research or mixed qualitative-quantitative method, which will direct the way the research will be carried out (Hancock, Algozzine & Lim, 2021). This research will be adopting the quantitative research design. A quantitative research design is a form of objective and systematic process of obtaining numerical data to gather information of the variables in this research, which can be used to examine the relationship between the variables (Mohajan, 2020). Numerical data that is collected will allow the investigation of the relationship between the variables, therefore providing statistical evidence to

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support the hypotheses developed (Fadele & Rocha, 2025). Quantitative data enables the collection of quantifiable and measurable values, thus enhances the generalizability and validity of the results (Maleki et. al., 2022).

The research designs can be further divided into descriptive, experimental, correlational, diagnostic, explanatory (causal) and time-series analysis (Skinner & Dancis, 2020). A causal or explanatory research design is conducted in this study to determine and analyse the nature and extend of the cause-and-effect relationship between the various variables involved. According to Pawar (2020), the causal research design needs to have a temporal sequence, where the variables occur before the problem arises, also having concomitant variation, where there should be as systematic difference between any variables, and lastly having a nonspurious association, where any correlation between the cause and an effect must be genuine and not due to interference from other factors. Moreover, the causal research design will help to determine the extent of how a variable is causally related to another variable (Ali, 2023).

Therefore, in this study the causal research design is used to examine the cause-and-effect of

Training & Development, Career Advancement, Remuneration, Employment Security and CoWorkers on the turnover intention amongst junior doctors in the Ministry of Health Malaysia hospitals. The causal research design is used to examine the cause-and-effect of Family Support as a mediating variable on the turnover intention amongst junior doctors in the Ministry of Health Malaysia hospitals.

3.3 Population

Population in the context of research can be anything ranging from a group of people or any element like species, organisms, objects, events, or organizations that a researcher wants to further study about (Mohajan, 2020). In research, the targeted population is approached or examined for data to be collected. Therefore, data is a crucial part in both qualitative and quantitative research (McKelvey, 2022). Data collection can be obtained from the entire population like in a census or if the target population is small, cooperative, and easily assessable, however that's normally not the condition (Spoorenberg, 2022). In conditions where the target population is large and not easily assessable, a sample of the entire population is used to obtain the necessary data for the research, where the size of the sample will be smaller for data collection (Blake, Rhanor & Pajic, 2020). Even though it is possible to collect the data from the entire population, but normally it is not done as it is costly to reach out to the entire population, it is time consuming and furthermore it is difficult to locate all the elements involved in the research, like the objects, people, and businesses (Casteel & Bridier, 2021). Krejcie and Morgan (1970) developed a table for reference of future researchers in determining the sample size to be studies on for a given population of interest.

Therefore, in this study, the population or the individuals that are of interest will be the junior doctors working in the Ministry of Health Malaysia hospitals in Kuala Lumpur and Selangor. This entire population of interest will be the group that the conclusion of this study will be drawn out from. Once the population is decided upon, it is important to decide on the unit of analysis and the level of aggregation, as this group of interest will be the one that will be providing the data required to complete this study (Lakens, 2022). The identification of these two units and levels are important as it will lay a plan on which the data will be collected from, such as the individuals targeted either the customers or the employees of a service or brand, the organizations involved, and the hierarchy levels involved (Bolarinwa, 2020).

By looking at these descriptions, the unit of analysis will be the junior doctors working in the Ministry of Health Malaysia hospitals in Klang Valley that will be targeted for the data collection in this study. The study is limited the junior doctors working in the Klang Valley as there are more house officers training centres and thus higher number of contract doctors in the Klang Valley. This is because there are only 49 hospitals in Malaysia that offer house officer training, and 12 of these tertiary and teaching hospitals are in the Klang Valley, which are more than any other states, and about 33% of the total doctors in the public service are working in the Klang Valley (The Star, 2nd July 2024; Planning Division MOH, 2025). Meanwhile. the level of aggregation will be the doctors that are or been working for less than 5 years in the Ministry of Health Malaysia hospitals, which will constitute the house officers, junior medical officers, and contract medical officers, which accounts to 32,813 medical officers in contract scheme and 6,357 house-officers, accounting to more than 50% of the total number of doctors in the public service (Code Blue, 25th December 2024). Another reason for limiting the study to junior medical doctors and contract medical officers in Ministry of Health Malaysia hospitals working not more than 5 years is because the highest rate of turnover in the Ministry of Health doctors is among the house officers, junior medical doctors and contract medical officers (The Star, 23rd February 2023; The Star, 24th February 2023). Table 3.1 below shows the total number of doctors working in the Ministry of Health Malaysia healthcare facilities in the year 2024, showing the states of Selangor and Wilayah Persekutuan Kuala Lumpur having the largest number of doctors (Planning Division MOH, 2024; Code Blue, 25th March 2024).

Table 3.1: Doctors (Permanent & Contract) working in the Ministry of Health Malaysia hospitals as of 31st December 2023 (Source: Planning Division MOH, 2024; Code Blue, 25th March 2024).

State	Number of Doctors in KKM (Permanent & Contract)	Number of House-Officers	Total Number of Doctors
Johor	5,239	711	5,950
Kedah	3,610	474	4,084
Kelantan	4,287	449	4,736
Melaka	2,205	220	2,425
Negeri Sembilan	2,969	323	3,292
Pahang	3,120	365	3,485
Perak	4,373	604	4,977
Perlis	679	116	795
Penang	3,298	315	3,613

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Sabah	4,516	460	4,676
Sarawak	4,303	338	4,641
Selangor	11,319	1,297	12,616
Terengganu	2,293	249	2,542
W.P Kuala Lumpur & Putrajaya	9,110	616	9,726
W.P Labuan	135	0	135
Total	61,456 (Contract: 32, 813)	6,357	67,813

3.4 Instrumentation

Instruments in research are basically the tool utilized for collecting and analysing the data that is needed to conduct the study. Examples of tools commonly used in research are tests, surveys, interviews, checklist, and questionnaires (Taherdoost, 2021). Therefore, instrumentation comprises the process of developing either one or more of these tools required for data collection. The questionnaires are a form of instrument that is reliable and accurate for gathering data from a large sample in a study (Jain, 2021). The questionnaires will consist of a set of questions which will be distributed to the respondents either by hand, by mail or through digital messaging services (Sukmawati, 2023).

Practically and economically, it is more preferred to conduct a research through the digital and electronic mail services, as it will be less time consuming, more cost effective, avoiding the need to breach public and private spaces, and the ability to reach for a greater access of individuals which are difficult to be reached through the conventional mail or long appointment dates (Forza & Sandrin, 2023). Through the digital and electronic mail services, the participants of the study can choose the best possible moment that suits them to perform the survey. Also, the time taken to complete an online questionnaire survey is found to be shorter by two-thirds compared to the conventional method of in person survey form filling. In fact, some individuals which might be positioned at far and difficult to reach geographical areas at the time the questionnaires are handed out can be reached via the digital and electronic mail services, as long the availability internet is available, which are so much more cost effective and less time consuming, as there will be no cost required for postages and travelling (Kumar & Praveenakumar, 2025).

The questionnaires which are distributed and responded through the digital and electronic mail services will also give a more accurate data, as there will be less margin of error because the responses are filled in by the participants themselves (Ghanad, 2023). These data that are collected from the questionnaires sent through the digital and electronic mail services will have their results ready in real-time, or rather at the same time the questionnaire is completed, therefore the data collected is ready to be analysed at the earliest possible time (Khoa, Hung & Hejsalem-Brahmi, 2023). From the participants' point of view, the digital and electronic mail services are also more preferred as it gives the ease and freedom for them to choose a time to answer the questionnaires, compared to being breached during their work or private time (Taherdoost, 2021).

The participants for the survey too can assess the questionnaires on any of their digital and electronic devices at any time, especially the mobiles phones, as the internet access through mobile phones in Malaysia have reached a saturation level of 99.5% and internet access at 98.8% in 2024, where the highest activity usage of smart phones in Malaysia was recorded for social texting and digital messaging services (Department of Statistics Malaysia, 2025). Therefore, the distribution of the questionnaires through social texting and digital messaging services will be ideal in reaching out to as many junior doctors working in the ministry of Health Malaysia hospitals. An introduction to the survey, explaining the purpose and intention of the survey will be included and necessary as respondents will be sharing their personal information (Fink, 2024).

The process of measurement in research is important to understand, quantify and qualify the level at which the data is measured. There are four hierarchical levels of measurement, which is nominal, ordinal, interval, and ratio (Allanson & Notar, 2020). The type of data that needs to be collected will determine the type of measurement scale will be used. The measurement process in research will be the assigning of a numerical value to the variables that are being studied in the research. The questionnaires will have measuring of the variables through the numerical scales. Numerical scales will have ranks in order; thus, the value will be assigned to each of the participant's answers (Williams, 2021). For instance, to measure the job satisfaction level of a junior doctor, the number 1 in a scale will represent extremely not satisfied, whereas the number 5 will represent extremely satisfied.

Based on the hierarchical levels of measurement, the questionnaires will begin with the nominal scale, which will help to categorize the data into exclusive categories and groups and does not have any numerical value (Idika, Owan & Agama, 2023). The nominal scales should be focusing on the information relevant for the study, which will include the respondent's gender (male or female), nationality (Malaysian or Non-Malaysian), place of residence (Peninsular Malaysia, Sabah, or Sarawak) and the state of practice (Peninsular Malaysia, Sabah or Sarawak).The questionnaires will follow with the second level scale which is the ordinal scale, which will consist of years of working (1 year, 2 years, 3 years, 4 years, or 5 years), current position (house officer or medical officer) and type of employment (contract or permanent).This scale will help to rank and establish the order of the data, to understand the higher and lower value of the data collected. The following scale will be the third scale, that is the interval scale, which is a quantitative scale. It uses numbers to rate the variables to measure the degree and extend of satisfaction or dissatisfaction. There are various scales to choose from like the Bipolar Matrix Table, Likert Scale, or the Net Promoter Score. One of the commonest scales used in the interval scale is the Five-Point Likert Scale, as it characterised by a high reliability, less time consuming and less confusing for the respondents, thus increasing the survey response rate (Tanujaya, Prahmana & Mumu, 2022).

3.5 Questionnaire Design

The questions in the questionnaire in this research will be close-ended questions as it will be critical in getting answers relevant to this research through a limited range of answer options.

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Open-ended questions are more preferred in collecting quantitative data from the respondents (Kircher & Zipp, 2022). The language used for questionnaire will be the English language, as English is the main medium of communication and the lingua franca in the medical fraternity in Malaysia, and around the world (Kirkpatrick, 2022). This will make the creation of the questionnaire to be easier, as there won't be the necessity of performing vocabulary equivalence, as only the English language is used, therefore making the adaptation of these questionnaires in the future easier. The questionnaires will be validated by performing a pilot test to ensure that the measurement tools can be understood and interpreted accurately by the respondents, thus yielding a good and reliable data.

Section A: Demographic Profile

The questionnaire will have two parts, which will be the demographic profile and the job satisfaction related questions. The questionnaire will begin with the demographic profile of the respondents. It is important as it will allow the segmentation of the respondents and provides targeted review and opinion of the respondents. It will include the profiles of the respondents such as the gender, age, race, hometown state, hospital of practice state, and marital status. The scale that will be used in this section too will be the nominal scale.

Table 3.2 Demographic Profile

Item	Code	Description	Items	Scale
1.	A1	Gender	Male Female	Nominal
2.	A2	Age	20-30 30-40	Nominal
3.	A3	Race	Malay Chinese Indian	Nominal
			4- Others	
4.	A4	Hometown (State)	Peninsular Malaysia Sabah, Sarawak, Labuan	Nominal
5.	A5	Hospital of Practice (State)	Peninsular Malaysia Sabah, Sarawak, Labuan	Nominal
6.	A6	Marital Status	Single Married Divorced	Nominal

Section B: Job Satisfaction

In this section of the questionnaire, the questions are related to the independent variables, the mediating variable and the dependent variable of this research, in determining the turnover intention amongst the junior doctors working in the Ministry of Health Malaysia hospitals. The questions related to the independent variables are for Training & Development (TD1 to TD4),

Career Advancement (CA1 to CA4), Remuneration (RM1 to RM4), Employment Security (ES1 to ES4), and Co-Workers (CW1 to CW4). For the mediating variable meanwhile, the question related to it will be for Family Support (FS1 to FS4). Lastly, for the dependent variable, the question related will be for Turnover Intention (TI1 to TI4) amongst the junior doctors working in the Ministry of Health. Table 3.5 below states the questions adapted and modified from previous research to be in concordant with the current determinants of job satisfaction amongst the junior doctors.

Table 3.3 The Determinants of Job Satisfaction

Item No.	**Item**	**Source**
Training & Development		
TD1	My organization offers a well-structured training platform to enhance my competency level.	Adapted and modified from Matolic et. al., 2023.
TD2	I am satisfied with the current training and development organized by my organization.	
TD3	I receive the support from my organization to attend training and development programme in my area of interest.	
TD4	I always have an opportunity to apply for training courses related to my area of interest.	

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TD5	The training and development programme I received has helped to boost my work performance.	
Career Advancement		
CA1	The job promotion that I received from my organization is on par with the industrial practice.	Adapted and modified from Lu, While & Barriball, 2020
CA2	I would consider my job promotion as satisfactory.	
CA3	I have been given a career advancement for my achievements.	
CA4	My organization has a well-structured career advancement opportunity for me.	
Remuneration		
RM1	My basic pay is competitive as compared to the industrial practice.	Adapted and modified from Lu, While & Barriball, 2020.
RM2	My pay is appropriate based on the current workload.	
RM3	My pay is adequate in the context of my current job description.	
RM4	The yearly increment structure of my pay is satisfactory.	
RM5	The incentive scheme in my workplace is very satisfactory.	
Employment Security		
ES1	I was given an assurance to have my working contract converted to a permanent position.	Adapted and modified from Karl et. al., 2024.
ES2	My organization always offer an opportunity for employment.	
ES3	My organization has a good record of offering permanent positions to its contract employees.	
ES4	I am confident that my organization will not lay off its contract employees.	
Co-Workers		
CW1	I have a good relationship with my coworkers.	Adapted and modified from Isha et. al., 2020.
CW2	My co-workers respect my professional skills.	
CW3	I always get the necessary help from my coworkers.	
CW4	My relationship with my co-workers helps me to be capable of doing my work.	
Family Support		
FS1	I have enough time to balance between my work life and my family time.	Adapted and modified from Shamsikhani, Ahmadi, Kazemnejad & Vaismoradi, 2023
FS2	My family always supports me when I have issues at my workplace.	
FS3	I need my family's support in my financial status.	
FS4	I am able to provide the financial support needed by my family.	
FS5	I have to worry about work when I am spending my time with my family.	
Turnover Intention		
TI1	I do not have any plans to quit in the near future.	Adapted and modified from; Lu, While & Barriball, 2020.
TI2	I am not seeking for a better job opportunity.	
TI3	I will not quit despite having a better job opportunity.	
TI4	I love my profession and would still prefer working in the same field.	

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The questions above were selected from past studies and literatures and were adapted from various authors to complement the background of this study. Some key words from the questions from past studies and literatures were modified to represent and exemplify the variables used in this study, for example family support and career advancement. The modified key words were replaced carefully with synonyms selected from reputable dictionaries to keep the distinctive actual meaning. The Cronbach's Alpha results of the instruments adapted and used in this study are identified from past literatures and are used as reference.

3.6 Pilot Study

The pilot study is an essential process of research (Dzwigol, 2020). The pilot study is used to test and try-out the instruments for data collection, sample selection plan and other techniques involved in the research to get ready for the full-scale study (Aziz & Khan, 2020). In this research, a pilot study will be conducted, which will be the pre-test before the larger study is done. As the name pre-test suggest, the questionnaires will be vetted through to determine the respondents' understanding of the questionnaires. This pre-test will be able to show its validity whether the questionnaire used is capable to perform its role as a data collection tool and whether the desired information intended to be understood by the respondents needs to be modified. The questionnaire too will be looked in to by academicians to check for its validity, making sure that the questionnaire will be suitable to be used as the data collection tool (Teresi, Yu, Stewart & Hays, 2022). Furthermore, a pilot study will help the researcher in acquiring the necessary input and knowledge by performing the measures as stated below:

i. Gaining the experience and practice in data collection methods (Wahood, Akbar & Ullah, 2021).
ii. Enabling in the testing and refining of the questionnaire, thus assessing the effectiveness of the questionnaire (Shakir & urRahman, 2022).
i. Allows the needed changes and modification to be made to the questionnaire prior to the full-scale study (Aithal & Aithal, 2020).
ii. Making sure that all the elements in the questionnaire can work together to create an effective data collection tool (Morin, 2023).

Following this, the next crucial step will be determining the sample size. The sample size needs to be determined to conduct the sample study, as it will help to estimate the standard deviation that will be used for the actual research sample size calculation. This is important because if the sample size is too small, it will reflect an imprecision around the standard deviation estimation and having the probability of giving a very low significance and inconclusive result (Lakens, 2022). Furthermore, if the sample size is too large for the pilot study, it may be considered unethical and it too causes wastage of resources. Generally, the frequently used number for overall sample size is 30 (Andrade, 2020).

For this research, the questionnaire for its pilot study will be dispersed out to 30 respondents through the online medium, which will utilise the social media WhatsApp. The questionnaire will be sent out to 30 respondents only as it is ethically justifiable and adequate to test the data collection tool for its clarity and understanding. According to the Central Limit Theorem, a number of 30 respondents for a pilot study will be adequate to have a sample mean normally distributed and therefore statistical analysis and parametric testing can be performed to test its reliability and validity (Zhang, Astivia, Kroc & Zumbo, 2023).The items in this questionnaire will have to be tested for its reliability and consistency, and therefore a Cronbach's alpha coefficient value of 0.70 or more will be considered as acceptable (Giner-Sorolla et. al., 2024). Following this, the responses from the respondents will be examined and analysed. This is to make sure that all the items in the questionnaire are relevant, able to be understood by the respondents, and meets the required criteria for this research.

The following step will decide the type and amount of data which will be needed to be collected for this study. The amount and type of data to be collected will be decided by the nature of this study and the objectives of this study. For data collection, there are two common types of data collection methods available, which are the primary and secondary data collection methods (Mazhar, Anjum, Anwar & Khan, 2021). Primary data collection is the data collection that is done for the first time, usually by the researcher directly from where the data originates from, which is done through personal experience or evidence from previous studies. The primary data will therefore be the first-hand information. These data may include quantitative data collection through surveys, telephone interviews, questionnaires, and mails, also qualitative data collection through individual conversational interviews, open-ended questionnaires and surveys, case studies, observations and focus groups (Taherdoost, 2021).

Secondary data collection meanwhile is the data that had been gathered or collected by other researchers before this current research (Islam et. al., 2020). This method is different from the primary data collection method as the researcher doesn't personally get the data from its main source. This data is rather collected from magazines, online libraries, newspapers, reports, previous research articles and journals. For this study, the primary data collection method will be used to individually experience and interpret the data. It will also give a better understanding and control of the issues that arises in the process of data collection.

The collection of the data for this study will be a primary data collection and will be carried out using online survey questionnaires. By performing online survey questionnaire, it will be more efficient as immediate response, and data will be collected and stored automatically. The respondents too will be able to complete the questionnaire at their own time that suits them (Kumar, Chandran & Somani, 2021). Informed consent will be presented at the first page of the questionnaire survey through text-based format by adhering to the ethical guidelines to gain the respondent confidence in answering the questionnaire and understanding the purpose of the study and the procedures, benefits and risks involved in taking up the survey. This informed consent too will let the respondent decide whether to proceed with taking up the survey or withdrawing from it (de Hoyos et. al., 2020). The survey questionnaires meanwhile will be prepared using services of one of the many free sophisticated platforms available for free. Examples of such services platforms are Survey Sparrow, Google Form, Survey Monkey, Go Formz, Tab Survey, Zonka Feedback, and Jot Form. These forms will then be shared through the WhatsApp messaging application to the doctors at the selected hospitals in the states of Selangor and Kuala Lumpur.

3.7 Sampling Procedure

The sampling procedure is a process of choosing a sample of population from the entire targeted population, where a group of population is selected and the data which is required for the research is collected from them (Makwana, Engineer, Dabhi & Chudasama, 2023). Sampling is important as it allows the research to be done to a large population by targeting only a group out of the large population. The reason sampling procedure is done is to collect the data concerning that selected population, to conclude an outcome that will summarize and make a general conclusion about

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the entire targeted population (Ghoghre, 2024). This group or sample of population which has been selected can be considered a sub-group of the targeted population which data is required from to complete the research. If the necessary data is collected from an entire targeted population, it will be costly, complex, time consuming and requires a lot of effort (Futane & Tech, 2021). Therefore, this method of sampling is practiced as it utilizes lesser resources and is less complex, yet yields the result required to generalize the targeted population (Makwana, Engineer, Dabhi & Chudasama, 2023). In this research, it will be unrealistic, time consuming, expensive and would take a lot of effort to gather the data from all the doctors working for less than five years in the Ministry of Health Malaysia hospitals in the entire country. Furthermore, the amount of redundant and irrelevant data that will be collected if sampling is not done will lead to delay in the process of analysing the data.

In terms of sampling procedure selection, there are two different types of sampling procedures to choose from, which are the probability and the non-probability sampling (Pace, 2021). Probability sampling is a random sampling process where a random selection of the entire population is done. There are four different types of primary sampling, which are the simple random sampling, the systematic sampling, the stratified random sampling, and the cluster sampling (Rahman, 2023). Non-probability sampling process meanwhile is a non-random selection of the entire population, decided based on many different criteria, either by convenience or by the subjective judgment of the researcher (Stratton, 2023). The more popular sampling procedure is the probability sampling procedure, as it is statistically more accurate, unbiased and it generates conclusive inference about the entire population (Malhotra, Nunan & Birks, 2020). The non-probability sampling meanwhile focuses on smaller group of an entire population, where the interpretation can be biased, and the hypothesis is generated and concluded based on exploratory analysis, which makes the hypothesis not generalizable to the entire population (Shamsudin, Hassim & Abd Manaf, 2024). Therefore, this study will use the stratified random sampling method. For this study, this method is more suitable as the population of junior doctors which have been working for less than five years in the Ministry of Health Malaysia hospitals is a small group or strata in the entire population of doctors working in the Ministry of Health Malaysia hospitals.

In this research, the sample will be a part of the population that is selected or picked to represent the entire group or population of the junior doctors practising in the public hospitals in Malaysia, consisting of house officers, junior medical officers and contract medical officers who have worked for less than 5 years in the public hospitals under the Ministry of Health Malaysia. The sample, which is referred to in this study will be the doctors practicing for less than 5 years in the Ministry of Health Malaysia hospitals. The doctors practicing for less than five years in the Ministry of Health Malaysia hospitals are the house officers, junior medical officers and contract medical officers. Therefore, the sampling frame of this study will be the house officers and the junior medical doctors who both have the similarities of having worked for less than 5 years in the public hospitals under the Ministry of Health Malaysia. The data that will be collected for this study will be from the Ministry of Health Malaysia tertiary hospitals in two states in Malaysia, which are in the states of Kuala Lumpur and Selangor. The samples targeted will be the house officers, junior medical officers and contract medical officers which have been in service for less than 5 years, in hospitals in Kuala Lumpur and Selangor, also called the Klang Valley, as 12 out of 49 of the tertiary and teaching hospitals of the Ministry of Health Malaysia are in these two states, which also accommodates 33% of the total number of doctors in the public service in Malaysia (The Star, 2nd July 2024; Planning Division MOH, 2025). This number of doctors working for less than 5 years in the public service accounts to about 50% of the number of doctors in the public service in Malaysia, which are 39,170 out of the total 67,813 doctors in the public service (Code Blue, 25th December 2024; Planning Division MOH, 2024). The hospitals under the Ministry of Health Malaysia which has junior doctors in Kuala Lumpur is Hospital Kuala Lumpur, and in Selangor are Hospital Shah Alam, Hospital Ampang,

Hospital Selayang, Hospital Sungai Buloh, Hospital Tengku Ampuan Rahimah, Hospital

Sultan Idris Shah Serdang, and Hospital Kajang (Planning Division of Ministry of Health Malaysia, 2024). In a statistic done by the Planning Division of Ministry of Health Malaysia in 2024, there were 67,813 doctors practising in the public hospitals across Malaysia. These numbers consist of specialist, senior and junior medical officers, contract medical officers and house officers. As of 31st December 2023, the Ministry of Health Malaysia had 6,357 house officers, which are a part of the junior doctors which will be considered in this study. The total number of medical officers in contract scheme practising in the Malaysian public hospitals as of 31st December 2023 were 32,813 (Planning Division MOH, 2024; Code Blue, 25th March 2024).

Meanwhile, the population in the Klang Valley, which consists of Selangor and Kuala Lumpur is around 9 million, out of the 34.1 million population of Malaysia (Department of Statistics Malaysia, 2024). Therefore, that's the reason why there are more tertiary hospitals in the state of Kuala Lumpur and Selangor, compared to any other states in Malaysia, thus making large numbers of house officers and a huge number of doctors in these hospitals (The Star, 2nd July 2024; Planning Division MOH, 2025). Based on these selection criteria, the hospitals in these two states were decided upon. The Table 3.4 below shows the total number of tertiary and teaching public hospitals in all the states in Malaysia. It is important to identify the states with the highest number of tertiary hospitals as these hospitals accommodates the highest number of doctors, which includes junior contract doctors, also a training ground for house officers, which will be ideal for sample selection.

Table 3.4 List of Public Hospitals offering Houseman-ship Training and Teaching Hospitals in Malaysia by State (Source: Ministry of Health Malaysia Health Indicators 2024; Medical Development Division, Ministry of Health Malaysia, 2025).

State	Number of MOH Hospitals	Number of Non-MOH Hospitals	Total Number of Training Hospitals
Johor	6	0	6
Kedah	4	0	4
Kelantan	3	1	4
Malacca	1	0	1

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Negeri Sembilan	2	0	2
Pahang	3	0	3
Penang	2	0	2
Perak	4	0	4
Perlis	1	0	1
Sabah	4	0	4
Sarawak	4	0	4
Selangor	7	0	7
Terengganu	2	0	2
Wilayah Persekutuan Kuala Lumpur & Putrajaya	2	3	5
Total	45	4	49

The amount of sample size that will be required to generalize the entire population is utmost important. This is to prevent or reduce the possibilities of any error occurring in generalizing the findings to represent the entire population (Zhang, Bengio, Hardt, Recht & Vinyals, 2021). Therefore, an adequate representative of the statistical sample of the entire population will be needed, to get a conclusion which will represent the entire population. This process of determining the sample size has been simplified by Krejcie & Morgan (1970) by providing a formula. However, it has been further simplified by Krejcie & Morgan (1970) by creating a table to determine the sample size required (Krejcie & Morgan, 1970; Bukhari, 2021). As of
31st December 2023, there were 67,813 doctors practising in the public hospitals across Malaysia, which includes specialist, senior and junior medical officers, contract medical officers and house officers. There were 6,357 house officers and 32,813 medical officers in the contract scheme, totalling to 39,170, which are a part of the junior doctors working for less than 5 years which will be considered in this study. According to the Krejcie & Morgan (1970) table, the number of sample population needed for population of 30,000 to 40,000 will be between 379 to 380 samples. Therefore, a sample size of at least 380 respondents will be collected to reach to a conclusion to generalise the entire population of the junior doctors in the public sector in Malaysia.
Subsequently, the questionnaires will be sent to the junior doctors working the various departments in the tertiary hospitals in the states of Kuala Lumpur and Selangor through the
WhatsApp messaging application, which will be Hospital Kuala Lumpur, Hospital Shah Alam,
Hospital Ampang, Hospital Selayang, Hospital Sungai Buloh, Hospital Tengku Ampuan Rahimah Klang, Hospital Sultan Idris Shah Serdang, and Hospital Kajang. The list of the junior doctors working in various departments that accommodate these doctors will be obtained from the human resource unit of the 8 hospitals in Kuala Lumpur and Selangor as listed above. Junior doctors will be selected in 6 departments in these hospitals which accommodate junior doctors.
These departments are the Department of General Surgery, Accident and Emergency, Orthopaedics, Obstetrics and Gynaecology, General Medical and Paediatrics.
There are 13 of the MOH Hospitals in Selangor (Dewan Negeri Selangor, 2025). However, out of the 13 MOH hospitals in Selangor, there are 7 hospitals listed below that accommodates junior medical officers and house officers (Medical Development Division, Ministry of Health Malaysia, 2025). The official bed count of these hospitals is stated, where a ratio of 1 doctor to
2 hospital beds are driven from the national target of 2.08 beds per 1000 population (Bernama,
2021) and 1:400 doctor to patient ratio to gauge the number of doctors in these hospitals (Dewan Negeri Selangor, 2025). These hospitals have 3100 doctors of various ranks from specialists, medical officers, contract doctors to house-officers. Hospital Kuala Lumpur meanwhile has a workforce of doctors from various ranks at 1600 personnels (Hospital Kuala
Lumpur, 2024). This makes the total number of doctors in these 8 hospitals at 4700.

Table 3.5 Number of Beds and the number of doctors in the MOH Hospitals that accommodates Houseman-ship training in Selangor and Kuala Lumpur (Source: Hospital Kuala Lumpur, 2024; Dewan Negeri Selangor, 2025; Medical Development Division, Ministry of Health Malaysia, 2025)

Name of Hospital	Number of Beds	Number of Doctors
Hospital Kuala Lumpur	2,300	1600
Hospital Shah Alam	490	250
Hospital Ampang	703	350
Hospital Selayang	966	450
Hospital Sungai Buloh	1,053	500
Hospital Tengku Ampuan Rahimah Klang	1,261	800

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Hospital Serdang	1,063	500
Hospital Kajang	438	250
Total	8,274	4700

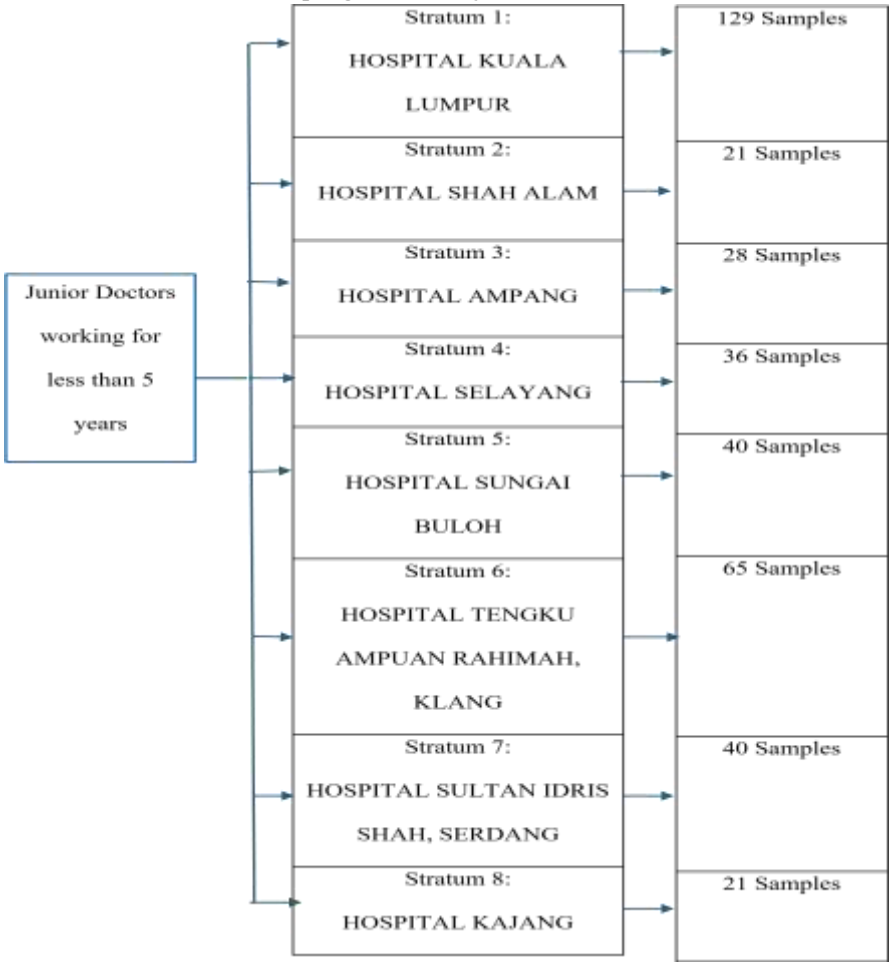
Therefore, the sampling frame for this study will be the 4700 doctors working in the Klang Valley, consisting of the MOH Hospitals in the state of Kuala Lumpur and Selangor. The inclusion criteria will be all the doctors that have been working for less than 5 years in the 6 departments stated above, in the 8 tertiary public hospitals in the Klang Valley. The exclusion criteria meanwhile will be the doctors who have been working for more than 5 years in the public service, currently in the permanent employment scheme and not from the hospitals or departments stated above. There will be a total of 8 stratums. These 8 stratums will represent Hospital Kuala Lumpur, Hospital Shah Alam, Hospital Ampang, Hospital Selayang, Hospital Sungai Buloh, Hospital Tengku Ampuan Rahimah Klang, Hospital Sultan Idris Shah Serdang, and Hospital Kajang.
For the number of samples that will be collected from each of the stratum, the Proportional Allocation Formula will be used to derive the proportional size of the population of doctors in each stratum. Based on the Krejcie & Morgan table, the number of sample population needed for population of 30,000 to 40,000 will be between 379 to 380 samples (Bukhari, 2021).
Therefore, a sample size of at least 380 respondents will be collected.

Table 3.6 The Proportional Allocation Formula (Source: Barnabas & Sunday, 2014)

$$n_h\ (\text{Sample Size for a Stratum}) = \frac{N_h\ (\text{Population size in the Stratum})}{N\ (\text{Total Population Size})} \times \text{Total Sample Size}$$

N: The total population size here is 4700.
The total sample size is 380, based on the Krejcie & Morgan table (Bukhari, 2021)
Nh: The population size in the stratum will be the number of doctors in each of the 8 hospitals listed above.

Table 3.7 Detailed steps in the Stratified Random Sampling in this study.



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To make sure that the respondents are aware of the purpose of this study, a brief introduction of the intention of this study and the data privacy care will be given to the respondents at the initial part of the questionnaire form. This step will also help to instil trust amongst the respondents, as their individual information and preferences are collected for this study. These will lead to a more thoughtful and supportive response from the respondents as they will have the feeling of belongingness to the study, as their response will be considered to represent the entire population of the junior doctors in Malaysia.

3.8 Data Analysis

Data analysis is the process of evaluating the data that have been collected through the sampling tools, by systematically applying statistical and logical techniques to best elaborate the findings. In data analysis, the data will be examined, filtered, adapted, and analysed to help solve the problem that is intended to be resolved (Islam, 2020). In this process, the reasoning to the data is applied to understand the data that have been collected (Taherdoost, 2021). This process is important as it will allow us to understand our target group and the decision that they have made, as the data will result in consistent patterns which allows us to summarise the details of the research. There are many choices of software that are available for researchers to choose from in order to perform the statistical analysis. These softwares are Statistical Package for Social Sciences (SPSS), SMART Structural Equation Modelling (SmartPLS), SAS, Amos, Warp Partial Least Square (WarpPLS), and Minitab. SPSS, SmartPLS and WarpPLS have shown to be powerful tools to explore and quickly analyse large number of variables and data, to predict multiple outcome variables (Purwanto, Asbari, Santoso, Haque & Nurjaya, 2020).

In this research, a descriptive analysis will be conducted first using the SPSS software. This analysis will allow the analysis of the respondent's demographics such as the gender, age, race, hometown state, hospital state of practice, and marital status. Descriptive analysis of these demographic data will allow the use of the respondent's historical and current data to identify their relationships and trends (Pallant, 2020). Descriptive analysis will also allow the collected data to be reconstructed to depict the basic characteristics of the data like the central tendency, variability, and distribution (Alabi &Bukola, 2023). Since scale measurement is used in the demographic part of the questionnaire, this will allow the descriptive analysis to study the frequency, standard deviation, central tendency, and also data cleaning.

Following the first analysis, the second analysis will be carried out. The second analysis will be used to measure the variables involved in this research. This analysis will utilise the partial least square structural equation modelling programme (PLS-SEM), using the SmartPLS software. In general, the SPSS software is useful for data screening, data cleaning and descriptive analysis, whereas the SmartPLS software is useful in identifying the validity and reliability, also testing the hypothesis (Sukri & Yusoff, 2021). The SmartPLS software is widely used in various research fields, as it provides a user-friendly interface, its demonstrated robustness, and the ability for applicability of the model in the areas that are being researched (Cheah, Magno & Cassia, 2024). The SmartPLS is useful in analysis of data, to test the models and measurements of the research, also to examine the relationships between the various constructs in research models, testing of the theory and has the ability to test all variables simultaneously (Gorai, Kumar & Angadi, 2024).

3.8.1 Descriptive Analysis

The descriptive analysis is one of the most important part of data analysis. The descriptive analysis will collect the data that will well describe the topic of interest and its characteristics (Doyle, McCabe, Keogh, Brady & McCann, 2020). It will also help to reach to a conclusion on the data distribution and helps in detecting and eliminating errors in the research (Mezmir,
2020). Since this research is a quantitative study, the data that will be collected will include demographic information, therefore this data will be analysed to examine its basic characteristics, which includes the distribution, central tendency, and variability. Following analysation, the data will be summarised and described by means, modes, medians, frequencies, standard deviations (SD), and ranges (Cooksey, 2020). The Table 3.7 below summarizes the terms and meanings for the different descriptive statistics.

Table 3.8 List of Descriptive Statistics (Adapted from: Kaur, Stoltzfus & Yellapu, 2018).

Measures of Central Tendency	
Mean	This measurement will be used to evaluate the average, which is the sum of the set of data divided by the total number of data available.
Median	This will be utilised to evaluate the middle value of the range of thedata when arranged in numerical order.
Mode	This measurement will be used to evaluate the most frequently occurring value or observation.
Measures of Dispersion	
Range	This range will be used to find the minimum and maximum values of the range of data.
Variance	This will be used to measure the distance amongst each of the variables from the mean in the set of data.
Standard Deviation (SD)	This method will be utilised for measurement of variation of the data concerning the mean, as it measures the spread of the data from the mean. It will be useful to compare different sets of data that have the same mean however with a different rage of data.
Other Measures	

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Percentages	This number will be used to expresses a portion out of the whole finding. Therefore, it will be used to present the finding; will also be useful in comparing the results of other studies.
Frequency Distributions	This measurement will be utilised to illustrate how the various values of a variable are distributed together with their correlated frequencies.
Ratios	This scale will be used to compare one value with another, for example comparing the differences or intervals between two values.

3.8.2 Reliability and Validity

According to Classical Test Theory, the scores that are collected using any measuring instruments consist of both the true score and the error, where the true score is the score, one gets if the measurement instruments are absolutely accurate (Brown, 2021). Reliability is the affirmation on how consistent the method is applied to measure something (Hayes & Coutts, 2020). It will help to determine to which extend is the instrument used is free of errors, for it to be considered as stable and consistent to be used for the various items in the scale all through the analysis (O'Connor & Joffe, 2020). Therefore, it is important to check for the reliability of the measurement instruments to reduce the occurrence of errors during measurement, to produce a high-quality result. For this study, following the development of the questionnaire, it will undergo the pilot test to test its reliability. The correlation between the first and second testing is important to be indicated.

Validity meanwhile is the representation of truthfulness of the measurement accuracy of a score in order to represent the concept (Schaufeli, Desart & De Witte, 2020). Validity is important to make sure the accuracy of the measurement, therefore showing the relationship between the test and what it is supposed to measure in a study. The common types of validity approach available are face validity, construct validity, content validity, and criterion validity (Roy, Sukumar, Philip & Gopalakrishna, 2023). The face validity is the most basic validity, however it also the most subjective approach (Tuit, 2022). It is the subjective agreement between professionals on the scale reflecting the concept that is being measured (Antunes, de Sousa Junior & Vaz, 2023). The construct validity meanwhile is to assess whether the measurement tool suitable in measuring the construct like its intended to (Tavakol & Wetzel, 2020). The content validity aids in evaluating the effectiveness of the test instrument in covering every aspect of the construct which is purports to measure. In the contrary, the criterion validity evaluates the practicality of the measurement tool, as it compares the test results with the outcome of the test, therefore it also correlates the results of the test with any other criterion of assessment in the study (Shafie, Majid, Hoon & Damio, 2021).

For this study, the questionnaire developed will be validated by two different parties, through two different validation approaches. The validity will be done by the respondents in the pilot study, which represent the intended respondents, to assess and evaluate their level of understanding and indicating the probable error or unclear questions in the measurement instrument. The second validity will be done by professionals in the field of research or the education industry, who will be able to validate and suggest on whether the questions in the measurement instrument represents the variables accordingly.

A software which enables analysis of the both the reliability and validity of the data that has been collected will be the SmartPLS. The SmartPLS is a tool designed to perform statistical analysis, namely the Partial Least Square-Structural Equation Model (Purwanto & Sudargini, 2021). The SmartPLS is a second generation of structural equation model tool which is a variance-based model, where it calculates and tests the models in a study (Cheah, Magno & Cassia, 2024). In a structural equation modelling, there are two types of measuring scales, which are the reflective and the formative scales. The reflective scale has the existing construct being independent of the measures used, therefore allowing them to be highly correlated, interchangeable, and being reflective (Hanafiah, 2020). The formative scale meanwhile has the indicators influence the construct; therefore, the construct is derived by this measurement and the indicators cause the variables being not interchangeable (Hair et. al., 2021). Table 3.8 below summarises the reliability and validity evaluation, adapted from Wong, 2013.

Table 3.9 Reliability and Validity Evaluation (Adapted from Wong, 2013).

Items to evaluate	**Description in SmartPLS**	**Method to access the report**	**Result of analysis**
	Reliability		
Indicator Reliability	'Outer loadings' numbers	PLS →Calculation Results → Outer Loadings	Square each of the 'outer loadings' to find the indicator reliability value. A result of 0.70 or higher is preferred.
Internal Consistency Reliability	'Reliability' numbers	PLS →Quality Criteria →Overview	Composite reliability should be 0.7 or higher.
	Validity		

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Convergent Validity	'AVE' numbers	PLS →Quality Criteria →Overview	Result should be 0.5 or higher.
Discriminant Validity	'AVE' numbers and Latent Variable Correlations	PLS →Quality Criteria →Overview (for the 'AVE' number) PLS →Quality Criteria →Latent Variable Correlations	'Square root' of AVE of each latent variable should be greater than the correlations among the latent variables.

Referring to Table 3.8 above, the first item the be analysed is the 'Indicator Reliability'. The 'Indicator Reliability' is analysed to make sure the indicators have the reliability value larger than the acceptable level (Hair, Howard & Nitzl, 2020). The 'Internal Consistency Reliability' meanwhile is used to reflect the extend of items in the construct that are homogenous, also to make sure that the items are present as a set in the construct (Revicki, 2024). Meanwhile, for the validity of the items, 'Convergent Validity' is produced when the correlation score between two instruments that measures the same concept is high (Chin & Yao, 2024). The 'Discriminant Validity' meanwhile is generated when there is a prediction of two variables being uncorrelated with the measure of a different construct (Lim, 2024).

3.8.3 Inferential Statistics for Mediating Variables

The inferential statistics allows researchers to utilize the statistical techniques to generate information from the sample size in a study, to predict and draw inferences or conclusions regarding the entire population that the sample group represents (Hopkins, 2020). Statistical significance will signify that the statistical relationship between the variables or the finding from the statistical analysis is true, reliable, and not in existence because of due chance (Meeker, Escobar & Pascual, 2021). The significance value, also called the p-value, which is acceptable to indicate a statistical significance is often expressed as 0.01 or 0.05 (Leo & Sardanelli, 2020). This significant p-value will indicate that the data observed demonstrates concrete evidence against the statistical hypothesis (Turner, Parmar, Jovanovski & Hearne, 2021).

The SmartPLS can be used to build the inner model, which will be based on the conceptual framework of the research. The first step will be uploading the data collected from the respondents, also known as importing the data into the SmartPLS software (Kumar, Syan & Kaur, 2022). The initial analysis will generate the correlations between the latent variables towards the indicators of the outer model, giving a better understanding to the researcher

(Purwanto & Sudargini, 2021). Following that, the T-statistics will be generated by the SmartPLS, which will allow significance testing of the inner and outer models. This process of significance testing is also called the bootstrapping, where the mediating effects of the variables in the conceptual framework are tested to comprehend their mediation, which may be full, partial or no mediation (Alfons, Ates & Groenen, 2022). Bootstrapping accepted level for statistic generated should be more than 1.96 (Mokhtar, Yusof & Sapiri, 2023). There is information which need to be fulfilled in the Bootstrapping process to conduct the structural path significance analysing. The information required are as below: -

i. Sign change: no change of sign
ii. Cases: 400 (the minimum number of respondents for a research)
iii. Samples: 5,000 (the standard sample number for bootstrapping)

Following the steps to determine the significance of the indirect effects and the mediation magnitude, the researcher will then need to identify the study's type of effect or known as mediation. The types of mediation are summarised below in Table 3.9 (adapted from Baron & Kenny, 1986).

Table 3.10 Types of Mediation (adapted from Baron & Kenny, 1986)

Type of Mediation	Definition
Full Mediation	This mediation will illustrate the effect on one variables 'X' on another variable 'Y', whether is completely mediated or transferred through the assistance of another variable 'Z'.
Partial Mediation	This effect will be seen when there is no significant relationship between the mediating variable and the dependent variable, but at the same time there will be a direct relationship between the independent and dependent variable. Here, the intermediate variable will reduce the extent of the relationship of the independent and dependent variables.
No Mediation	This effect will be seen when there is no significant indirect effect or no effect at all, with both direct and indirect effect.

The next approach in the analysis of the collected data will be the Variance Accounted For value, or the VAF. This approach calculates the ratio of the indirect-to-total effect (Cheng, Sun, Yao, Xu & Cao, 2022). The VAF describes the magnitude of the effect of the indirect relationship of the mediating variables (Yang & Liu, 2023). As reaffirming, there are the total effects to rectify the outcome from the Bootstrapping process on the mediating variables. The total effects consist of the Mean, STDEV and the T-Values). The Variance Accounted For and identification of the different types of mediation are summarised in Table 3.10 (adapted from

Baron & Kenny, 1986).

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Table 3.11 The Variance Accounted For (VAF) and Identification of Mediation (adapted from Baron & Kenny, 1986)

Variance Accounted For (VAF)	Type of Mediation
More than 80%	Full Mediation
Between 20% to 80%	Partial Mediation
Less than 20%	No Mediation

3.9 Chapter conclusion

As conclusion, this chapter had discussed the multiple research methods that will be used for this research. The objective for this chapter is to better understand the determinants of job satisfaction and the turnover intention of the junior doctors working in the Ministry of Health Malaysia hospitals. This research will use the quantitative research method to analyse the data collected to examine the relationship between the variables and the mediator. This research too will be using the causal and descriptive research design to analyse the variables. In this chapter too, we have discussed about the sample size for this research, based on the Krejcie and Morgan (1970) framework, which will be 380 respondents. These respondents will be the junior doctors which have been working for less than 5 years from the tertiary hospitals in the Ministry of Health Malaysia hospitals in Kuala Lumpur and Selangor, which will be participating in the questionnaire survey. The questionnaire survey will have two parts, consisting of the demographic part, followed with the job satisfaction determinants and turnover intention part. Also, this research will abide to the research ethics, therefore upholding the integrity of the research. The reliability and validity of this research will be monitored extensively by maintaining its integrity. Finally, the data collected will be analysed systematically using the SPSS analysis tool for the descriptive analysis and the SmartPLS analysis tools for the inferential analysis, to generate the inferences about the population studied.

REFERENCES

1) Ab Hamid, J., Juni, M. H., Abdul Manaf, R., Syed Ismail, S. N., & Lim, P. Y. (2023). Spatial accessibility of primary care in the dual public–private health system in rural areas, Malaysia. *International Journal of Environmental Research and Public Health*, *20*(4), 3147
2) Abbas, M., Malik, M., & Sarwat, N. (2021). Consequences of job insecurity for hospitality workers amid COVID-19 pandemic: does social support help?. *Journal of Hospitality Marketing & Management*, *30*(8), 957-981.
3) Abbate, J., Adair, C., Dame-Griff, A., Edwards, A., Fortunati, L., Larsen, D., ... & Schafer, V. (2024). Researching gender in the history of the Internet and the Web. A roundtable at the SHOT 2023 conference. *Internet Histories*, 1-13.
4) Abdou, A. H., Khalil, A. A. F., Mahmoud, H. M. E., Elsaied, M. A., & Elsaed, A. A. (2022). The impact of hospitality work environment on employees' turnover intentions During COVID-19 Pandemic: The mediating role of work-family conflict. *Frontiers in Psychology*, *13*, 890418.
5) Abdullah, Z., Lan, L. L., Ab Rahim, I., Azam, S., Johari, M. Z., & Nasir, N. H. (2020). Exploring Communication Processes in Referral Pathways for Chronic Disease Management: Malaysian Public Primary Health care Experiences. *Global Journal of Health Science*, *12*(13), 115-115
6) Abu Samah, N. A., Zakaria, R., Hussein, N., Abg Abdullah, D. N. M., Dahalan, N. A., & Mohamed, S. (2023). Work-family conflict, family-work conflict and job satisfaction: A study of female employees in commercial banking industry in Klang Valley. *Advances in Business Research International Journal*, *9*(3), 21–32. Retrieved from https://journal.uitm.edu.my/ojs/index.php/Abrij/article/view/4335
7) Abugre, J. B., & Acquaah, M. (2022). A contextual study of co-worker relationship and turnover intentions: the mediating role of employee cynicism. *African Journal of Economic and Management Studies*, *13*(2), 219-235.
8) Abuladze, L., & Skorková, Z. (2021). Human resource management department development and its organizational structures. In *SHS Web of Conferences* (Vol. 115, p. 03001). EDP Sciences.
9) Aburumman, O., Salleh, A., Omar, K., & Abadi, M. (2020). The impact of human resource management practices and career satisfaction on employee's turnover intention. *Management Science Letters*, *10*(3), 641-652.
10) Academy of Medicine of Malaysia. (2023, June 14). *Health White Paper: Specialists' role in strengthening primary care*. CodeBlue. Retrieved from: https://codeblue.galencentre.org/2023/06/14/health-white-paper-specialists-role-instrengthening-primary-care-amm/
11) Academy of Medicine of Malaysia. (2024, January 30). Strengthening partnerships to unify specialist training in Malaysia. Retrieved May 11, 2025, from: https://www.acadmed.org.my/newsmaster.cfm?action=view&menuid=174&retrieveid=188
12) Ackah, D., Addo, S. K., & Yornu, I. K. (2025). Analysing the Connection Between Motivation, Compensation, and Employee Job Satisfaction. *Dama Academic Scholarly Journal of Researchers*, *10*(1), 01-31.
13) Acoba, E. F. (2024). Social support and mental health: the mediating role of perceived stress. *Frontiers in Psychology*, *15*, 1330720.
14) Afrin, S., Asyraf Bin Mohd Kassim, M., Yusof, M. F., Hassan, M. S., Islam, M. A., & Khairuddin, K. N. B. (2023). Investigating the determinants of employee performance for sustainability: a study on the Bangladesh insurance industry. *Sustainability*, *15*(7), 5674.
15) Ahmad Saufi, R., Aidara, S., Che Nawi, N., Permarupan, P. Y., Zainol, N. R., & Kakar, A. S. (2023). Turnover intention and its antecedents: The mediating role of work–life balance and the moderating role of job opportunity. *Frontiers in Psychology*, *14*, 1137945. https://doi.org/10.3389/fpsyg.2023.1137945
16) Ahmad, R., Nawaz, M. R., Ishaq, M. I., Khan, M. M., & Ashraf, H. A. (2023). *Social exchange theory: Systematic review and future directions*. Frontiers in Psychology, 13, 1015921. https://doi.org/10.3389/fpsyg.2022.1015921

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17) Ahmedy, F., Yin, K. N., Shah, S. S., SINGH, S. K. D., Amat, N. A. F., Francis, F. A., ... & Kabir, M. F. (2025). Collaborative capacity building for strengthening rehabilitation services in Sabah, Malaysia: a partnership between university hospital and state health department. *Journal of Rehabilitation Medicine*, *57*, 40166.
18) Aithal, A., & Aithal, P. S. (2020). Development and validation of survey questionnaire & experimental data–a systematical review-based statistical approach. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *5*(2), 233-251.
19) Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T
20) Akinrolie, O., Okoh, A. C., & Kalu, M. E. (2020). Intergenerational support between older adults and adult children in Nigeria: The role of reciprocity. *Journal of Gerontological Social Work, 63*(5), 478-498.
21) Al Balushi, A. K., Thumiki, V. R. R., Nawaz, N., Jurcic, A., & Gajenderan, V. (2022). Role of organizational commitment in career growth and turnover intention in the public sector of Oman. *PLOS ONE, 17*(5), e0265535. https://doi.org/10.1371/journal.pone.0265535
22) Alabi, O., & Bukola, T. (2023). Introduction to Descriptive statistics. In *Recent Advances in Biostatistics*. IntechOpen. Alcover, C. M., Salgado, S., Nazar, G., Ramírez-Vielma, R., & González-Suhr, C. (2022). Job insecurity, financial threat, and mental health in the COVID-19 context: the moderating role of the support network. *Sage Open*, *12*(3), 21582440221121048.
23) Alfons, A., Ateş, N. Y., & Groenen, P. J. (2022). A robust bootstrap test for mediation analysis. *Organizational Research Methods*, *25*(3), 591-617.
24) Ali, M. (2023). Applications of Research Designs in IS Research. In *Information Systems Research: Foundations, Design and Theory* (pp. 35-51). Cham: Springer International Publishing.
25) Alkhraishi, M. Y., Eivazzadeh, N., & Yeşiltaş, M. (2023). The impact of burnout on turnover intention among nurses: The mediating role of job satisfaction. *Hacettepe Sağlık İdaresi Dergisi*, *26*(1), 1-28.
26) Allanson, P. E., & Notar, C. E. (2020). Statistics as measurement: 4 scales/levels of measurement. *Education Quarterly Reviews*, *3*(3).
27) Allen, D. G., & Vardaman, J. M. (2021). Global talent retention: Understanding employee turnover around the world. In *Global talent retention: understanding employee turnover around the world* (pp. 1-15). Emerald Publishing Limited.
28) Allen, T. D., French, K. A., Dumani, S., & Shockley, K. M. (2020). A cross-national metaanalytic examination of predictors and outcomes associated with work–family conflict. *Journal of Applied Psychology*, *105*(6), 539.
29) Al-Mosawi, A. J. (2022). Principles of training and development for physicians. *International Journal of Genetics and Genomic Science*, 1(1), 1–4. https://doi.org/10.58489/2836-2306/003
30) Alnowibet, K., Abduljabbar, A., Ahmad, S., Alqasem, L., Alrajeh, N., Guiso, L., ... & Varanasi, M. (2021, July). Healthcare human resources: trends and demand in Saudi Arabia. In *Healthcare* (Vol. 9, No. 08, p. 955). MDPI.
31) Alqahtani, M. (2024). Person-organization fit and organizational commitment: Mediating role between performance appraisal effectiveness and employee turnover intention. *International Journal of Hospitality Management*, *107*, 103276.
32) Alrawahi, Y. K., Sellgren, S. F., Altouby, S., & Brommels, M. (2020). *Application of Herzberg's two-factor theory of motivation to job satisfaction in clinical laboratories in Oman*. *Heliyon, 6*(9), e04829. https://doi.org/10.1016/j.heliyon.2020.e04829
33) Alshmemri, M., Shahwan-Akl, L., & Maude, P. (2017). Herzberg's two-factor theory. *Life Science Journal*, *14*(5), 12–16. https://doi.org/10.7537/marslsj140517.03
34) Alshraa, A., Manaf, R. A., & Mahmud, A. (2024). Factors affecting the quality of training and development provided to non-physician healthcare professionals: a scoping review. *Journal of Hospital Management and Health Policy*, *8*.
35) Alshumaymiri, F. A., Al-Mutairi, H. Z., Al-Mutairi, G. Z., Hamdi, S. A., & Saleh, B. A. S. A. S. (2024). ROLES OF MEDICAL STAFF IN DIFFERENT SPECIALTIES IN SERVING AND HELPING PATIENTS. *Tec Empresarial*, *6*(2), 595-612.
36) Al-Worafi, Y. M. (2023). Quality of Tertiary Healthcare Services in Developing Countries: Status and Future Recommendations. In *Handbook of Medical and Health Sciences in Developing Countries: Education, Practice, and Research* (pp. 1-27). Cham: Springer International Publishing
37) Aman-Ullah, A., Aziz, A., Ibrahim, H., Mehmood, W., & Abdullah Abbas, Y. (2022). The impact of job security, job satisfaction, and job embeddedness on employee retention: An empirical investigation of Pakistan's health-care industry. *Journal of Asia Business Studies*, 16(6), 904–922. https://doi.org/10.1108/JABS-12-2020-0480:contentReference[oaicite:10]{index=10}
38) Ambrose, M. L., & Ganegoda, D. B. (2020). Abusive according to whom? Manager and subordinate perceptions of abusive supervision and supervisors' performance. *Journal of Organizational Behavior*, *41*(8), 737-756.
39) Ampofo, E. T., & Karatepe, O. M. (2022). The effects of on-the-job embeddedness and its subdimensions on small-sized hotel employees' organizational commitment, work engagement and turnover intentions. *International Journal of Contemporary Hospitality Management*, *34*(2), 509-533.
40) Amran, A., Aminuddin, A. S., Aminuddin, H., & Zakaria, I. (2021). A study on organizational commitment and job satisfaction among employees at selected government agencies in Kelantan. *Advances in Business Research International Journal*, *7*(2), 20-26.
41) Amri, F. (2023). *PENGARUH JOB STRESS, JOB INSECURITY, DAN BURNOUT TERHADAP TURNOVER INTENTION PADA PT ANUGRAH YADEN UTAMA BOGOR* (Doctoral dissertation, Universitas Djuanda Bogor).
42) anak Stephen, S. G., Wider, W., & Thomas, H. (2022). THE ROLE OF SUPPORT SYSTEMS TOWARDS EMPLOYEE RESILIENCE: THE CASE OF PRIVATE EDUCATORS IN KOTA KINABALU, SABAH. *Journal of BIMP-EAGA Regional Development*, *8*(1), 36-44.
43) Andawari, C., Zahari, M., & Hapsara, O. (2024). The influence of workload and work environment on turnover intention through motivation in PT. Jambi Planning Commerce. *Dinasti International Journal of Education Management and Social Science*, 6(1), 123–136. https://doi.org/10.38035/dijemss.v6i1.3255

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44) Andrade, C. (2020). Sample size and its importance in research. *Indian journal of psychological medicine*, *42*(1), 102-103.
45) Angraini, S., Puspitawati, H., & Muflikhati, I. (2024). Gender of Roles, Family Interaction, and Family Well-being in Single-Earner and Dual-Earner Families. *Journal of Family Sciences*, *9*(2), 151-168.
46) Antunes, A. A. M., de Sousa Junior, R. R., & Vaz, D. V. (2023). Measuring subjective aspects of participation in adults with disabilities: A systematic review of the coverage, content validity and internal structure of standardised instruments. *Clinical Rehabilitation*, *37*(2), 177-198.
47) Ar, M. N. A., & Sharifa Ezat, W. P. (2020). Physician's intention to leave from Malaysia government hospitals with existing retention strategy. *J Public Health Policy Plann April 2020; 4 (3): 30-37 31 J Public Health Policy Plann 2020 Volume 4 Issue*, *3*, 5-7.
48) Aremu, M. O. (2020). Human capital management practices and employees' job performance in Oyo State, Nigeria. *Editorial board*, *337*.
49) Armstrong, M., & Taylor, S. (2023). *Armstrong's handbook of human resource management practice: A guide to the theory and practice of people management*. Kogan Page Publishers.
50) Asfahani, A. M. (2022). The impact of role conflict on turnover intention among faculty members: a moderated mediation model of emotional exhaustion and workplace relational conflict. *Frontiers in Psychology*, *13*, 1087947.
51) Aslan, I., Ochnik, D., & Çınar, O. (2020). Exploring perceived stress among students in Turkey during the COVID-19 pandemic. *International journal of environmental research and public health*, *17*(23), 8961.
52) Association for Talent Development. (2025). *What is employee training and development?* In *Talent development glossary terms*. Retrieved July 13, 2025, from https://www.td.org/talent-development-glossary-terms/what-is-employee-training-anddevelopment
53) Astro Awani. (2023, July 10). *Contract doctors given permanent positions urged to accept assigned placements* [News article]. Astro Awani International. Retrieved from https://international.astroawani.com/malaysia-news/contract-doctors-givenpermanent-positions-urged-accept-assigned-placements-427496?utm
54) Atkinson, J. W., & Peijnenburg, T. (2010). *Motivational determinants of achievement-related behavior*. Springer Science & Business Media.
55) Awalluddin, M. A. (2020). Cross-Cultural Issues and Human Resources Management in BRIC Countries. *Journal of Applied Economics & Business Studies (JAEBS)*, *4*(3).
56) Awwad, M. S., & Heyari, H. I. (2022). Predicting employee turnover using financial indicators in the pharmaceutical industry. *Industrial and Commercial Training*, *54*(3), 476-496
57) Azim, M. T., & Al-Halawani, F. M. J. (2020). Perceived non-work social support and employee engagement: the mediating role of self-efficacy. *Middle East Journal of Management*, *7*(2), 166-184.
58) Aziz, A., & Khan, N. (2020). The potential uses of pilot study in qualitative research. *Journal of Research & Reviews in Social Sciences Pakistan*, *3*(1), 750-767.
59) Bae, S. H., Cho, M., Kim, O., Pang, Y., Cha, C., Jung, H., ... & Jeong, H. (2021). Predictors of actual turnover among nurses working in Korean hospitals: A nationwide longitudinal survey study. *Journal of Nursing Management*, *29*(7), 2102-2114.
60) Bahari, A. I. L., Nadlifatin, R., & Anshori, M. Y. (2024). Analysis of turnover intention factors using the partial least square structural equation modeling (SEM-PLS) method. *Business and Finance Journal*, *9*(2). https://doi.org/10.33086/bfj.v9i2.6365
61) Bahari, M. S., Aminuddin, F., Raman, S., Hanafiah, A. N. M., Kunusagaran, M. S. J. M. N. S., Zaimi, N. A., Hassan, N. Z. A. M., & Mohamad Nor, A. T. (2022). Analysis of costs and utilization of ambulance services in the ministry of health facilities, Malaysia. *PloS one*, *17*(11), e0276632. https://doi.org/10.1371/journal.pone.0276632
62) Bajaba, S., Azim, M. T., & Uddin, M. A. (2022). Social support and employee turnover intention: The mediating role of work-family conflict. *Revistabrasileira de gestão de negócios*, *24*, 48-65.
63) Baker, M. (2024). *Public Sector Job Security and How It is Related to Employee Performance* (Doctoral dissertation, CALIFORNIA STATE UNIVERSITY, NORTHRIDGE).
64) Bakker, A. B., & De Vries, J. D. (2021). Job Demands–Resources theory and self-regulation: New explanations and remedies for job burnout. *Anxiety, stress, & coping*, *34*(1), 1-21.
65) Bakker, A. B., & Demerouti, E. (2024). Job demands–resources theory: Frequently asked questions. *Journal of Occupational Health Psychology*, *29*(3), 188.
66) Bakker, A. B., & Van Wingerden, J. (2021). Do personal resources and strengths use increase work engagement? The effects of a training intervention. *Journal of Occupational Health Psychology*, *26*(1), 20.
67) Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. (2023). Job demands–resources theory: Ten years later. *Annual review of organizational psychology and organizational behavior*, *10*(1), 25-53.
68) Bakker, A. B., Van Emmerik, H., & Van Riet, P. (2008). How job demands, resources, and burnout predict objective performance: A constructive replication. *Anxiety, Stress, & Coping*, *21*(3), 309-324
69) Ballesteros-Leiva, F., St-Onge, S., & Dufour, M. È. (2023). Furloughed Employees' Voluntary Turnover: The Role of Procedural Justice, Job Insecurity, and Job Embeddedness. *International Journal of Environmental Research and Public Health*, *20*(9), 5664.
70) Balz, A., & Schuller, K. (2021). Always looking for something better? The impact of job insecurity on turnover intentions: Do employables and irreplaceables react differently?. *Economic and Industrial Democracy*, *42*(1), 142-159.
71) Barnabas, A. F., & Sunday, A. O. (2014). Comparison of allocation procedures in a stratified random sampling of skewed populations under different distributions and sample sizes. *International Journal of Innovative Science, Engineering & Technology*, *1*(8), 218-225
72) Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, *51*(6), 1173.

License: This is an open access article under the CC BY 4.0 license: https://creativecommons.org/licenses/by/4.0/

73) Bashir, M., Wright, B. E., & Hassan, S. (2023). The interactive influence of public service motivation, perceived reward equity, and prosocial impact on employee engagement: a panel study in Pakistan. *Public Management Review*, *25*(7), 1213-1237.
74) Bassett-Jones, N. (2023). *Strategic human resource management: a systems approach*. Routledge.
75) Behrman, S., Baruch, N., & Stegen, G. (2020). Peer support for junior doctors: a positive outcome of the COVID-19 pandemic?. *Future healthcare journal*, *7*(3), e64–e66. https://doi.org/10.7861/fhj.2020-0069
76) Bejtkovsky, J., & Copca, N. (2020). The employer branding creation and HR marketing in selected healthcare service providers. *Management & Marketing-Challenges for the Knowledge Society*.
77) Berber, N., & Gasic, D. (2024). The mediating role of employee commitment in the relationship between compensation system and turnover intentions. *Employee Relations: The International Journal*, *46*(4), 721-755.
78) Berman, E. M., Bowman, J. S., West, J. P., & Van Wart, M. R. (2021). *Human resource management in public service: Paradoxes, processes, and problems*. Cq Press.
79) Bernama. (2021, September 14). *MOH targets hospital bed ratio of 2.08 to 1,000 residents by end of 12MP*. *Astro AWANI International*. Retrieved from https://international.astroawani.com/malaysia-news/moh-targets-hospital-bed-ratio-208-1000-residents-end-12mp-319674
80) Bernama. (2023, August 4). *Placement for permanent appointments: MOH receives 1,843 appeals*. Bernama. Retrieved from https://www.bernama.com/en/news.php?id=2213103
81) Bernhardt, J., & Bunning, M. (2022). The long arm of an unsupportive work-family culture in Work organizations: Crossover to the Partner's work-family balance satisfaction in dual-earner couples. *Applied Research in Quality of Life*, *17*(2), 723-750.
82) Bilal, M. A., Raza, M., & Khan, A. B. (2024). Leveraging Knowledge Management Processes to Enhance Employee Performance through Motivation: A Social Exchange Theory Perspective in Pakistani Healthcare Organizations. *Journal of Innovative Research in Management Sciences*, *5*(4), 25-47.
83) Binti Mohd Sabri, N. R., Binti Nikmat, A. W., Mohamed, S. B., & Abdullah, N. B. (2024). Psychological inflexibility and anxiety among house officers in a hospital in Selangor, Malaysia. *East Asian Archives of Psychiatry*, *34*(4), 128-133.
84) Blake, C., Rhanor, A., & Pajic, C. (2020). The demographics of citizen science participation and its implications for data quality and environmental justice. *Citizen Science: Theory and Practice*, *5*(1).
85) Blanco-Donoso, L. M., Moreno-Jiménez, J., Gallego-Alberto, L., Amutio, A., MorenoJiménez, B., & Garrosa, E. (2022). Satisfied as professionals, but also exhausted and worried!!: The role of job demands, resources and emotional experiences of Spanish nursing home workers during the COVID-19 pandemic. *Health & social care in the community*, *30*(1), e148-e160.
86) Blau, P. M. (1964). *Exchange and power in social life*. Wiley.
87) Bohle, S. L., Bal, P. M., Probst, T. M., Rofcanin, Y., & Medina, F. M. (2024). What do job insecure people do? Examining employee behaviors and their implications for wellbeing at a weekly basis. *Journal of Management & Organization*, *30*(5), 1304-1323.
88) Bolarinwa, O. A. (2020). Sample size estimation for health and social science researchers: The principles and considerations for different study designs. *Nigerian Postgraduate Medical Journal*, *27*(2), 67-75.
89) Boniol, M., McIsaac, M., & Xu, L. (2022). The global health workforce stock and distribution in 2020 and 2030: A threat to equity and 'universal' health coverage? *BMJ Global Health*, 7(4), e009316. https://doi.org/10.1136/bmjgh-2022-009316
90) Brown, J. D. (2021). Classical test theory. In *The Routledge Handbook of Language Testing* (pp. 447-461). Routledge.
91) Brox, E., & Lechner, M. (2024). Teamwork and spillover effects in performance evaluations. *arXiv*. https://arxiv.org/abs/2403.15200
92) Budhwar, Pawan, Ashish Malik, MT Thedushika De Silva, and Praveena Thevisuthan. "Artificial intelligence–challenges and opportunities for international HRM: a review and research agenda." *The InTernaTIonal Journal of human resource managemenT* 33, no. 6 (2022): 1065-1097.
93) Bukhari, S. A. R. (2021, February). *Sample size determination using Krejcie and Morgan table*.
94) Mohammad Ali Jinnah University. https://doi.org/10.13140/RG.2.2.11445.19687
95) Bundtzen, H. (2021). Adapting Herzberg's motivation-hygiene theory to a VUCA world–a repertory grid study. *European Journal of Economics and Business Studies*, *7*(1), 99115.
96) Buyukbeşe, T., Dikbaş, T., Asiltürk, A., & Çavuş, Ö. (2023). Herzberg's Two-Factor Theory and its impact on job satisfaction: A research on bank employees during the COVID19 period. *Karamanoğlu Mehmetbey Üniversitesi Sosyalve Ekonomik Araştırmalar Dergisi*, 25(45), 998–1013. https://dergipark.org.tr/tr/pub/kmusekad/issue/81697/1341830
97) Cambridge Dictionary. (2025). *Career advancement* [example sentence]. In *Cambridge English Dictionary*. Retrieved July 14, 2025, from https://dictionary.cambridge.org/example/english/career-advancement
98) Cambridge Dictionary. (2025). Employment security. In Cambridge English Dictionary. Retrieved July 14, 2025,from https://dictionary.cambridge.org/dictionary/english/employment-security
99) Cambridge Dictionary. (2025). *Remuneration*. In *Cambridge English Dictionary*. Cambridge University Press.Retrieved July 14, 2025, from https://dictionary.cambridge.org/dictionary/english/remuneration
100) Cambridge Dictionary. (2025). *Social disease*. In *Cambridge English Dictionary*. Cambridge University Press. Retrieved July 14, 2025,from https://dictionary.cambridge.org/dictionary/english/social-disease
101) Campos, J. D. S., & Campos, J. R. (2024). Modeling the Relationship Between Employee Conflict, Work Stress, and Turnover Intention in the Food-Service Industry.
102) Casteel, A., & Bridier, N. L. (2021). Describing populations and samples in doctoral student research. *International journal of doctoral studies*, *16*(1).

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103) Chaika, O. (2024). Bridging the gap: Traditional vs. modern education (a value-based approach for multiculturalism). In *Lifelong Learning-Education for the Future World*. IntechOpen.
104) Channawar, S. (2023). A Study on the Cause and Effect of Burnout. *History research journal*, *29*(6), 75-79.
105) Channel News Asia. (2024, September 16). Malaysian doctor found dead at home in Sabah was not bullied; work stress a 'major factor': Probe. Channel News Asia. Retrieved from https://www.channelnewsasia.com/asia/malaysia-sabah-doctor-tay-tien-yaadeath-workplace-stress-4891731
106) Chaudhary, M. K., Dhungana, M., Timilsina, J., & Dahal, A. (2025). Glass Ceiling Perception and Its Role in Women Employees TurnoverIntention in Insurance Industry. *International Research Journal of MMC (IRJMMC)*, *6*(1), 157-174.
107) Cheah, J. H., Magno, F., & Cassia, F. (2024). Reviewing the SmartPLS 4 software: the latest features and enhancements.
108) Chen, C., Qin, X., Johnson, R. E., Huang, M., Yang, M., & Liu, S. (2021). Entering an upward spiral: Investigating how and when supervisors' talking about abuse leads to subsequent abusive supervision. *Journal of Organizational Behavior*, *42*(3), 407-428.
109) Chen, Y., Xia, P., Liu, C., Ye, C., Zeng, Q., & Liang, B. (2024). A chain mediation model on organizational support and turnover intention among healthcare workers in Guangdong province, China. *Frontiers in Public Health*, *12*, 1391036.
110) Cheng, J., Sun, J., Yao, K., Xu, M., & Cao, Y. (2022). A variable selection method based on mutual information and variance inflation factor. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, *268*, 120652.
111) Cherian, J., Gaikar, V., Paul, R., & Pech, R. (2021). Corporate culture and its impact on employees' attitude, performance, productivity, and behavior: An investigative analysis from selected organizations of the United Arab Emirates (UAE). *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(1), 45.
112) Chien, G. S. (2020). *Distribution of Healthcare Resources in Peninsular Malaysia: An Examination of Equity with Respect to Geography and Allocative Processes* (Doctoral dissertation, University of Malaya (Malaysia))
113) Chigbundu, A., & Muda, H. B. (2022). Investigating the factors influencing turnover intentions in the Nigerian banking sector. *International Journal of Academic Research in Accounting Finance and Management Sciences*, *12*(2), 392-422.
114) Chin, C. L., & Yao, G. (2024). Convergent validity. In *Encyclopedia of quality of life and wellbeing research* (pp. 1398-1399). Cham: Springer International Publishing.
115) Ching, S. M., Cheong, A. T., Yee, A., Thurasamy, R., Lim, P. Y., Zarina, I. I., ... & Ramachandran, V. (2024). Prevalence and factors associated with burnout among healthcare providers in Malaysia: a web-based cross-sectional study. *Irish Journal of Medical Science (1971-)*, *193*(2), 851-863.
116) Clay, Z. (2024). Addressing high female physician turnover at frontier healthcare. *Health Economics and Management Review*, *5*(4), 121-129.
117) Code Blue (2020, April 13). *Nearly 30 junior doctors reject UD41 permanent posts*. Boo SuLyn.Retrieved from https://codeblue.galencentre.org/2020/04/nearly-30-juniordoctors-reject-ud41-permanent-posts/
118) Code Blue News. (2023, October 16). Survey by Malaysian Medical Association highlights poor remuneration and long working hours of junior doctors. *Code Blue News*. Retrieved from: https://codeblue.galencentre.org/2023/10/up-to-40-of-doctors-bullied-60-of-junior-doctors-overworked-mma-poll/
119) Code Blue. (2020, July 17). Doctors need longer contracts, Malaysia lacks specialists, medical group say. Retrieved from https://codeblue.galencentre.org/2020/07/doctors-needlonger-contracts-malaysia-lacks-specialists-medical-groups-say/?utm_source
120) Code Blue. (2022, April 1). *MOH needs extra 4,000 doctors, 628 pharmacists by 2025*. https://codeblue.galencentre.org/2022/04/moh-needs-extra-4000-doctors-628pharmacists-by-2025/
121) Code Blue. (2023, July 20). *Medical officer shortage hits Klang Valley, hundreds relocating out of tertiary hospitals*. https://codeblue.galencentre.org/2023/07/medical-officershortage-hits-klang-valley-hundreds-relocating-out-of-tertiary-hospitals/
122) Code Blue. (2024, December 23). Nearly 52,000 government doctors currently employed; about 3,500 permanent MOs and specialists quit MOH past five years. https://codeblue.galencentre.org/2024/12/nearly-52000-government-doctorscurrently-employed-about-3500-permanent-mos-and-specialists-quit-moh-past-fiveyears/
123) Code Blue. (2024, March 21). Over 1,100 doctors didn't report for duty for permanent posts in 2023. https://codeblue.galencentre.org/2024/03/21/over-1100-doctors-didnt-reportfor-duty-for-permanent-posts-in-2023/
124) Code Blue. (2025, April 23). Government Doctors Want The Right To Choose Placements, Poll Shows. Retrieved from https://codeblue.galencentre.org/2025/04/governmentdoctors-want-the-right-to-choose-placements-poll-shows/?utm
125) Code Blue. (2025, January 24). *Cabinet cancels WBB pilot project after doctors' uproar*. CodeBlue. Retrieved from https://codeblue.galencentre.org/2025/01/cabinet-cancelswbb-pilot-project-after-doctors-uproar/?utm
126) Code Blue. (25th March 2024). *Health Minister's statements on public health: Dewan Rakyat and Dewan Negara updates*. https://codeblue.galencentre.org/
127) *(Based on: Health Minister Dr. Zaliha Mustafa's speech, Feb 23, 2023; Health Minister Dzulkefly Ahmad's written reply, Mar 19, 2024; Graphic by CodeBlue). Retrieved from: https://codeblue.galencentre.org/2024/03/contract-doctors-resignation-trend-risingmoh-to-cut-permanent-appointment-offers-by-31-for-2024-2025/?utm*
128) Collins Dictionary. (2022). *Medical officer*. In *Collins English Dictionary*. Retrieved July 14, 2025, from https://www.collinsdictionary.com/dictionary/english/medical-officer
129) Collins Dictionary. (2025). *Contract*. In *Collins English Dictionary*. Retrieved July 13, 2025, from https://www.collinsdictionary.com/dictionary/english/contract

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130) Collins Dictionary. (2025). *Tertiary hospital*. In *Collins English Dictionary*. Retrieved July 14, 2025, from https://www.collinsdictionary.com/dictionary/english/tertiary-hospital

131) Cook, K. S., & Hahn, M. (2021). Social exchange theory: current status and future directions. *Theoretical Sociology*, 179-205.

132) Cooksey, R. W. (2020). Descriptive statistics for summarising data. In *Illustrating statistical procedures: Finding meaning in quantitative data* (pp. 61-139). Singapore: Springer Singapore.

133) Cuonga, T. T., Anhb, L. T. M., & Huec, T. H. (2024). Impact of Job Satisfaction on Commitment in Banking Sector: Evidence from Vietnam.

134) Daisy-Monalisa, G. I., Elena-Maria, N. L., Georgiana, V., & Tasențe, T. (2023). Impact of motivation and performance in work and personal life. *Black Sea Journal of Psychology*, *14*(4), 323-336.

135) Das, N., Mishra, S., & Dash, P. C. (2025). Unveiling the Supervisor Support and Career Resilience Nexus for Enhancing Career Sustainability-A Conceptual Framework. In *Innovative Synergies* (pp. 185-199). Routledge.

136) Davlembayeva, D., Papagiannidis, S., & Alamanos, E. (2020). Sharing economy: Studying the social and psychological factors and the outcomes of social exchange. *Technological Forecasting and Social Change*, *158*, 120143.

137) de Hoyos, M. R., Villamanan-Bueno, E., de Uzquiano, E. F., Gómez-Salcedo, P., del RíoDurango, M., & Frías-Iniesta, J. (2020). Informed consent process in clinical trials: development of a patient-reported questionnaire. *Farmacia Hospitalaria*, *44*(6), 254271.

138) de la Torre-Ruiz, J. M., Cordón-Pozo, E., Vidal Salazar, M. D., & Ortiz-Perez, A. (2024). Pay information and employees' perception of organizational support: the mediating role of pay satisfaction. *Employee Relations: The International Journal*, *46*(9), 161-177.

139) Demeke, G. W., van Engen, M. L., & Markos, S. (2024). Servant leadership in the healthcare literature: A systematic review. *Journal of healthcare leadership*, 1-14.

140) Demerouti, E., & Bakker, A. B. (2023). Job demands-resources theory in times of crises: New propositions. *Organizational Psychology Review*, *13*(3), 209-236.

141) Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands– resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499–512. https://doi.org/10.1037/0021-9010.86.3.499

142) Department of Statistics Malaysia. (2024). *Current Population Estimates, Malaysia, 2024*. Retrieved from https://www.dosm.gov.my/portal-main/release-content/currentpopulation-estimates-2024

143) Department of Statistics Malaysia. (2024). *Malaysia Social Statistics Review 2023 Edition*. Retrieved from https://www.dosm.gov.my/portal-main/release-content/malaysiasocial-statistics-review-2023edition-

144) Department of Statistics Malaysia. (2025, April 24). *ICT Use and Access by Individuals and Households Survey Report, Year 2024*. Department of Statistics Malaysia.https://www.dosm.gov.my/site/downloadrelease?id=ict-use-and-access-byindividuals-and-households-survey-report-2024&lang=English&admin_view=

145) Dewan Negeri Selangor. (2025, February 3). *Fasiliti kesihatan di Selangor*. Retrieved July 16, 2025, from https://dewan.selangor.gov.my/question/fasiliti-kesihatan-di-selangor/

146) Dewan Rakyat, Parlimen Malaysia. (2024). *Pendigital Sistem Kesihatan* (DR.27.2024).

147) https://www.parlimen.gov.my/cpsecure/resources/files/DR.27.2024%20-%20Pendigital%20Sistem%20Kesihatan.pdf

148) Dey, M., Frazis, H., Piccone Jr, D. S., & Loewenstein, M. A. (2021). Teleworking and lost work during the pandemic: new evidence from the CPS. *Monthly Lab. Rev.*, *144*, 1.

149) Di Leo, G., & Sardanelli, F. (2020). Statistical significance: p value, 0.05 threshold, and applications to radiomics—reasons for a conservative approach. *European radiology experimental*, *4*(1), 18.

150) Díaz-Perez, F. M., Fyall, A., García-González, C. G., Fu, X., & Deel, G. (2025). Navigating the" mode effect": A comparison of online questionnaires and face-to-face interviews. *Heliyon*, *11*(1).

151) Didit, D. D., & Nikmah, N. R. S. (2020). The role of remuneration contribution and social support in organizational life to build work engagement. *Journal of Islamic Economics Perspectives*, *1*(2), 20-32

152) Doyle, L., McCabe, C., Keogh, B., Brady, A., & McCann, M. (2020). An overview of the qualitative descriptive design within nursing research. *Journal of research in nursing*, *25*(5), 443-455.

153) Duryea, S. N. (2014). Holding on to steel: Pittsburgh culture in the age of globalization. *Globalizations*, *11*(6), 767-776.

154) Dwivedi, S., & Gupta, A. (2024). Strategically addressing skill gaps and imbalances among health employees. In *Contemporary Challenges in Social Science Management: Skills Gaps and Shortages in the Labour Market* (pp. 17-33). Emerald Publishing Limited.

155) Dźwigoł, H. (2020). Pilot study in the research procedure. *Organizacja iZarządzanie: kwartalniknaukowy*.

156) Egbon, M. O. (2023). INFLUENCE OF ORGANIZATIONAL COMMITMENT AND JOB SATISFACTION ON JOB PERFORMANCE AMONG LECTURERS IN COLLEGES OF EDUCATION IN EDO AND DELTA STATES. *Multi-Disciplinary Research and Development Journals Int'l*, *4*(1), 13-13.

157) Elsevier. (2025). *Family support*. In *Agricultural and Biological Sciences*. In *ScienceDirect Topics*. Retrieved July 14, 2025,from https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/familysupport

158) Elshami, S., Awaisu, A., Abidi, R., Al-Ghazal, L., Al-Hathal, T., Basil, M., ... & Mukhalalati, B. (2023). Examining Pharmacy Alumni's Perceptions of Job Satisfaction, Achievements, and Preparedness: A Mixed-Methods Study. *American Journal of Pharmaceutical Education*, *87*(5), 100059

159) El-zohery, L., El-wkeel, N., & El-shaer, A. (2022). The Relation Between Job Demands and Safety Attitudes among staff Nurses. *Mansoura Nursing Journal*, *9*(1), 57-66.

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160) Ersoy, A., Mahmood, Z., Sharif, S., Ersoy, N., & Ehtiyar, R. (2023). Exploring the associations between social support, perceived uncertainty, job stress, and emotional exhaustion during the COVID-19 crisis. *Sustainability*, *15*(3), 2150.
161) Fabiani, V. (2025). *Job Satisfaction and Retention Survey for Nurses in an Acute Care Hospital in Ontario* (Master's thesis, University of Windsor (Canada)).
162) Fadele, A. A., & Rocha, A. (2025). Introduction to the Key Features of Quantitative Research. In *The Art and Science of Quantitative Research* (pp. 1-27). Springer, Cham.
163) Fadhira, A. D., & Suyono, J. (2024). The Effect of Coworker Support on Turnover: Role of Job Stress, Organizational Embeddedness, Political Ineptness, and Despotic Leadership. *IJHCM (International Journal of Human Capital Management)*, *8*(1), 80-89.
164) Fadzil, M. M., Wan Puteh, S. E., Aizuddin, A. N., & Ahmed, Z. (2022, October). Specialists' dual practice within public hospital setting: evidence from Malaysia. In *Healthcare* (Vol. 10, No. 10, p. 2097). MDPI.
165) Fellows, R. F., & Liu, A. M. (2021). *Research methods for construction*. John Wiley & Sons.
166) Ferrer, J. M. B., & Garrido, J. A. M. (2023). Impact of family-friendly HRM policies in organizational performance. *arXiv preprint arXiv:2311.14358*.
167) Filip, R., Gheorghita Puscaselu, R., Anchidin-Norocel, L., Dimian, M., & Savage, W. K. (2022). Global challenges to public health care systems during the COVID-19 pandemic: a review of pandemic measures and problems. *Journal of personalized medicine*, *12*(8), 1295.
168) Fink, A. (2024). *How to conduct surveys: A step-by-step guide*. SAGE publications.
169) Forgas, J. P., Crano, W., & Fiedler, K. (2022). *The Psychology of Sociability*. TAYLOR FRANCIS Limited.
170) Forza, C., & Sandrin, E. (2023). Surveys. In *Research methods for operations and supply chain management* (pp. 76-158). Routledge.
171) Foster, A. M., Munro, S., Golder, J., & Mitchell, D. (2025). Why they come, why they stay and why they leave: a survey to understand the drivers of recruitment, retention, and attrition of allied health clinicians in an Australian metropolitan health network. *BMC Health Services Research*, *25*(1), 1-16.
172) Fousiani, K. (2020). Power asymmetry, negotiations, and conflict management in organizations. In J. Fahed-Sreih (Ed.), *Organizational Conflict: New Insights* (pp. 1–19). IntechOpen. https://doi.org/10.5772/intechopen.95492
173) French, K. A., & Allen, T. D. (2020). Episodic work-family conflict and strain: A dynamic perspective. *Journal of Applied Psychology*, *105*(8), 863.
174) Fuad, A. S. A. (2021). *Accreditation Performance in Area 2: Curriculum Design and Delivery Among Undergraduate Medical Education Programmes in Malaysia* (Master's thesis, University of Malaya (Malaysia))
175) Futane, A. G., & Tech, B. (2021). 24. Sampling Technique in Research Methodology. *CONTEMPORARY MULTI-DISCIPLINARY RESEARCH TREND*, 228.
176) Garcia, A. S., Wang, D., Williams, M. S., Payton, J., Hyun, S., & Tuliao, M. (2025). Correlates of Well-Being and Academic Outcomes Among Student Parents in College During the COVID-19 Pandemic. *Journal of College Student Retention: Research, Theory & Practice*, 15210251251321106.
177) Ghanad, A. (2023). An overview of quantitative research methods. *International journal of multidisciplinary research and analysis*, *6*(08), 3794-3803.
178) Ghasemi Kooktapeh, Z., Dustmohammadloo, H., Mehrdoost, H., & Fatehi, F. (2023). In the line of fire: A systematic review and meta-analysis of job burnout among nurses. *arXiv*. https://arxiv.org/abs/2312.14853
179) Ghoghre, S. (2024). Current Trends In Research Methodology.
180) Gillet, N., Morin, A. J., Mokounkolo, R., Réveillère, C., & Fouquereau, E. (2021). A personcentered perspective on the factors associated with the work recovery process. *Anxiety, Stress, & Coping*, *34*(5), 571-596.
181) Giner-Sorolla, R., Montoya, A. K., Reifman, A., Carpenter, T., Lewis Jr, N. A., Aberson, C. L., ... & Soderberg, C. (2024). Power to detect what? Considerations for planning and evaluating sample size. *Personality and Social Psychology Review*, *28*(3), 276-301.
182) Gleason, F., Malone, E., Wood, L., Baker, S. J., Hollis, R. H., Richman, J. S., ... & Lindeman, B. (2020). The job demands-resources model as a framework to identify factors associated with burnout in surgical residents. *Journal of Surgical Research*, *247*, 121127.
183) Gorai, J., Kumar, A., & Angadi, G. R. (2024). Smart PLS-SEM modeling: Developing an administrators' perception and attitude scale for apprenticeship programme. *Multidisciplinary Science Journal*, *6*(12), 2024260-2024260.
184) Guibert-Lacasa, C., & Vázquez-Calatayud, M. (2022). Nurses' clinical leadership in the hospital setting: A systematic review. *Journal of Nursing Management*, *30*(4), 913-925.
185) Gull, N., Asghar, M., Bashir, M., Liu, X., & Xiong, Z. (2023). Does a family-supportive supervisor reduce the effect of work-family conflict on emotional exhaustion and turnover intentions? A moderated mediation model. *International Journal of Conflict Management*, *34*(2), 253-272.
186) Gumede, B. (2021). The relationship between talent management, job satisfaction and voluntary turnover intentions of employees in a selected government institution. *SA Journal of Human Resource Management*.
187) Gustina, A., Liu, J. S., Indartono, S., Endarwati, M. L., & Darmawati, A. (2024). Connecting the dots: How parent support shapes career readiness through psychological capital. *SA Journal of Human Resource Management*, *22*, 2540.
188) Haas, E. J. (2020). The role of supervisory support on workers' health and safety performance. *Health communication*, *35*(3), 364-374.
189) Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of business research*, *109*, 101-110.

License: This is an open access article under the CC BY 4.0 license: https://creativecommons.org/licenses/by/4.0/

190) Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Evaluation of formative measurement models. In *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (pp. 91-113). Cham: Springer International Publishing.

191) Haliansyah, Saluy, A. B., Kasmir, & Mafizatun, N. (2024). Career development strategies in maintaining turnover intention through organizational commitment. *Organizacija*, *57*(3), 238–248. https://doi.org/10.2478/orga-2024-0017

192) Hammig, O. (2023). Quitting one's job or leaving one's profession: unexplored consequences of workplace violence and discrimination against health professionals. *BMC health services research*, *23*(1), 1251.

193) Hanafiah, M. H. (2020). Formative vs. reflective measurement model: Guidelines for structural equation modeling research. *International Journal of Analysis and Applications*, *18*(5), 876-889.

194) Hanafin, S., Cosgrove, J., Hanafin, P., Lynch, C., & Brady, A. M. (2022). Co-worker relationships and their impact on nurses in Irish public healthcare settings. *British Journal of Nursing*, *31*(7), 394-399.

195) Hancock, D. R., Algozzine, B., & Lim, J. H. (2021). Doing case study research: A practical guide for beginning researchers.

196) Harun, I., Mahmood, R., & Md. Som, H. (2022). Role stressors and turnover intention among doctors in Malaysian public hospitals: work–family conflict and work engagement as mediators. *PSU Research Review*, *6*(1), 1-16.

197) Hassan, M. M., Alam, M. N., Campbell, N., Bowyer, D., & Reaz, M. (2022). Human Resource Management in Health Care Industries for Generation Y: Challenges of the 21st Century. *Australasian Accounting Business & Finance Journal*, *16*(1).

198) Hassan, Z. (2022). Employee retention through effective human resource management practices in Maldives: Mediation effects of compensation and rewards system. *Journal of Entrepreneurship, Management and Innovation*, *18*(2), 137-174

199) Havel, P. (2024). *The Arsonist in the Office: Fireproofing Your Life Against Toxic Coworkers, Bosses, Employees, and Cultures*. Clovercroft Publishing.

200) Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for estimating reliability. But…. *Communication Methods and Measures*, *14*(1), 1-24.

201) Heathfield, S. M. (2021). What is human resource management. *The balance*.

202) Hee, L. S., Giee, S. F., Johnny, W., & Yee, L. H. (2024). Flying Doctor Services in Sarawak: A Medical Frontline Experience. *Air Medical Journal*, *43*(5), 392-394.

203) Heider, F. (1958). *The psychology of interpersonal relations*. Wiley.

204) Herzberg, F., Mansner, B., & Snyderman, B. B. (1959). The Motivation to Work. NY: John Wiley& Sons. *Inc*, 136-142.

205) Heskiau, R., & McCarthy, J. M. (2021). A work–family enrichment intervention: Transferring resources across life domains. *Journal of Applied Psychology*, *106*(10), 1573.

206) Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology*, *63*(6), 597–606. https://doi.org/10.1086/222355

207) Hongal, P., & Kinange, U. (2020). A study on talent management and its impact on organization performance-an empirical review. *International Journal of Engineering and Management Research (IJEMR)*, *10*(1), 64-71.

208) Hopkins, W. G. (2020). Sample-size Estimation for VariousInferential Methods. *Sportscience*, *24*.

209) Hospital Kuala Lumpur. (2024). *Introduction*. Ministry of Health Malaysia. Retrieved July 16, 2025, from https://hkl.moh.gov.my/en/about-us/introduction

210) Hu, H., Wang, C., Lan, Y., & Wu, X. (2022). Nurses' turnover intention, hope and career identity: the mediating role of job satisfaction. *BMC nursing*, *21*(1), 43.

211) Huang, I. C., Du, P. L., Lin, L. S., Lin, T. F., & Kuo, S. C. (2021, May). Factors beyond workplace matter: The effect of family support and religious attendance on sustaining well-being of high-technology employees. In *Healthcare* (Vol. 9, No. 5, p. 602). MDPI

212) Huang, W. (2024). An Exploration of Needs within Maslow's Hierarchy of Motivation. *Advances in Social Behavior Research*, *14*, 41-44.

213) Hur, H. (2022). Job security matters: A systematic review and meta-analysis of the relationship between job security and workattitudes. *Journal of Management & Organization*, *28*(5), 925-955.

214) Ibrahim, I. W., Ghazali, I. M., Abdullah, S. A. S., Rahmat, N. H., Hamid, M. H. A., & Azhari, S. H. A. (2023). Exploring motivation for learning using Herzberg's two-factor theory. *International Journal of Academic Research in Business and Social Sciences*, *13*(3), 991–1008.

215) Idika, D. O., Owan, V. J., & Agama, V. U. (2023). The application of the nominal scale of measurement in research data analysis.

216) Ilea, V., Bovo, C., Falabretti, D., Merlo, M., Arrigoni, C., Bonera, R., & Rodolfi, M. (2020). Voltage control methodologies in active distribution networks. *Energies*, *13*(12), 3293.

217) Institute for Public Health Malaysia. (2024). *National Health and Morbidity Survey (NHMS) 2023: Non-communicable diseases*. Ministry of Health Malaysia. Retrieved from https://iku.nih.gov.my/images/nhms2023/report-nhms-2023.pdf?utm

218) Isha, A. S. N., Javaid, M. U., Zaib Abbasi, A., Bano, S., Zahid, M., Memon, M. A., ... & Imtiaz, N. (2020). Malay validation of Copenhagen psychosocial work environment questionnaire in context of second-generation statistical techniques. *BioMed Research International*, *2020*(1), 7680960.

219) Islam, M. (2020). Data analysis: types, process, methods, techniques and tools. *International Journal on Data Science and Technology*, *6*(1), 10-15.

220) Islam, M. A., Jantan, A. H., Yusoff, Y. M., Chong, C. W., & Hossain, M. S. (2023). Green Human Resource Management (GHRM) practices and millennial employees' turnover intentions in tourism industry in Malaysia: Moderating role of work environment. *Global Business Review*, *24*(4), 642-662.

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221) Islam, M. N., Islam, M. S., Islam, M. N., & Islam, M. S. (2020). Data collection and analysis. *Islam and Democracy in South Asia: The Case of Bangladesh*, 49-65.

222) Ismail, H., Abdullah, M. H., Osman, S., Che Arshad, F., Jalaluddin, S. N., Osman, N. F., Kamarulzaman, N. A. H., & Abd Kadir, B. (2024). Mapping the locations of medical specialists in the Ministry of Health's hospitals in Malaysia by specialty, subspecialty and area of interest. *Malaysian Journal of Medical Sciences*, 31(3), 1–17. https://doi.org/10.21315/mjms2024.31.3.1

223) Jackson, S. (2022). *Communication and Job Satisfaction: The Impact on Team Building and Employee Turnover in Philadelphia, Pennsylvania*. Colorado Technical University.

224) Jacobs, K., Hellman, M., Markowitz, J., & Wuest, E. (2020). Co-workers. In *Encyclopedia of Behavioral Medicine* (pp. 573-574). Cham: Springer International Publishing.

225) Jaffar, H., Munir, A. J., & Waqas, M. M. (2024). Assessing the impact of Herzberg's TwoFactor Motivation Theory on job satisfaction: A study of employees in the Punjab Healthcare Commission.*Sustainable Business and Society in Emerging Economies*, *6*(3), 469–480. https://doi.org/10.26710/sbsee.v6i3.3148

226) Jahangir, S., Patil, D. S., Gangopadhyay, J., & Vogt, T. C. (2025). Understanding intergenerational dynamics and social support's impact on health and well-being of older adults in South Asia: a scoping review. *Systematic Reviews*, *14*(1), 86

227) Jahya, A., Azlin, S. N. I., Othman, R., & Romaiha, N. R. (2020). Turnover intention among Gen-Y: The role of training and development, compensation and organizational culture. *International Journal of Academic Research in Business and Social Sciences*, *10*(10), 765-782.

228) Jain, N. (2021). Survey versus interviews: Comparing data collection tools for exploratory research. *The Qualitative Report*, *26*(2), 541-554.

229) Jalees, T., Anwar, A., Mubashir, A., Ramish, S., & Nawaz, R. R. (2023). Emotional Dynamics in Workplace Conflict and Employee Turnover. *International Journal of Social Science & Entrepreneurship*, *3*(3), 272-294.

230) Jamaluddin, J., Baharum, N. N., Jamil, S. N., & Kamel, M. A. M. (2021). Doctors strike during COVID-19 pandemic in Malaysia: between right and wrong. *Voices in Bioethics*, *7*.

231) Jiang, L., Xu, X., & Wang, H. J. (2021). A resources–demands approach to sources of job insecurity: A multilevel meta-analytic investigation. *Journal of Occupational Health Psychology*, *26*(2), 108.

232) Jimoh, L. A., & Kee, D. M. H. (2022). Talent management: the way out of poor task performance. *Industrial and Commercial Training*, *54*(4), 623-636.

233) Jogi, S., Vashisth, K. K., Srivastava, S., Alturas, B., & Kumar, D. (2025). Job satisfaction and turnover intention: A comprehensive review of the shared determinants. *Human Systems Management*, *44*(3), 379-395.

234) Jolly, P. M., Gordon, S. E., & Self, T. T. (2022). Family-supportive supervisor behaviors and employee turnover intention in the foodservice industry: does gender matter?. *International Journal of Contemporary Hospitality Management*, *34*(3), 10841105.

235) Jolly, P. M., Kong, D. T., & Kim, K. Y. (2021). Social support at work: An integrative review. *Journal of Organizational Behavior*, *42*(2), 229-251.

236) Kakar, A. S., Misron, A., Meyer, N., & Durrani, D. K. (2023). Job insecurity as a mediator between fearing COVID-19 and turnover intention: empirical evidence during the COVID-19 pandemic. *International Journal of Educational Management*, *37*(4), 752767.

237) Kalimuthu, K. V., Kumaran, V. V., Nathan, T. M., Abdullah, M. B., & Isa, M. B. M. (2023, February). Role of people with disabilities (PWDS) towards the sustainability of the tourism sectors in Malaysia. In *10th International Conference on Business, Accounting, Finance and Economics (BAFE 2022)* (pp. 323-332). Atlantis Press.

238) Kamaryati, N. P., & Malathum, P. (2020). Family support: A concept analysis. *Pacific Rim International Journal of Nursing Research*, *24*(3), 403-411.

239) Kang, H., & Li, Y. (2024). Why do we still feel drained even in meaningful work? unveiling the negative impact of job insecurity among Korean counselors. *Counselling Psychology Quarterly*, 1-25.

240) Karaferis, D., Aletras, V., Raikou, M., & Niakas, D. (2022). Factors influencing motivation and work engagement of healthcare professionals. *Materia Socio-Medica*, *34*(3), 216.

241) Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, *24*(2), 285–308. https://doi.org/10.2307/2392498

242) Karl, M., Staudt, A., Vives, A., Kopp, M., Weise, V., Mack, J. T., ... & Garthus-Niegel, S. (2024). Validation of the Employment Precariousness Scale and its associations with mental health outcomes: results from a prospective community-based study of pregnant women and their partners in Dresden, Germany. *BMJ open*, *14*(8), e077206.

243) Katou, A. A., Koupkas, M., & Triantafillidou, E. (2022). Job demands-resources model, transformational leadership and organizational performance: a multilevel study. *International Journal of Productivity and Performance Management*, *71*(7), 2704-2722.

244) Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive statistics. *International Journal of Academic Medicine*, *4*(1), 60-63.

245) Kaur, R. (2025). Influences of work stressors and family support: the mediating role of job performance. *Vilakshan-XIMB Journal of Management*, *22*(1), 100-115.

246) Keeling, D. I., Keeling, K., De Ruyter, K., & Laing, A. (2021). How value co-creation and codestruction unfolds: a longitudinal perspective on dialogic engagement in health services interactions. *Journal of the Academy of Marketing Science*, *49*, 236-257.

247) Khairul Anam, R. (2025). The Importance of Peter M. Blau's Social Exchange Theory in Society 5.0 Era. *Available at SSRN 5283551*.

248) Khairunisa, N. A., & Muafi, M. (2022). The effect of workplace well-being and workplace incivility on turnover intention with job embeddedness as a moderating variable. *International Journal of Business Ecosystem & Strategy (2687-2293)*, *4*(1), 11-23.

249) Khairy, K. (2022, September 27). *MOH, MINDEF teaming up on new framework to optimise use of assets and resources*. Malay Mail.

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https://www.malaymail.com/news/malaysia/2022/09/27/khairy-moh-mindef-teamingup-on-new-framework-to-optimise-use-of-assets-resources/30357

250) Khalid, K. M., & Sahibzada, A. (2023). The mediating role of job satisfaction at selected public universities in Afghanistan: the effect of job security on turnover intention. *Journal of Management and Business Education*, *6*(3), 244-256.
251) Khan, D. Z. U., Alam, N., Badar, A., & Ahmad, D. M. B. (2023). Impact of employee turnover on organizational profit with moderating role of recruitment. *Bulletin of Business and Economics (BBE)*, *12*(3), 169-176.
252) Khan, S. (2021). Impact of human resource accounting on organizations' financial performance in the context of SMEs. *Accounting*, *7*(3), 621-628.
253) Khera, S. N., & Suri, P. K. (2024). Towards crafting a cure for employee turnover: a social exchange theory perspective. *Industrial and Commercial Training*, *56*(4), 434-448.
254) Khoa, B. T., Hung, B. P., & Hejsalem-Brahmi, M. (2023). Qualitative research in social sciences: data collection, data analysis and report writing. *International Journal of Public Sector Performance Management*, *12*(1-2), 187-209.
255) Kim, E. Y., & Kim, S. H. (2022). Job change among early career nurses and related factors: A postgraduation 4-year follow-up study. *Journal of Nursing Management*, *30*(7), 30833092.
256) Kim, H., So, K. K. F., & Wirtz, J. (2022). Service robots: Applying social exchange theory to better understand human–robot interactions. *Tourism Management*, *92*, 104537
257) Kim, M. S., Ma, E., & Wang, L. (2023). Work-family supportive benefits, programs, and policies and employee well-being: Implications for the hospitality industry. *International Journal of Hospitality Management*, 108, 103356. https://doi.org/10.1016/j.ijhm.2022.103356
258) Kintani, A. C. S., & Wahyuningtyas, R. (2024). Effect on turnover intention: Career development, compensation and job stress. *Tennessee Research International of Social Sciences*, *6*(2), 124-136.
259) Kircher, R., & Zipp, L. (2022). Questionnaires to elicit quantitative data. *Research methods in language attitudes*, 129-144.
260) Kirkpatrick, A. (2022). Is English an Asian Language?. *Asian English Studies*, *24*, 4-24.
261) Kitsios, F., & Kamariotou, M. (2021). Job satisfaction behind motivation: An empirical study in public health workers. *Heliyon*, *7*(4).
262) Knapp, D. F. (2024). The Experience Of Knowledge Workers In Remote Environments During The COVID-19 Pandemic.
263) Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*,*30*(3), 607-610.https://doi.org/10.1177/001316447003000308
264) Kumar, A., & Praveenakumar, S. G. (2025). *Research methodology*. Authors Click Publishing.
265) Kumar, A., Chandran, S., & Somani, A. (2021). Conducting online web-based surveys at the time of COVID-19 pandemic: A short report. *Archives of Mental Health*, *22*(2), 158161.
266) Kumar, D., Upadhyay, Y., Yadav, R., & Goyal, A. K. (2022). Psychological capital and innovative work behaviour: The role of mastery orientation and creative selfefficacy. *International Journal of Hospitality Management*, *102*, 103157
267) Kumar, V., Syan, A. S., & Kaur, K. (2022). A structural equation modeling analysis of factors driving customer purchase intention towards solar water heater. *Smart and Sustainable Built Environment*, *11*(1), 65-78.
268) Kurt, S. (2021). Herzberg's motivation-hygiene theory: Two-factor. *Education Library. https://educationlibrary. org/herzbergs-motivation-hygiene-theory-two-factor*
269) Lakens, D. (2022). Sample size justification. *Collabra: psychology*, *8*(1), 33267.
270) *Law Insider*. (2025). *Public hospital*. Retrieved July 14, 2025, from https://www.lawinsider.com/dictionary/public-hospital
271) Le, H., Gopalan, N., Lee, J., Kirige, I., Haque, A., Yadav, V., & Lambropoulos, V. (2023). Impact of Work and Non-Work Support on Employee Well-Being: The Moderating Role of Perceived Organizational Support. *Sustainability*, *15*(22), 15808.
272) Le, H., Lee, J., Nielsen, I., & Nguyen, T. L. A. (2023). Turnover intentions: the roles of job satisfaction and family support. *Personnel Review*, *52*(9), 2209-2228.
273) LeBlanc, J. E., & Lyons, S. T. (2022). Helicopter parenting during emerging adulthood: Consequences for career identity and adaptability. *Frontiers in Psychology*, *13*, 886979.
274) Lee, L. M., Gan, S. W., & Chia, Y. S. (2023). Investigating the Effects of Work-Family Conflict on Turnover Intention of ICT Employees in Malaysia. *Makara Human Behavior Studies in Asia*, *27*(1), 28-36.
275) Lee, P. C., Xu, S. T., & Yang, W. (2021). Is career adaptability a double-edged sword? The impact of work social support and career adaptability on turnover intentions during the COVID-19 pandemic. *International journal of hospitality management*, *94*, 102875.
276) Lee, P. C., Xu, S. T., & Yang, W. (2021). Is career adaptability a double-edged sword? The impact of work social support and career adaptability on turnover intentions during the COVID-19 pandemic. *International journal of hospitality management*, *94*, 102875.
277) Lee, Y., Kim, Y., & Park, H. (2021). The Effect of Coworker Incivility on Turnover Intention:
278) The Mediating Effect of Exhaustion Moderated by Recovery Experiences. *Korean Journal of Industrial and Organizational Psychology*, *34*(1), 27-50.
279) Leifels, K., & Zhang, R. P. (2023). Cultural diversity in work teams and well-being impairments: A stress perspective. *Group Processes & Intergroup Relations*, *26*(2), 243–263. https://doi.org/10.1177/14705958231188807
280) Leong, N. (2023, July 27). *Malaysia Health White Paper 2023: Malaysia's path to health system reform through public-privatepartnerships*. Wen & Co. https://www.wenlaw.co/malaysia-health-white-paper-2023-malaysias-path-to-healthsystem-reform-through-public-private-partnerships/

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281) León-Pérez, J. M., Escartín, J., & Giorgi, G. (2021). The presence of workplace bullying and harassment worldwide. *Concepts, approaches and methods*, 55-86.
282) Leovani, E., & Inharjano, A. (2020, January). Turnover Intention as an Impact of Job Insecurity Among Bank Employees. In *3rd International Conference on Innovative Research Across Disciplines (ICIRAD 2019)* (pp. 32-36). Atlantis Press.
283) Lestari, Y. S., Fahmie, A., & Zulaifah, E. (2021). The impact of remuneration toward salary satisfaction: a case study on job evaluation method in SME employees in central Sulawesi, Indonesia. *Journal of Nonformal Education*, *7*(2), 217-225.
284) Li, M., Fan, W., & Zhang, L. F. (2023). Career adaptability and career choice satisfaction: Roles of career self-efficacy and socioeconomic status. *The Career Development Quarterly*, *71*(4), 300-314.
285) Lim, C. H., & Abdullah, N. A. (2021). *Career progression and employment status of contract medical officers in Malaysia*. *CodeBlue*. https://codeblue.galencentre.org/2021/06/contract-doctors-permanent-measure-butnot-a-solution/
286) Lim, T. L., Omar, R., Ho, T. C. F., & Tee, P. K. (2021). The roles of work–family conflict and family–work conflict linking job satisfaction and turnover intention of academic staff. *Australian Journal of Career Development*, *30*(3), 177-188.
287) Lim, W. M. (2024). A typology of validity: content, face, convergent, discriminant, nomological and predictive validity. *Journal of Trade Science*, *12*(3), 155-179.
288) Liu, D., Yang, X., Zhang, C., Zhang, W., Tang, Q., Xie, Y., & Shi, L. (2022). Impact of job satisfaction and social support on job performance among primary care providers in Northeast China: a cross-sectional study. *Frontiers in Public Health*, *10*, 884955.
289) Liu, R. K. (2023). Role modeling or reciprocity? Dyadic intergenerational transfer analysis of efficacy and support. *Family Relations*, *72*(3), 1049-1067.
290) Liu, R., & Ibrahim, H. (2024). Relationships between leadership style, career development, work stress, and turnover intention in a high-tech industry: Moderating role of psychological contract. *Problems and Perspectives in Management*, 22(4), 253–267. https://doi.org/10.21511/ppm.22(4).2024.20:contentReference[oaicite:5]{index=5}
291) Liu, T., Wei, C., & Lee, Y. M. (2022). A systematic review of work–family enrichment in the hospitality industry. *International Journal of Contemporary Hospitality Management*, *34*(8), 2884-2913.
292) Long, T., & Cooke, F. L. (2023). Employee assistance programmes in China: a state-of-the-art review and future research agenda. *Asia Pacific Journal of Human Resources*, *61*(1), 3-31.
293) Louis, R. R., Sulaiman, N. A., & Zakaria, Z. (2022). Accounting firms' talent management practices: perceived importance and its impact on auditors' performance. *Pacific Accounting Review*, *34*(2), 274-292.
294) Lu, H., While, A. E., & Barriball, K. L. (2020). Job satisfaction and its related factors: A questionnaire survey of hospital nurses in Mainland China. *International Journal of Nursing Studies*, *44*(4), 574.
295) Lucius, Z. K., & Damberg, S. (2024). Why we need employees back at the office: The effect of workplace design on creativity in organizations. *Creativity and innovation management*, *33*(4), 654-670.
296) Luo, H., Li, F., Agbanyo, G. K., Tachega, M. A., & Chin, T. (2022). Family-supportive supervisor behaviors and career sustainability of e-commerce female workers: A mixed-method approach. *Frontiers in Psychology*, *13*, 992458.
297) Machia, L. V., Tan, K., & Agnew, C. R. (2024). Relationship commitment regulation: Influencing a partner's commitment to achieve one's commitment goals. *Social and Personality Psychology Compass*, *18*(7), e12986
298) Makwana, D., Engineer, P., Dabhi, A., & Chudasama, H. (2023). Sampling methods in research: A review. *International Journal of Trend in Scientific Research and Development*, *7*(3), 762-768.
299) Malay Mail (2024, January 20). Medical association calls on Health Ministry to explain nationwide housemen shortage. Retrieved from
300) https://www.malaymail.com/news/malaysia/2024/01/20/medical-association-calls-onhealth-ministry-to-explain-nationwide-housemen-shortage/113489
301) Malay Mail. (2020, March 21). Flexi allowances of RM 600 not given to contract junior doctors despite similar duties and lower pay scale. *The Malay Mail*. Retrieved from: https://www.malaymail.com/news/malaysia/2020/03/21/contract-medical-officersasked-to-help-fight-covid-19-told-by-health-minis/1848638
302) *Malay Mail*. (2021, September 18). *Medical group moots three temporary solutions to contract doctor system pending govt changes*. Noorshahrizam, S. A. Retrieved from https://www.malaymail.com/news/malaysia/2021/09/18/medical-group-moots-threetemporary-solutions-to-contract-doctor-system-pen/2006548
303) Malay Mail. (2022, May 6). Khairy announces task force to investigate death of young doctor after allegations of workplace bullying. Malay Mail. Retrieved from https://www.malaymail.com/news/malaysia/2022/05/06/khairy-announces-task-forceto-investigate-death-of-young-doctor-after-alle/2057424
304) Malay Mail. (2024, February 28). Malaysian medical officers can't go on working for 60 to 84 hours a week, doctors' group warns Health Ministry. Malay Mail. Retrieved from https://www.malaymail.com/news/malaysia/2024/02/28/malaysian-medical-officerscant-go-on-working-for-60-to-84-hours-a-week-doctors-group-warns-healthministry/120522
305) Malay Mail. (2025, January 25). *Dzulkefly: Cabinet ends Health Ministry's staggered working hours pilot project*. *Bernama*. Retrieved from https://www.malaymail.com/news/malaysia/2025/01/25/dzulkefly-cabinet-endshealth-ministrys-staggered-working-hours-pilot-project/164514
306) Malaysian Employers Federation. (2022, January 4). 61.7% of Malaysian companies want to continue with hybrid work model. HRM Asia. https://hrmasia.com/61-7-of-malaysiancompanies-want-to-continue-with-hybrid-work-model/
307) Malaysian Medical Association. (2022). *Doctor satisfaction and working conditions survey report*. Malaysian Medical Association.

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308) Malaysian Medical Association. (2022). *Survey on junior doctors' well-being and employment conditions in Malaysia*. [Internal Report]. Malaysian Medical Association.
309) Malaysian Medical Council. (2020, October 20). *Guideline and application form for relaxation of compulsory service*. Retrieved May 11, 2025, from https://www.mmc.gov.my/wpcontent/uploads/2020/10/Guideline-and-Application-Form-for-Relaxation-of-ompulsory-Service.pdf
310) Malaysian Medical Council. (2022). *Medical Act 1971 (Act 50)*. Retrieved July 13, 2025, from https://mmc.gov.my/wp-content/uploads/2022/06/Medical-Act-1971-Act-50.pdf
311) Malaysian Medical Council. (2022). *Medical Act 1971*. Retrieved from https://www.moh.gov.my/index.php/pages/view/405
312) Malaysian Medical Council. (2024). *Malaysian standards for housemanship training*. Retrieved from https://mmc.gov.my/medical-education-and-recognition/
313) Maleki, F., Ovens, K., Gupta, R., Reinhold, C., Spatz, A., & Forghani, R. (2022). Generalizability of machine learning models: quantitative evaluation of three methodological pitfalls. *Radiology: Artificial Intelligence*, *5*(1), e220028.
314) Maleki, R., Janatolmakan, M., Fallahi, M., Andayeshgar, B., & Khatony, A. (2023). Intention to leave the profession and related factors in nurses: A cross-sectional study in Kermanshah, Iran. *Nursing open*, *10*(7), 4298-4304.
315) Malhotra, N. K., Nunan, D., & Birks, D. F. (2020). *Marketing research*. Pearson UK.
316) Malik, A., & Allam, Z. (2021). An empirical investigation of work life balance and satisfaction among the university academicians. *The Journal of Asian Finance, Economics and Business*, *8*(5), 1047-1054.
317) Mampuru, M. P., Mokoena, B. A., & Isabirye, A. K. (2024). Training and development impact on job satisfaction, loyalty and retention among academics. *SA Journal of Human Resource Management*, 22(0), a2420. https://doi.org/10.4102/sajhrm.v22i0.2420
318) Mansour-Fakih, H. (2024). *Significant Factors Influencing Teacher Satisfaction and Retention in California Charter Schools: A Correlational Study* (Doctoral dissertation, University of Phoenix).
319) Maria, T. O. (2024). FROM WORK-LIFE IMBALANCE TO BURNOUT: EXPLORING THE ROOTS OF HEAVY WORK INVESTMENT. *Young Economists Journal/RevistaTinerilorEconomisti*, *21*(43).
320) Masdupi, E., Prasojo, R. K., & Darni, M. O. (2023). Work-family conflict and turnover intention: Mediation model for millennial government employees. *Problems and Perspectives in Management*, *21*(4), 127.
321) Masykuroh, N. L., & Muafi, M. (2021). The influence of job insecurity and person-job fit on turnover intention mediated by job satisfaction. *International Journal of Business Ecosystem & Strategy (2687-2293)*, *3*(3), 01-12.
322) Matolic, T., Jurakic, D., GrebloJurakic, Z., Marsic, T., & Pedisic, Ž. (2023, December). Development and validation of the EDUcational Course Assessment TOOLkit (EDUCATOOL)–a 12-item questionnaire for evaluation of training and learning programmes. In *Frontiers in education* (Vol. 8, p. 1314584). Frontiers Media SA.
323) Mazhar, S. A., Anjum, R., Anwar, A. I., & Khan, A. A. (2021). Methods of data collection: A fundamental tool of research. *Journal of Integrated Community Health*, *10*(1), 6-10.
324) Mazzetti, G., Robledo, E., Vignoli, M., Topa, G., Guglielmi, D., & Schaufeli, W. B. (2023). Work engagement: A meta-analysis using the job demands-resources model. *Psychological reports*, *126*(3), 1069-1107.
325) McClelland, D. C. (1965). *Achievement motivation can be developed*. Harvard Business Review, 43(6), 6–178.
326) McFarland, D. C., & Hlubocky, F. (2021). Therapeutic strategies to tackle burnout and emotional exhaustion in frontline medical staff: narrative review. *Psychology research and behavior management*, 1429-1436.
327) McGregor, D. (1989). The human side of enterprise. *Readings in managerial psychology*, *4*(2), 314-324.
328) McKelvey, B. (2022). *Organizational systematics: Taxonomy, evolution, classification*. Univ of California Press.
329) McTaggart, V., & Loonam, J. (2024). Lessons learned from working from home: Exploring factors considered critical to supporting successful working from home during the pandemic. *SAGE Open*, 14(1), 215824402311711. https://doi.org/10.1177/215824402311711
330) Medical Development Division, Ministry of Health Malaysia. (2025). *List of hospital (HO training)*. Retrieved July 16, 2025, from https://hq.moh.gov.my/medicaldev/cawanganpembangunan-profesion-perubatan/malaysia-housemanship/list-of-hospital-hotraining/
331) Medina-Garrido, J. A., Biedma-Ferrer, J. M., & Bogren, M. (2023). Organizational support for work-family life balance as an antecedent to the well-being of tourism employees in Spain. *Journal of Hospitality and Tourism Management*, *57*, 117-129.
332) Medina-Garrido, J. A., Biedma-Ferrer, J. M., & Ramos-Rodriguez, A. R. (2023). Relationship between work-family balance, employee well-being and job performance. *arXiv preprint arXiv:2401.13683*.
333) Meeker, W. Q., Escobar, L. A., & Pascual, F. G. (2021). *Statistical methods for reliability data*. John Wiley & Sons.
334) Meira, J. V. D. S., & Hancer, M. (2021). Using the social exchange theory to explore the employee-organization relationship in the hospitality industry. *International Journal of Contemporary Hospitality Management*, *33*(2), 670-692.
335) Merriam-Webster. (2025). *Burnout*. In *Merriam-Webster.com Dictionary*. Retrieved May 8, 2025, from https://www.merriam-webster.com/dictionary/burnout
336) Merriam-Webster. (2025). *Co-worker*. In *Merriam-Webster.com dictionary*. Retrieved May 4, 2025, from https://www.merriam-webster.com/dictionary/co-worker
337) Merriam-Webster. (2025). *Co-worker*. In *Merriam-Webster.com dictionary*. Retrieved May 6, 2025, from https://www.merriam-webster.com/dictionary/co-worker
338) Merriam-Webster. (2025). *Hospital*. In *Merriam-Webster.com Dictionary*. Retrieved May 8, 2025, from https://www.merriam-webster.com/dictionary/hospital

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339) Merriam-Webster. (2025). *Hostile environment harassment*.In*Merriam-Webster.com Legal Dictionary*. Retrieved May 8, 2025, from https://www.merriam-webster.com/legal/hostile%20environment%20harassment
340) Merriam-Webster. (2025). *Remuneration*. In *Merriam-Webster.com dictionary*. Retrieved May 6, 2025, from https://www.merriam-webster.com/dictionary/remuneration
341) Merriam-Webster. (2025). *Specialization*. In*Merriam-Webster.com Dictionary*. Retrieved May 8, 2025, from https://www.merriam-webster.com/dictionary/specialization
342) Mey, M. R., Poisat, P., & Stindt, C. (2021). The influence of leadership behaviours on talent retention: An empirical study. *SA Journal of Human Resource Management*, *19*, 9.
343) Mezmir, E. A. (2020). Qualitative data analysis: An overview of data reduction, data display, and interpretation. *Research on humanities and social sciences*, *10*(21), 15-27.
344) MI, W., & Ali, D. A. (2024). How the Employee Engagement and Organizational Resilience affects Career Flexibility based on the Job Satisfaction of Henan Province: A Bibliometric Analysis Using the SPAR-4-SLR Approach. *Journal of Ecohumanism*, *3*(8), 3796-3821.
345) Milosevic, G. M. (2022). A review of job satisfaction surveys in health care. *Srpskimedicinskičasopis Lekarskekomore*, *3*(3), 362-373.
346) Ministry of Health Malaysia. (2021). *Annual report 2021*. Putrajaya: Ministry of Health Malaysia. http://www.moh.gov.my
347) Ministry of Health Malaysia. (2021, April 9). *Report on permanent appointment offers to contract medical officers*. Human Resources Division, Ministry of Health Malaysia.
348) Ministry of Health Malaysia. (2023). *Annual Report 2023*. Retrieved from https://www.moh.gov.my/moh/resources/2023_Annual_Report.pdf
349) Ministry of Health Malaysia. (2024). Health facts 2024.https://www.moh.gov.my/moh/resources/Penerbitan/Penerbitan%20Utama/HEALTH%20FACTS/Health_Facts_2024.pdf
350) Ministry of Health Malaysia. (2024). *Health Indicators 2024*. https://www.moh.gov.my/moh/resources/Penerbitan/Penerbitan%20Utama/HEALTH%20INDICATOR/Petunjuk_Kesihatan_2024_-_latest.pdf
351) Ministry of Health Malaysia. (2024, February 16). *MOH to set up Health Transformation Office to lead Health White Paper reforms – minister*. Retrieved May 10, 2025, from https://www.moh.gov.my/moh/resources/Penerbitan/Artikel/2024/Februari/16/20240216_MOH_to_set_up_Health_Transformation_Office_to_lead_Health_White_Paper_re forms.pdf
352) Ministry of Health Malaysia. (2025). *Budget 2025: Ministry of Health Malaysia allocation breakdown*. Putrajaya: Ministry of Health Malaysia. http://www.moh.gov.my
353) Ministry of Health Malaysia. (2025). *Vision, mission, objectives & role*. Retrieved May 10, 2025, from https://hq.moh.gov.my/ohp/en/about-us/vision-mission-objectives-and-role
354) Miric, M., & Slavković, M. (2023). Does training and development affect employee retention in the hotel industry? The mediator role of organizational commitment. *Hotel and Tourism Management*, *11*(1), 51–65. https://doi.org/10.5937/menhottur2301051M
355) Mishra, A., & Mund, A. (2024). Application of social exchange theory in consumer research: A review and future research agenda. *International Journal of Consumer Studies*, *48*(1), 1–16. https://doi.org/10.1111/ijcs.13074
356) Mitsakis, M., & Galanakis, M. (2022). An empirical examination of Herzberg's theory in the 21st century workplace. Organizational psychology re-examined. *Psychology*, *13*(2), 264-272.
357) Moe, N. B., Ulsaker, S., Smite, D., Hildrum, J. M., & Ay, F. C. (2023). Understanding the difference between office presence and co-presence in team member interactions. *arXiv preprint arXiv:2311.05627*.
358) Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of economic development, environment and people*, *9*(4), 50-79.
359) Mohamed, M. A., Mohamud, F. A. S., Mohamud, I. H., & Farah, M. A. (2024, December). The influence of workplace relationships and job satisfaction of private universities in Mogadishu: employee performance as a mediator variable. In *Frontiers in Education* (Vol. 9, p. 1485356). Frontiers Media SA.
360) Mokhtar, S. F., Yusof, Z. M., & Sapiri, H. (2023). Confidence intervals by bootstrapping approach: a significance review. *Malaysian Journal of Fundamental and Applied Sciences*, *19*(1), 30-42.
361) Morin, K. H. (2023). Clarifying the importance of pilot studies. *Journal of Nursing Education*, *62*(9), 487-488.
362) Mossarah, A. (2023). Investigating factors that impact employee turnover in the medical device industry in the United Arab Emirates. *Social Sciences & Humanities Open*, *7*(1), 100492.
363) Munir, A., & Hameed, S. (2024). The Impact of Motivation and Job Satisfaction on Performance and Turnover Intention: The Mediating Role of Organizational Citizenship
364) Behaviour in the Telecom Sector. *Journal of Innovative Research in Management Sciences*, *5*(2), 81-103.
365) Mustafa, M. Z., Yamin, N. A., Abdul Razzaq, A. R., & Ahad, R. (2022). Factors influencing job satisfaction in the Malaysian vocational college: Herzberg two-factor theory perspective. *Universal Journal of Management*, *10*(1), 18–25. https://doi.org/10.13189/ujm.2022.100102
366) Mustapha, F. I., Aagaard-Hansen, J., Lim, S. C., Nasir, N. H., Aris, T., & Bjerre-Christensen, U. (2020). Variations in the delivery of primary diabetes care in Malaysia: lessons to be learnt and potential for improvement. *Health services research and managerial epidemiology*, *7*, 2333392820918744.
367) Musy, S. N., Endrich, O., Leichtle, A. B., Griffiths, P., Nakas, C. T., & Simon, M. (2021). The association between nurse staffing and inpatient mortality: A shift-level retrospective longitudinal study. *International journal of nursing studies*, *120*, 103950.

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368) Muzakki, M., & Herachwati, N. (2023). Clarifying Relationships Among Work-Family Conflict, Employee Well-Being, Perceived Organizational Support, and Job Satisfaction. In *RSF Conference Series: Business, Management and Social Sciences* (Vol. 3, No. 3, p. 167). Research Synergy Foundation.
369) 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), 796.
370) Nair, S., Jayabalan, N., Perumal, I., & Subramaniam, M. (2021). Work-life balance and its impact on turnover intention of married female academics in Malaysia: The mediating role of job satisfaction. *Journal of Hunan University Natural Sciences*, *48*(12).
371) Nasr, R., Nasr, N., Haddad, C., Saab, S. A., Ibrahim, S. A., Karam, J., & Rahman, A. A. (2024). Financial insecurity and mental well-being: experiences of parents amid the Lebanese economic crisis. *BMC Public Health*, *24*(1), 3017
372) Nasution, S., & Nurbaiti, N. (2024). The influence of training and career development on employee retention mediated by job satisfaction. *Management and Economics Journal*, 8(2), 217–226. https://doi.org/10.35631/MEJ.822017
373) National Academies of Sciences, Engineering, and Medicine; National Academy of Medicine; Committee on Systems Approaches to Improve Patient Care by Supporting Clinician Well-Being. Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington (DC): National Academies Press (US); 2019 Oct 23. 4, Factors Contributing to Clinician Burnout and Professional Well-Being. Available from: https://www.ncbi.nlm.nih.gov/books/NBK552615/
374) Needleman, J., Liu, J., Shang, J., Larson, E. L., & Stone, P. W. (2020). Association of registered nurse and nursing support staffing with inpatient hospital mortality. *BMJ quality & safety*, *29*(1), 10-18.
375) Nguyen, H. N., & Tran, M. D. (2021). The effect of perceived organizational support on employee engagement during the COVID-19 pandemic: An empirical study in Vietnam. *The Journal of Asian Finance, Economics and Business*, *8*(6), 415-426.
376) Noermijati, N., Wongviboonrath, S., Itlay, W., & Sudiro, A. (2020). Work-family conflict, job engagement, emotional exhaustion: Their influence on the turnover intention of indigenous Papuan female employees. *Jurnal Aplikasi Manajemen*, *18*(1), 1-13.
377) Norizan, N. S., Ismail, I. R. Z. A. N., & Hamzah, M. I. (2022). Sustainability in the Malaysian Food and Beverage Industry: Managing Employee Retention Through Perceived Organisational Support and Turnover Intention. *Journal of Sustainability Science and Management*, *17*(9), 29-43.
378) Norling, L. R., & Chopik, W. J. (2020). The association between coworker support and workfamily interference: A test of work environment and burnout as mediators. *Frontiers in psychology*, *11*, 819.
379) Nozaki, Y., & Kobayashi, R. (2024). Instrumental motives in emotion regulation of one's own and others' anger: Testing cross-cultural similarities and differences between European Americans and Japanese. *Journal of Cross-Cultural Psychology*, *55*(2), 189-215.
380) Nugroho, A., Ronaboyd, I., Rusdiana, E., Prasetio, D. E., & Zulhuda, S. (2024). The impact of labor law reform on Indonesian workers: A comparative study after the Job Creation Law. *Lex Scientia Law Review*, *8*(1), 67-108.
381) Nurmalasari, A., Sylvia, S., & Sultan, M. S. (2022). Effectiveness Government Budgeting Preparation for Regional Development Post Covid-19: Evidence from South Sulawesi Provine, Indonesia. *Atestasi: Jurnal Ilmiah Akuntansi*.
382) Nwaigwe, M. (2024). Talent Management and Talent Retention in SMEs in Emerging Markets: A case study of the Nigerian context.
383) O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International journal of qualitative methods*, *19*, 1609406919899220.
384) Obeng-Tuaah, M. (2025). Employees training and development to enhance organisational performance. *International Journal of Multidisciplinary Studies and Innovative Research*, *13*(1), 1-15.
385) Ocean, N., & Meyer, C. (2023). Satisfaction and attrition in the UK healthcare sector over the past decade. *PLoS One*, *18*(4), e0284516
386) Ogata, Y., Sasaki, M., Morioka, N., Moriwaki, M., Yonekura, Y., & Lake, E. T. (2024). Influence of nurse work environment and psychological distress on resignation from hospitals: a prospective study. *Industrial health*, *62*(5), 295-305.
387) Ogbonna, H. O., & Mbah, C. S. (2022). Examining social exchange theory and social change in the works of George Caspar Homans – Implications for the state and global inequalities in the world economic order. *Mediterranean Journal of Social Sciences*, *13*(1), 90. https://doi.org/10.36941/mjss-2022-0009
388) Ohemeng, F. L., Obuobisa Darko, T., & Amoako-Asiedu, E. (2020). Bureaucratic leadership, trust building, and employee engagement in the public sector in Ghana: The perspective of social exchange theory. *International Journal of Public Leadership*, *16*(1), 17-40.
389) Oladejo, S. Y., & Saka, A. A. A. (2024). Compensation System and Employee Motivation in the Public Sector: A Case Study of Ogun State Civil Service. *Management of Organizations: Systematic Research*, *91*(1), 89-114.
390) Olafsen, A. H., & Deci, E. L. (2020). Self-determination theory and its relation to organizations. In *Oxford research encyclopedia of psychology*.
391) Omanwar, S. P., & Agrawal, R. K. (2022). Servant leadership, organizational identification and turnover intention: an empirical study in hospitals. International Journal of Organizational Analysis, 30(2), 239-258.
392) Omar, M., & Mahmood, N. (2020). Mediating the effect of organizational culture on the relationship between training and development and organizational performance. *Management Science Letters*, *10*(16), 3793-3800.
393) O'Sullivan, M., Cross, C., & Lavelle, J. (2021). Good or bad jobs? Characteristics of older female part-time work. *Industrial Relations Journal*, *52*(5), 423-441.
394) Oweidat, I., Abu Shosha, G., Al-Harazneh, R., Al-Mugheed, K., Alzoubi, M., Saeed Alabdullah, A. A., & Farghaly Abdelaliem, S. M. (2025). Nurses' perceptions of job security and performance: A comparative study between governmental and private hospitals. *PloS One*, *20*(3), e0318412.
395) Oxford Reference. (2025). *Medical officer*. In *Oxford Reference*. Oxford University Press. Retrieved July 14, 2025, from

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https://www.oxfordreference.com/display/10.1093/oi/authority.20110803100146858
396) Ozdemir, İ. (2024). *Employee development and turnover intention: A meta-analytical review*. *Qeios*. https://doi.org/10.32388/PQVBRW
397) Pace, D. S. (2021). Probability and non-probability sampling-an entry point for undergraduate researchers. *International Journal of Quantitative and Qualitative Research Methods*, *9*(2), 1-15.
398) Pallant, J. (2020). *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS*. Routledge.
399) Palma-Moreira, A., Dias, A. L., Pereira, B., & Au-Yong-Oliveira, M. (2024). Competence Development and Affective Commitment as Mechanisms That Explain the Relationship between Organizational Culture and Turnover Intentions. *Administrative Sciences*, *14*(9), 223.
400) Parent-Lamarche, A., Marchand, A., & Saade, S. (2022). Psychological distress in the workplace: The indirect contribution of work organization conditions to work performance. *Work*, *72*(4), 1469-1480.
401) Park, J. E., Yi, J., & Kwon, O. (2022). Twenty years of traditional and complementary medicine regulation and its impact in Malaysia: achievements and policy lessons. *BMC health services research*, *22*(1), 102
402) Park, J., & Min, H. K. (2020). Turnover intention in the hospitality industry: A metaanalysis. *International journal of hospitality management*, *90*, 102599.
403) Pattali, S., Sankar, J. P., Al Qahtani, H., Menon, N., & Faizal, S. (2024). Effect of leadership styles on turnover intention among staff nurses in private hospitals: the moderating effect of perceived organizational support. *BMC Health Services Research*, *24*(1), 199.
404) Pawar, N. (2020). Type of research and type research design. *Social Research Methodology*, *8*(1), 46-57.
405) Peiris, J. M. P. M. (2024). The role of career satisfaction and career advancement opportunities in shaping employees' job-related affect and turnover intention. *International Journal of Research and Scientific Innovation*, 11(12), 78–86. https://doi.org/10.51244/IJRSI.2024.11120009
406) Peramatzis, G., & Galanakis, M. (2022). Herzberg's motivation theory in workplace. *Psychology*, *12*(12), 971-978.
407) Pestinger, L. (1957). A theory of cognitive dissonance. *Evanston: Row, Peterson and Company*, *195*.
408) Pham, T. T. (2024). Linking Family Supports and Vietnamese Employee Performance: The Mediator Role of Work Engagement. *Journal of Organizational Behavior Research*, *9*(1-2024), 15-31.
409) Piao, X., & Managi, S. (2022). Long-term improvement of psychological well-being in the workplace: what and how. *Social Science & Medicine*, *298*, 114851.
410) Planning Division, Ministry of Health Malaysia. (2024). *Petunjuk Kesihatan 2024: Jadual 4.20 Bilangan doktor berdaftar mengikut negeri, sektor dan Nisbah kepada penduduk (31 Disember 2023)*. Putrajaya, Malaysia: MOH.
411) Pluut, H., Ilies, R., Su, R., Weng, Q., & Liang, A. X. (2022). How social stressors at work influence marital behaviors at home: An interpersonal model of work–family spillover. *Journal of Occupational Health Psychology*, *27*(1), 74.
412) Polk, D. M. (2022). Equity theory: Evaluating fairness. *Theories in Social Psychology, Second Edition*, 217-249.
413) Prasad, K. D. V., Rao, M., Vaidya, R., Sriyogi, K., Singh, S., & Srinivas, V. (2025). The relationship between work-life balance and psychological well-being: an empirical study of metro rail travelers working in the information technology sector. *Frontiers in Psychology*, *15*, 1472885.
414) Puro, V., Coppola, N., Frasca, A., Gentile, I., Luzzaro, F., Peghetti, A., & Sganga, G. (2022). Pillars for prevention and control of healthcare-associated infections: an Italian expert opinion statement. *Antimicrobial Resistance & Infection Control*, *11*(1), 87.
415) Purwanto, A., & Sudargini, Y. (2021). Partial least squares structural squation modeling (PLSSEM) analysis for social and management research: a literature review. *Journal of Industrial Engineering & Management Research*, *2*(4), 114-123.
416) Purwanto, A., Asbari, M., Santoso, T. I., Haque, M. G., & Nurjaya, N. (2020). Marketing research quantitative analysis for large sample: comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS. *JurnalIlmiah Ilmu Administrasi Publik: Jurnal Pemikiran dan Penelitian Administrasi Publik*.
417) Quek, D. (2014). The Malaysian healthcare system: A review. In *International Conference on Public Policy and Social Sciences*. Retrieved from http://www.academia.edu/5675003/The_Malaysian_Health_Care_System_A_Review
418) Rahim, N. B., Osman, I., & Arumugam, P. V. (2020). Linking work-life balance and employee well-being: Do supervisor support and family support moderate the relationship. *International Journal of Business and Society*, *21*(2), 588-606.
419) Rahman, M. M. (2023). Sample size determination for survey research and non-probability sampling techniques: A review and set of recommendations. *Journal of Entrepreneurship, Business and Economics*, *11*(1), 42-62.
420) Rahman, M. M. (2024). The interplay of abusive supervision and coworker incivility on the turnover intention of frontliners: a mediation effect of work stress. *Asia-Pacific Journal of Business Administration*, *16*(4), 876-897.
421) Rahmi, D. Y., Mardiah, F. P., &Sufiawan, N. A. (2023). Gender gap: Family support, perceived work productivity, and job satisfaction on working from home. *International Journal of Business, Humanities, Education and Social Sciences*, 5(2), 111–118. https://doi.org/10.46923/ijbhes.v5i2.268
422) Rajaa O., & Mekkaoui, A. (2025). Revealing the impact of social exchange theory on financial performance: a systematic review of the mediating role of human resource performance. *Cogent Business & Management*, *12*(1), 2475983.
423) Ramya, R., Othman, R., Hatta, F. A. M., & Wan, W. S. H. (2024). The Ethnobotanical Elements in Traditional Malay Medical Knowledge: A Review. *International Journal of Research and Innovation in Social Science*, *8*(11), 2903-2918.
424) Ratan, A. M., Shahriar, H. M., & Khatun, M. (2020). The Impact of knowledge management process on job satisfaction and employee retention. *International Journal of Management and Accounting*, *2*(6), 119-130.
425) Rattrie, L. T., Kittler, M. G., & Paul, K. I. (2020). Culture, burnout, and engagement: A metaanalysis on national cultural values as moderators in JD-R theory. *Applied Psychology*, *69*(1), 176-220.

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426) Refsum, C., & Britnell, M. (2023). The missing millions: leadership and the global workforce crisis in healthcare. In *Research Handbook on Leadership in Healthcare* (pp. 75-99). Edward Elgar Publishing.
427) Revicki, D. (2024). Internal consistency reliability. In *Encyclopedia of quality of life and wellbeing research* (pp. 3579-3580). Cham: Springer International Publishing.
428) Ribeiro, N., Gomes, D., Oliveira, A. R., & Dias Semedo, A. S. (2023). The impact of the work-family conflict on employee engagement, performance, and turnover intention. *International Journal of Organizational Analysis*, *31*(2), 533-549.
429) Robbins, S. P., & Judge, T. A. (2022). *Organizational behavior* (18th ed.). Pearson Education.
430) Robles, E. L., &Sarcon, L. J. (2023). THE MEDIATING EFFECT OF WORK COMMITMENT ON THE RELATIONSHIP BETWEEN FAMILY RELATIONS AND MARITAL SATISFACTION OF SOCIAL WORKERS. *European Journal of Education Studies*, *10*(8).
431) Romi, M. V., Alsubki, N., Almadhi, H. M., &Propheto, A. (2022). The linkage between leadership styles, employee loyalty, and turnover intention in healthcare industry. *Frontiers in Psychology*, *13*, 890366.
432) Roos, M., Reale, J., & Banning, F. (2021). The effects of incentives, social norms, and employees' values on work performance. *arXiv*. https://doi.org/10.48550/arXiv.2107.01139
433) Roslan, N. S., Yusoff, M. S. B., Ab Razak, A., Morgan, K., Ahmad Shauki, N. I., Kukreja, A., ... & Bakit, P. (2021, September). Training characteristics, personal factors and coping strategies associated with burnout in junior doctors: a multi-center study. In *Healthcare* (Vol. 9, No. 9, p. 1208). MDPI
434) Roy, R., Sukumar, G. M., Philip, M., & Gopalakrishna, G. (2023). Face, content, criterion and construct validity assessment of a newly developed tool to assess and classify work– related stress (TAWS–16). *Plos one*, *18*(1), e0280189.
435) Ruciswandaru, R., Evelyn, E., Hamka, M. A., & Ratnasari, Y. (2025). Finding reward in cost: A study of marriage satisfaction in Ta'aruf from the perspective of social exchange theory. *Interdisciplinary Social Studies*, *4*(2), 80-89.
436) Sabri, M. F., Said, M. A., Magli, A. S., Pin, T. M., Rizal, H., Thangiah, N., ... & Husniyah, A. R. (2022). Exploring the relationships of financial literacy and financial behaviour with health-related quality of life (HRQOL) among the low-income working population in
437) Malaysia during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, *19*(19), 12520.
438) Saedin, A., Noranee, S., Ahmad, N. N., Abas, M. K., Mohd, I. H., & Islam, T. (2024). The Impact of Training and Development, Job Embeddedness and Flexible Working Arrangements on Talent Retention Among Young Generation in Pharmaceutical Companies in Malaysia. *Information Management and Business Review*, *16*(1), 121-136
439) Saeed, F., Mir, A., Hamid, M., Ayaz, F., & Iyyaz, U. (2023). Employee salary and employee turnover intention: A key evaluation considering job satisfaction and job performance as mediators. *International Journal of Management Research and Emerging Sciences*, *13*(1).
440) Samsudin, E. Z., Isahak, M., Rampal, S., Ismail, R., & Zakaria, M. I. (2021). Workplace bullying among junior doctors in Malaysia: A multicentre cross-sectional study. *Malaysian Journal of Medical Sciences, 28*(2), 142–156. https://doi.org/10.21315/mjms2021.28.2.13
441) Sanclemente, F. J., Gamero, N., Arenas, A., & Medina, F. J. (2022). Linear and non-linear relationships between job demands-resources and psychological and physical symptoms of service sector employees. When is the midpoint a good choice?. *Frontiers in psychology*, *13*, 950908
442) Sara, I., SAPUTRA, K. A. K., & Utama, I. W. K. J. (2021). The effects of strategic planning, human resource and asset management on economic productivity: A case study in Indonesia. *The Journal of Asian Finance, Economics and Business*, *8*(4), 381-389.
443) Sari, S. Y., Yenni, Z., & Aima, M. H. (2024). Determinants of Turnover Intention: Job Satisfaction, Employee Retention, Work-Family Conflict and Organisational Commitment. *International Review of Management and Marketing*, *14*(6), 26-36.
444) Sarigul, B., Zakaria, N. B., & Erum, N. (2023). Governance for workplace culture: Leveraging positive peer relationships to drive employee performance. *European Proceedings of Social and Behavioural Sciences*.
445) Sartirana, M., Giacomelli, G., Vide, F., & Buongiorno Sottoriva, C. (2025). 'Mind the professional gap': exploring how doctors experience working in peripheral areas. *BMC Health Services Research*, *25*(1), 594.
446) Schaufeli, W. B., Desart, S., & De Witte, H. (2020). Burnout Assessment Tool (BAT)— development, validity, and reliability. *International journal of environmental research and public health*, *17*(24), 9495.
447) Schmid, Y., & Dowling, M. (2020). New work: New motivation? A comprehensive literature review on the impact of workplace technologies. *Management Review Quarterly*, 1-28.
448) Seinsche, L., Schubin, K., Neumann, J., & Pfaff, H. (2022). Employees' Resources, Demands and Health While Working from Home during COVID-19 Pandemic—A Qualitative Study in the Public Sector. *International Journal of Environmental Research and Public Health*, *20*(1), 411.
449) Senek, M., Robertson, S., Taylor, B., Wood, E., King, R., & Ryan, T. (2022). Consequences of understaffing on type of missed community care-a cross-sectional study. *International Journal of Nursing Studies Advances*, *4*, 100075.
450) Serenko, A. (2024). The human capital management perspective on quiet quitting: recommendations for employees, managers, and national policymakers. *Journal of Knowledge Management*, *28*(1), 27-43.
451) Setiawati, A. P., & Mujanah, S. (2025). Inclusive Talent Development as A Key for Talent Management and Talent Retention to Achieve Sustainable Human Resource Management in Rural Bank Sharia Indonesia. *Journal of Ecohumanism*, *4*(1), 10241033.
452) Shafie, S., Majid, F. A., Hoon, T. S., & Damio, S. M. (2021). Evaluating Construct Validity and Reliability of Intention to Transfer Training Conduct Instrument Using Rasch Model Analysis. *Pertanika Journal of Social Sciences & Humanities*, *29*(2).

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453) Shah, I. A., Csordas, T., Akram, U., Yadav, A., & Rasool, H. (2020). Multifaceted role of job embeddedness within organizations: development of sustainable approach to reducing turnover intention. *Sage Open*, *10*(2), 2158244020934876.

454) Shahi, H., Hall, S. S., Amraei, K., Ghasemi, A., Karami, J., Sadeghi, S., & Boehnke, K. (2023). Do personality and attachment predict marital beliefs? Investigating young adults in Iran. *Journal of Social and Personal Relationships*, *40*(12), 4219-4243.

455) Shahzad, M., Ghafoor, H. U., Batool, S., & Ashraf, K. (2025). Work, Home, and Health: A Sociological Inquiry into Nurses' Perceived Physical Health in Pakistan. *ASSAJ*, *3*(02), 1792-1804.

456) Shakir, M., & ur Rahman, A. (2022). Conducting pilot study in a qualitative inquiry: Learning some useful lessons. *Journal of Positive School Psychology*, *6*(10), 1620-1624.

457) Shamsikhani, S., Ahmadi, F., Kazemnejad, A., & Vaismoradi, M. (2023). Design and psychometric properties of the family support for older people questionnaire. *Frontiers in Public Health*, *11*, 1068839.

458) Shamsudin, M. F., Hassim, A. A., & Abd Manaf, S. (2024). Mastering probability and nonprobability methods for accurate research insights. *Journal of Postgraduate Current Business Research*, *9*(1), 38-53.

459) Shardhana, D. (2023). *The impact of a hostile working environment on work-life balance* (Doctoral dissertation, Dublin, National College of Ireland).

460) Shaukat, H. S., Chaudhry, N. I., Ch, M. A., & Dar, K. A. (2020). Impact of JD-R model on organizational outcomes: Mediating role of work engagement and job burnout. *International Journal of Management Research and Emerging Sciences*, *10*(3). https://doi.org/10.56536/ijmres.v10i3.102

461) Shin, Y., Hur, W. M., & Park, K. (2021). The power of family support: The long-term effect of pre-COVID-19 family support on mid-COVID-19 work outcomes. *International Journal of Environmental Research and Public Health*, *18*(19), 10524.

462) Shrivastava, O., Raghuwanshi, S., & Khare, V. K. (2023). A review of the factors affecting the employees turnover in private health care organizations. *International Journal for Multidisciplinary Research*, *5*(6), 1-11.

463) Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology, 1*(1), 27–41. https://doi.org/10.1037/1076-8998.1.1.27

464) Skinner, E., & Dancis, J. (2020). Descriptive and explanatory designs. *Human Development*.

465) Skrine. (2021,October). *Highlights of the Twelfth Malaysia Plan*. https://www.skrine.com/insights/alerts/october-2021/highlights-of-the-twelfthmalaysia-plan

466) Smama'h, Y., Eshah, N. F., Al-Oweidat, I. A., Rayan, A., & Nashwan, A. J. (2023). The impact of leadership styles of nurse managers on nurses' motivation and turnover intention among Jordanian nurses. *Journal of Healthcare Leadership*, 19-29.

467) Sobaih, A. E. E., & Hasanein, A. M. (2020). Herzberg's theory of motivation and job satisfaction: does it work for hotel industry in developing countries?. *Journal of Human Resources in Hospitality & Tourism*, *19*(3), 319-343

468) Soh, M. C., Samad, S. A., Yusof, R., & Kamarunzaman, N. Z. (2024). Assessing Malaysian health care reform. *Environment-Behaviour Proceedings Journal*, *9*(SI22), 185-191.

469) Sonnenschein, K., Hagen, Ø., Rostad, I. S., & Wiik, R. (2022). "Make it possible for more people to work at home!" representations of employee motivation and job satisfaction in Danish and Norwegian newspapers during the COVID-19 pandemic. *Frontiers in psychology*, *13*, 972562.

470) Soomro, A., & Ramendran, C. (2024). Workplace Stress and Burnout Among Healthcare Workers in Malaysia: HRM Interventions A Review. *Asia Pacific Journal of Business, Humanities and Education*, *9*(1), 22-40.

471) Spoorenberg, T. (2022). Data Collection for Population Policies. In *International Handbook of Population Policies* (pp. 367-382). Cham: Springer International Publishing.

472) Srihadiningrat, A., & Mauludin, H. (2025). Moderation and Mediation of Meaningful Work on Job Demands and Job Resources on Work Engagement. *Indonesian Interdisciplinary Journal of Sharia Economics (IIJSE)*, *8*(1), 2359-2381.

473) Stafford, L., & Kuiper, K. (2021). Social exchange theories: Calculating the rewards and costs of personal relationships. In *Engaging theories in interpersonal communication* (pp. 379-390). Routledge

474) Stanley, S., Murphy, C., Brougham, R., & Richardson, C. (2025). Psychological distress, work– family conflict and family life satisfaction: A quantitative study of social workers in the UK. *International Social Work*, *68*(2), 267-280.

475) Stratton, S. J. (2023). Population sampling: Probability and non-probability techniques. *Prehospital and Disaster Medicine*, *38*(2), 147-148.

476) Stuckelman, Z. D., Strouse, G. A., & Troseth, G. L. (2022). Value added: Digital modeling of dialogic questioning promotes positive parenting during shared reading. *Journal of Family Psychology*, *36*(6), 1010

477) Sukarela, L. H. P. S. (2020). Analysing the mediating effects of job satisfaction and dissatisfaction on employee voluntary turnover intention. *Jurnal Pengurusan*, *59*, 53-64.

478) Sukmawati, S. (2023). Development of quality instruments and data collection techniques. *Jurnal Pendidikan Dan Pengajaran Guru Sekolah Dasar (JPPGuseda)*, *6*(1), 119-124.

479) Sukmawati, S., Palisuri, P., Ruslan, M., & Nur, I. (2024). The effect of organizational commitment, interpersonal communication, and motivation on employee satisfaction and performance. *International Journal of Artificial Intelligence Research*, *6*(1.1)

480) Sukri, S., & Yusoff, R. Z. (2021). Effect of technology strategy on organizational performance of manufacturing companies: A note on how to conduct a data screening and preliminary analysis. *International Journal of Business and Technopreneurship*, *11*(2), 51-68

481) Suriadi, S., Jasiyah, R., Farawowan, F. F., & Salma, N. (2024). The Role of Employee Training, Job Satisfaction, and Career Advancement in Enhancing Performance in Higher Education Institutions. *International Education Trend Issues*, *2*(2), 352 -364.

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https://doi.org/10.56442/ieti.v2i2.892

482) Suriadi, S., Jasiyah, R., Farawowan, F. F., & Salma, N. (2024). The role of employee training, job satisfaction, and career advancement in enhancing performance in higher education institutions. *International Education Trend Issues, 2*(2), 352–364.

483) Suryani, N. K., Santanu, G., & Karwini, N. K. (2023). Enhancing employee retention in the education sector: The role of training and satisfaction. *Jurnal Siasat Bisnis, 27*(2), 208–218. https://doi.org/10.20885/jsb.vol27.iss2.art6

484) Svacina, P. (2021). Rewarding employee inventions in corporations: Designing a framework to evaluate adequacy of remuneration and offering an optimal remuneration system. *European Journal of Innovation Management*, *24*(2), 258-289.

485) Syed, M., Khan, U. R., & Faisal, M. (2023). *Impact of training and development on turnover intention*. *Pakistan Journal of International Affairs*, 6(1). https://doi.org/10.52337/pjia.v6i1.710

486) Sypniewska, M. (2020). Understanding Herzberg's Two-Factor Theory in Employee Motivation. *CliffsNotes*. https://www.cliffsnotes.com/study-notes/21074891

487) Szromek, A. R., & Wolniak, R. (2020). Job satisfaction and problems among academic staff in higher education. *Sustainability*, *12*(12), 4865.

488) Taherdoost, H. (2021). Data collection methods and tools for research; a step-by-step guide to choose data collection technique for academic and business research projects. *International Journal of Academic Research in Management (IJARM)*, *10*(1), 10-38.

489) Taheri, F. (2021). Family-supportive organizational environment and turnover intention. *International Journal of Productivity and Performance Management*, *70*(8), 2113-2130.

490) Talukder, A. M. H. (2022). Supervisor family support and job performance: Effects of demand, conflict, balance, and attitude. In *Emotions and negativity* (Vol. 17, pp. 207-227). Emerald Publishing Limited.

491) Tamata, A. T., & Mohammadnezhad, M. (2023). A systematic review study on the factors affecting shortage of nursing workforce in the hospitals. *Nursing open*, *10*(3), 1247–1257. https://doi.org/10.1002/nop2.1434

492) Tan, L. T. H., Khaw, K. Y., Ong, Y. S., Khan, T. M., Lee, L. H., Lee, W. L., & Goh, B. H. (2020). An overview of Clinacanthus nutans (Burm. f.) Lindau as a medicinal plant with diverse pharmacological values. *Plant-derived Bioactives: Production, Properties and Therapeutic Applications*, 461-491.

493) Tan, N. Q., Maki, K. G., Lopez-Olivo, M. A., Geng, Y., & Volk, R. J. (2023). Cultural influences on shared decision-making among Asian Americans: a systematic review and meta-synthesis of qualitative studies. *Patient education and counseling*, *106*, 17-30.

494) Tan, S. J., Wider, W., Jiang, L., Udang, L. N., Sam, T. H., & Tanucan, J. C. M. (2024). Factors influencing millennial employees' turnover intention in multinational corporations in Penang, Malaysia. *Journal of Infrastructure, Policy and Development*, *8*(7), 3922

495) Tanujaya, B., Prahmana, R. C. I., & Mumu, J. (2022). Likert scale in social sciences research:Problems and difficulties. *FWU Journal of Social Sciences*, *16*(4), 89-101.

496) Tavakol, M., & Wetzel, A. (2020). Factor Analysis: a means for theory and instrument development in support of construct validity. *International journal of medical education*, *11*, 245.

497) Teoh, K. R., Hassard, J., & Cox, T. (2020). Individual and organizational psychosocial predictors of hospital doctors' work-related well-being: a multilevel and moderation perspective. *Health Care Management Review*, *45*(2), 162-172.

498) Teresi, J. A., Yu, X., Stewart, A. L., & Hays, R. D. (2022). Guidelines for designing and evaluating feasibility pilot studies. *Medical care*, *60*(1), 95-103.

499) Tetteh, S. P. (2020). *Effect of Compensation on Employee Retention at Ghana Education Service [GES] in Cape Coast Metropolis* (Doctoral dissertation, University of Cape Coast).

500) Tews, M. J., Hoefnagels, A., Jolly, P. M., & Stafford, K. (2020). Turnover among young adults in the hospitality industry: Examining the impact of fun in the workplace and training climate. *Employee Relations*, 43(1), 245–261. https://doi.org/10.1108/ER-11-2019-0432

501) Thant, Z. M., & Chang, Y. (2021). Determinants of public employee job satisfaction in Myanmar: Focus on Herzberg's two-factor theory. *Public Organization Review, 21*(3), 157–175. https://doi.org/10.1007/s11115-020-00481-6

502) The Malaysian Insight. (2024, September 13). *Transforming the Malaysian healthcare system: Building our healthcare workforce back better (Part 2)*. Retrieved from https://www.themalaysianinsight.com/s/487704

503) The Star. (2023, Feb 24). *More medical officers are resigning, says minister*. https://www.thestar.com.my/news/nation/2023/02/24/more-medical-officers-areresigning-says-minister

504) *The Star*. (2025, January 2). *Uncertainties fuel govt doctor exodus*. Vethasalam, R. Retrieved from https://www.thestar.com.my/news/nation/2025/01/02/uncertainties-fuel-govtdoctor-exodus?utm_source

505) The Star.(2021, July 23). *Plight of contract doctors*. Retrieved from: https://www.thestar.com.my/opinion/letters/2021/07/23/plight-of-contractdoctors?utm_source

506) *The Star*. (2021, July 26). *Contract medical officers walk out nationwide in support of Hartal, call for immediate reform*. Koya, Z. Retrieved from https://www.thestar.com.my/news/nation/2021/07/26/contract-medical-officers-walkout-nationwide-in-support-of-hartal-call-for-immediate-reform

507) *The Star*. (2021, September 16). *Looking into scholarships for contract doctors*. Carvalho, M., Rahimy, R., Tan, T., & Zainal, F. Retrieved from https://www.thestar.com.my/news/nation/2021/09/16/looking-into-scholarships-forcontract-doctors

508) The Star. (2023, February 23). *Nearly 3,400 contract MOs quit since 2017, with 1,354 resigningin 2022, says Health Minister*. The Star. https://www.thestar.com.my/news/nation/2023/02/23/nearly-3400-contract-mos-quitsince-2017-with-1354-resigning-in-2022-says-health-minister

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509) The Star. (2023, July 23). A relocation nightmare. Vethasalam, R. Retrieved from https://www.thestar.com.my/news/nation/2023/07/23/a-relocation-nightmare
510) The Star. (2024, February 28). 1696 permanent medical officers resigned in 2022 due to various reasons. *The Star*.Retrieved from: https://www.thestar.com.my/news/nation/2024/02/28/54-of-medical-officers-leftpublic-sector-in-2022-says-health-minister
511) The Star. (2024, July 2). Three rounds of recruitment for housemen. The Star. Retrieved from https://www.thestar.com.my/news/nation/2024/07/02/three-rounds-of-recruitment-forhousemen
512) *The Star*. (2025, April 20). *More choosing to drop out*. Lee, B., & Tong, G. Retrieved from https://www.thestar.com.my/news/nation/2025/04/20/more-choosing-to-drop-out
513) The Star. (4th March 2025). *Fewer new doctors registered, says MMC*. Retrieved from https://www.thestar.com.my/news/nation/2025/03/04/fewer-new-doctors-registeredsays-mmc
514) *The Straits Times*. (2021, June 29). *Underpaid and overworked, Malaysia's contract doctors revolt amid Covid-19 surge*.Anand, R. Retrieved from :https://www.straitstimes.com/asia/se-asia/underpaid-and-overworked-malaysiascontract-doctors-revolt-amid-covid-19-surge?utm
515) The Straits Times. (2023, October 16). Malaysian doctors are severely overworked, bullied and burned out: Survey.The Straits Times. Retrieved from :https://www.straitstimes.com/asia/se-asia/malaysian-doctors-are-severelyoverworked-bullied-and-burnout-survey?utm_source
516) Tisdell, E. J., Merriam, S. B., & Stuckey-Peyrot, H. L. (2025). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.
517) Tiwari, M., & Jha, R. (2022). Narcissism, toxic work culture and abusive supervision: a doubleedged sword escalating organizational deviance. *International Journal of Organizational Analysis*, *30*(1), 99-114.
518) Tiwari, R., Gupta, V., Razeen, M., Aghin, M., Gourisaria, H., & Agarwal, S. (2023). The relationship between job satisfaction and work motivation in IT industry. *International Journal for Research in Applied Science and Engineering Technology*, *11*(4), 23942402.
519) To, W. M., & Billy, T. W. (2023). Impact of difficult coworkers on employees' turnover intention: the mediating roles of perceived organizational support and affective commitment. *Asia-Pacific Journal of Business Administration*, (ahead-of-print).
520) Tracy, S. J. (2024). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. John Wiley & Sons.
521) Trepanier, S. G., Vallerand, R. J., Ménard, J., & Peterson, C. (2020). Job resources and burnout: Work motivation as a moderator. *Stress and Health*, *36*(4), 433-441.
522) Trulik, K., Kumar, V. A., Wu, W., Varma, M., Patel, M. M., Manglani, K., & Mathew, T. A. (2025). Exploring stress, fatigue, burnout, and resilience among healthcare personnel in Southeast Asia: A scoping review.
523) Tuit, C. M. (2022). The face validity of the Participatory Value Evaluation method.
524) Tummers, L. G., & Bakker, A. B. (2021). Leadership and job demands-resources theory: A systematic review. *Frontiers in psychology*, *12*, 722080.
525) Turner, A. N., Parmar, N., Jovanovski, A., & Hearne, G. (2021). Assessing group-based changes in high-performance sport. Part 1: null hypothesis significance testing and the utility of p values. *Strength & Conditioning Journal*, *43*(3), 112-116.
526) Uddin, M. K., Azim, M. T., Uddin, M. A., & Akther, S. (2023). Influence of family social support on employee engagement: Influence of moderator and mediator. *Business Perspectives and Research*, 22785337221148256.
527) UNICEF Malaysia. (2023, May 5). *Going mobile to reach children in rural Sabah*. Retrieved from https://www.unicef.org/malaysia/stories/going-mobile-reach-children-rural-sabah
528) Us, Y., & Gerulaitiene, N. (2022). Mapping the global research landscape on the nurse resilience management: a bibliometric analysis. *Economics and business.*, *36*(1), 179198.
529) Vallasamy, S. K., Muhadi, S., Kumaran, S., & Retnam, V. (2023). Underlying Factors that Contributed to Job Stress in an Organisation. *Journal of Business and Social Sciences Research*, *13*(4), 1239-1250.
530) van der Put, A., & Ellwardt, L. (2022). Employees' healthy eating and physical activity: The role of colleague encouragement and behaviour. *BMC Public Health*, *22*(1), 2004.
531) Van, H. T. M. (2020). *Examining the Mediating Effect of Employee Engagement in the Relationships between Organizational Learning, Perceived Organizational Support and Employee Performance Outcomes in Vietnamese Small and Medium Enterprises* (Doctoral dissertation).
532) Vargas-Jimenez, E., Castro-Castaneda, R., Agullo Tomas, E., & Medina Centeno, R. (2020). Job insecurity, family functionality and mental health: A comparative study between male and female hospitality workers. *Behavioral Sciences*, *10*(10), 146.
533) Vonderlin, R., Müller, G., Schmidt, B., Biermann, M., Kleindienst, N., Bohus, M., & Lyssenko, L. (2021). Effectiveness of a mindfulness- and skill-based health-promoting leadership intervention on supervisor and employee levels: A quasi-experimental multisite field study. *Journal of Occupational Health Psychology*, *26*(6), 613.
534) Wadood, F., Akbar, F., & Ullah, I. (2021). The importance and essential steps of pilot testing in management studies: A quantitative survey results. *Journal of Contemporary Issues in Business and Government Vol*, *27*(5).
535) Wagner III, J. A., & Hollenbeck, J. R. (2020). *Organizational behavior: Securing competitive advantage*. Routledge.
536) Wajdi, M. F., & Nafisa, A. (2023). The impact of compensation, organizational commitment, and job satisfaction on turnover intention among young female employees. *JBTI: Jurnal Bisnis: Teori dan Implementasi*, *14*(2), 383-400.
537) Wan, W., & Duffy, R. D. (2022). Decent work and turnover intention among new generation employees: The mediating role of job satisfaction and the moderating role of job autonomy. *Sage Open*, *12*(2), 21582440221094591

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538) Wang, L., Zhang, Z., & Chen, X. (2025, February 19). *Investigating and extending Homans' social exchange theory with Large-Language-Model based agents* [Preprint]. *arXiv*. https://doi.org/10.48550/arXiv.2502.12450
539) Wijaya, G. G., & Khan, R. B. F. (2024). Pengaruh co-worker support dan lingkungan kerja terhadap turnover intention melalui motivasi kerja pada pekerja Gen Y dan Z di Kota Malang. *Al-Kharaj: Jurnal Ekonomi, Keuangan & Bisnis Syariah*, *6*(5), 4849-4861
540) Williams, M. N. (2021). Levels of measurement and statistical analyses. *Meta-Psychology*, *5*.
541) Wong, J. R. (2023). *Reflections on turnover amidst turmoil: A qualitative exploration of the "Great Resignation"* (Doctoral dissertation, Colorado State University).
542) Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing bulletin*, *24*(1), 1-32.
543) Wongleedee, K. (2020). Turnover Intention and Abusive Supervision and Management: Investigating the Role of Self-Identity and Future Work Self-Salience. *Systematic Reviews in Pharmacy*, *11*(1).
544) Wood, E., King, R., Robertson, S., Senek, M., Tod, A., & Ryan, T. (2021). Sources of satisfaction, dissatisfaction and well-being for UK advanced practice nurses: A qualitative study. *Journal of Nursing Management*, *29*(5), 1073-1080.
545) World Health Organization. (2023). *WHO health workforce support and safeguards list 2023*. https://www.who.int/publications/i/item/9789240069787
546) World Health Organization. (2023, April 8). *Working together to ensure a future with Health For All*. WHO. Retrieved from https://www.who.int/malaysia/news/detail/08-04-2023working-together-to-ensure-a-future-with-health-for-all
547) World Health Organization. (2025). *Global health workforce estimates*. Global Health Observatory. Retrieved July 2025, from https://www.who.int/data/gho/data/themes/topics/health-workforce
548) World Health Organization. (2025). *Global health workforce estimates*. https://www.who.int/data/gho/data/themes/human-resources-for-health
549) Wu, Y., & Liu, X. (2022). The relationship between organisational support for career development, organisational commitment, and turnover intentions among healthcare workers in township hospitals of Henan, China. *BMC Primary Care*, *23*(1), Article 53. https://doi.org/10.1186/s12875-022-01753-4
550) Xia, D., Sun, J., Zhang, C., & Zhang, Y. (2022). The relationship between organizational commitment and turnover intention among temporary employees in the local government: Mediating role of perceived insider status and moderating role of gender. *Frontiers in Psychology*, *13*, 1024139.
551) Xu, F., Kellermanns, F. W., Jin, L., & Xi, J. (2020). Family support as social exchange in entrepreneurship: Its moderating impact on entrepreneurial stressors-well-being relationships. *Journal of business research*, *120*, 59-73.
552) Yadav, V., & Sharma, H. (2023). Family-friendly policies, supervisor support and job satisfaction: mediating effect of work-family conflict. *Vilakshan-XIMB Journal of Management*, *20*(1), 98-113.
553) Yan, J., Wu, C., He, C., Lin, Y., He, S., Du, Y., ... & Lang, H. (2022). The social support, psychological resilience and quality of life of nurses in infectious disease departments in China: A mediated model. *Journal of nursing management*, *30*(8), 4503-4513.
554) Yang, D., Liu, Y., Zhang, H., & Zhang, Y. (2023). The effect of family boundary flexibility on employees' work engagement: a study based on person-environment fit theory perspective. *Frontiers in Psychology*, *14*, 1185239.
555) Yang, X., & Liu, X. (2023). Path analysis and mediating effects of influencing factors of land use carbon emissions in Chang-Zhu-Tan urban agglomeration. *Technological Forecasting and Social Change*, *188*, 122268.
556) Yansah, H., & Meilani, Y. C. F. P. (2024). The influence of job security, burnout and pay satisfaction on turnover intention mediated by job satisfaction in private hospital x (in 2023). *Enrichment: Journal of Management*, *14*(3), 386-396.
557) Yap, W. M., & Badri, S. K. Z. (2021, July). Work life balance and job-related affective wellbeing: moderating role of work autonomy. In *32nd International Congress of Psychology*.
558) Yılmaz, B., Woywod, R., & Raetze, S. (2024). Resilience in family businesses: A systematic literature review. *Family Business Review*, *37*(1), 60-84.
559) Yoo, J. (2022). Gender role ideology, work–family conflict, family–work conflict, and marital satisfaction among Korean dual-earner couples. *Journal of Family Issues*, *43*(6), 15201535.
560) Yousaf, S. (2020). *Dissection of Herzberg's Two-Factor Theory to Predict Job Satisfaction: Empirical Evidence from the Telecommunication Industry of Pakistan*. *The Lahore Journal of Business*, *8*(2), 85–128. https://doi.org/10.35536/ljb.2019.v8.v2.a4
561) Yukongdi, V., & Shrestha, P. (2020). The influence of affective commitment, job satisfaction and job stress on turnover intention: A study of Nepalese bank employees. *Review of Integrative Business and Economics Research*, *9*, 88-98.
562) Yun-Chi, L. (2021). *Association Between Compensation and Job Satisfaction: A Meta-Analysis* (Master's thesis, National Taiwan Normal University (Taiwan)).
563) Yusefi, A. R., Sharifi, M., Nasabi, N. S., Rezabeigi Davarani, E., & Bastani, P. (2022). Health human resources challenges during COVID-19 pandemic; evidence of a qualitative study in a developing country. *PloS one*, *17*(1), e0262887.
564) Zakaria, H., Kamarudin, D., Azizul, F., Feham, A. D. M., & Abdullah, A. (2022). Work-related stress: Contributing factor of employee burnout in Malaysia's food and beverage industry. *International Journal of Humanities Technology and Civilization*, *7*(2), 99–106. https://doi.org/10.15282/ijhtc.v7i2.8737
565) Zapf, D., Escartín, J., Scheppa-Lahyani, M., Einarsen, S. V., Hoel, H., & Vartia, M. (2020). Empirical findings on prevalence and risk groups of bullying in the workplace. In *Bullying and Harassment in the Workplace* (pp. 105-162). CRC Press.

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566) Zaranko, B., Sanford, N. J., Kelly, E., Rafferty, A. M., Bird, J., Mercuri, L., ... & Propper, C. (2023). Nurse staffing and inpatient mortality in the English National Health Service: a retrospective longitudinal study. *BMJ quality & safety*, *32*(5), 254-263.
567) Zhang, C., Bengio, S., Hardt, M., Recht, B., & Vinyals, O. (2021). Understanding deep learning (still) requires rethinking generalization. *Communications of the ACM*, *64*(3), 107-115.
568) Zhang, X., Astivia, O. L. O., Kroc, E., & Zumbo, B. D. (2023). How to think clearly about the central limit theorem. *Psychological Methods*, *28*(6), 1427.
569) Zhang, X., Bian, L., Bai, X., Kong, D., Liu, L., Chen, Q., & Li, N. (2020). The influence of job satisfaction, resilience and work engagement on turnover intention among village doctors in China: a cross-sectional study. *BMC health services research*, *20*, 1-11.
570) Zhao, Y., Atun, R., Anindya, K., McPake, B., Marthias, T., Pan, T., ... & Lee, J. T. (2021). Medical costs and out-of-pocket expenditures associated with multimorbidity in China: quantile regression analysis. *BMJ global health*, *6*(2).
571) Zhou, S., Li, X., & Gao, B. (2020). Family/friends support, work-family conflict, organizational commitment, and turnover intention in young preschool teachers in

China: A serial mediation model. *Children and youth services review*, *113*, 104997 **Appendices**

SURVEY QUESTIONNAIRE

The High Turnover Intention amongst the Doctors Working in the Ministry of Health Malaysia Hospitals

Dear valued participants,

It's with a great pleasure that we welcome you to participate in this study, which is conducted as a requirement for the degree of Doctor of Philosophy PhD at Open University Malaysia (OUM). The purpose of this study is to identify the determinants of the job satisfaction and turnover intention amongst the doctors working in the Ministry of Health Malaysia hospitals. Therefore, please do answer all the questions below to the best of your understanding and knowledge.

Furthermore, please be rest assured that all the responses provided are confidential and only for the use of this study. The responses and results of this study will be kept anonymous and displayed only as statistical information. No respondent of this survey will be identifiable in any published results, rest assured none of the respondents will be subjected to sales or marketing calls. In case of further information is needed pertaining this study, the below individuals can be contacted.

PhD Candidate (Doctor of Philosophy-Business Administration)	**Main Supervisor**
Dr. Raghbir Singh a/l Jaginder Singh	Prof. Dr. Mohd Nazri Bin Mohd Noor
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Thanking you for your participation in this survey Instructions:

There will be two (2) sections in this survey questionnaire. The entire survey questionnaire should take approximately 10 minutes to complete.

SECTION A; Demographic Profile

In this section, we are interested in brief about your demographic background. Please do tick in the relevant box.

A1. Gender Male ☐ Female ☐

A2. Age (Years) 20-30 ☐ 30-40 ☐

A3. Race Malay ☐ Indian ☐

Chinese ☐ Others ☐

A4. Hometown (State)

Peninsular Malaysia ☐ Sabah, Sarawak, Labuan ☐

A5. Hospital of Practice (State)

Peninsular Malaysia ☐ Sabah, Sarawak, Labuan ☐

A6. Marital Status

Single ☐ Married ☐

Divorced ☐

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SECTION B: Job Satisfaction Determinants and Turnover Intention amongst Junior Doctors working in the Ministry of Health Malaysia hospitals

In this section, you are required to indicate the extend of your agreed or disagreed in each of the statement using the Likert Scale response framework: (1) Strongly Disagree (2) Disagree
(3) Neutral (4) Agree (5) Strongly Agree. Please circle the relevant number.

No.	Please circle the most appropriate number	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Training and Development						
TD1	My organization offers a wellstructured training platform to enhance my competency level.	1	2	3	4	5
TD2	I am satisfied with the current training and development organized by my organization.	1	2	3	4	5
TD3	I receive the support from my organization to attend training and development programme in my area of interest.	1	2	3	4	5
TD4	I always have an opportunity to apply for training courses related to my area of interest.	1	2	3	4	5
TD5	The training and development programme I received has helped to boost my work performance.	1	2	3	4	5
Career Advancement						
CA1	The job promotion that I received from my organization is on par with the industrial practice.	1	2	3	4	5
CA2	I would consider my job promotion as satisfactory.	1	2	3	4	5
CA3	I have been given a career advancement for my achievements.	1	2	3	4	5
CA4	My organization has a well structured career advancement opportunity for me	1	2	3	4	5
Remuneration						
RM 1	My basic pay is competitive as compared to the industrial practice.	1	2	3	4	5
RM 2	My pay is appropriate based on the current workload.	1	2	3	4	5
RM 3	My pay is adequate in the context of my current job description.	1	2	3	4	5
RM 4	The yearly increment structure of my pay is satisfactory.	1	2	3	4	5
RM 5	The incentive scheme in my workplace is very satisfactory.	1	2	3	4	5
Employment Security						
ES1	I was given an assurance to have my working contract converted to a permanent position.	1	2	3	4	5
ES2	My organization always offers an opportunity for employment.	1	2	3	4	5

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ES3	My organization has a good record of offering permanent positions to its contract employees.	1	2	3	4	5
ES4	I am confident that my organization will not lay off its contract employees.	1	2	3	4	5
Co-Workers						
CW 1	I have a good relationship with my co-workers.	1	2	3	4	5
CW 2	My co-workers respect my professional skills.	1	2	3	4	5
CW 3	I always get the necessary help from my co-workers.	1	2	3	4	5
CW 4	My relationship with my coworkers helps me to be capable of doing my work.	1	2	3	4	5
Family Support						
FS1	I have enough time to balance between my work life and my family time.	1	2	3	4	5
FS2	My family always supports me when I have issues at my workplace.	1	2	3	4	5
FS3	I need my family's support in my financial status.	1	2	3	4	5
FS4	I am able to provide the financial support needed by my family.	1	2	3	4	5
FS5	I have to worry about work when I am spending my time with my family.	1	2	3	4	5
Turnover Intention						
TI1	I do not have any plans to quit in the near future.	1	2	3	4	5
TI2	I am not seeking for a better job opportunity.	1	2	3	4	5
TI3	I will not quit despite having a better job opportunity.	1	2	3	4	5
TI4	I love my profession and would still prefer working in the same field.	1	2	3	4	5

This is the end of the questionnaire.

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